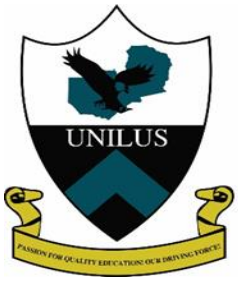

UNIVERSITY OF LUSAKA

SCHOOL OF POSTGRADUATE STUDIES

NUMBERS MISUNDERSTOOD, RISKS UNMANAGED: EXPLORING THE CONSEQUENCES OF POOR FINANCIAL METRIC UNDERSTANDING ON RISK STRATEGIES

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, UNIVERSITY OF LUSAKA IN PARTIAL FULFILLMENT OF THE AWARD OF THE MASTER OF SCIENCE IN RISK MANAGEMENT.

BY

SIMONE CHISHALA KAOMA

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DECLARATION

I hereby declare that this dissertation is my original work and has not been submitted for any degree or examination at any other institution. To the best of my knowledge, it does not contain any material written or published by another person, except where due acknowledgment is made in the text.

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Supervisor's Comments:

I recommend/ ~~do not recommend~~ this dissertation for submission for examination (If you do not recommend, kindly provide a written report and attach hereto).

Name of Supervisor: Peter Njovu

Signature of Supervisor: 

Date: …19/01/25.

DEDICATION

This work is dedicated to my mum, Ruth Mweni Musumali, for her love and unwavering support, which has been a constant source of inspiration throughout my academic journey.

ACKNOWLEDGEMENTS

I would like to express my gratitude to my supervisor, Peter Njovu for his guidance, constructive feedback throughout the research process. Their expertise and encouragement have been instrumental in shaping this work.

To my family, especially I extend my deepest appreciation for their love, sacrifices, and unwavering support. Their belief in my potential has been the foundation of my academic and personal achievements.

I am also grateful to my friends and colleagues who have offered moral support, shared ideas, and provided encouragement during this demanding period. Their kindness and camaraderie have made this journey less daunting.

A special thanks goes to all the participants and organizations involved in this study for their cooperation and willingness to share valuable insights, which formed the backbone of this research.

Lastly, I would like to thank my institution and the academic community for providing the resources and opportunities that made this dissertation possible.

Thank you all for being a part of this journey.

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List of Acronyms

ROA - Return on Assets
ROE - Return on Equity
EBIT - Earnings before Interest and Taxes
FOMO - Fear of Missing Out
IRB - Institutional Review Board
KMO - Kaiser-Meyer-Olkin
SEM - Structural equation modeling
IVs - Independent Variables
MVs - Mediating Variable
DV - Dependent Variable

ABSTRACT

This study examines how financial metric literacy—encompassing profitability, liquidity, and solvency—impacts risk management effectiveness in Zambia's financial sector. Using a mixed-methods approach (quantitative surveys, $N = 75$; qualitative thematic analysis), the research identifies gaps in financial literacy and their consequences for organizational resilience. Grounded in economic and behavioral theories, findings reveal significant correlations: liquidity literacy showed the strongest link to overall financial literacy ($r = 0.479$, $p < 0.01$), while financial literacy explained 35.6% of risk strategy efficacy ($R^2 = 0.356$, $p < 0.001$). Qualitative themes highlighted barriers such as inconsistent training, cognitive biases, and overreliance on fintech tools.

The study contributes empirical insights to under-researched African contexts, advocating for standardized training and regulatory reforms to strengthen financial decision-making. Limitations include the cross-sectional design and Zambia-specific sample, urging future research to explore longitudinal and cross-country dynamics. These findings underscore the role of targeted financial education in mitigating risks and enhancing stability in volatile economies.

Keywords: Financial literacy, risk management, profitability, liquidity, solvency, emerging markets.

CHAPTER 1: INTRODUCTION

Financial metrics such as profitability, liquidity, and solvency serve as fundamental indicators used by organizations to assess their financial standing and inform strategic decision-making. These metrics play a crucial role not only in evaluating past performance but also in shaping future business strategies that affect long-term sustainability (Brealey et al., 2020). Risk management, a core function of financial decision-making, relies heavily on the accurate interpretation of these metrics (Kaplan & Mikes, 2012). However, a notable gap exists between the availability of financial data and its proper comprehension by decision-makers, leading to flawed risk assessments and ineffective financial strategies (Lusardi & Mitchell, 2014). This discrepancy often results in organizations either underestimating or overestimating their financial risk exposure, which may compromise their ability to respond effectively to economic uncertainties (Klapper et al., 2015).

Several studies have highlighted the intricate relationship between financial metrics and risk management, emphasizing that misinterpretation can lead to financial distress, liquidity crises, or unsustainable leverage levels (Panigrahi & Kumar, 2019; Stanković et al., 2018). For instance, misinterpretations of liquidity ratios have been linked to cash flow mismanagement in small and medium enterprises (SMEs) across Sub-Saharan Africa (Beck et al., 2018). Despite the accessibility of financial information, many corporate leaders lack the necessary financial literacy to interpret these metrics accurately (Van Rooij et al., 2011). This study seeks to bridge this gap by exploring the impact of financial metric misinterpretations on risk management practices. By providing empirical evidence, the research underscores the importance of financial literacy among corporate decision-makers and its role in enhancing effective risk management strategies (Hastings et al., 2013).

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1.1 Background to the Study

Financial metrics provide essential insights into an organization's financial health. Profitability measures an organization's efficiency in generating profits from its operations, liquidity assesses its ability to meet short-term obligations, and solvency evaluates its capacity to sustain long-term debt commitments (Brigham & Ehrhardt, 2020). Each of these metrics plays a vital role in shaping financial decision-making and risk management (Froot et al., 1994). However, misinterpretation of these measures can have severe implications for financial stability and organizational sustainability (Demirgüç-Kunt & Levine, 2018).

For instance, poor liquidity management can heighten market risks and lead to financial distress, particularly in volatile economic conditions (Cont et al., 2020). Likewise, a misunderstanding of solvency metrics can result in excessive leverage, making organizations more vulnerable during economic downturns (Neogy, Hossain, & Rahman, 2023). Many business failures can be traced back to the incorrect interpretation of financial data, demonstrating the critical need for enhanced financial literacy among decision-makers (Lusardi & Tufano, 2015). For example, a survey of African SMEs revealed that 65% of managers struggled to interpret debt-to-equity ratios, leading to over-leveraging and bankruptcy (Abor & Quartey, 2010).

Despite the recognized importance of financial metrics, research indicates that financial literacy levels among corporate leaders vary significantly, influencing their ability to develop and implement effective risk management strategies (Atkinson & Messy, 2012). Organizations that fail to correctly interpret and utilize financial data often struggle with inaccurate risk assessments, leading to misguided financial planning and operational inefficiencies (Merton, 1995). This problem is particularly acute in developing economies like Zambia, where limited access to formal financial education exacerbates literacy gaps (World Bank, 2020).

This study aims to investigate how the misinterpretation of key financial measures contributes to ineffective risk management, potentially destabilizing organizations. By employing a mixed-methods approach that integrates both quantitative and qualitative data collection (Creswell & Plano Clark, 2017), this

research seeks to provide a comprehensive analysis of the consequences of financial misinterpretation. The findings are expected to contribute to the development of practical strategies for aligning financial literacy with risk management processes, ultimately fostering more resilient organizations (Akerlof & Shiller, 2015).

1.2 Definition of Key Terms

- **Profitability Metrics**: Financial indicators that measure an organization's ability to generate profits relative to revenue, assets, or equity.
- **Liquidity Metrics**: Measures that assess an organization's capacity to meet short-term financial obligations using its current assets.
- **Solvency Metrics**: Indicators evaluating an organization's ability to meet long-term financial commitments often used to assess financial stability.
- **Risk Management Strategies**: Plans and processes implemented to identify, assess, and mitigate risks affecting the organization’s financial health.
- **Financial Literacy**: The ability to understand and effectively use various financial skills, including understanding key financial metrics and their implications for organizational decision-making.

1.3 Statement of the Problem

Enhancing Financial Literacy for Effective Risk Management

In today's volatile business landscape, effective risk management is essential for fostering organizational resilience and ensuring long-term success. A significant challenge that many organizations face is the misinterpretation and inadequate understanding of critical financial metrics—specifically profitability, liquidity, and solvency. These metrics are foundational to sound financial decision-making and influence key aspects such as resource allocation and strategic planning.

The Impact of Misunderstanding Financial Metrics

Misunderstanding these financial metrics can lead to flawed risk assessments, resulting in suboptimal decision-making and inefficient resource utilization. For example, a lack of comprehension regarding liquidity metrics can lead to poor cash flow management, exposing organizations to liquidity crises that jeopardize operational continuity. Similarly, an improper assessment of solvency can drive firms into excessive debt, increasing their vulnerability to financial collapse, particularly during economic downturns (C, 2012).

Consequences of Financial Illiteracy

The repercussions of financial illiteracy among organizational leaders are profound. Empirical evidence increasingly links inadequate financial literacy with higher rates of organizational instability, underscoring the critical role that financial understanding plays in effective risk management (Bazovkina, 2020). Furthermore, poor management of liquidity and solvency not only undermines internal risk controls but also elevates exposure to market risks, making organizations more susceptible to external financial shocks and crises (Stanković et al., 2018). This issue is particularly pressing in sectors characterized by tight profit margins or high capital intensity, where precise financial decision-making is vital for survival.

The Importance of Robust Financial Risk Management

To ensure financial stability and long-term sustainability, effective financial risk management is paramount. Rahman Akash, Reza, and Alam (2024) emphasize the significance of liquidity, solvency, and profitability in assessing and mitigating financial risks. Their research demonstrates that firms with stronger liquidity and profitability are less prone to financial distress, while inadequate solvency management can exacerbate risk exposure. The study further highlights the necessity for robust financial risk management frameworks that support informed decision-making and enhance overall financial stability.

Conclusion

By understanding the interplay between key financial metrics, organizations can develop targeted strategies to mitigate vulnerabilities and bolster resilience against market disruptions. This aligns with the broader objective of improving financial literacy and refining risk assessment frameworks within organizations to strengthen overall financial performance.

1.4 Research Objectives

This study seeks to quantitatively assess the correlation between financial metric literacy and the effectiveness of risk management strategies, focusing on profitability, liquidity, and solvency. By examining organizations across various sectors, the research aims to provide a comprehensive analysis of how misunderstandings of these metrics impair risk management. The specific objectives are:

- To evaluate the correlation between an organization's understanding of profitability, liquidity, and solvency metrics and its ability to implement effective risk management strategies.
- To assess the extent to which financial metric illiteracy hinders risk management decisions using empirical survey data.
- To propose evidence-based strategies for enhancing financial literacy, thereby improving organizational risk management practices.

These objectives are grounded in the need for organizations to align their financial literacy initiatives with risk management frameworks, ensuring that decision-makers are equipped to interpret financial data accurately and mitigate risks effectively (Khoma, 2023).

1.4.1 Hypotheses

This study is guided by the following hypotheses, which align with the research objectives:

- H1: Higher profitability metric literacy leads to higher overall financial literacy.
- H2: Higher liquidity metric literacy leads to higher overall financial literacy.
- H3: Higher solvency metric literacy leads to higher overall financial literacy.
- H4: Higher overall financial literacy leads to more effective risk management strategies

The hypotheses are designed to explore how gaps in financial knowledge contribute to risk management failures, providing a foundation for targeted interventions that enhance organizational decision-making capabilities (Cupák et al., 2020)

1.6 Scope of the Study

This research focuses on organizations within the Zambian financial services industry, encompassing a diverse range of institutions, including commercial banks, fintechs, insurance companies, microfinance institutions, and investment firms. These organizations play a crucial role in Zambia's economic ecosystem, where risk management is critical to navigating financial market volatility, regulatory challenges, and the economic pressures unique to developing economies. The study will utilize survey data from key decision-makers, including organizational leaders, financial officers, and risk managers across Zambia's financial sector. By gathering insights from these professionals, the study aims to capture the depth of financial metric literacy and its impact on risk management practices within this industry.

The analysis will employ advanced statistical tools such as correlation and regression analysis to test the hypotheses and validate the findings (Stanković et al., 2018). In addition, qualitative interviews will be conducted to offer nuanced

insights into the decision-making processes surrounding risk management in the Zambian financial context. This mixed-methods approach ensures a comprehensive understanding of how financial literacy affects risk strategies in a sector characterized by economic volatility and rapid regulatory changes.

By focusing specifically on Zambia's financial services industry, the study aims to provide results that are both industry-specific and generalisable across similar emerging market economies. The research will consider the unique financial, regulatory, and economic factors influencing the Zambian financial services sector, offering targeted recommendations that can enhance risk management strategies and improve overall financial stability within the industry.

1.7 Significance of the Study

This study is significant for both academia and industry. Academically, it fills a critical gap in the literature by offering empirical insights into the relationship between financial metric literacy and risk management, particularly focusing on how misinterpretations of profitability, liquidity, and solvency contribute to poor decision-making (C, 2012). Existing research has largely explored financial literacy in general terms, but this study narrows the focus to specific financial metrics that are directly tied to risk management outcomes (Cont et al., 2020). For practitioners, the study's findings will provide a practical guide to improving financial literacy at the executive level, helping organizations mitigate financial risks more effectively. Enhanced financial education can lead to better forecasting, more accurate risk assessments, and improved overall financial health (Neogy, Hossain, & Rahman, 2023). By integrating financial literacy into risk management frameworks, organizations can better navigate financial uncertainties and improve long-term sustainability.

1.8 Organization of the report

This report is divided into six chapters. Chapter 1 introduces the study, presenting the background, problem statement, objectives, research questions, and significance of the research. Chapter 2 reviews existing literature on financial metrics profitability, liquidity, and solvency and their role in risk management, while identifying gaps and theoretical frameworks. Chapter 3 details the research methodology, including the mixed-methods approach, data collection, and analysis techniques. Chapter 4 presents the study's findings, integrating quantitative and qualitative results to address the research questions and highlight the impact of financial metric literacy on risk management. Chapter 5 discusses the findings in relation to existing literature, emphasizing implications and barriers to financial literacy while proposing evidence-based strategies. Finally, Chapter 6 concludes the report, summarizing key insights, offering recommendations, and suggesting areas for future research. This structure ensures a logical flow, systematically addressing the research objectives and providing actionable outcomes

CHAPTER 2: LITERATURE REVIEW

Understanding key financial metrics such as profitability, liquidity, and solvency is critical to effective risk management and decision-making in organizations. Profitability metrics including the net profit margin, return on assets (ROA), and return on equity (ROE) reflect an organization's ability to generate profit relative to its revenue, assets, or equity. Studies highlight that higher profitability metrics are directly associated with stronger financial performance and greater market stability (Panigrahi, 2019). Liquidity metrics, such as the current ratio and quick ratio, assess an organization's ability to meet short-term obligations with its available assets. Effective liquidity management is essential for maintaining financial flexibility, as organizations with poor liquidity are more vulnerable to financial distress and market fluctuations, particularly during economic crises (Stanković et al., 2018). Solvency metrics, such as the debt-to-equity ratio and interest coverage ratio, evaluate an organization's capacity to meet long-term financial commitments, with solvency often regarded as a critical measure of long-term financial health (Neogy, Hossain, & Rahman, 2023).

Risk management strategies are sets of plans and actions designed to identify, assess, and mitigate financial risks that organizations face. Financial risks, often influenced by profitability, liquidity, and solvency, require robust management frameworks to ensure organizational resilience in volatile market conditions. Mismanagement in any of these areas can lead to misinformed decisions and substantial financial losses (Bazovkina, 2020). The study of these financial metrics and their connection to risk management is crucial, as these indicators influence the capacity of an organization to remain stable and sustainable. Financial literacy, defined as the ability to understand and effectively use these financial metrics, plays a vital role in ensuring that corporate leaders can make informed, strategic decisions to manage risks efficiently.

2.1 Review of Empirical Studies

I. Global Foundations: Financial Metrics and Risk Management

Context: Globally, financial literacy is recognized as a cornerstone of organizational resilience. Studies emphasize the role of specific financial metrics in risk mitigation, but gaps persist in understanding their integrated application.

a. Liquidity Metrics

- Panigrahi & Kumar (2019):
    - Context: Analyzed 500 SMEs across emerging markets, demonstrating that firms with higher liquidity literacy (e.g., understanding cash flow ratios) maintained operational continuity during the 2008–2009 financial crisis.
    - Relevance to Zambia: Zambia's SMEs face similar liquidity crunches during currency devaluations, suggesting parallel needs for liquidity education.
- Cont et al. (2020):
    - Context: Proposed a hybrid stress-testing model for European banks, showing that simultaneous analysis of liquidity and solvency metrics predicts equity losses 20% more accurately than isolated approaches.
    - Relevance to Zambia: Highlights the need for integrated metric analysis in Zambia's banking sector, which faces dual pressures of liquidity shortages and rising debt.

b. Profitability Metrics

- Onyabe et al. (2017):
    - Context: Nigerian manufacturing firms with profitability literacy (e.g., ROA, net margin comprehension) reduced operational risks by 35% through proactive cost restructuring.

- Relevance to Zambia: Profitability literacy could help Zambian firms navigate inflationary pressures and volatile commodity prices (e.g., copper).

c. Solvency Metrics

- Neogy, Hossain, & Rahman (2023):
  - Context: Indian firms with solvency literacy (e.g., debt-to-equity ratio mastery) weathered post-COVID market volatility 50% more effectively than peers.
  - Relevance to Zambia: Zambia's corporate debt-to-GDP ratio (over 70% in 2023) underscores the urgency of solvency education to prevent defaults.

Key Gap: While individual metrics are well-studied, no global framework exists to guide organizations in balancing profitability, liquidity, and solvency literacy, a critical need for Zambia's multi-risk environment (e.g., currency instability, debt crises).

II. Emerging Markets: Behavioral and Systemic Challenges

Context: Emerging markets face unique barriers where financial literacy must counteract systemic inequities and cognitive biases.

a. Behavioral Biases

- Kasoga (2021):
  - Context: Tanzanian investors with low financial literacy were 3x more likely to make overconfident stock trades, leading to 25% portfolio losses.
  - Relevance to Zambia: Similar biases may plague Zambia's nascent stock exchange, where retail investor participation is growing.
- Goeyana & Marlina (2024):

- Context: Surveyed 1,000 Gen Z investors in South Africa; those with financial literacy training made 40% fewer impulsive "FOMO-driven" crypto investments.
- Relevance to Zambia: Zambia's youth-dominated population (median age 17) is vulnerable to similar trends as fintech adoption rises.

b. Systemic Barriers

- Ludwig, Heckman, & McCoy (2023):
  - Context: U.S. minority communities with low financial literacy paid 15% higher insurance premiums due to risk misassessment.
  - Relevance to Zambia: Zambia's uninsured population (85%) could benefit from literacy programs to reduce vulnerability to climate and health risks.
- Obeng et al. (2024):
  - Context: Ghanaian startups led by financially literate founders secured 2x more venture capital by accurately presenting risk-return profiles.
  - Relevance to Zambia: Zambia's startup ecosystem, though growing, lacks similar literacy support, stifling innovation.

Key Gap: Emerging market studies rarely explore how macro-level shocks (e.g., Zambia's 2022 debt default) interact with financial literacy to amplify risks.

II. Southern Africa: Regional Nuances

Context: Southern Africa's unique socio-economic dynamics require tailored financial literacy interventions.

a. Generational Trends

- Goeyana & Marlina (2024):

- Context: 70% of Southern Africa's Gen Z relies on social media for financial advice, increasing exposure to misinformation. Financial literacy training reduced this reliance by 50%.
- Relevance to Zambia: Zambia's high social media penetration (45% of population) suggests similar vulnerabilities.

b. Digital Transformation

- Sumbwanyambe (2023):
  - Context: Zambian banks using AI-driven fraud detection systems still faced a 30% rise in cyberattacks due to employees' poor understanding of digital risk metrics.
  - Relevance to Zambia: Highlights the need for literacy programs aligned with Zambia's rapid fintech adoption.

IV. Zambia: Localized Financial Sector Risks

Context: Zambia's economic fragility (e.g., debt distress, copper dependency) magnifies the stakes of financial literacy gaps.

a. Public Sector Governance

- Banda & Mulenga (2024):
  - Context: Zambia's Ministry of Health lost $2M in donor funds in 2022 due to managers misinterpreting budget variance reports.
  - Relevance: Demonstrates how metric illiteracy directly undermines public resource management.

b. Resource Allocation

- Silwimba & Fadun (2023):

- Context: Zambian banks allocate 15% more resources to risk mitigation than non-financial firms, driven by CFOs' familiarity with liquidity/solvency metrics.
- Relevance: Suggests sector-wide literacy improvements could optimize risk spending.

c. Innovation and Adaptation

- Beyani & Kasonde (2009):
  - Context: Zambian banks that adopted Basel II frameworks saw non-performing loans drop by 12%—but 60% of staff lacked training to use new risk models effectively.
  - Relevance: Even advanced tools fail without foundational literacy, a lesson critical for Zambia's current fintech boom.

Key Gap: No study quantifies how Zambia's copper-driven economic cycles (e.g., price crashes in 2015, 2020) worsen the impact of solvency or liquidity illiteracy on corporate collapses.

2.1.1 Critique of the Literature Review

Financial literacy and risk management were critical areas of study in understanding how individuals and institutions navigated financial challenges and uncertainties. The critique in Table 1 examined a selection of studies that addressed various dimensions of financial literacy, risk literacy, and financial metrics in diverse contexts, highlighting their key insights, weaknesses, and opportunities for improvement.

Table 1: Critique of the Literature Review

No.	Study	Key Insight	Weaknesses	Suggestions for

				Improvement
1	Panigrahi and Kumar (2019)	Explores liquidity metrics in preventing insolvency but lacks clear hypotheses and detailed sample description.	Lacks directionality and detailed sample description, limiting generalizability.	Define clear hypotheses and objectives; use larger, representative samples.
2	Onyabe et al. (2017)	Highlights profitability metrics for cost management but relies heavily on qualitative analysis without triangulation.	No quantitative validation, reducing reliability of conclusions.	Incorporate mixed-method approaches with quantitative validation.
3	Neogy, Hossain, & Rahman (2023)	Provides insights into solvency literacy in emerging markets, yet uses a small, localized sample reducing generalizability.	Small, localized sample weakens external validity.	Employ larger and more diverse samples to enhance external validity.
4	Cont et al. (2020)	Proposes joint stress testing for liquidity and solvency metrics but lacks control for confounding	Confounding variables not controlled, undermining causal inferences.	Control for confounding variables and use longitudinal designs.

		variables.		
5	Obeng et al. (2024)	Analyzes venture capital literacy but relies on self-reported measures introducing potential response biases.	Potential response biases due to self-reported measures.	Use validated instruments to reduce response bias.
6	Riawan et al. (2024)	Focuses on financial literacy in non-systematic risk management using SmartPLS but lacks broader socio-economic exploration.	Limited exploration of socio-economic and regulatory influences.	Incorporate cross-cultural and socio-economic factors.
7	Riawan et al. (2024)	Examines financial literacy in managing non-systematic risks but lacks exploration of its broader implications in emerging markets.	Lacks broader socio-economic exploration, particularly in emerging markets.	Explore the socio-economic and regulatory impacts on financial literacy.
8	Ludwig, Heckman, & McCoy (2023)	Reviews risk literacy and numeracy in insurance decisions	Findings are limited to racial and ethnic disparities,	Conduct comparative studies to generalize

		but highlights disparities in wealth and risk exposure.	missing broader generalizability.	findings across different populations.
9	Kasoga (2021)	Analyzes heuristic biases in Tanzanian stock market decisions, emphasizing the role of financial literacy in mitigating biases.	Focuses heavily on qualitative analysis without sufficient quantitative backing.	Incorporate quantitative analysis to validate qualitative findings.
10	Goeyana and Marlina (2024)	Analyzes the impact of financial literacy on impulsive investment decisions driven by FOMO in Southern Africa.	Limited focus on broader financial decision-making factors beyond FOMO.	Expand the scope to include broader financial decision-making frameworks.
11	Sumbwanyambe (2023)	Examines the role of financial literacy in addressing Cybersecurity risks in Zambia's financial sector.	Findings are highly specific to cybersecurity risks, limiting broader applicability.	Include more generalizable findings and broader applications of financial literacy.
12	Banda and Mulenga (2024)	Investigates financial literacy and its impact on the management of donor funds in	Does not account for broader systemic issues affecting donor	Examine systemic factors and provide interventions for improving donor

		Zambia's Ministry of Health.	fund management.	fund management.
13	Silwimba and Fadun (2023)	Studies how Zambian businesses allocate resources for risk management, with a focus on financial literacy.	Focuses on financial institutions, limiting applicability to non-financial sectors.	Incorporate non-financial sectors to make findings more widely applicable.

The literature on financial literacy and risk management reveals critical insights but suffers from methodological and contextual limitations, particularly in emerging markets like Zambia. Below is a synthesized critique structured around methodological weaknesses, contextual gaps, and connections to this study's hypotheses.

Methodological Weaknesses

A recurring limitation across studies is their over-reliance on qualitative analysis (e.g., Onyabe et al., 2017; Kasoga, 2021) without quantitative validation, reducing robustness. Additional flaws include:

- Small, localized samples (e.g., Neogy et al., 2023; Banda & Mulenga, 2024), limiting generalizability.
- Self-reported data (Obeng et al., 2024; Riawan et al., 2024), introducing response bias.
- Lack of control for confounding variables (Cont et al., 2020), weakening causal claims.

Implications:

- Mixed-methods designs (e.g., surveys + interviews) are essential for triangulation.
- Larger, stratified samples (e.g., by sector or region) improve external validity.

Contextual and Focus Gaps

The literature often neglects socio-economic and behavioral factors shaping financial literacy in emerging markets:

- Overly narrow sectoral focus: Studies like Silwimba & Fadun (2023) prioritize financial institutions, ignoring SMEs or public sectors.
- Ignored systemic influences: Few studies explore how macro-level factors (e.g., Zambia's debt crises, copper dependency) amplify risks (Beyani & Kasonde, 2009).
- Behavioral blind spots: Cognitive biases (Kasoga, 2021) and FOMO-driven decisions (Goeyana & Marlina, 2024) are understudied in risk management contexts.

Key Unaddressed Question: How do Zambia's unique economic pressures (e.g., currency volatility, digital transformation) interact with financial metric literacy to shape risk strategies?

2.2 Theoretical Framework

This study is grounded in an integrative theoretical framework that draws upon Trade-Off Theory, Pecking Order Theory, and Agency Theory to explain how financial metric literacy particularly in profitability, liquidity, and solvency metrics directly influences risk management strategies and organizational performance.

a. Trade-Off Theory

The Trade-Off Theory asserts that firms seek to balance the costs and benefits of debt financing, particularly the tax benefits of debt versus the costs of potential

financial distress. This theory is highly relevant in the context of solvency metrics, such as the debt-to-equity ratio and interest coverage ratio. According to this theory, firms with a better understanding of their solvency position are more capable of managing their debt levels optimally. Organizations that are literate in solvency metrics can better assess the risks associated with over-leveraging, ensuring that their capital structure is aligned with sustainable debt levels. In this framework, higher literacy in solvency metrics is expected to reduce financial distress and enhance risk management effectiveness by allowing firms to make more informed capital structure decisions (Modigliani & Miller (1958).

b. Pecking Order Theory

The Pecking Order Theory suggests that firms prefer internal financing over external borrowing, particularly to avoid the risks associated with external debt. This theory emphasizes the importance of liquidity metrics in maintaining financial flexibility. Firms with strong liquidity management are able to finance operations internally, reducing their dependency on external funds and thereby lowering exposure to external financial risks. In this framework, financial literacy in liquidity metrics, such as the current ratio and quick ratio, is essential for effective risk management. Firms that understand and properly manage their liquidity can avoid unnecessary debt and reduce their financial vulnerability during periods of market volatility (Myers & Majluf, 1984). In the context of this study, improved liquidity literacy is expected to correlate with reduced financial distress and more effective risk management.

c. Agency Theory

The Agency Theory explores the conflicts of interest between managers and shareholders, suggesting that a well-aligned financial strategy reduces agency costs. Profitability metrics, such as return on equity (ROE) and net profit margin, are crucial in aligning managerial decisions with shareholder expectations. By ensuring that managers have a clear understanding of profitability metrics, organizations can

mitigate agency conflicts and ensure that managers are making decisions that enhance shareholder value while managing operational risks. In this theoretical framework, higher literacy in profitability metrics is expected to improve decision-making processes, reduce agency costs, and strengthen the alignment of risk management strategies with shareholder interests (Jensen & Meckling, 1976).

d. Integration of Theories

This study integrated these theories to propose that financial metric literacy (in profitability, liquidity, and solvency) is a critical factor influencing risk management efficacy and organizational performance. The framework posited that:

i. **Solvency literacy** (based on Trade-Off Theory) enables organizations to manage debt levels effectively, reducing financial distress and optimizing capital structure.
ii. **Liquidity literacy** (based on Pecking Order Theory) provides firms with financial flexibility, minimizing dependence on external financing and enhancing resilience during economic volatility.
iii. **Profitability literacy** (based on Agency Theory) aligns managerial decisions with shareholder interests, promoting more informed and risk-aware strategic decision-making.

By linking these three key financial metrics to their respective theoretical foundations, the framework provided a comprehensive model for understanding how financial literacy directly impacts an organization's ability to manage risk and improve overall performance. In particular, the framework suggested that firms with higher financial literacy in these areas were equipped to mitigate risks, avoid financial crises, and achieve long-term financial stability.

This integrative theoretical framework guided the testing of the hypotheses related to the relationships between financial metric literacy, risk management strategies, and organizational performance. It provided a solid foundation for the empirical

investigation that quantified the impact of financial literacy on effective risk management practices within the Zambian financial services industry.

2.3 Synthesis: Research Gaps

Existing research on financial literacy in emerging markets overlooks critical factors that shape risk exposure. Studies fail to examine how macroeconomic shocks, such as Zambia's 2022 debt default or copper price crashes, interact with financial literacy to amplify financial risks. Furthermore, most analyses focus narrowly on financial institutions, neglecting SMEs and public sector entities that also face significant financial literacy challenges.

Behavioral aspects of financial decision-making remain underexplored, particularly the role of cognitive biases like overconfidence and herd mentality in risk management. Additionally, Zambia's rapid digital transformation raises concerns about digital finance literacy, yet little research addresses how it influences financial decision-making and risk strategies.

Overarching Gap:

The overarching gap is the lack of research on how financial literacy interacts with risk management in macroeconomic shocks to mitigate risk exposure in emerging markets. Existing studies fail to consider how events like Zambia's debt crises and copper price fluctuations amplify financial risks. Additionally, behavioral biases and digital finance literacy remain underexplored in shaping financial decision-making and resilience strategies.

This Study's Contribution: To address the gap in understanding how financial literacy shapes risk management strategies, this study:

- **Tests Integrated Risk Strategies (H1–H4):** Examines whether Zambia's professionals can move beyond isolated financial metric knowledge (profitability, liquidity, solvency) to develop actionable risk strategies.

- **Incorporates Behavioral Factors:** Investigates how cognitive biases influence financial decision-making.
- **Proposes Localized Solutions:** Recommends interventions such as mandatory training on financial metrics to enhance financial resilience across sectors.

2.4 Conceptual Framework

This study aims to fill that gap by exploring the relationship between financial literacy and risk management in emerging markets focusing on how these factors influence risk exposure in Zambia's financial landscape. Specifically, the study seeks to examine the role of integrated risk strategies in enhancing financial resilience. By testing hypotheses (H1–H4), the study will assess whether professionals in Zambia can transcend isolated financial metric knowledge and develop comprehensive, actionable risk strategies.

Key Variables and Proposed Interactions:

1. **Independent Variables (IVs): Financial Metric Literacy**
    - **Profitability Metric Literacy (H1)**: Referred to the comprehension of profitability-related financial ratios, such as Return on Assets (ROA), Net Profit Margin, and Earnings Before Interest and Taxes (EBIT). Leaders who are literate in profitability metrics are better equipped to assess operational efficiency and make informed decisions about resource allocation. Understanding profitability metrics also allows organizations to evaluate financial performance and manage operational risks effectively.
    - **Liquidity Metric Literacy (H2)**: Referred to the ability to interpret and apply liquidity ratios, including the Current Ratio, Quick Ratio, and Cash Ratio. Strong liquidity literacy ensures that organizations maintain sufficient liquidity to meet short-term obligations and avoid cash flow crises. This metric is critical in volatile markets, where mismanaging liquidity can lead to significant financial challenges.

- **Solvency Metric Literacy (H3)**: Referred to the understanding of solvency ratios, such as the Debt-to-Equity Ratio and Interest Coverage Ratio. Solvency literacy enables organizations to manage long-term debt obligations effectively and ensure financial sustainability. Organizations with strong solvency literacy are better equipped to handle leverage risks and prevent financial distress.

2. **Mediating Variable (MV): Overall Financial Literacy (H4)**
    - **Overall Financial Literacy** referred to the cumulative effect of understanding profitability, liquidity, and solvency metrics. It encompasses the ability to integrate knowledge of these metrics to inform comprehensive financial decision-making. This mediating variable links the understanding of individual financial metrics to the organization's overall financial decision-making processes, particularly in risk assessment and mitigation. It was hypothesized that leaders with strong overall financial literacy were better at managing financial risks and making strategic decisions that enhance organizational resilience.
3. **Dependent Variable (DV): Effective Risk Management Strategies (H4)**
    - **Effective Risk Management Strategies** reflected the organization's ability to identify, assess, and mitigate financial risks. This variable measured the effectiveness of an organization's risk management practices, which were influenced by financial literacy. Organizations with higher financial literacy were expected to manage risks more proactively, reducing the likelihood of financial crises. Risk management efficacy is essential in Zambia's financial services industry, where organizations must navigate market volatility, regulatory challenges, and financial instability.

Hypothesized Relationships:

1. **H1: Profitability Metric Literacy → Overall Financial Literacy**:
    - Profitability metric literacy was hypothesized to positively impact overall financial literacy. Leaders who thoroughly understood profitability metrics were expected to be more proficient in financial decision-making, as these

metrics are crucial for evaluating operational performance and sustainability.

2. **H2: Liquidity Metric Literacy → Overall Financial Literacy**:
    - Liquidity metric literacy was expected to enhance overall financial literacy by equipping leaders with the tools to manage short-term financial obligations. Organizations with strong liquidity literacy can better anticipate and mitigate risks related to cash flow shortages, improving their overall financial health.
3. **H3: Solvency Metric Literacy → Overall Financial Literacy**:
    - Solvency metric literacy was hypothesized to contribute to overall financial literacy by enabling leaders to manage long-term debt obligations effectively. Understanding solvency ratios helps organizations balance their capital structure and avoid over-leveraging, which is critical for long-term sustainability.
4. **H4: Overall Financial Literacy → Effective Risk Management Strategies**:
    - It was hypothesized that higher overall financial literacy leads to more effective risk management strategies. Leaders who can integrate their knowledge of profitability, liquidity, and solvency metrics are better able to identify, assess, and mitigate financial risks. This should result in improved organizational resilience, particularly in navigating external shocks and financial uncertainties.

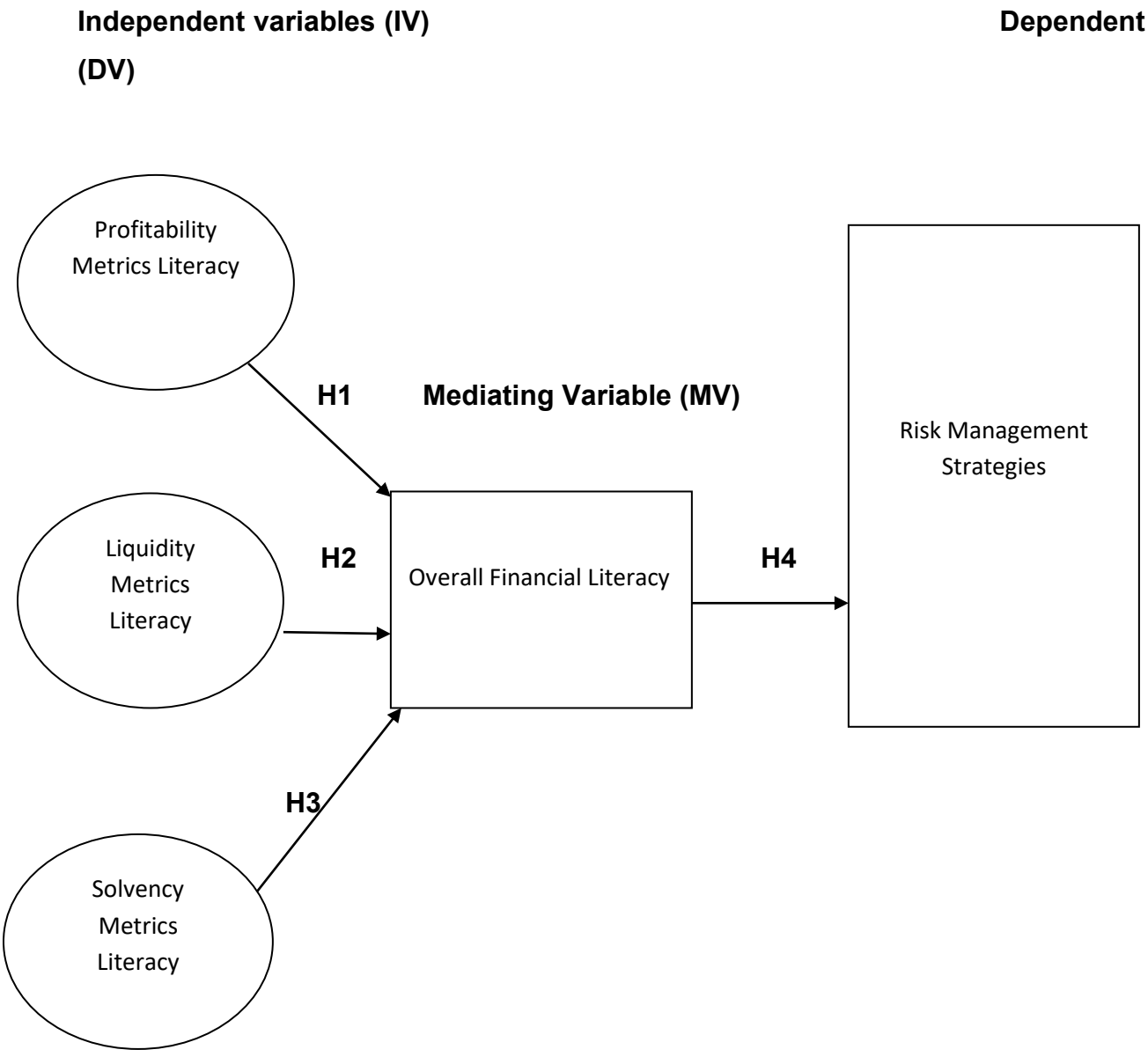

Figure 1: The Conceptual Framework

2.5 Empirical Evidence Supporting the Framework:

Previous studies have demonstrated that financial literacy is strongly correlated with improved financial decision-making and risk management. For instance, research in developing economies shows that organizations with strong financial literacy are more resilient during economic crises due to their ability to manage risks effectively (Panigrahi & Kumar, 2019). Furthermore, leaders who understand key financial metrics such as liquidity and solvency are

better equipped to implement risk mitigation strategies that protect the organization from financial distress (Neogy, Hossain, & Rahman, 2023). This conceptual framework builds on this evidence by focusing on how financial metric literacy affects risk management efficacy in Zambia's financial services industry.

2.6 Broader Importance of the Framework:

This framework provided a structured approach to understanding the role of financial literacy in enhancing risk management practices. In Zambia's financial services industry, where market volatility and external financial shocks are prevalent, financial literacy is a critical asset for decision-makers. By improving financial literacy, organizations can better navigate financial risks, mitigate potential crises, and contribute to the stability and growth of the financial sector.

Chapter 3: Methodology

3.1 Research Approach

This study employed a sequential explanatory mixed-methods approach, beginning with a quantitative phase followed by a qualitative phase. This approach was selected to provide a comprehensive understanding of the relationship between financial metric literacy and risk management effectiveness.

The mixed-methods approach was chosen for the following reasons:

i. Quantitative Data Collection for Empirical Measurement

- Creswell & Creswell (2018) emphasize that survey research is a core quantitative approach, as it collects numerical data that can be statistically analyzed. Surveys are particularly effective in measuring perceptions, knowledge, and behaviors, making them appropriate for assessing financial literacy.
- Lusardi & Mitchell (2014) highlight that quantitative surveys are widely accepted for evaluating financial literacy across different populations, allowing for the identification of patterns and relationships between financial knowledge and economic behavior.
- The survey-based methodology used in this study enables the assessment of correlations between financial metric literacy and risk management effectiveness (Research Objective 1) and the impact of financial illiteracy on risk-related decision-making (Research Objective 2).

ii. Qualitative Exploration for Deeper Insights

- While quantitative analysis provides broad statistical insights, the qualitative phase allows for a richer exploration of professionals' experiences, perceptions, and challenges in applying financial literacy to risk management.
- Thematic analysis of open-ended survey responses ensures that the study captures real-world barriers to financial literacy, contributing to

the development of evidence-based strategies for improving financial decision-making (Research Objective 3).

iii. Intergration for Enhanced Validity and Reliability

- The combination of numerical survey data and narrative insights improves the robustness of findings by cross-validating results from different data sources.
- Bryman (2016) emphasizes that survey data can be analyzed independently of secondary sources, ensuring that primary data collection provides direct and valid empirical evidence. This strengthens the study's ability to generate insights without relying on external datasets.

3.2 Research Design

A cross-sectional survey design was used for both the quantitative and qualitative phases, allowing for data collection at a single point in time. This design was chosen for its:

- Efficiency – Practical for gathering data from a diverse group of financial professionals within a defined timeframe.
- Exploratory Value – Useful for assessing associations between financial literacy and risk management effectiveness.
- Hypothesis Generation – Findings may inform future longitudinal research on financial decision-making and risk management.

Although cross-sectional studies provide only a snapshot of relationships at a given time, they offer valuable empirical evidence for identifying trends and informing future research.

3.3 Study Population

The study targeted financial professionals whose roles involve financial decision-making and risk management. The population included:

- Financial Managers
- Risk Management Professionals
- Senior Executives

These professionals were selected from various sub-sectors of the Zambian financial services industry, including:

- Banking
- Insurance
- Asset Management
- Fintech
- Other Financial Services

Rationale for Selecting This Population

- Their roles require financial literacy and an ability to interpret financial metrics in risk management.
- The study aimed to capture practical insights into the impact of financial literacy on organizational decision-making.
- The focus on Zambia's financial sector ensured consideration of unique regulatory, economic, and financial challenges.

3.4 Sample Size

The study aimed for a final sample size of approximately 100 participants, based on:

- Balancing statistical power and feasibility – Ensuring a sufficient sample for statistical analysis while maintaining practical data collection constraints.
- Robust Quantitative Analysis – Allowing for statistical techniques such as correlation and regression analysis to identify patterns.
- Meaningful Qualitative Insights – Enabling in-depth thematic analysis of open-ended responses.

While a larger sample could improve generalizability, this sample size was a practical balance between depth and breadth in data collection.

3.5 Sampling Techniques

A stratified random sampling method was used to ensure proportional representation across the financial services industry.

Steps in the Sampling Process

i. Defining Strata – The target population was divided into five key financial sub-sectors:
    - Banking
    - Insurance
    - Asset Management
    - Fintech
    - Other Financial Services

ii. Proportional Allocation – The target sample of 100 participants was distributed across these sub-sectors to reflect their industry representation.

iii. Random Selection – Participants were randomly selected from:
    - Industry directories
    - Professional associations
    - LinkedIn groups

"The stratified random sampling approach was adopted to ensure proportional representation of Zambia's financial sub-sectors, following best practices in survey research (Cochran, 1977; Lohr, 2022).

3.6 Data Collection

This study utilized structured surveys as the primary method for data collection, following guidelines from Creswell (2018) and Fowler (2014). Survey research is widely recognized for its ability to collect numerical data that can be analyzed statistically, making it an appropriate method for assessing financial literacy levels and their impact on risk management strategies.

The survey was designed to gather both quantitative and qualitative data, ensuring a comprehensive analysis of financial metric comprehension among financial professionals. The questionnaire included Likert-scale questions, scenario-based assessments, and open-ended responses to capture both statistical trends and contextual insights.

3.6.1 Quantitative Data Collection (Survey-Based Research)

The quantitative component of the survey was structured to measure financial literacy levels, confidence in interpreting financial metrics, and perceptions of risk management effectiveness. Respondents rated their confidence levels in understanding key profitability, liquidity, and solvency metrics using a Likert scale (1-5).

i. Analysis of Likert-Scale Questions (Quantitative Data)

To analyze the collected data, the study employed the following statistical techniques:

- Descriptive Statistics – Mean, median, mode, and standard deviation were calculated to summarize financial metric comprehension levels.
- Correlation Analysis – The relationship between financial literacy levels and risk management effectiveness was assessed using correlation tests.
- Comparative Analysis – Differences in financial confidence levels were analyzed across various professional roles (e.g., executives vs. analysts).
- Factor Analysis – Key factors influencing financial literacy were identified, such as training gaps, cognitive biases, and access to financial education.

3.6.2 Qualitative Data Collection (Open-Ended Responses)

The qualitative component of the survey complemented the numerical findings by exploring professionals' experiences, challenges, and perceptions regarding financial literacy and risk management. Open-ended responses provided rich, narrative insights into real-world challenges in applying financial metrics.

i. Analysis of Open-Ended Questions (Qualitative Data)

To analyze qualitative responses, the study employed:

- Thematic Analysis – Identifying recurring themes related to financial metric misunderstandings and their consequences in risk management.

- Sentiment Analysis – Categorizing responses into positive, neutral, or negative attitudes toward financial literacy challenges.
- Case Study Extraction – Documenting specific incidents where misinterpretation of financial metrics led to poor risk management decisions.

3.7 Reliability and validity

The reliability and validity of all survey questions were rigorously evaluated to ensure the robustness of the data collection instruments. Reliability was assessed using Cronbach's Alpha, confirming strong internal consistency across all survey items. Validity was established through factor analysis, ensuring that each question accurately aligned with theoretical constructs and effectively measured the intended concepts. Furthermore, insights from a comprehensive pilot test were utilized to refine and optimize the survey instruments before proceeding to full-scale data collection.

3.8 Assumption of Normality

After data collection, the assumption of normality was tested for the quantitative variables. This included visual inspection using histograms and box plots, as well as statistical tests such as the Shapiro-Wilk test. If data were found to deviate significantly from normality, non-parametric alternatives, such as Spearman’s Rho for correlation analysis, would be used.

3.9 Quantitative Data Analysis

This phase of the study focused on analyzing the relationships between financial metric literacy (profitability, liquidity, solvency) and overall financial literacy, as well as their impact on risk management strategies. Data analysis was conducted using descriptive statistics, correlation analysis with SPSS 14 statistical package for analysis

3.9.1 Descriptive Statistics

Goal**:** Summarize the levels of financial literacy across the three key financial metrics (profitability, liquidity, and solvency) and assess their overall integration into financial decision-making.

Key Measures:

- Descriptive statistics (mean, median, standard deviation) were computed for each financial metric literacy component to provide an overview of respondents' understanding.
- Descriptive statistics for risk management strategies were also analyzed to determine the extent of effective application of financial literacy.
- These measures provided insights into the distribution of financial literacy levels and established the foundation for correlation and regression analyses.

3.9.2 Correlation Analysis

Goal: Assess the relationships between profitability, liquidity, and solvency literacy and their impact on overall financial literacy (H1–H3)**,** as well as the relationship between overall financial literacy and risk management strategies (H4)**.**

Methods:

- Spearman's Rho correlation was used, as financial literacy scores were not normally distributed (tested via the Shapiro-Wilk test).
- Hypothesis Testing Approach:
    - H1: Correlation between profitability literacy and overall financial literacy.
    - H2: Correlation between liquidity literacy and overall financial literacy.

- H3: Correlation between solvency literacy and overall financial literacy.
- H4: Correlation between overall financial literacy and risk management strategies.

- A significant correlation ($p < 0.05$) would indicate that higher literacy in a financial metric contributes to stronger overall financial literacy or risk management strategies.

3.9.3 Regression Analysis

Goal: Examine the predictive power of financial metric literacy on risk management strategies while testing the mediating role of overall financial literacy.

Methods:

- Multiple regression analysis was used to determine the impact of profitability, liquidity, and solvency literacy on overall financial literacy (H1–H3) and the impact of overall financial literacy on risk management strategies (H4).
- Mediation Analysis:
  - Overall financial literacy was tested as a mediating variable between individual financial metric literacy and risk strategies.

3.10 Mediating Variable (MV): Overall Financial Literacy

This phase measured participants' overall financial literacy, which was hypothesized to be influenced by profitability, liquidity, and solvency literacy (H1–H3).

3.11 Dependent Variable (DV): Effective Risk Management Strategies

This phase focused on evaluating how financial literacy impacts respondents' ability to manage financial risks (H4).

3.12 Thematic Analysis of qualitative data

Once qualitative data was collected through open-ended responses, thematic analysis was employed to uncover patterns and key themes related to financial literacy and risk management..

3.12.1 Coding and Theme Generation

Goal: Code responses to identify recurring themes related to the interpretation of profitability, liquidity, and solvency metrics, and their role in risk management.

3.13 Integration of Findings

The final phase involved merging quantitative and qualitative findings to provide a comprehensive understanding of the relationships between financial literacy and risk management.

3.13.1 Connecting Quantitative and Qualitative Results

i. **Goal**: Identified where the quantitative findings aligned with qualitative insights.

ii. **Methods**: Convergence was noted where both data types supported the same conclusion, and divergence was explored where discrepancies arise.

3.13.2 Interpretation of Convergent/Divergent Patterns

i. **Convergent Patterns**: These highlighted how financial literacy led to improved risk management, supported by both quantitative and qualitative data.

ii. **Divergent Patterns**: Divergence was analyzed to understand why some participants, despite high financial literacy, struggled with applying metrics effectively, possibly due to cognitive biases or institutional constraints.

3.13 Ethical Considerations

3.13.1 Informed Consent Procedures

Participants were fully informed about the purpose and procedures of the study, ensuring voluntary participation.

3.13.2 Confidentiality and Data Protection

All participant data was handled securely and confidentially, following institutional data protection guidelines.

3.13.2 Institutional Review Board Approval

Ethical clearance was sought from the Institutional Review Board (IRB) before data collection began to ensure the study complied with ethical standards.

CHAPTER 4: PRESENTATION AND ANALYSIS OF RESULTS

4.1 Introduction

This chapter presents the study's findings, integrating quantitative and qualitative analyses to address the research objectives and test the hypotheses (H1-H4). The analysis examined the relationship between financial metric literacy (profitability, liquidity, and solvency) and overall financial literacy, as well as its impact on risk management strategies.

The findings are structured as follows:

- Descriptive statistics summarize participants' financial literacy levels.
- Correlation analysis tests the relationship between individual financial metric literacy and overall financial literacy (H1-H3).
- Regression analysis assesses whether overall financial literacy predicts risk management effectiveness (H4).
- Thematic analysis presents qualitative insights supporting the quantitative findings..

4.1.1 Data Preparation

Before conducting statistical analyses, the dataset underwent rigorous preparation to ensure accuracy and reliability. Data cleaning confirmed no missing values, while histograms helped identify and address any outliers. Variable transformation structured Likert-scale responses (1–5) into composite variables, including Profitability Literacy, Liquidity Literacy, Solvency Literacy, Overall Financial Literacy, and Risk Strategies, by aggregating scores from related questionnaire items. The survey instrument demonstrated strong reliability with a Cronbach's Alpha of 0.906, exceeding the 0.7 benchmark, and high factor communalities (e.g., ROA = 0.879, Current Ratio = 0.866), confirming internal consistency. Validity assessments indicated robust content and construct validity, supported by a Kaiser-Meyer-Olkin (KMO) score of 0.808 and a

statistically significant Bartlett's Test of Sphericity ($p < 0.000$). Factor analysis revealed distinct clusters aligning with theoretical constructs, explaining 75.11% of total variance. Normality tests (Figures 2–6, Table 2) showed that while some variables approximated a normal distribution, others displayed asymmetry and peakedness, necessitating careful interpretation in subsequent statistical analyses. Descriptive statistics provided further insights into central tendencies, variability, and data distribution, laying the foundation for deeper analysis.

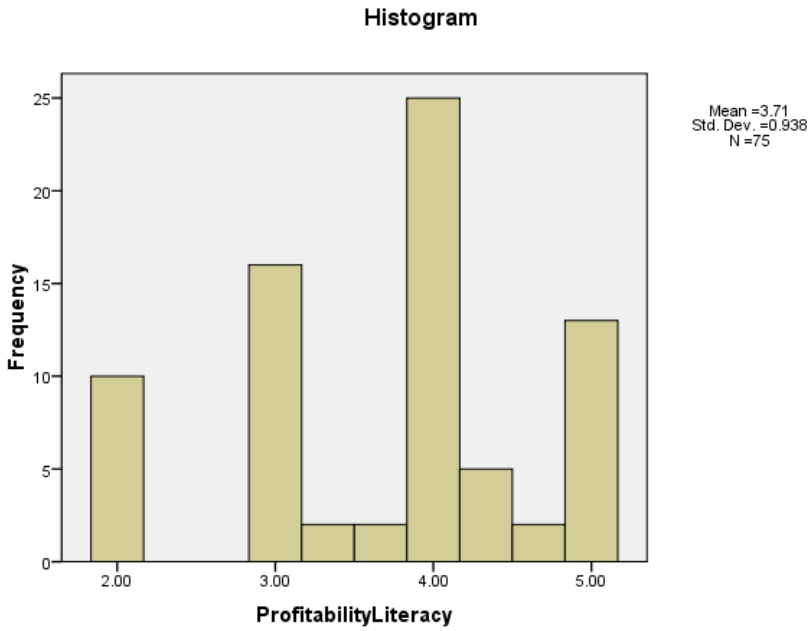

Figure 2: Histogram of Profitability Literacy Scores

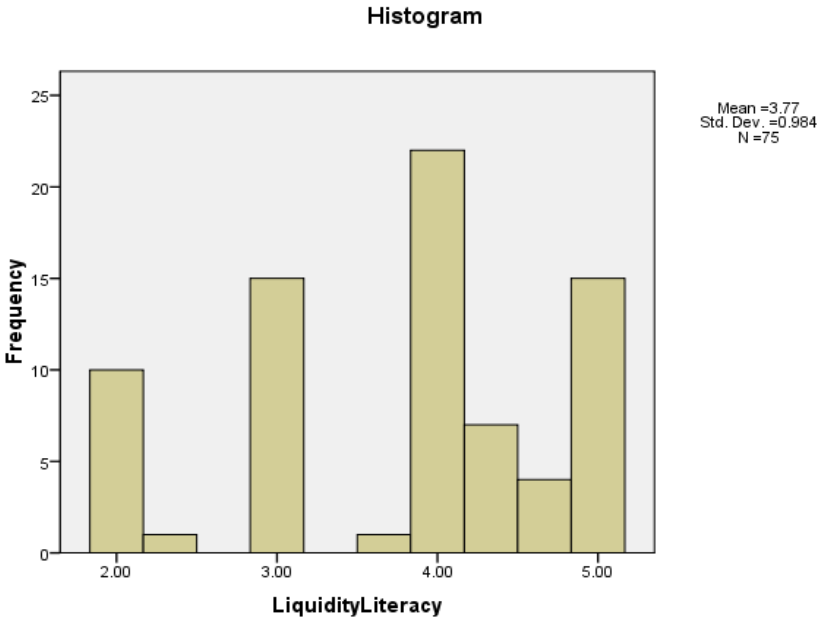

Figure 3: Histogram of Liquidity Literacy Scores

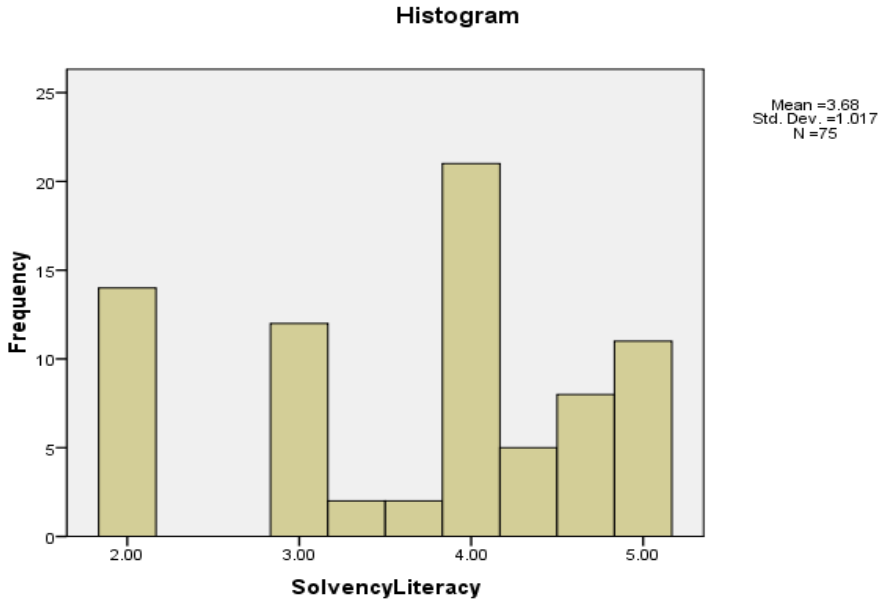

Figure 4: Histogram of Solvency Literacy Scores

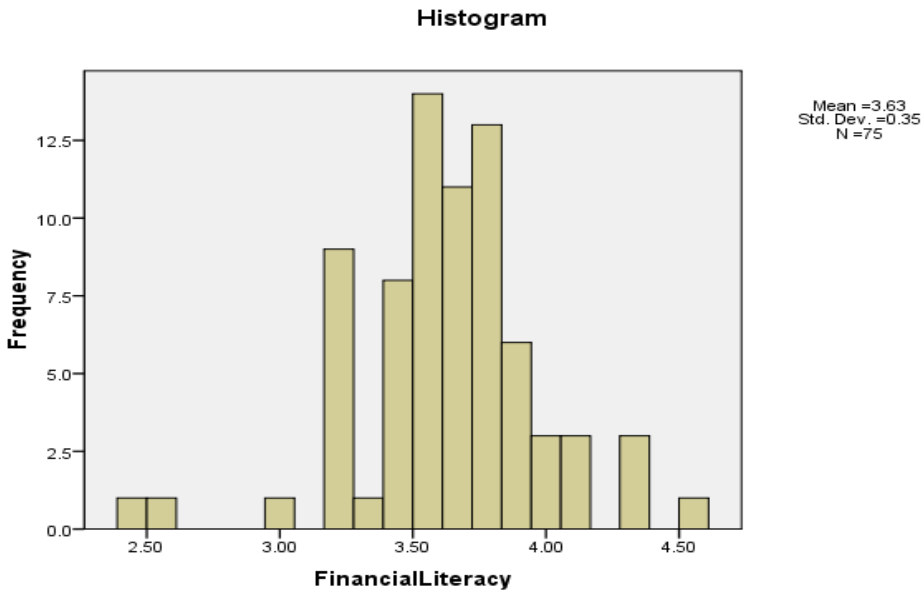

Figure 5: Histogram of Overall Financial Literacy Scores

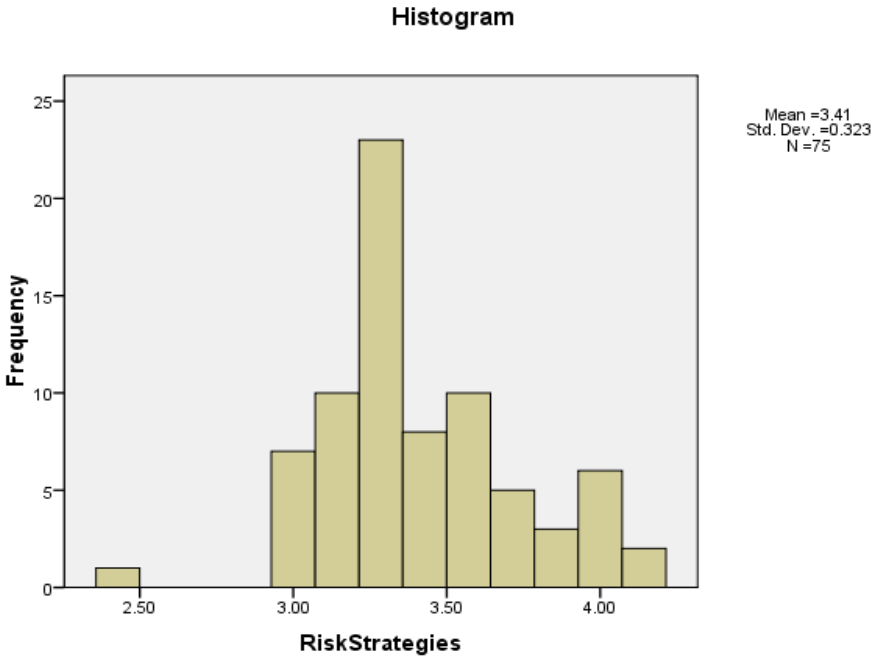

Figure 6 : Histogram of Risk Strategies

Table 2: Summary Statistics of Financial Literacy and Risk Strategies

Statistic	Profitability Literacy	Liquidity Literacy	Solvency Literacy	Financial Literacy	Risk Strategies
Mean	3.7067	3.7733	3.6800	3.6311	3.4133
Standard Error	0.10831	0.11358	0.11744	0.04036	0.03724
95% Confidence Interval Lower Bound	3.4909	3.5470	3.4460	3.5507	3.3391
95% Confidence Interval Upper Bound	3.9225	3.9996	3.9140	3.7115	3.4875
5% Trimmed Mean	3.7296	3.8037	3.7000	3.6362	3.4079
Median	4.0000	4.0000	4.0000	3.6667	3.2857
Variance	0.880	0.967	1.034	0.122	0.104
Standard Deviation	0.93796	0.98359	1.01703	0.34954	0.32251
Minimum	2.00	2.00	2.00	2.44	2.43
Maximum	5.00	5.00	5.00	4.56	4.14
Range	3.00	3.00	3.00	2.11	1.71
Interquartile Range	1.33	1.67	1.67	0.33	0.29
Skewness	-0.399	-0.491	-0.464	-0.459	0.303
Kurtosis	-0.704	-0.842	-0.986	2.232	0.458
Normally Distributed	No	No	No	No	No

4.2 Descriptive Statistics

To assess overall financial literacy, descriptive statistics were calculated for profitability, liquidity, and solvency literacy, as well as overall financial literacy and risk strategies.

4.2.1 Summary of Financial Literacy Levels

Table 3: Descriptive Statistics of Financial Literacy Variables

Variable	Min	Max	Mean	Std. Dev
Profitability Literacy	2.00	5.00	3.71	0.94
Liquidity Literacy	2.00	5.00	3.77	0.98
Solvency Literacy	2.00	5.00	3.68	1.02
Overall Financial Literacy	2.44	4.56	3.63	0.35
Risk Strategies	2.43	4.14	3.41	0.32

4.2.2 Interpretation of Descriptive Findings

- The mean scores for individual financial literacy components (profitability, liquidity, solvency) were higher than the mean score for overall financial literacy. This suggests that respondents may understand these metrics in isolation but struggle to integrate them into comprehensive financial decision-making.
- Liquidity literacy (M = 3.77, SD = 0.98) had the highest mean, suggesting that professionals prioritize liquidity in financial decision-making. This is consistent with the notion that businesses often focus on short-term solvency to ensure operational continuity.
- Risk strategies scored the lowest (M = 3.41, SD = 0.32), indicating that while financial literacy is relatively strong, its practical application in risk management remains weak.

4.3 Correlation Analysis (Testing H1-H3)

4.3.1 Hypotheses Tested

- H1: Higher profitability metric literacy leads to higher overall financial literacy.
- H2: Higher liquidity metric literacy leads to higher overall financial literacy.
- H3: Higher solvency metric literacy leads to higher overall financial literacy.

4.3.2 Spearman's Rho Correlation Matrix

Table 4: Spearman's Rho Correlation Between Financial Literacy Components

Variables	**Liquidity Literacy**	**Profitability Literacy**	**Solvency Literacy**	**Overall Financial Literacy**
Liquidity Literacy	1.000	.770**	.679**	.479**
Profitability Literacy	.770**	1.000	.798**	.410**
Solvency Literacy	.679**	.798**	1.000	.406**
Overall Financial Literacy	.479**	.410**	.406**	1.000

Significance Levels:

- **p < 0.01 (**)** = Strong positive correlation.
- **p < 0.05** = Moderate correlation.

4.3.3 Interpretation of Correlation Findings

- Liquidity literacy had the strongest correlation with overall financial literacy ($r = 0.479$, $p < 0.01$), supporting H2. This suggests that individuals who understand liquidity are more likely to develop comprehensive financial literacy, possibly due to the immediate impact of liquidity on business operations.

- Profitability literacy also significantly correlated with overall financial literacy ($r = 0.410$, $p < 0.01$), confirming H1. This highlights the importance of profitability awareness in long-term financial planning.
- Solvency literacy was moderately correlated with overall financial literacy ($r = 0.406$, $p < 0.01$), supporting H3. This indicates that while solvency knowledge is critical for long-term sustainability, it may be less frequently applied in day-to-day financial decision-making.

4.4 Regression Analysis (Testing H4: Financial Literacy and Risk Strategies)

4.4.1 Hypothesis Tested

- H4: Higher overall financial literacy leads to more effective risk management strategies.

4.4.2 Regression Model Results

Table 5: Regression Analysis – Predicting Risk Strategies

Model	R	R^2	Adjusted R^2	Std. Error	Sig. (p-value)
Financial Literacy → Risk Strategies	0.60	0.36	0.35	0.26	0.000**

4.4.3 Interpretation of Regression Results

- $R^2 = 0.356$ → Financial literacy explains 35.6% of the variance in risk strategies.
- p-value (0.000) indicates statistical significance, confirming H4:
    - Higher financial literacy predicts better risk management effectiveness.
    - A one-unit increase in financial literacy results in a 0.55-unit increase in risk strategy effectiveness.
    - This finding underscores the need for comprehensive financial training to strengthen risk-based decision-making.

4.5 Thematic Analysis (Qualitative Insights Supporting H1–H4)

4.5.1 Integration of Excel for Thematic Analysis

- Method: Open-ended responses were coded in Excel using pivot tables and color-coded themes (e.g., "Training Gaps," "Cognitive Biases").

4.5.2 Emerging Themes

1. Training Gaps
    - *"Many lack formal training in profitability ratios, leading to misinterpretations."*
    - Alignment with H1–H3: Supports need for metric-specific education.
2. Cognitive Biases
    - *"Overconfidence in liquidity metrics caused cash flow crises."*
    - Alignment with H4: Biases hinder risk strategies despite literacy.
3. Reliance on Fintech Tools
    - *"Automated tools are used without validating solvency metrics."*
    - Alignment with H1–H3: Highlights gaps in foundational literacy.
4. Regulatory Recommendations
    - *"Standardized training would improve risk frameworks."*
    - Alignment with H4: Reinforces need for literacy-driven policies.

Table 6: Integration of quantitative metrics with qualitative themes

This table aligns quantitative metrics (correlations, regression results) with qualitative themes and synthesizes their implications.

Hypothesis	**Quantitative Support**	**Thematic Results**	**Synthesis**
H1: Profitability literacy →	Spearman's *r* = 0.410** (Table 7)	Training Gaps: Poor understanding of	Profitability literacy is foundational, but gaps in

Financial literacy		ROA/EBIT due to lack of formal training.	training hinder integration into broader financial literacy.
H2: Liquidity literacy → literacy literacy	Strongest correlation r = 0.479** (Table 7)	Overreliance on Fintech: Misuse of liquidity ratios due to automated tool dependency.	High liquidity literacy improves financial literacy, but overreliance on tools without validation creates risks.
H3: Solvency literacy → Financial literacy	Moderate correlation r = 0.406** (Table 7)	Metric Misinterpretation: Debt-to-equity ratios misapplied in long-term planning.	Solvency literacy is critical, but inconsistent definitions and training reduce its impact.
H4: Financial literacy → Risk strategies	Regression R^2 = 0.356***, B = 0.550 (Tables 10, 14)	Cognitive Biases: Overconfidence in metrics leads to poor risk assessment.	Financial literacy enhances risk strategies, but biases and training gaps weaken its effectiveness.
Role-Specific Gaps	Executives scored highest; technical roles lowest (Table 9).	Role-Specific Training Needs: lack lack liquidity literacy for operational decisions.	Quantitative role disparities align with qualitative calls for tailored training interventions.
Training Effectiveness	Training participation: M = 1.72; effectiveness: M = 3.60 (Table 5).	Standardization Demands: Respondents advocate for industry-wide metric frameworks.	Low training participation explains literacy gaps; standardized programs could bridge disparities.

Notes:

- **p < 0.01; ***p < 0.001.
- M = Mean score.

CHAPTER 5: DISCUSSION OF RESULTS AND FINDINGS

This chapter provides a comprehensive discussion of the study's findings, integrating the quantitative results presented in the correlation and regression analyses with the qualitative insights derived from the thematic analysis. The discussion will interpret these findings in light of the existing literature on financial literacy and risk management. Furthermore, this chapter will bridge the empirical findings with the implications and recommendations elucidate in the subsequent chapter of this thesis.

5.1 Interpretation of Descriptive Statistics

The descriptive statistics revealed interesting patterns in participants' financial literacy levels. Notably, the mean scores for individual financial literacy components (profitability, liquidity, solvency) were higher than the mean score for overall financial literacy. This observation suggests that while participants possess a foundational understanding of these individual metrics, they may encounter challenges in synthesizing this knowledge into a holistic understanding of financial health. The finding that liquidity literacy had the highest mean score indicates a potential prioritization of short-term solvency in financial decision-making, which aligns with the notion that businesses often focus on operational continuity. Conversely, risk strategies scored the lowest mean, suggesting a disconnect between financial literacy and its practical application in risk management.

5.2 Correlation Analysis and Hypotheses Testing (H1-H3)

The Spearman’s Rho correlation analysis provided valuable insights into the relationships between individual financial metric literacy and overall financial literacy.

- Hypothesis 1 (H1): Higher profitability metric literacy leads to higher overall financial literacy was supported by a significant positive correlation ($r = 0.410$, $p < 0.01$). This confirms the foundational role of understanding profitability in developing a broader financial literacy, consistent with Lusardi & Mitchell's (2014) argument that foundational financial literacy, including profitability, is critical for decision-making. The qualitative data, under the theme of "Training Gaps," further supports this by highlighting a lack of formal training in profitability ratios, leading to misinterpretations.
- Hypothesis 2 (H2): Higher liquidity metric literacy leads to higher overall financial literacy demonstrated the strongest positive correlation ($r = 0.479$, $p < 0.01$). This suggests that an understanding of liquidity is particularly influential in developing comprehensive financial literacy, potentially due to its immediate relevance to business operations. However, the thematic analysis also revealed an "Overreliance on Fintech" and "Cognitive Biases" related to liquidity, indicating that while individuals may understand liquidity, they might misuse it due to automated tool dependency or overconfidence. This underscores the potential for a 'liquidity bias' and the importance of foundational understanding even with technological aids.
- Hypothesis 3 (H3): Higher solvency metric literacy leads to higher overall financial literacy was supported by a moderate positive correlation ($r = 0.406$, $p < 0.01$). While significant, the correlation was weaker than that of liquidity and profitability, suggesting that while solvency knowledge is crucial for long-term sustainability, it may be less directly integrated into day-to-day financial decision-making. The "Metric Misinterpretation" theme in the qualitative analysis corroborates this, indicating that debt-to-equity ratios are sometimes misapplied in long-term planning. This aligns with the need for more integrated financial literacy training.

The consistent positive correlations across all three financial metric literacies with overall financial literacy underscore the interconnectedness of these components in forming a robust understanding of financial principles.

5.3 Regression Analysis and Hypothesis Testing (H4)

The regression analysis examined the relationship between overall financial literacy and risk management strategies. Hypothesis 4 (H4): Higher overall financial literacy leads to more effective risk management strategies was supported by the statistically significant results ($R^2 = 0.356$, $p < 0.001$). This indicates that a higher level of overall financial literacy is a significant predictor of better risk management effectiveness, explaining approximately 35.6% of the variance in risk strategies. This finding aligns with the research by Hastings et al. (2013) and Bruhn et al. (2016), which demonstrate that financial literacy improves risk management and that targeted financial education enhances risk mitigation. However, the thematic analysis revealed that "Cognitive Biases" can hinder the effective application of financial literacy in risk assessment. This nuance emphasizes the importance of addressing behavioral factors in financial training

5.4 Integration of Quantitative and Qualitative Findings

The thematic analysis provided rich qualitative insights that both supported and contextualized the quantitative findings.

- The theme of "Training Gaps" reinforces the correlational findings (H1-H3) by highlighting a perceived lack of formal training in specific financial metrics, which could explain why understanding individual metrics doesn't always translate to high overall financial literacy. Fernandes et al. (2014) explain that low training participation leads to literacy gaps, which is also noted in the study with a low mean training participation score (M=1.72).
- "Cognitive Biases" emerged as a significant factor influencing the relationship between financial literacy and risk strategies (H4). Despite a

positive correlation, overconfidence in certain metrics could lead to poor risk assessment, highlighting the need to incorporate behavioral finance principles into training, as supported by Drexler et al. (2014) advocating for simplified training to combat cognitive biases.

- The theme of "Reliance on Fintech Tools" suggests that while technology can be beneficial, an over-dependence without a solid foundational understanding of metrics (H1-H3) can lead to misuse, particularly in validating solvency metrics. This supports the caution against over-reliance on automated tools without human oversight, as highlighted by Bhattacharya et al. (2017).
- "Regulatory Recommendations" for standardized training frameworks align with the need to improve risk frameworks (H4). This echoes the emphasis on standardized financial frameworks by Hilgert, Hogarth, & Beverly (2003) and supports the recommendation for industry-wide or regulatory initiatives to ensure consistent understanding, as proposed in Chapter 6.
- The identification of "Role-Specific Gaps" in financial literacy, with executives scoring highest and technical roles lowest, further supports the need for tailored training. Cole, Sampson, & Zia (2011) highlight these role-specific disparities. The qualitative data indicated a lack of liquidity literacy for operational decisions in technical roles.
- The low "Training Effectiveness" participation and moderate reported effectiveness (M=3.60) underscore the need for more standardized and impactful training programs to bridge the identified literacy gaps, as suggested by the qualitative calls for industry-wide metric frameworks.

5.5 Contributions to the Body of Work

This study makes several significant contributions to the literature on financial literacy and risk management. First, it bridges a critical gap by empirically validating the relationship between financial metric literacy (profitability, liquidity, and solvency) and risk management efficacy, particularly within Zambia’s financial services sector a

context underrepresented in existing research. By employing a mixed-methods approach, the study integrates quantitative evidence (e.g., strong correlations between liquidity literacy and overall financial literacy, r=0.479*r*=0.479) with qualitative insights (e.g., "Training Gaps" and "Overreliance on Fintech"), offering a holistic understanding of how technical knowledge translates into practical risk strategies.

Second, the research advances theoretical frameworks by synthesizing Trade-Off, Pecking Order, and Agency Theories into a unified model that links financial metric comprehension to organizational resilience. This framework provides a structured basis for future studies to explore financial literacy's role in mitigating sector-specific risks.

Practically, the findings advocate for evidence-based interventions, such as standardized training programs and regulatory reforms, which are directly applicable to Zambia's financial sector. These recommendations address systemic issues like inconsistent training and cognitive biases, offering actionable pathways for policymakers and organizational leaders to enhance financial stability in emerging markets.

5.6 Limitations

Despite its contributions, this study has several limitations. First, the cross-sectional design restricts the ability to establish causal relationships between financial literacy and risk management outcomes. While correlations were significant (e.g., R2=0.356*R*2=0.356 for H4), longitudinal data would better capture how literacy improvements translate into long-term risk mitigation.

Second, the sample (N=75*N*=75), though statistically robust, was confined to Zambia's financial sector, limiting generalizability to other industries or regions. Additionally, the reliance on self-reported data introduces potential response biases, such as overestimation of financial literacy levels.

Third, the study exclusively used primary data (survey responses and open-ended feedback), omitting secondary data sources such as organizational financial reports, industry risk audits, or regulatory filings. This limits the ability to triangulate self-reported literacy and risk management efficacy with objective performance metrics (e.g., actual liquidity ratios, debt default rates). Incorporating secondary data in future studies could strengthen the validity of findings.

5.7 Future Research

Future studies should address these limitations while expanding on the findings. Key directions include:

1. Longitudinal Analyses: Tracking financial literacy and risk outcomes over time to assess causality and the sustainability of interventions.
2. Cross-Contextual Comparisons: Replicating the study in other emerging markets or non-financial sectors to test the framework's universality.
3. Integration of Behavioral Economics: Quantifying the impact of cognitive biases (e.g., through experimental designs) to refine training programs.
4. Regulatory Impact Studies: Evaluating how policy changes, such as mandatory financial certifications, influence risk management practices.
5. Fintech and Automation: Investigating how AI tools can complement (or undermine) financial literacy, particularly in resource-constrained settings.
6. Socio-Economic Moderators: Exploring how factors like organizational size, leadership tenure, or access to education moderate the literacy-risk relationship.

By addressing these gaps, future research can further validate the proposed frameworks and contribute to global strategies for enhancing financial resilience in volatile economies.

5.5 Conclusion of Discussion

The findings of this study provide strong support for the hypothesized relationships between financial metric literacy, overall financial literacy, and risk management strategies. The higher understanding of individual metrics compared to overall financial literacy suggests a need for educational approaches that emphasize the integration of these concepts. The significant positive correlation between financial literacy and risk management underscores the importance of financial knowledge in effective decision-making. However, the qualitative data reveal critical nuances, including the potential for over-reliance on certain metrics or technologies, the influence of cognitive biases, and the need for tailored and standardized training programs.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

This chapter provides a summary of the key conclusions derived from the integration of quantitative and qualitative analyses, directly addressing the research hypotheses (H1-H4) and highlighting their broader implications for financial literacy and risk management. Furthermore, it offers focused and actionable recommendations based on these conclusions and the insights gleaned from the thematic analysis, with clear explanations for their effective implementation.

6.1 Conclusions

- Hypothesis 1 (H1): Higher profitability metric literacy leads to higher overall financial literacy. The study found a significant positive correlation between profitability literacy and overall financial literacy ($r = 0.410$, $p < 0.01$), thus supporting H1. This indicates that a fundamental understanding of profitability metrics is crucial for developing a broader comprehension of financial concepts. The thematic analysis further revealed "Training Gaps" in this specific area, suggesting that targeted educational efforts on profitability could significantly enhance overall financial literacy. This aligns with the view that foundational financial literacy, including profitability, is critical for economic decision-making.
- Hypothesis 2 (H2): Higher liquidity metric literacy leads to higher overall financial literacy. The Spearman's Rho correlation analysis showed the strongest positive correlation between liquidity literacy and overall financial literacy ($r = 0.479$, $p < 0.01$), thereby strongly supporting H2. This suggests that understanding liquidity plays a particularly significant role in the development of comprehensive financial literacy, likely due to its immediate relevance to business operations. However, the thematic analysis also identified "Overreliance on Fintech" and potential for "Cognitive Biases" related to liquidity, indicating that while important, a nuanced understanding beyond automated tools is necessary.
- Hypothesis 3 (H3): Higher solvency metric literacy leads to higher overall financial literacy. A moderate positive correlation was observed between

solvency literacy and overall financial literacy ($r = 0.406$, $p < 0.01$), supporting H3. While the correlation was statistically significant, it was weaker than that of profitability and liquidity, suggesting that the application of solvency knowledge might be less immediate in routine financial decisions. The theme of "Metric Misinterpretation" related to solvency ratios underscores the need for clearer understanding and consistent training to maximize its impact on overall financial literacy.

- Hypothesis 4 (H4): Higher overall financial literacy leads to more effective risk management strategies. The regression analysis demonstrated a statistically significant and positive relationship between overall financial literacy and risk strategies ($R^2 = 0.356$, $p < 0.001$), conclusively supporting H4. This confirms that individuals with higher overall financial literacy are more likely to employ effective risk management strategies. However, the thematic analysis also highlighted the influence of "Cognitive Biases" which can impede the application of financial literacy in risk assessment, suggesting that addressing these biases is crucial for translating knowledge into effective action. This finding reinforces existing research indicating that financial literacy improves risk management.

In conclusion, this study provides compelling evidence for the positive relationships between individual financial metric literacy (profitability, liquidity, and solvency) and overall financial literacy, as well as the crucial role of overall financial literacy in driving effective risk management strategies. The qualitative findings enrich these quantitative results by identifying key areas for intervention, such as addressing training gaps, mitigating cognitive biases, promoting a balanced use of fintech, and considering role-specific needs. These insights underscore the importance of developing standardized and integrated financial literacy training programs that not only impart knowledge of financial metrics but also focus on their practical application and the potential pitfalls of cognitive biases and over-reliance on technology. Ultimately, enhancing financial literacy through targeted and comprehensive education can lead to more informed financial decision-making and improved risk management practices within organizations.

6.2 Recommendations

Based on the conclusions drawn from the study's findings and the insights from the thematic analysis, the following focused and actionable recommendations are proposed:

- **Implement Standardized and Integrated Financial Literacy Training Programs:** The findings revealed "Training Gaps" and a need for better integration of individual metric understanding into overall financial literacy. To address this, organizations should develop and implement standardized financial literacy training programs that emphasize the interconnectedness of profitability, liquidity, and solvency metrics. These programs should move beyond individual metric definitions and focus on their practical application in comprehensive financial decision-making. This could involve case studies and simulations that require participants to integrate different financial concepts. The call for "Standardization Demands" from respondents supports this recommendation. Hilgert, Hogarth, & Beverly (2003) emphasize the need for standardized financial frameworks, which can inform the development of such programs.
- **Develop Role-Specific Financial Literacy Modules:** The identification of "Role-Specific Gaps," with varying levels of financial literacy across different roles, necessitates a more tailored approach to training. Organizations should create specific financial literacy modules tailored to the needs and responsibilities of different employee roles. For instance, technical roles might benefit from a stronger focus on liquidity literacy for operational decisions, while executive roles might require more in-depth training on long-term strategic financial planning and risk assessment. Cole, Sampson, & Zia (2011) highlight these role-specific disparities, supporting the need for targeted interventions.
- **Incorporate Behavioral Finance Principles into Training:** The thematic analysis highlighted the influence of "Cognitive Biases" on risk management effectiveness. To mitigate these biases, financial literacy

training should incorporate principles from behavioral finance. This could include discussions on common biases such as overconfidence and anchoring, and strategies for overcoming them in financial decision-making. Drexler, Fischer, & Schoar (2014) advocate for simplified financial training to combat cognitive biases, which can inform the design of these modules.

- **Promote a Balanced Approach to Fintech Tool Adoption:** While "Reliance on Fintech Tools" can offer efficiency, the study suggests potential risks when foundational literacy is lacking. Organizations should promote a balanced approach to fintech tool adoption by ensuring that users have a solid understanding of the underlying financial metrics and principles. Training should emphasize the importance of validating outputs from automated tools and not relying solely on them without critical evaluation. Bhattacharya et al. (2017) warn against over-reliance on automated advice without human oversight, reinforcing this recommendation.
- **Encourage and Incentivize Participation in Financial Literacy Training:** The relatively low "Training Effectiveness" participation rate (M = 1.72) suggests a need to improve engagement. Organizations should actively encourage and incentivize participation in financial literacy training programs. This could involve making training mandatory for certain roles, offering professional development credits, or highlighting the benefits of improved financial skills for career advancement. Fernandes et al. (2014) explain that low training participation leads to literacy gaps, underscoring the importance of boosting engagement.

By implementing these recommendations, organizations can enhance the financial literacy of their employees, leading to more informed financial decision-making and improved risk management practices. This, in turn, can contribute to greater financial stability and long-term success.

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APPENDICES

APPENDIX 1 - QUESTIONNAIRE

Research Questionnaire

Dear Respondent,

My name is Simone Chishala Kaoma, pursuing a Master's Degree in Risk Management at the University of
Lusaka. In partial fulfillment for the award of a Degree, I am undertaking a study on the topic:

Numbers and Risk: Investigating the Role of Financial Metric Understanding in Shaping Risk Strategies

I invite you to participate in a survey

exploring the potential relationship between understanding financial metrics and risk management strategies

. I aim to gather diverse perspectives on how financial data is interpreted and its influence on risk-related decisions.

The survey takes 10-15 minutes, be rest assured that the information will be kept highly confidential and will be used for academic purposes only. Please note that you are free to withdraw from the study anytime you wish if need be. Your participation is greatly appreciated and will contribute to valuable research in this field.

Thank you for your help!

Yours faithfully
Simone C. Kaoma

* Indicates required question

Section 1: Participant Profile

1. **1. Which of the following best describes your position?** *

Mark only one oval.

- ◯ Managerial Roles
- ◯ Analytical Roles
- ◯ Technical Roles
- ◯ Compliance & Risk Management Roles
- ◯ Executive Roles
- ◯ Other: _____

2. **2. How many years have you been working in the sector?** *

Mark only one oval.

- ◯ Less than 1 year
- ◯ 1-3 years
- ◯ 4-6 years
- ◯ 7-10 years
- ◯ More than 10 years

3. **3. Which of the following best describes your current financial services industry?** *

Mark only one oval.

- ◯ Banking
- ◯ Insurance
- ◯ Asset Management
- ◯ Fintech
- ◯ Other Financial Services

Section 2: Understanding of Financial Metrics

Instructions: For each metric below, please rate your confidence in accurately interpreting and utilizing it in your role.

1= Not Confident 2= Slightly Confident 3= Moderately Confident 4=Very Confident 5= Extremely Confident

4. **4. Profitability Metrics: Return on Assets (ROA)** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

5. **Net Profit Margin** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

6. **Earnings Before Interest and Taxes (EBIT)** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

7. **5. Liquidity Metrics: Current Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

8. **Quick Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

9. **Cash Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

10. **6. Solvency Metrics: Debt to Equity Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

11. **Interest Coverage Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

12. **Equity Ratio** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

13. **7. To what extent do you think cognitive biases (e.g., overconfidence, anchoring) affect your interpretation of financial metrics?** *

1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

Section 3: Scenario-Based Assessment

Instructions: Read each scenario carefully and choose the most appropriate response based on your knowledge and experience.

14. **8. Scenario 1:** *

Your institution has a declining Return on Assets (ROA) over the past three quarters. What is the most likely implication of this trend?

Mark only one oval.

- The institution is becoming more profitable.
- The institution's asset utilization is improving.
- The institution may be facing efficiency issues.
- The institution has increased its liabilities significantly.

15. **9. Scenario 2:** *

A high Current Ratio indicates that:

Mark only one oval.

- The institution has poor liquidity.
- The institution can easily cover its short-term obligations.
- The institution is over-leveraged.
- The institution has high profitability

16. **10. Scenario 3:** *

If an institution has a Debt to Equity Ratio of 2:1, it implies that:

Mark only one oval.

- The institution is primarily financed through equity.
- The institution has twice as much debt as equity.
- The institution has no debt.
- The institution's equity exceeds its debt.

17. **11. Your institution has adopted fintech tools for liquidity management. However, liquidity risks have unexpectedly increased despite the tools showing an improved Current Ratio. What is the most appropriate course of action?** *

Mark only one oval.

- ◯ Investigate further to ensure fintech tools are correctly reporting the metric.
- ◯ Adjust liquidity strategies based solely on fintech-generated insights.
- ◯ Ignore the fintech tools and use traditional methods to reassess the liquidity risks.
- ◯ Review the fintech tool's algorithms to understand potential blind spots.

Section 4: Challenges in Financial Metric Interpretation

Select all that apply

18. **12. Which of the following challenges do you encounter when interpreting financial metrics?** *

Check all that apply.

- ☐ Difficulty in understanding complex calculations
- ☐ Lack of standardized metric definitions
- ☐ Insufficient training or education
- ☐ Limited access to accurate and timely data
- ☐ Overreliance on automated reporting tools
- ☐ Misinterpretation of data due to cognitive biases (e.g., overconfidence, anchoring).
- ☐ Other (Please specify): _____

19. **13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?** *

1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Highly significant

Section 5: Impact on Risk Management

1 = Strongly Disagree

2= Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

20. **14. To what extent do you agree with the following statements?** *

Misinterpretation of profitability metrics leads to inadequate risk assessment.

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

21. Poor understanding of liquidity metrics can result in liquidity shortages. *

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

22. Misunderstanding solvency metrics increases the likelihood of default risks. *

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

23. Accurate comprehension of financial metrics is essential for effective risk mitigation. *

Mark only one oval.

	1	2	3	4	5	
Stro	◯	◯	◯	◯	◯	Strongly Agree

24. **15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues** *

1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always

Mark only one oval.

	1	2	3	4	5	
Nev	◯	◯	◯	◯	◯	Always

25. **16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis** *

Mark only one oval.

	1	2	3	4	5	
Nev	◯	◯	◯	◯	◯	Always

Section 6: Training and Professional Development

26. **17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?** *

Mark only one oval.

	1	2	
No	◯	◯	Yes

27. **18. If yes, please rate the effectiveness of the training in enhancing your understanding:** *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very Effective

28. **19. What types of training do you believe would most improve your comprehension of financial metrics?** *
(Select all that apply)

Check all that apply.

- [ ] Interactive Workshops
- [ ] Online Certification Courses
- [ ] Mentorship Programs
- [ ] Regular Webinars/Seminars and Study Analyses
- [ ] Self-paced Learning Modules
- [ ] Other (Please specify): _____

29. **20. If you have participated in formal training programs, which of the following topics would you find most beneficial for improving your comprehension of financial metrics? Select all that apply** *

Check all that apply.

- [ ] Traditional financial analysis methods.
- [ ] Fintech and AI tools for financial metric analysis
- [ ] Cognitive bias awareness in decision-making
- [ ] Advanced statistical methods for financial data (e.g., regression, correlation analysis).
- [ ] Risk management frameworks and financial metric integration.
- [ ] Interpretation of financial metrics in volatile or crisis conditions.
- [ ] Other: _____

Section 7: Perceptions of Data Analysis Techniques

1= Not Confident 2= Slightly Confident 3= Moderately Confident 4=Very Confident 5= Extremely Confident

30. **21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Confident

31. **22. Which data analysis techniques do you frequently use to assess financial metrics?** *
(Select all that apply)

Check all that apply.

- [ ] Descriptive Statistics
- [ ] Correlation Analysis
- [ ] Regression Modeling
- [ ] Time-Series Analysis
- [ ] Predictive Analytics
- [ ] None

Section 8: Recommendations for Improvement

1= Not Important 2= Slightly Important 3= Moderately Important 4= Important 5= Highly Important

32. **23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance.** *

(Select all that apply)

Implementing comprehensive training programs

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Highly Important

33. Introducing mandatory certification in financial analysis *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Highly Important

34. **24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution?** *

1= Yes 2= Not sure 3= Maybe 4= No

Mark only one oval.

	1	2	3	4	
Yes	◯	◯	◯	◯	No

35. **25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?** *

Mark only one oval.

	1	2	3	4	5	
Not	◯	◯	◯	◯	◯	Extremely Important

Section 9: Final Thoughts

36. **26. Please share any additional comments or insights regarding financial metric comprehension and its role in risk management within the financial sector.** *

(Open-ended)

37. **27. Please describe any specific incidents where misunderstanding financial metrics, fintech tools, or AI-generated insights led to poor risk management decisions. What could have been done differently? (Open-ended)** *

1. Mapping Questions to Variables

1.1 Independent Variables (IVs)

a. **Profitability Metric Literacy (H1)**

This variable captured respondents' understanding of profitability metrics such as Return on Assets (ROA), Net Profit Margin, and Earnings Before Interest and Taxes (EBIT). It included questions designed to assess both theoretical knowledge and application in practical scenarios.

i. **Questions Used:**

- Q4: "Profitability Metrics: Return on Assets (ROA), Net Profit Margin, Earnings Before Interest and Taxes (EBIT)."
- Q8 (Scenario 1): "Your institution has a declining Return on Assets (ROA) over the past three quarters. What is the most likely implication of this trend?"

b. **Liquidity Metric Literacy (H2)**

This variable evaluated respondents' understanding of liquidity metrics such as the Current Ratio, Quick Ratio, and Cash Ratio. It included questions addressing theoretical knowledge and real-world application, including scenarios that test decision-making in liquidity management.

i. **Questions Used:**

- Q5: "Liquidity Metrics: Current Ratio, Quick Ratio, Cash Ratio."
- Q9 (Scenario 2): "A high Current Ratio indicates that:"
- Q11 (Scenario): "Your institution has adopted fintech tools for liquidity management. However, liquidity risks have unexpectedly increased despite the tools showing an improved Current Ratio. What is the most appropriate course of action?"

c. **Solvency Metric Literacy (H3)**

This variable assessed respondents' understanding of solvency metrics such

as the Debt-to-Equity Ratio, Interest Coverage Ratio, and Equity Ratio. The questions examined both theoretical understanding and the practical implications of solvency metrics in risk management.

i. **Questions Used:**

- Q6: "Solvency Metrics: Debt-to-Equity Ratio, Interest Coverage Ratio, and Equity Ratio."
- Q10 (Scenario 3): "If an institution has a Debt-to-Equity Ratio of 2:1, it implies that:"

1.2 Mediating Variable (MV)

a. **Overall Financial Literacy (H4)**

This variable reflected the cumulative effect of understanding profitability, liquidity, and solvency metrics on financial decision-making. The questions explored how respondents integrate their knowledge into broader financial literacy and assess how cognitive biases impact interpretation.

i. **Questions Used:**

- Q7: "To what extent do you think cognitive biases (overconfidence, anchoring) affect your interpretation of financial metrics?"
- Q14: Includes broader statements such as "Accurate comprehension of financial metrics is essential for effective risk mitigation."
- Q13: "On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?"
- Q17: “Have you participated in any formal training programs focused on financial ratio analysis within the past two years?”
- Q18: " Rate the effectiveness of the training in enhancing your understanding"

- Q21: "How confident are you in using statistical methods (correlation, regression) to analyze financial data?"
- Q26: "Please share any additional comments or insights regarding financial metric comprehension and its role in risk management within the financial sector."

Q20: "If you have participated in formal training programs, which of the following topics would you find most beneficial for improving your comprehension of financial metrics?

- Q22: "Which data analysis techniques do you frequently use to assess financial metrics?"
- Q21: “How confident are you in interpreting profitability, liquidity, and solvency metrics?

1.3 Dependent Variable (DV)

a. **Effective Risk Management Strategies (H4)**

The variable measured the extent to which financial literacy influenced the ability to manage risk effectively. The questions covered both practical examples and broader strategic perspectives.

i. **Questions Used:**

- Q14: Includes broader risk management statements like "Misinterpretation of profitability metrics leads to inadequate risk assessment," and "Accurate comprehension of financial metrics is essential for effective risk mitigation."
- Q15: "How often do misunderstandings of financial metrics lead to significant risk management issues?"
- Q16: "How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis?"

- Q23: Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals?"
- Q24: "Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension?"

- Q25: "How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?"
- Q11 (Scenario): Touches on liquidity management and risk mitigation.
- Q27 (Open-ended): "Please describe any specific incidents where misunderstanding financial metrics, fintech tools, or AI-generated insights led to poor risk management decisions."
- Q19: "What types of training do you believe would most improve your comprehension of financial metrics?"

Table16 : Mapping Variables to Questionnaire Questions

Variable	Quantitative Questions	Qualitative Questions
Profitability Metric Literacy (H1)	Q4: Profitability Metrics (ROA, Net Profit Margin, EBIT).	Q8: (Scenario 1): Implications of declining ROA.
Liquidity Metric Literacy (H2)	Q5: Liquidity Metrics (Current Ratio, Quick Ratio, Cash Ratio).	Q9 (Scenario 2): Implications of a high Current Ratio. Q11 (Scenario): Actions for fintech tools showing liquidity risks.
Solvency Metric	Q6: Solvency Metrics (Debt-to-Equity Ratio,	Q10 (Scenario 3): Implications of Debt-to-Equity Ratio.

Literacy (H3)	Interest Coverage Ratio, Equity Ratio).	
Overall Financial Literacy (H4)	Q7: "To what extent do you think cognitive biases (overconfidence, anchoring) affect your interpretation of financial metrics?" Q13: "On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?" Q14: Agreement with statements on financial metrics and risk mitigation. Q17: “Have you participated in any formal training programs focused on financial ratio analysis within the past two years?” Q18: " Rate the effectiveness of the training in enhancing your understanding" Q21: "How confident are you in using statistical methods (correlation, regression) to analyze financial data?"	Q26: "Please share any additional comments or insights regarding financial metric comprehension and its role in risk management within the financial sector." Q20: "If you have participated in formal training programs, which of the following topics would you find most beneficial for improving your comprehension of financial metrics? Q22: "Which data analysis techniques do you frequently use to assess financial metrics?" Q21: “How confident are you in interpreting profitability, liquidity, and solvency metrics?
Effective Risk Management Strategies	Q14: Agreement with risk management-related statements. Q15: Frequency of significant risk issues.	Q27: "Describe incidents where misunderstanding financial metrics led to poor risk management, and what strategies could have helped prevent

Q16: "How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis?"	these issues."
Q23: Recommended strategies for accurate metric interpretations.	Q19: "What types of training do you believe would most improve your comprehension of financial metrics?"
Q24: "Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension?"	Q11 (Scenario): Actions for fintech tools showing liquidity risks
Q25: "How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?"	

APPENDIX B – STATISTICAL TABLES

```
RELIABILITY
  /VARIABLES=ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio Cash
   Ratio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio FrequencyOfMisunderstanding RelianceOnFintechTools
    ParticipationInTraining TrainingEffectiveness ConfidenceInStatisticalMethods RecommendedStrategies CertificationInFinancialAnaly
   sis PeriodicCompetencyAssessment ImportanceOfRegulatoryOversight LiquidityMetricsMisunderstanding
    SolvencyMetricsMisunderstanding AccurateMetricsComprehension CognitiveBiasImpact AgreementWithStatements_A SignificanceOfChallen
   ges
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

```
[DataSet1] C:\Users\TOSHIBA\Documents\Survey_Responses.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	75	100.0
	Excluded[a]	0	.0
	Total	75	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.906	24

```
FACTOR
  /VARIABLES ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio Cash
   Ratio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio ParticipationInTraining
  /MISSING LISTWISE
  /ANALYSIS ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio CashR
   atio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio ParticipationInTraining
  /PRINT INITIAL EXTRACTION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

[DataSet1] C:\Users\TOSHIBA\Documents\Survey_Responses.sav

Communalities

	Initial	Extraction
4. Profitability Metrics: Return on Assets (ROA)	1.000	.838
Net Profit Margin	1.000	.819
Earnings Before Interest and Taxes (EBIT)	1.000	.837
5. Liquidity Metrics: Current Ratio	1.000	.739
Quick Ratio	1.000	.691
Cash Ratio	1.000	.754
6. Solvency Metrics: Debt to Equity Ratio	1.000	.794
Interest Coverage Ratio	1.000	.863
Equity Ratio	1.000	.822
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	1.000	.113

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.269	72.694	72.694	7.269	72.694	72.694
2	.983	9.826	82.520			
3	.809	8.093	90.613			
4	.424	4.244	94.857			
5	.172	1.722	96.578			
6	.114	1.139	97.717			
7	.079	.787	98.504			
8	.057	.570	99.074			
9	.049	.488	99.562			
10	.044	.438	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
4. Profitability Metrics: Return on Assets (ROA)	.915
Net Profit Margin	.905
Earnings Before Interest and Taxes (EBIT)	.915
5. Liquidity Metrics: Current Ratio	.859
Quick Ratio	.832

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Component Matrix[a]

	Component
	1
Cash Ratio	.868
6. Solvency Metrics: Debt to Equity Ratio	.891
Interest Coverage Ratio	.929
Equity Ratio	.907
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	.336

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

>

>

>

```
DESCRIPTIVES VARIABLES=ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio Quick
   Ratio CashRatio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio CognitiveBiasImpact SignificanceOfChallenges
    AgreementWithStatements_A LiquidityMetricsMisunderstanding SolvencyMetricsMisunderstanding AccurateMetricsComprehension Frequenc
   yOfMisunderstanding RelianceOnFintechTools ParticipationInTraining TrainingEffectiveness ConfidenceInStatisticalMethods
    RecommendedStrategies CertificationInFinancialAnalysis PeriodicCompetencyAssessment ImportanceOfRegulatoryOversight
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

```
[DataSet1] C:\Users\TOSHIBA\Documents\Survey_Responses.sav
```

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
4. Profitability Metrics: Return on Assets (ROA)	75	2	5	3.73	.991
Net Profit Margin	75	2	5	3.69	.944
Earnings Before Interest and Taxes (EBIT)	75	2	5	3.69	.972
5. Liquidity Metrics: Current Ratio	75	2	5	3.77	1.047
Quick Ratio	75	2	5	3.79	1.004
Cash Ratio	75	2	5	3.76	1.011
6. Solvency Metrics: Debt to Equity Ratio	75	2	5	3.59	.988
Interest Coverage Ratio	75	2	5	3.69	1.052
Equity Ratio	75	2	5	3.76	1.089
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	75	2	5	3.64	.650
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	75	2	5	3.65	.762
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	75	3	5	4.23	.559

Descriptive Statistics

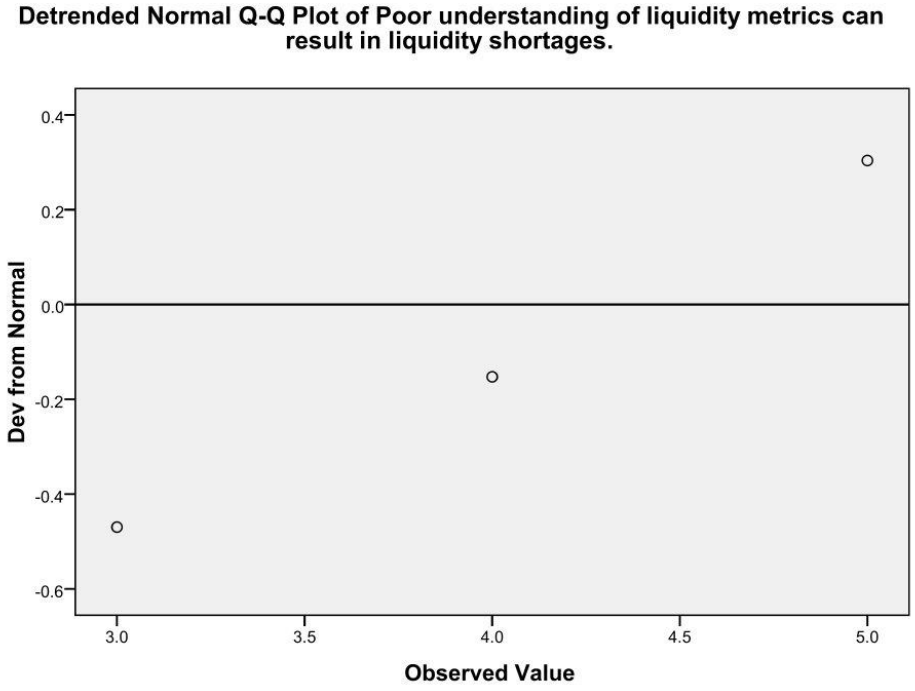
	N	Minimum	Maximum	Mean	Std. Deviation
Poor understanding of liquidity metrics can result in liquidity shortages.	75	3	5	4.33	.577
Misunderstanding solvency metrics increases the likelihood of default risks.	75	3	5	4.27	.528
Accurate comprehension of financial metrics is essential for effective risk mitigation.	75	3	5	4.16	.494
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	75	1	4	3.08	.731
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	75	2	5	3.24	.750
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	75	1	2	1.72	.452
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	75	1	5	3.60	.854
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	75	1	5	3.35	1.033
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	75	1	5	4.27	.622
Introducing mandatory certification in financial analysis	75	3	5	3.80	.788
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	75	1	4	1.47	.890

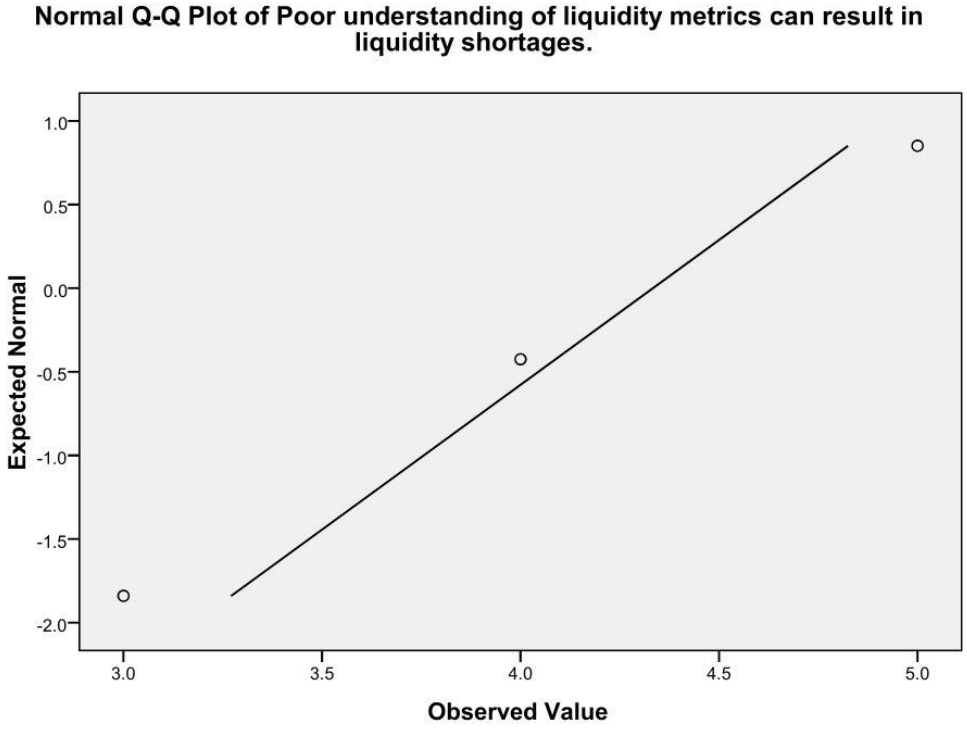
Descriptive Statistics

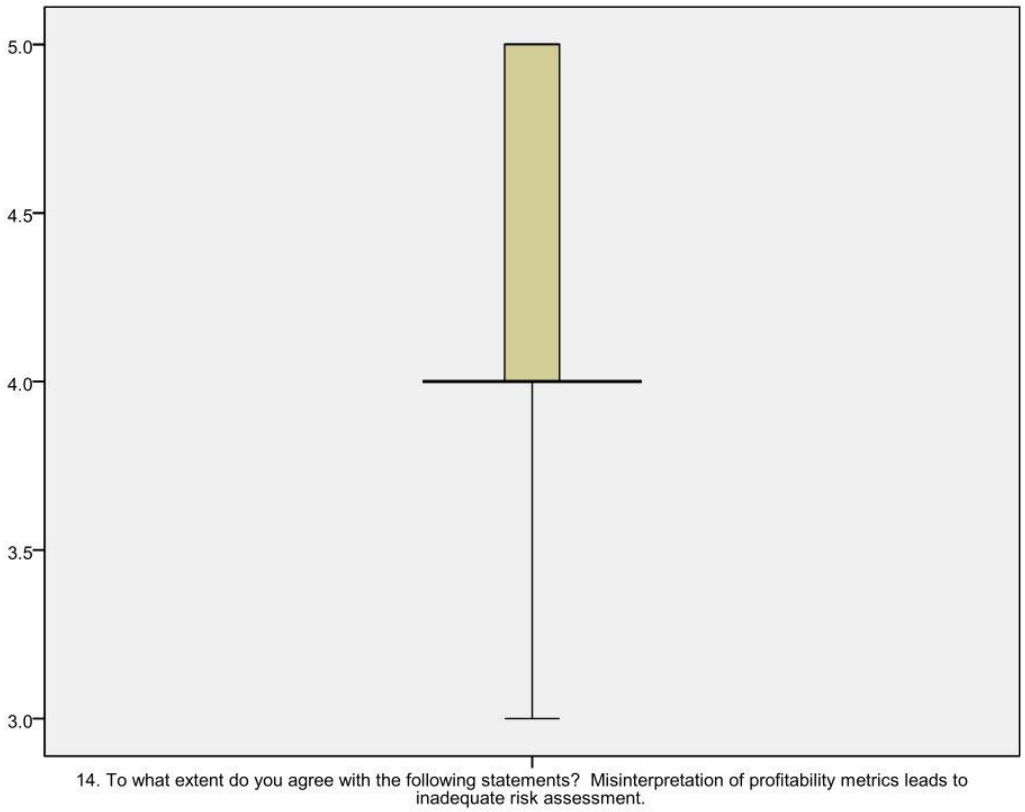
	N	Minimum	Maximum	Mean	Std. Deviation
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	75	2	5	3.88	.770
Valid N (listwise)	75				

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	75	2	5	3.88	.770
Valid N (listwise)	75				


Detrended Normal Q-Q Plot of Poor understanding of liquidity metrics can result in liquidity shortages.
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
-0.6
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Poor understanding of liquidity metrics can result in liquidity shortages.
Expected Normal
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
3.0
3.5
4.0
4.5
5.0
Observed Value

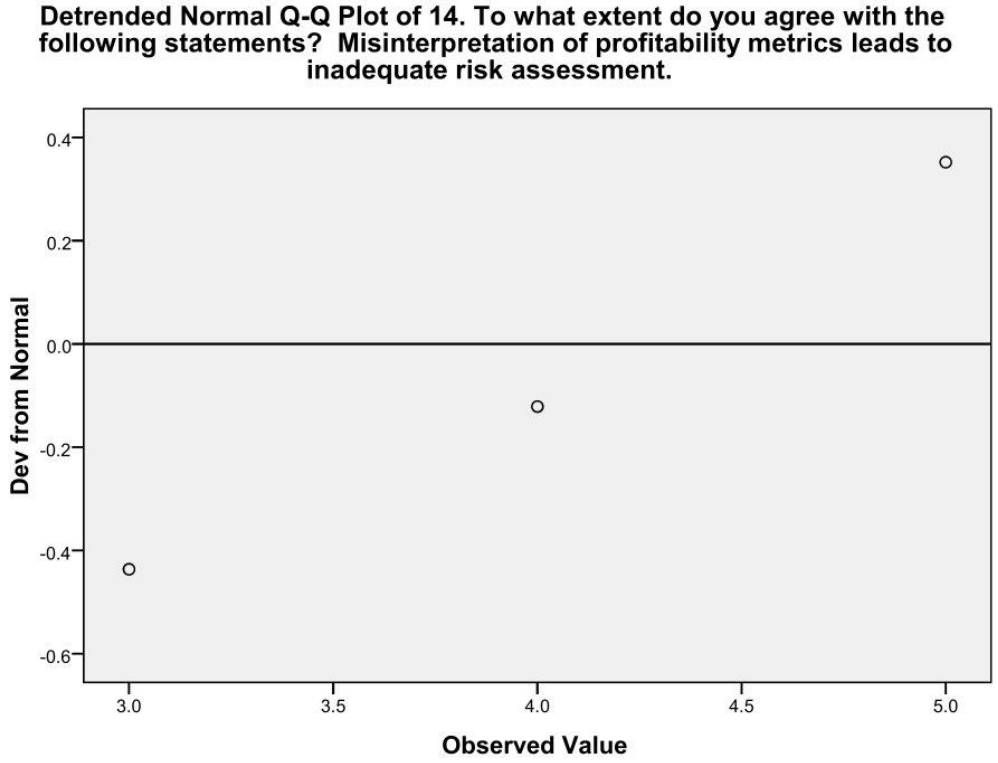


Poor understanding of liquidity metrics can result in liquidity shortages.

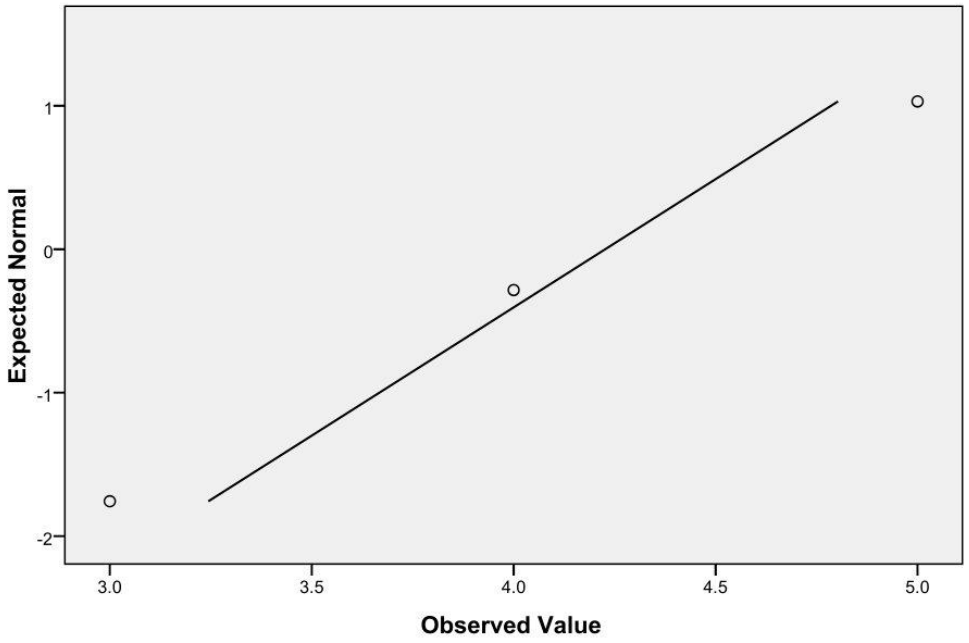
Poor understanding of liquidity metrics can result in liquidity shortage Stem-and-Leaf Plot

Frequency	Stem	Leaf
4.00	3 .	0000
.00	3 .	
42.00	4 .	000000000000000000000000000000000000000000
.00	4 .	
29.00	5 .	00000000000000000000000000000

Stem width: 1
Each leaf: 1 case(s)


Detrended Normal Q-Q Plot of 14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
-0.6
3.0
3.5
4.0
4.5
5.0
Observed Value

Normal Q-Q Plot of 14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.

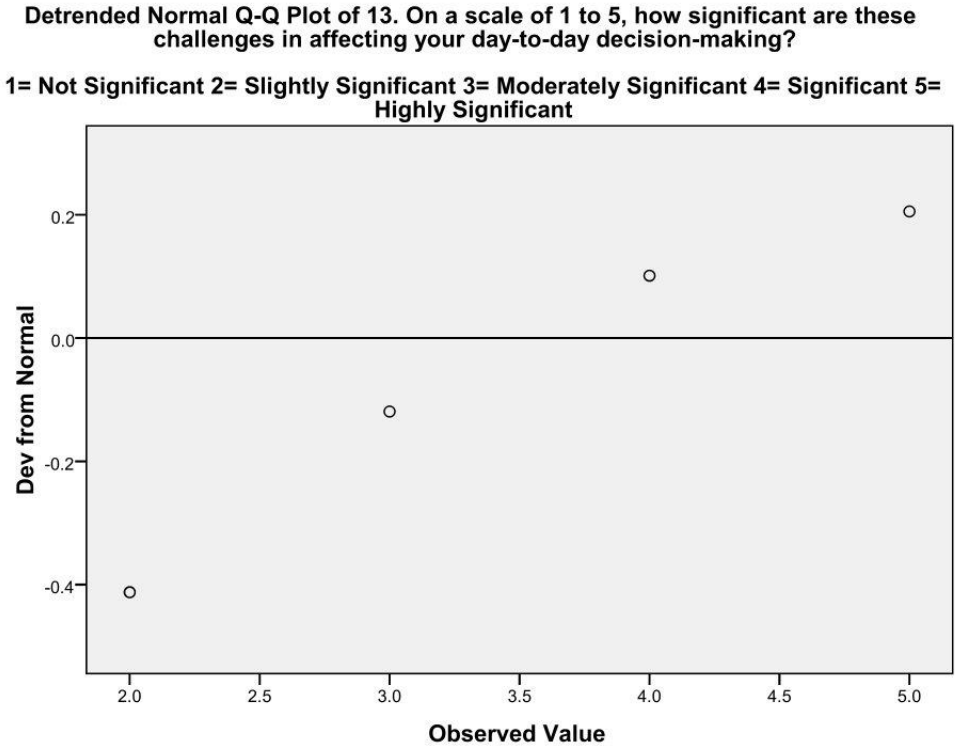


14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.

14. To what extent do you agree with the following statements? Misinter Stem-and-Leaf Plot

Frequency	Stem	Leaf
5.00	3 .	00000
.00	3 .	
48.00	4 .	000000000000000000000000000000000000000000000000
.00	4 .	
22.00	5 .	0000000000000000000000

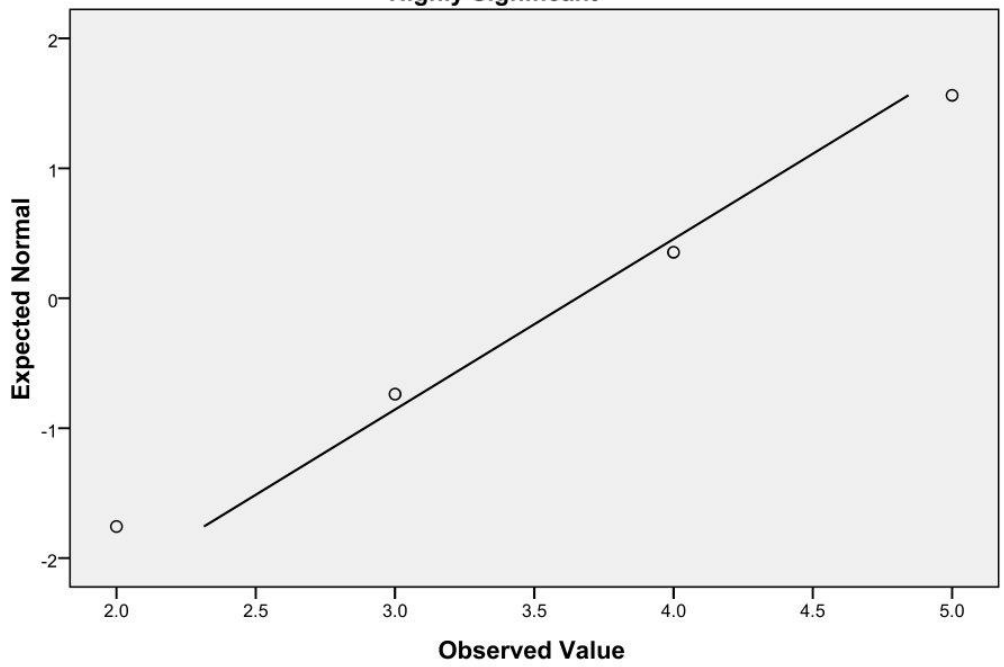
Stem width: 1
Each leaf: 1 case(s)

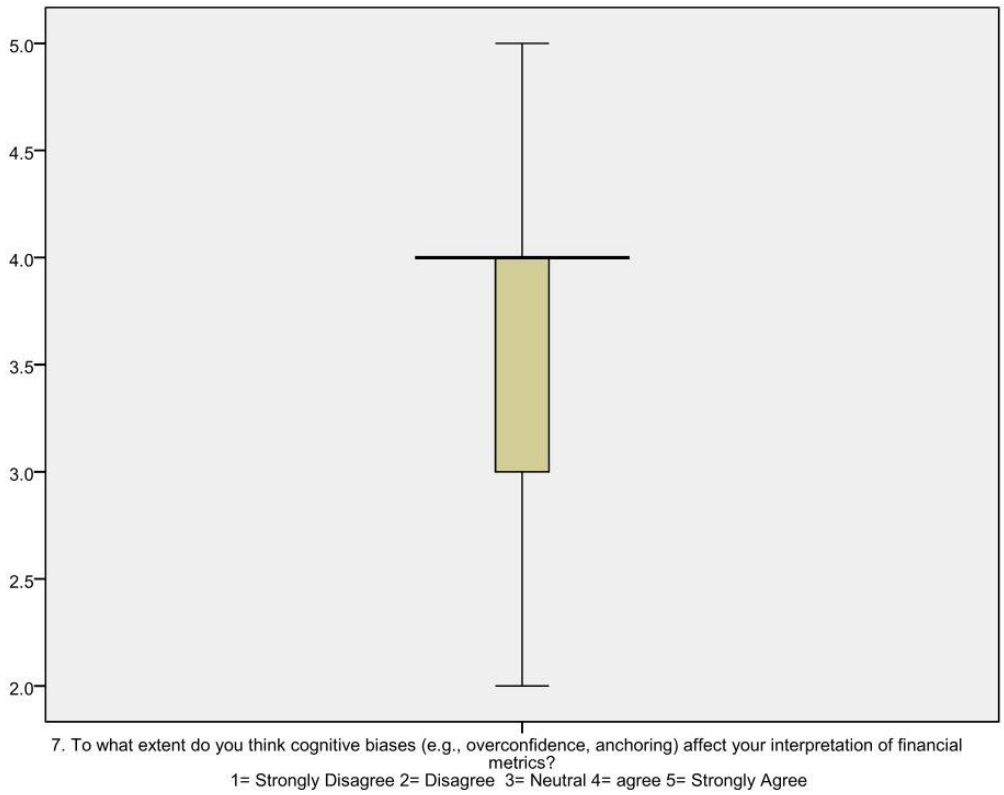

Detrended Normal Q-Q Plot of 13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?
1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant
Dev from Normal
0.2
0.0
-0.2
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value

```
Stem width:          1
Each leaf:       1 case(s)
```

Normal Q-Q Plot of 13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?

1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant



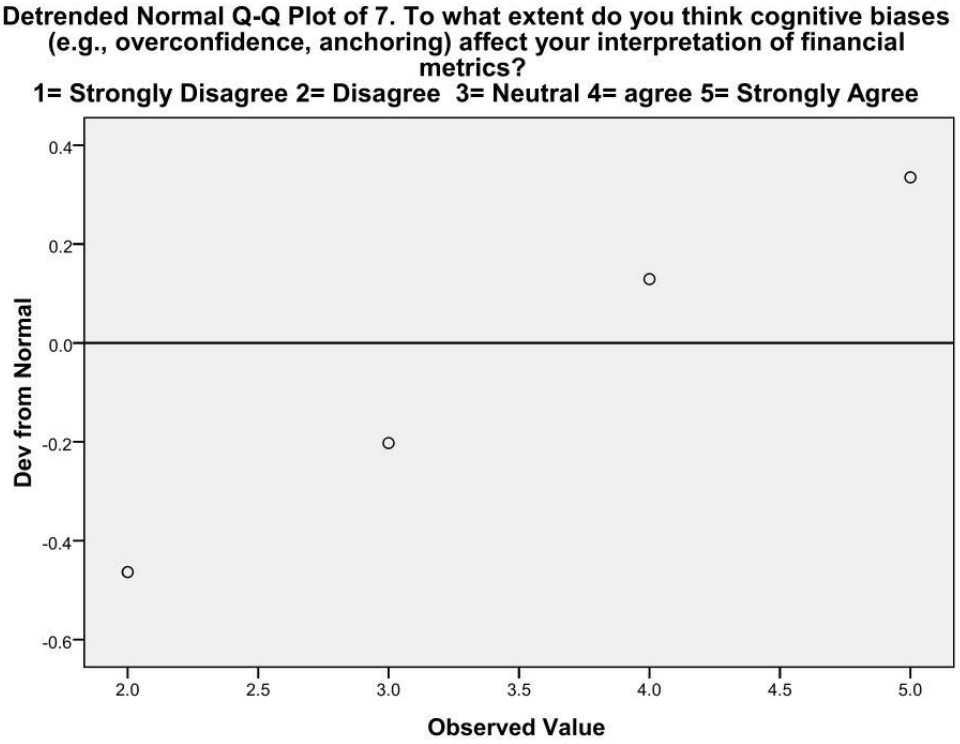


13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making?

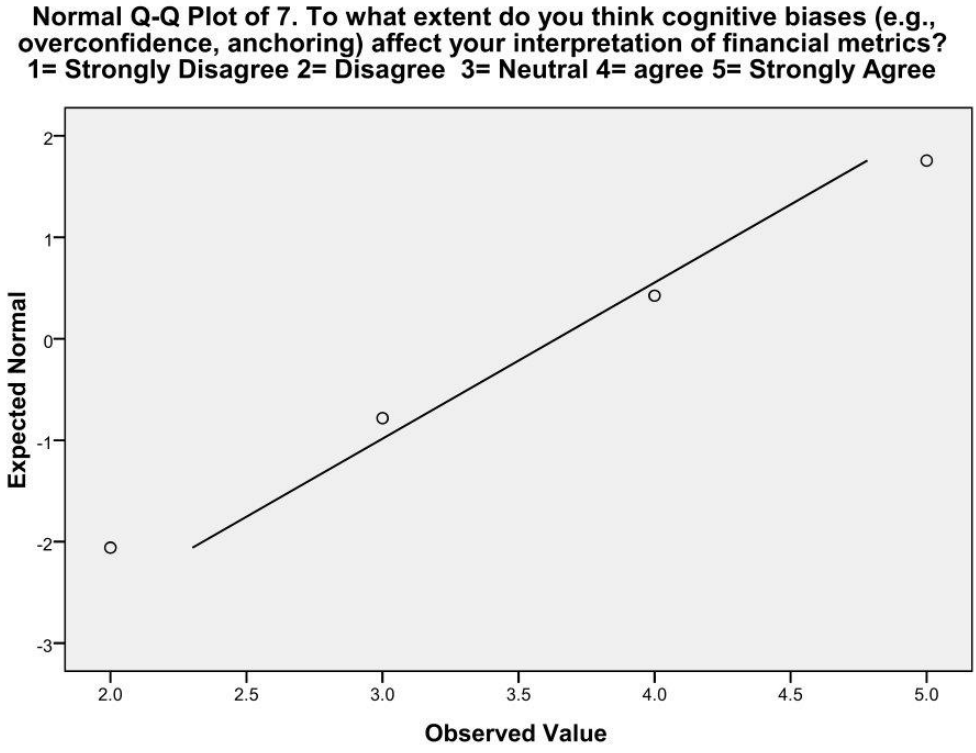
1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant

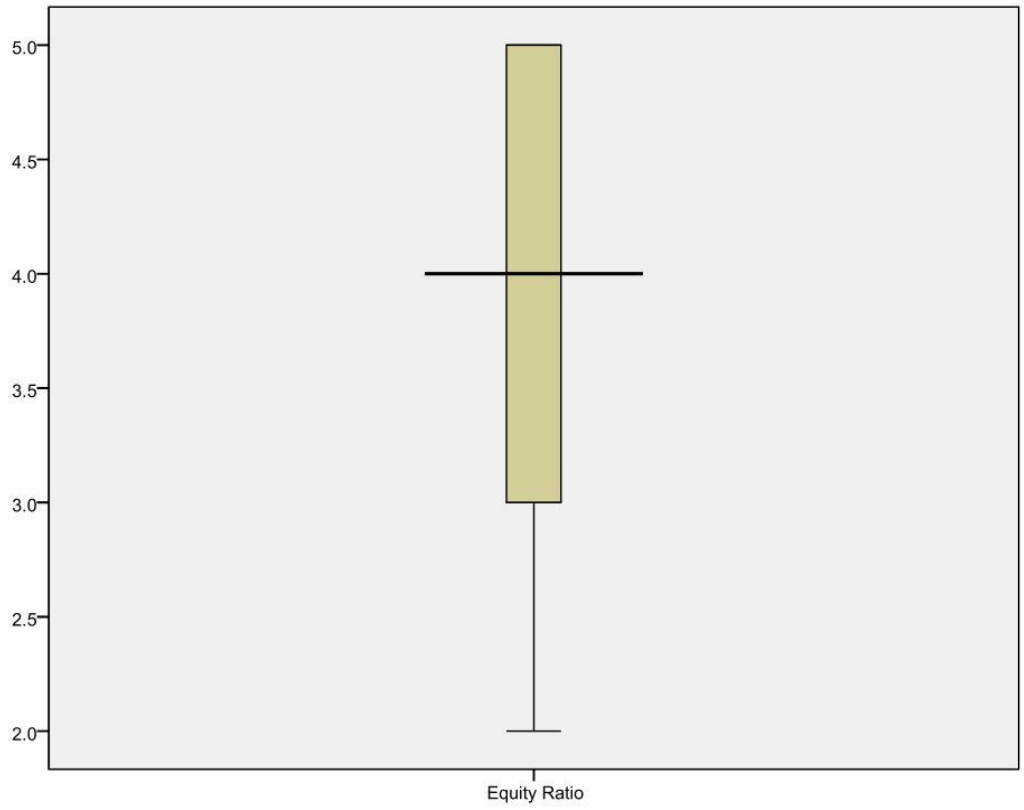
13. On a scale of 1 to 5, how significant are these challenges in affect Stem-and-Leaf Plot

Frequency	Stem	Leaf
5.00	2 .	00000
.00	2 .	
24.00	3 .	000000000000000000000000
.00	3 .	
38.00	4 .	00000000000000000000000000000000000000
.00	4 .	
8.00	5 .	00000000


Detrended Normal Q-Q Plot of 7. To what extent do you think cognitive biases (e.g., overconfidence, anchoring) affect your interpretation of financial metrics?
1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
-0.6
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value

Each leaf: 1 case(s)



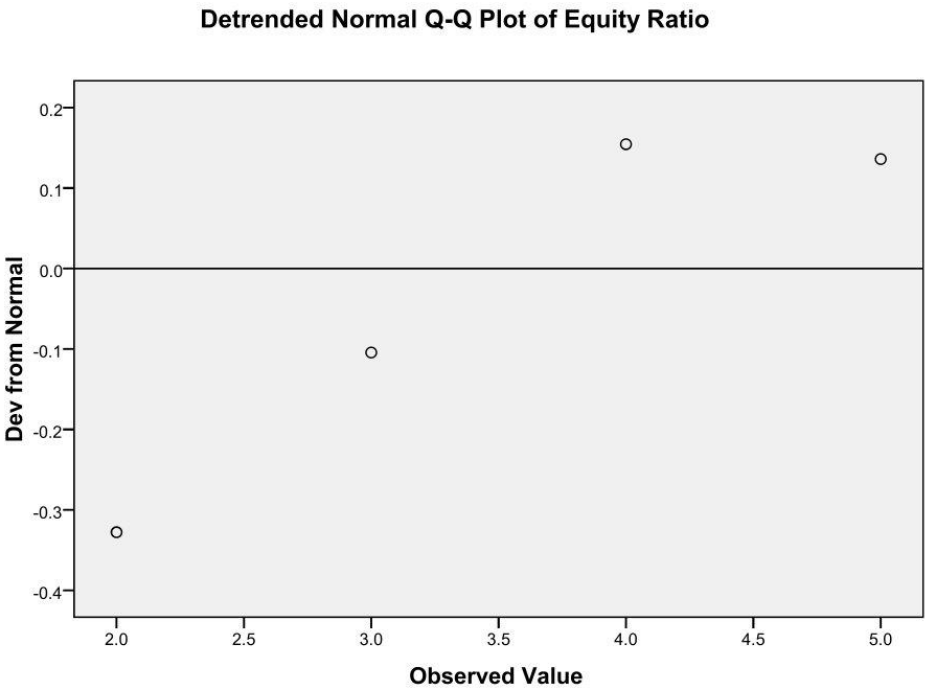


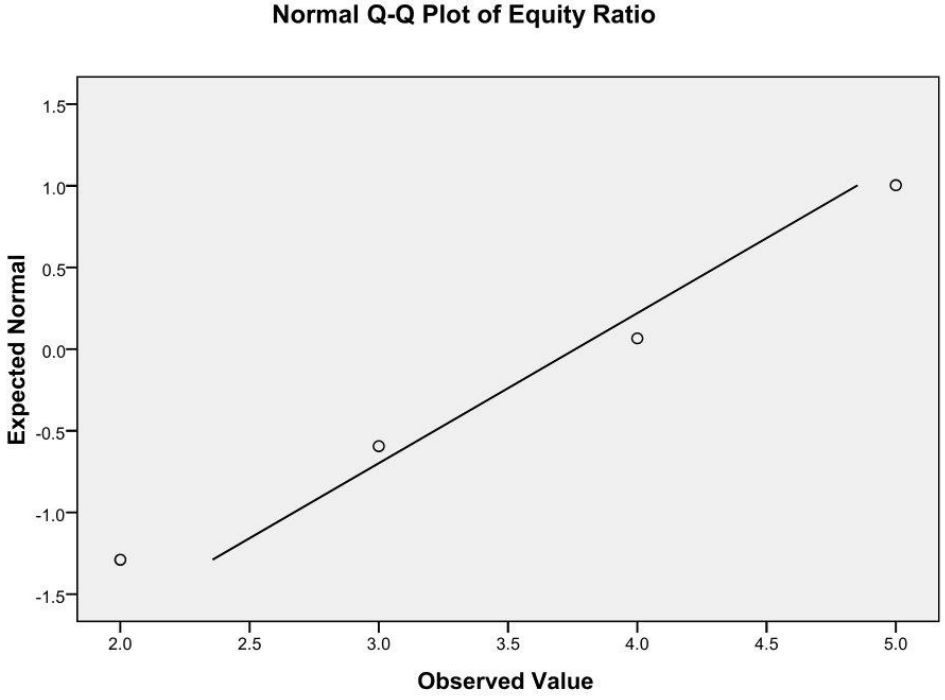
7. To what extent do you think cognitive biases (e.g., overconfidence, anchoring) affect your interpretation of financial metrics?
1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree

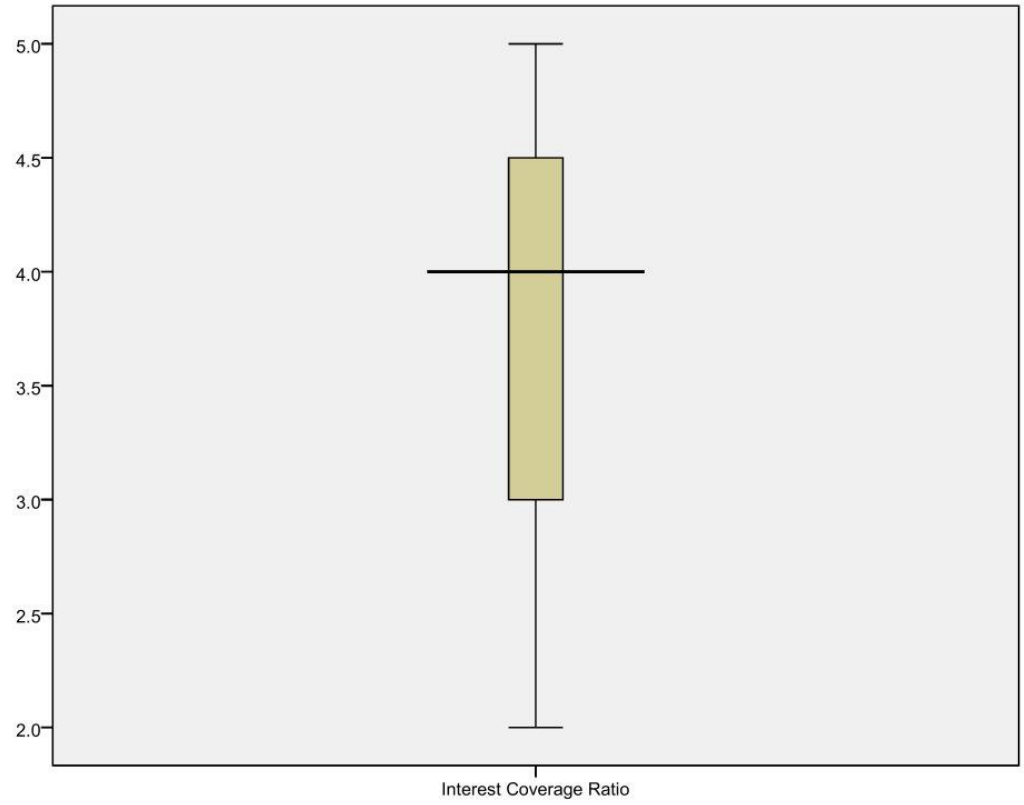
7. To what extent do you think cognitive biases (e.g., overconfidence, a Stem-and-Leaf Plot

Frequency	Stem	Leaf
2.00	2 .	00
.00	2 .	
28.00	3 .	0000000000000000000000000000
.00	3 .	
40.00	4 .	0000000000000000000000000000000000000000
.00	4 .	
5.00	5 .	00000

Stem width: 1


Detrended Normal Q-Q Plot of Equity Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Equity Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



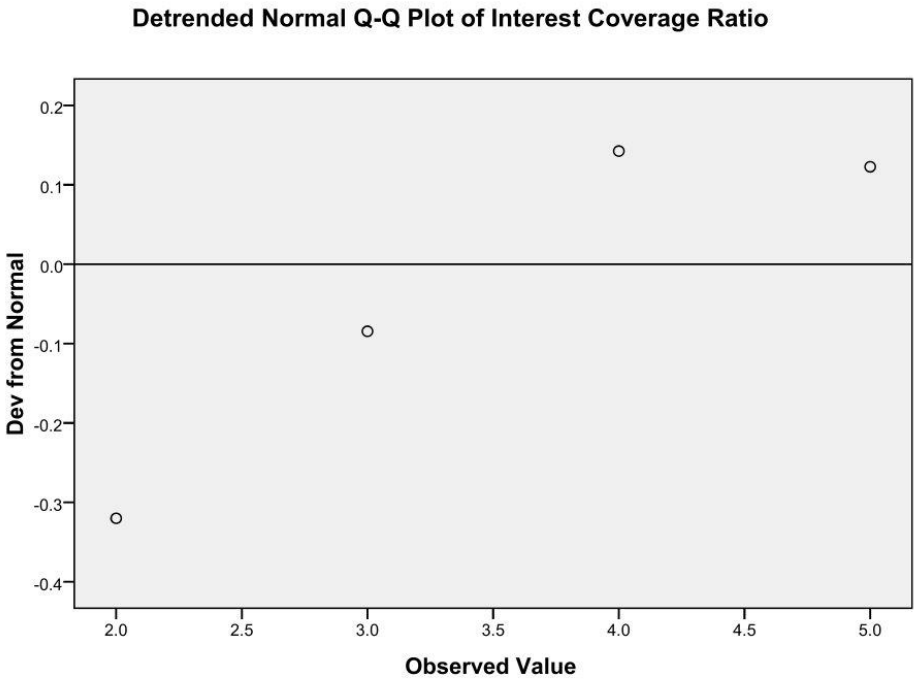
Equity Ratio

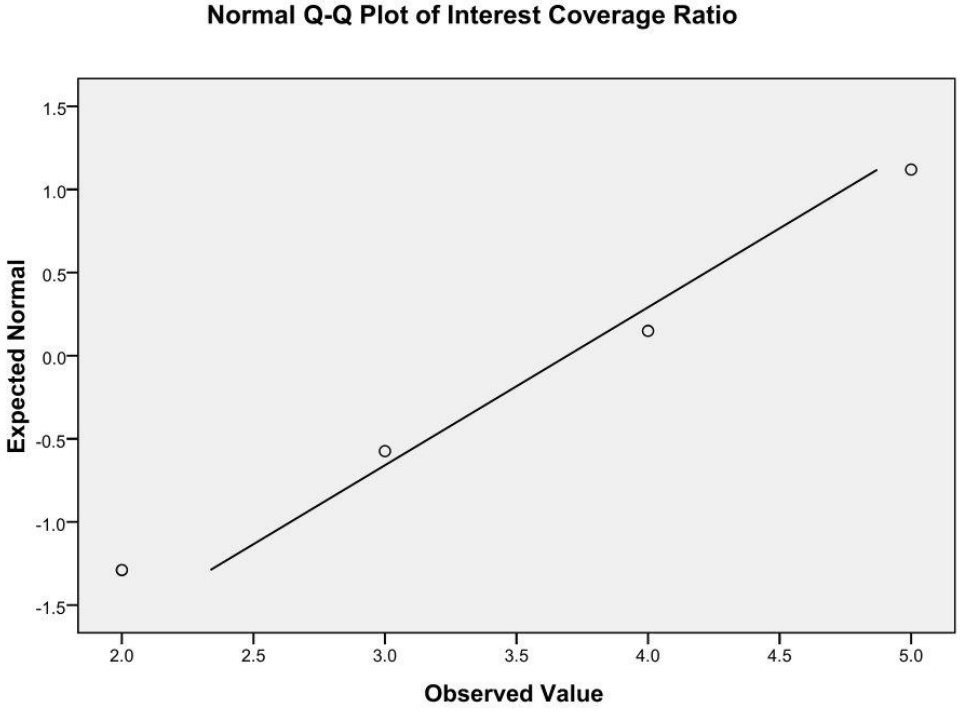
```
Equity Ratio Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    14.00        2 .  00000000000000
      .00        2 .
    13.00        3 .  0000000000000
      .00        3 .
    25.00        4 .  0000000000000000000000000
      .00        4 .
    23.00        5 .  00000000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of Interest Coverage Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Interest Coverage Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value

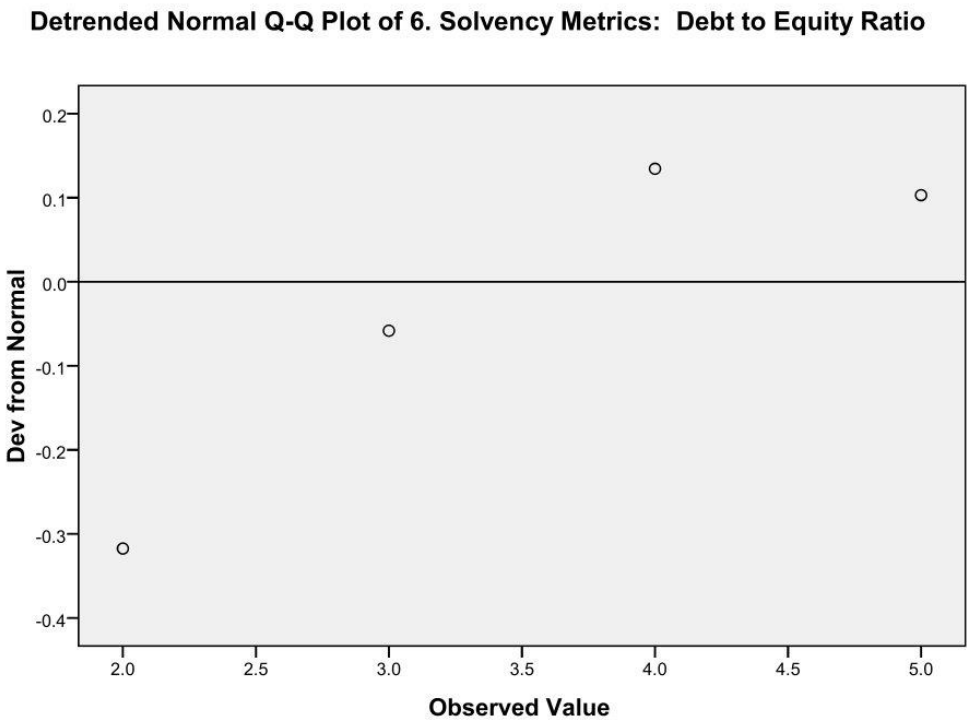
Interest Coverage Ratio

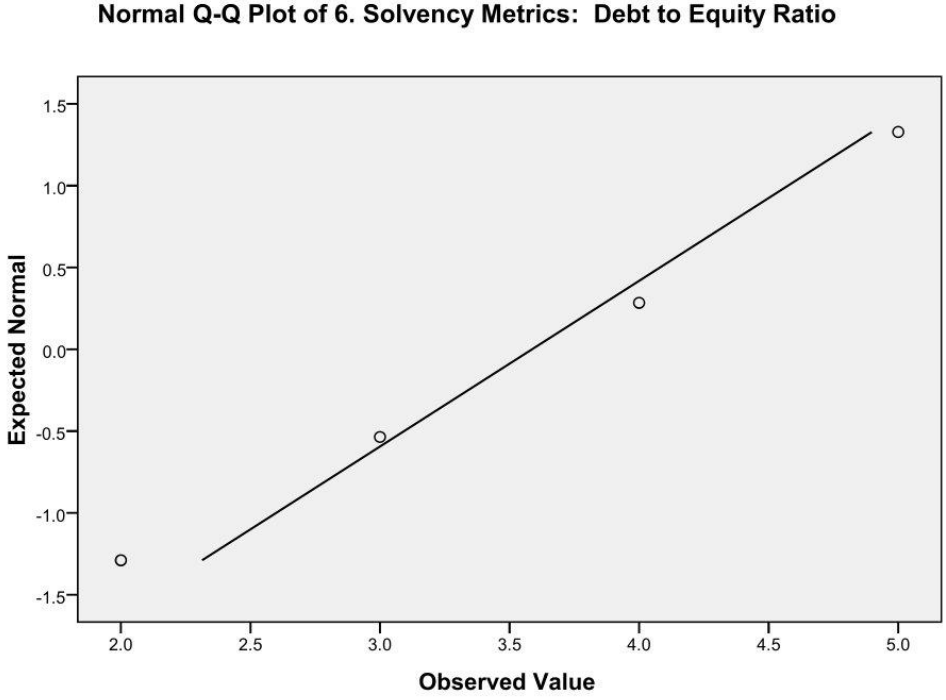
```
Interest Coverage Ratio Stem-and-Leaf Plot

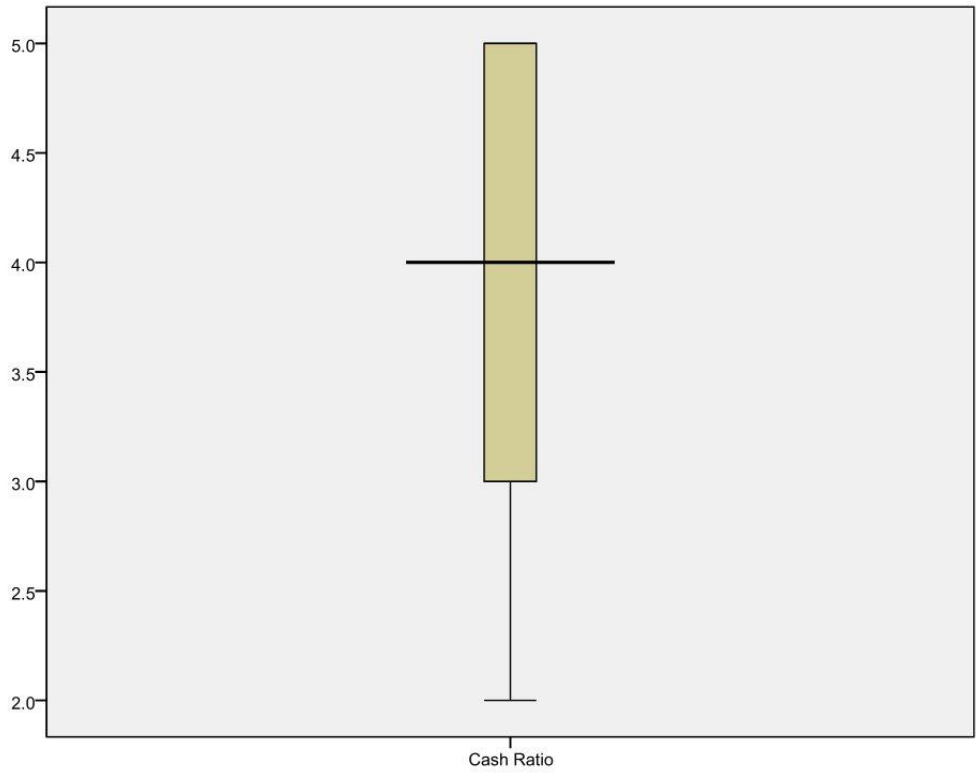
 Frequency    Stem   Leaf

    14.00        2 .  00000000000000
      .00        2 .
    14.00        3 .  00000000000000
      .00        3 .
    28.00        4 .  0000000000000000000000000000
      .00        4 .
    19.00        5 .  0000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of 6. Solvency Metrics: Debt to Equity Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of 6. Solvency Metrics: Debt to Equity Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



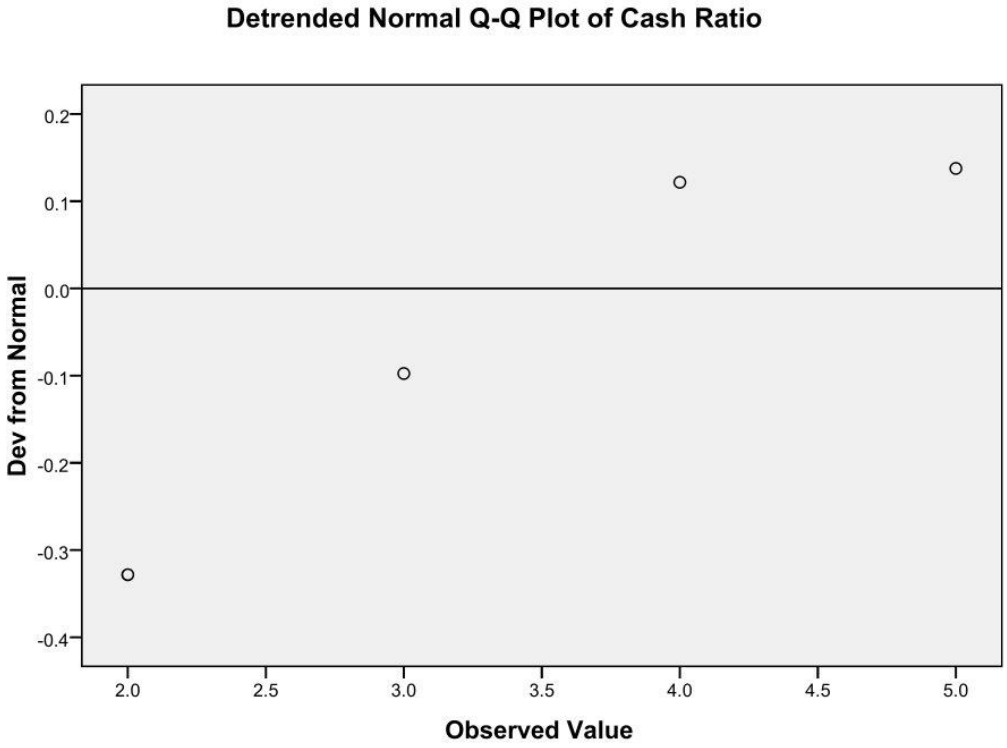
6. Solvency Metrics: Debt to Equity Ratio

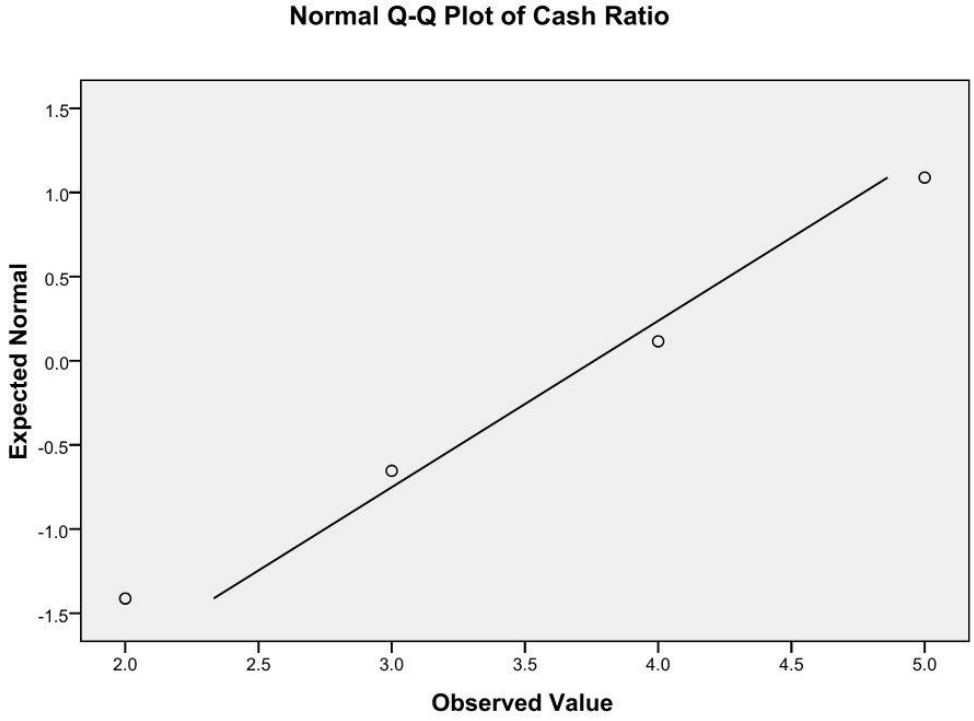
```
6. Solvency Metrics:  Debt to Equity Ratio Stem-and-Leaf Plot

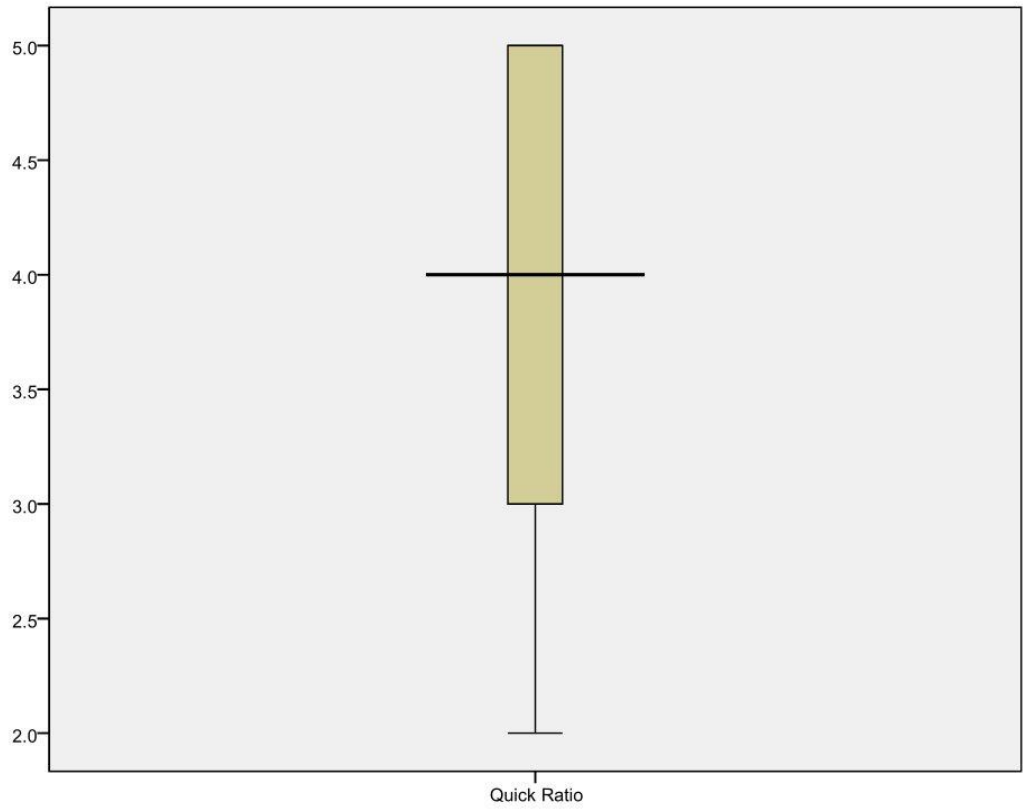
 Frequency    Stem   Leaf

    14.00        2 .  00000000000000
      .00        2 .
    16.00        3 .  0000000000000000
      .00        3 .
    32.00        4 .  00000000000000000000000000000000
      .00        4 .
    13.00        5 .  0000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of Cash Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Cash Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



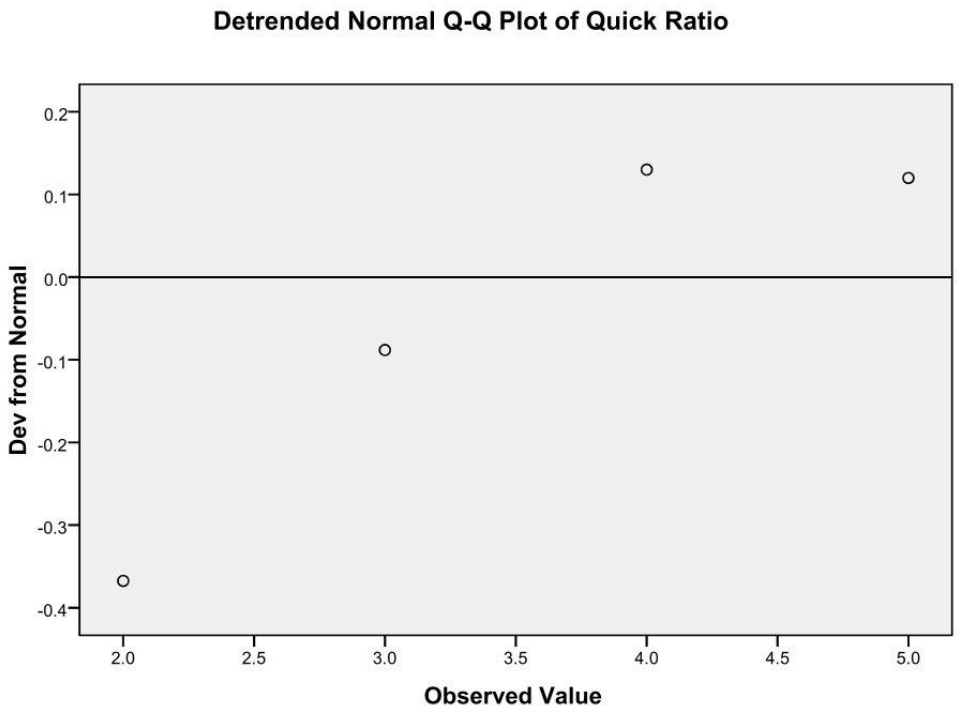
Cash Ratio

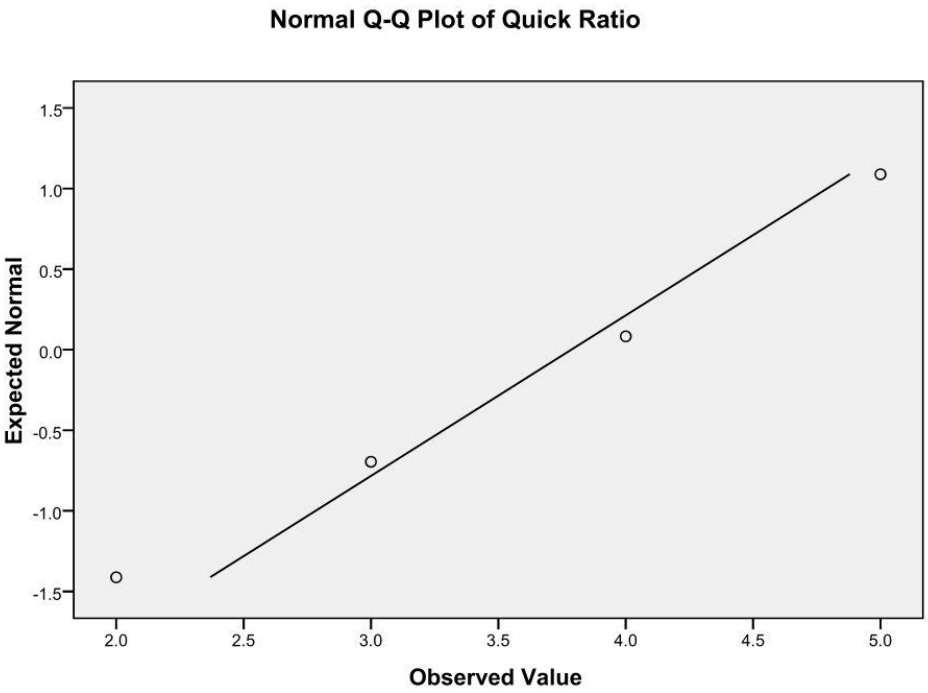
```
Cash Ratio Stem-and-Leaf Plot

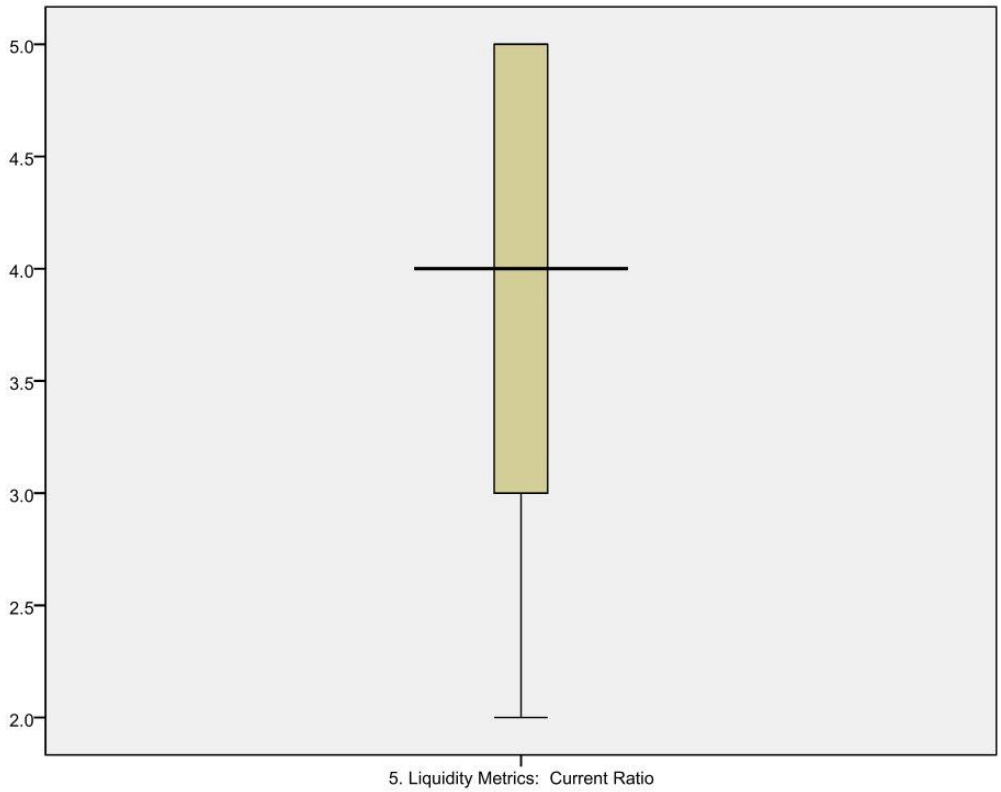
 Frequency    Stem   Leaf

    11.00        2 .  00000000000
      .00        2 .
    16.00        3 .  0000000000000000
      .00        3 .
    28.00        4 .  0000000000000000000000000000
      .00        4 .
    20.00        5 .  00000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of Quick Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Quick Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



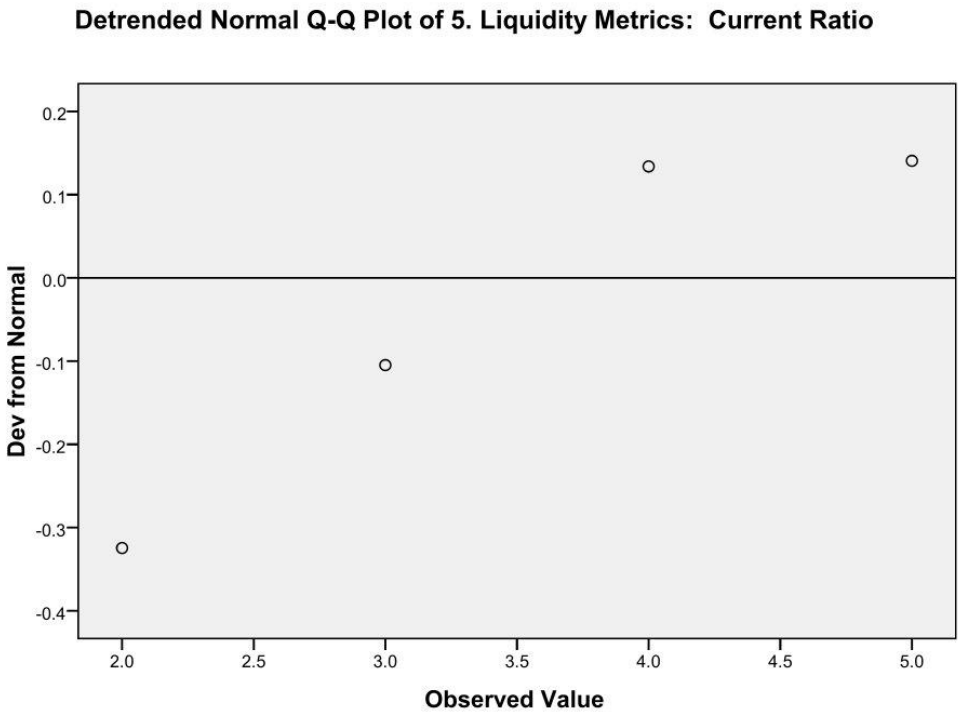
Quick Ratio

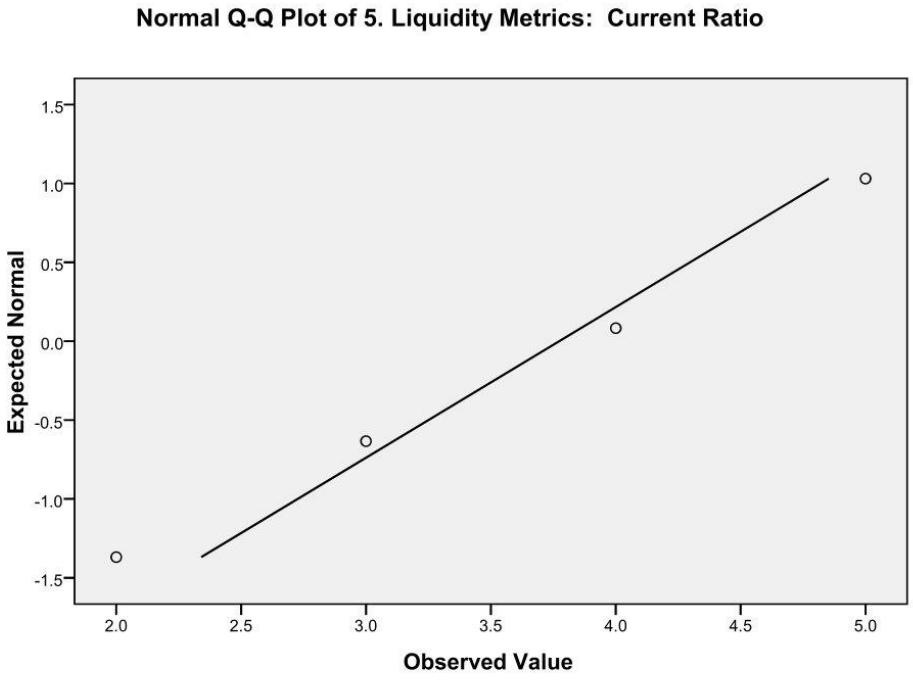
```
Quick Ratio Stem-and-Leaf Plot

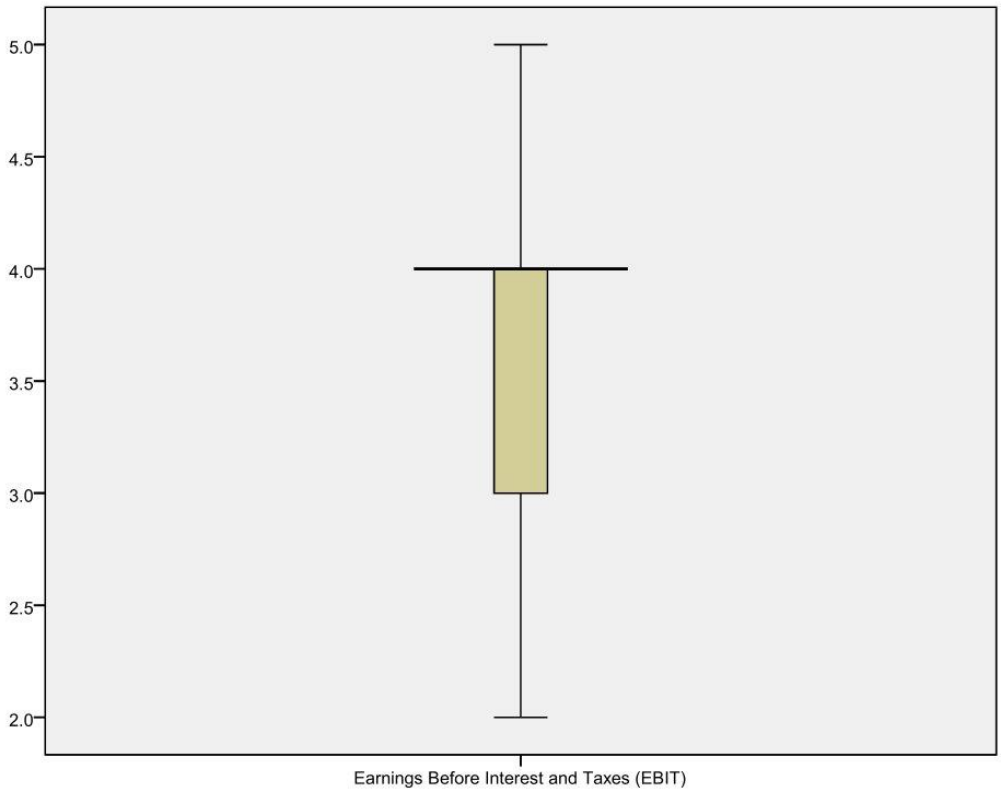
 Frequency    Stem   Leaf

    11.00        2 .  00000000000
      .00        2 .
    14.00        3 .  00000000000000
      .00        3 .
    30.00        4 .  000000000000000000000000000000
      .00        4 .
    20.00        5 .  00000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of 5. Liquidity Metrics: Current Ratio
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of 5. Liquidity Metrics: Current Ratio
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



5. Liquidity Metrics: Current Ratio

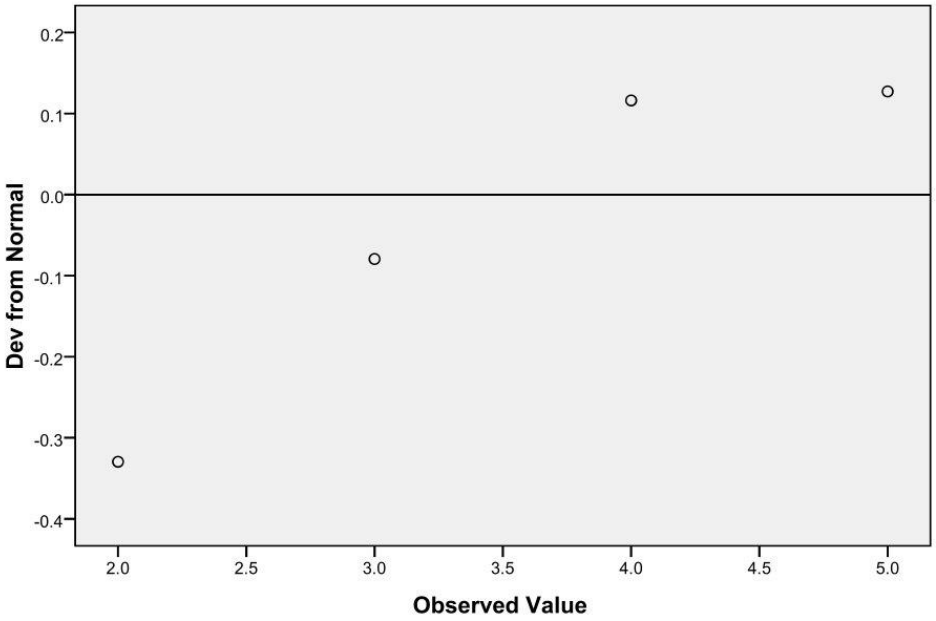
```
5. Liquidity Metrics:  Current Ratio Stem-and-Leaf Plot

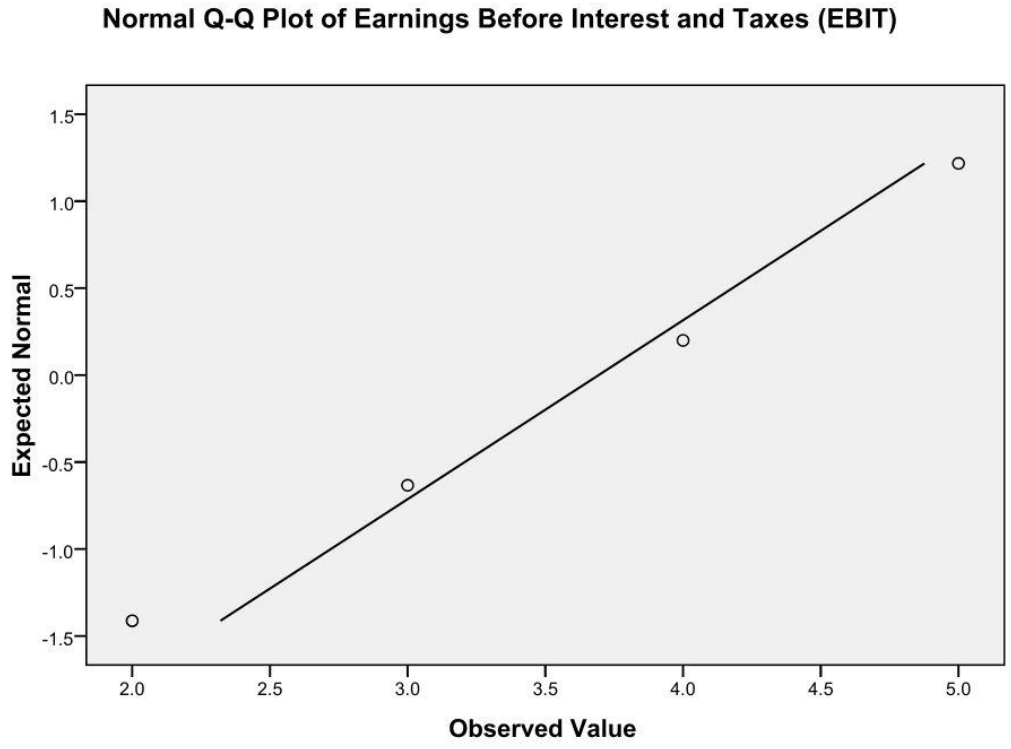
 Frequency    Stem   Leaf

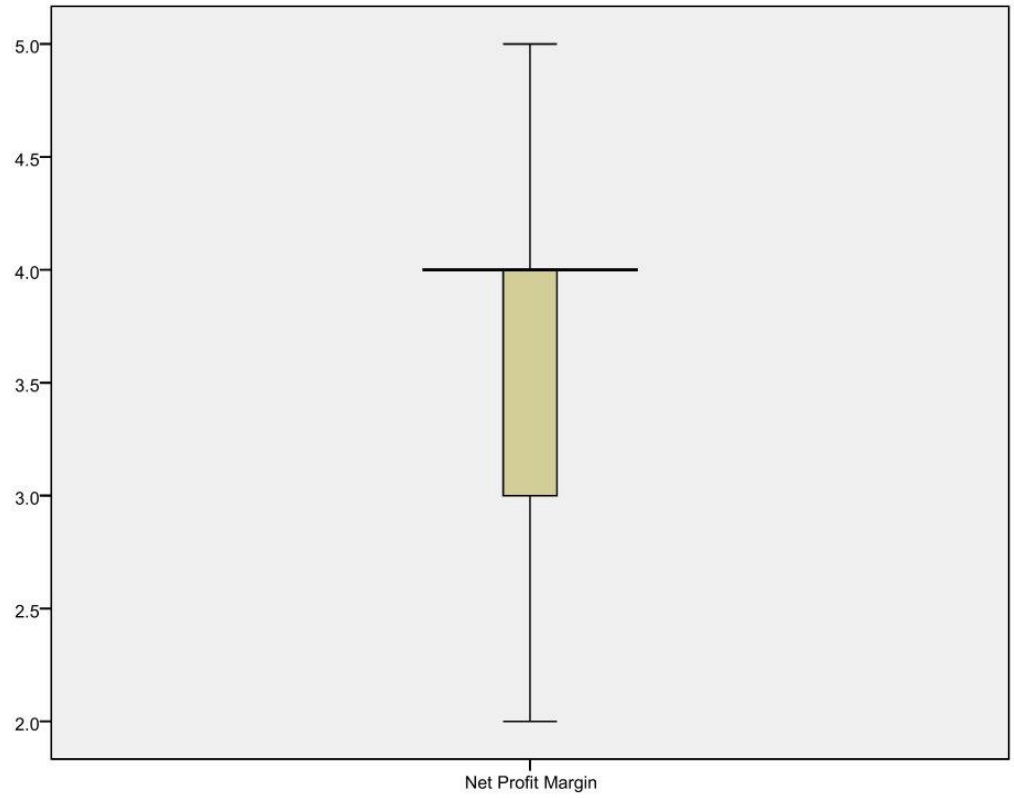
    12.00        2 .  000000000000
      .00        2 .
    15.00        3 .  000000000000000
      .00        3 .
    26.00        4 .  00000000000000000000000000
      .00        4 .
    22.00        5 .  0000000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```

Detrended Normal Q-Q Plot of Earnings Before Interest and Taxes (EBIT)




Normal Q-Q Plot of Earnings Before Interest and Taxes (EBIT)
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



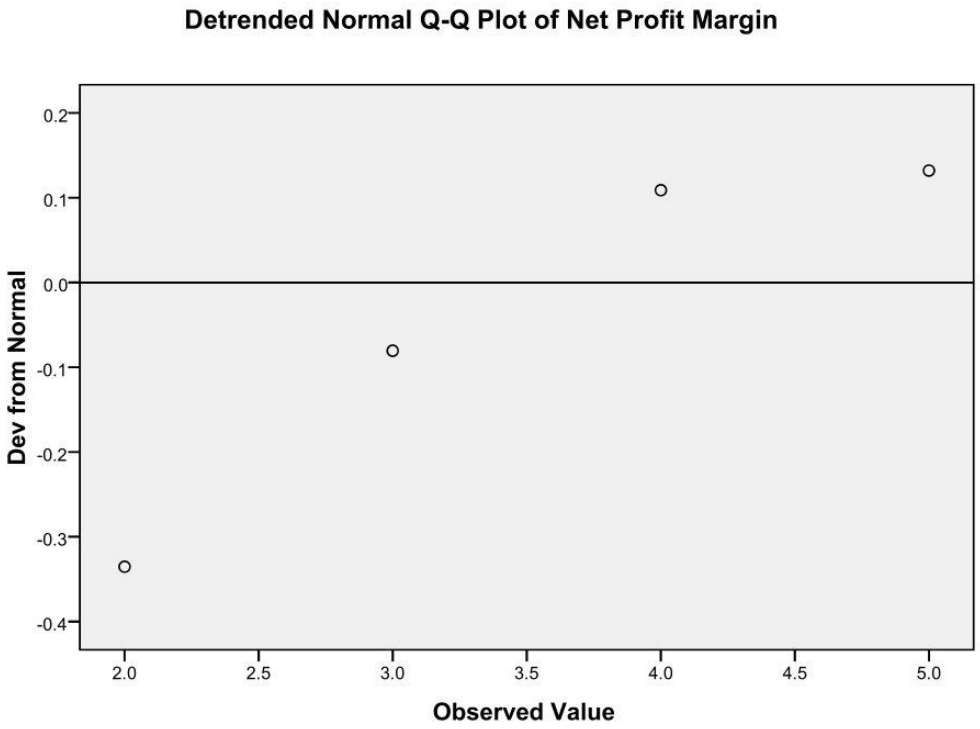
Earnings Before Interest and Taxes (EBIT)

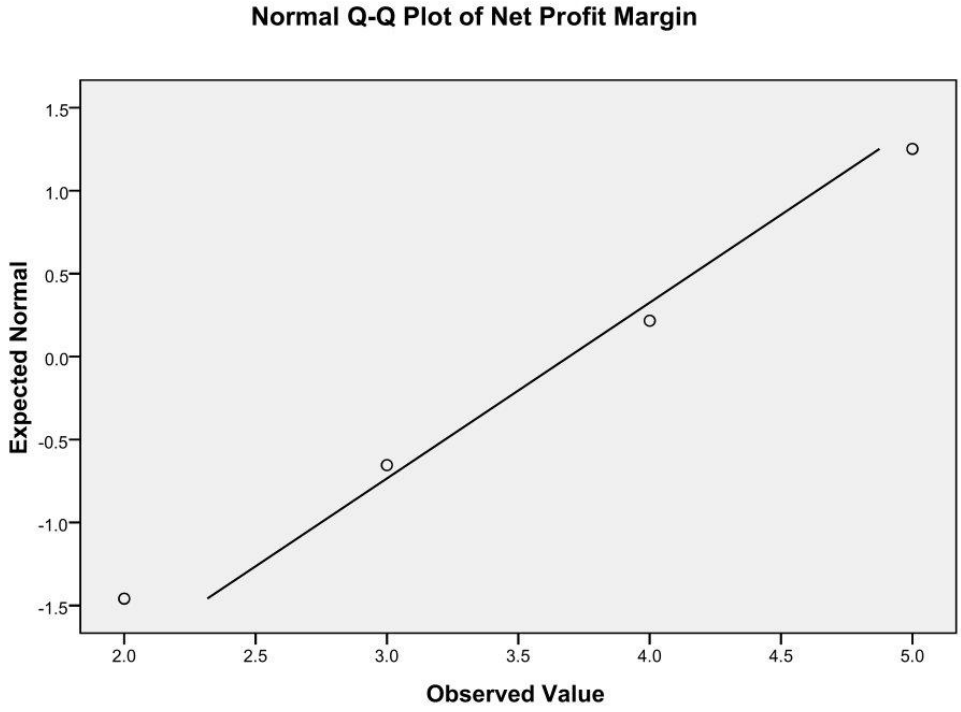
```
Earnings Before Interest and Taxes (EBIT) Stem-and-Leaf Plot

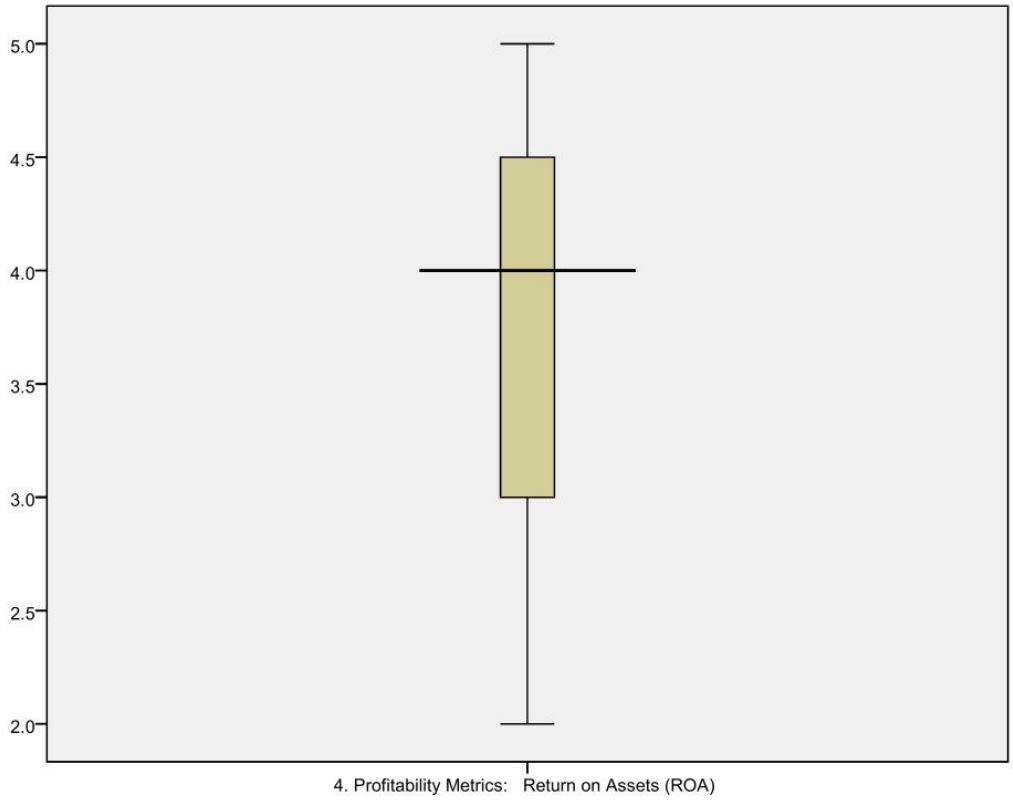
 Frequency    Stem   Leaf

    11.00        2 .  00000000000
      .00        2 .
    17.00        3 .  00000000000000000
      .00        3 .
    31.00        4 .  0000000000000000000000000000000
      .00        4 .
    16.00        5 .  0000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of Net Profit Margin
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Net Profit Margin
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



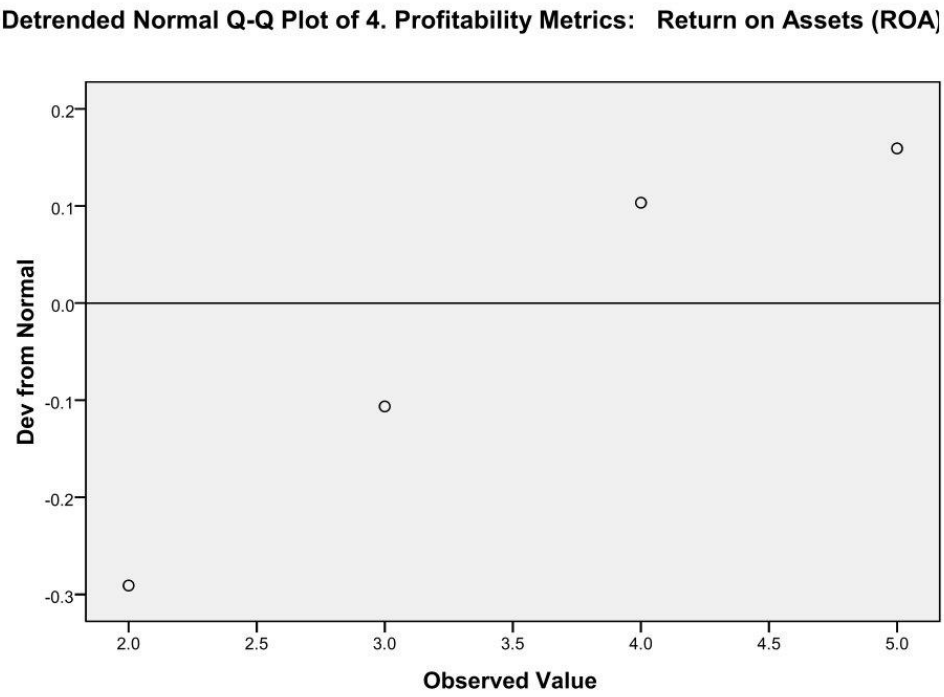
Net Profit Margin

```
Net Profit Margin Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    10.00        2 .  0000000000
      .00        2 .
    18.00        3 .  000000000000000000
      .00        3 .
    32.00        4 .  00000000000000000000000000000000
      .00        4 .
    15.00        5 .  000000000000000

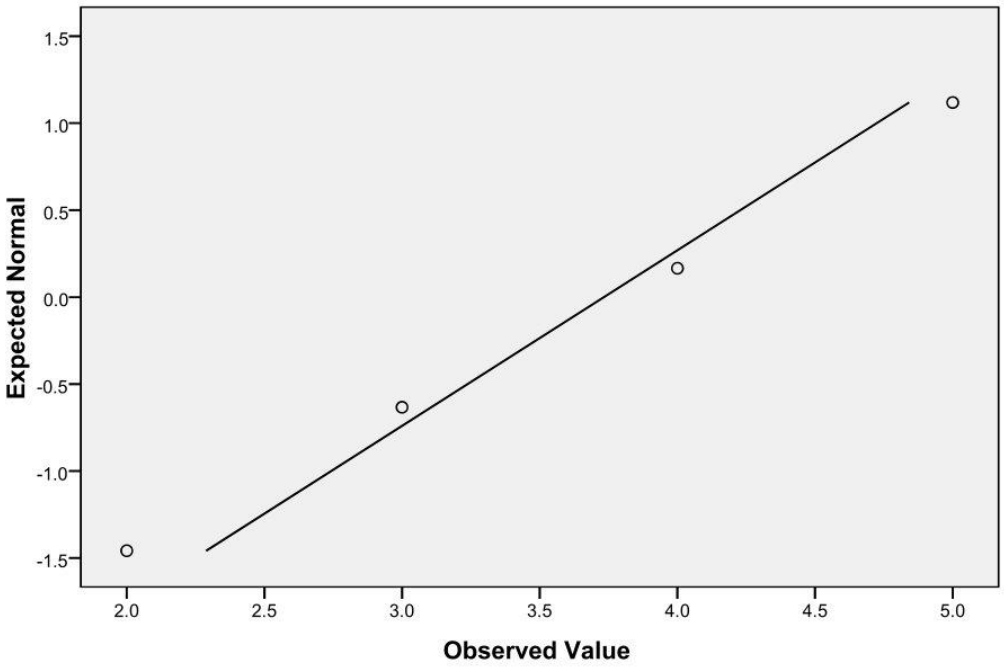
 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of 4. Profitability Metrics: Return on Assets (ROA)
Dev from Normal
0.2
0.1
0.0
-0.1
-0.2
-0.3
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value

```
    .00        3 .
  27.00        4 .  000000000000000000000000000
    .00        4 .
  19.00        5 .  0000000000000000000

Stem width:         1
Each leaf:       1 case(s)
```

Normal Q-Q Plot of 4. Profitability Metrics: Return on Assets (ROA)



Tests of Normality

	Kolmogorov-Smirnov a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	.452	75	.000	.562	75	.000
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	.240	75	.000	.819	75	.000
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	.270	75	.000	.863	75	.000
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	.346	75	.000	.628	75	.000
Introducing mandatory certification in financial analysis	.272	75	.000	.784	75	.000
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	.473	75	.000	.548	75	.000
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	.229	75	.000	.836	75	.000

a. Lilliefors Significance Correction

4. Profitability Metrics: Return on Assets (ROA)

```
4. Profitability Metrics:   Return on Assets (ROA) Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    10.00        2 .  0000000000
      .00        2 .
    19.00        3 .  0000000000000000000
```

Tests of Normality

	Kolmogorov-Smirnov a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
5. Liquidity Metrics: Current Ratio	.226	75	.000	.854	75	.000
Quick Ratio	.251	75	.000	.854	75	.000
Cash Ratio	.234	75	.000	.861	75	.000
6. Solvency Metrics: Debt to Equity Ratio	.262	75	.000	.862	75	.000
Interest Coverage Ratio	.241	75	.000	.856	75	.000
Equity Ratio	.227	75	.000	.844	75	.000
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	.310	75	.000	.802	75	.000
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	.289	75	.000	.846	75	.000
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	.364	75	.000	.727	75	.000
Poor understanding of liquidity metrics can result in liquidity shortages.	.331	75	.000	.735	75	.000
Misunderstanding solvency metrics increases the likelihood of default risks.	.386	75	.000	.696	75	.000
Accurate comprehension of financial metrics is essential for effective risk mitigation.	.414	75	.000	.663	75	.000
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	.256	75	.000	.824	75	.000
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	.279	75	.000	.846	75	.000

a. Lilliefors Significance Correction

Descriptives

			Statistic	Std. Error
Introducing mandatory certification in financial analysis	5% Trimmed Mean		3.78	
	Median		4.00	
	Variance		.622	
	Std. Deviation		.788	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.374	.277
	Kurtosis		-1.290	.548
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	Mean		1.47	.103
	95% Confidence Interval for Mean	Lower Bound	1.26	
		Upper Bound	1.67	
	5% Trimmed Mean		1.38	
	Median		1.00	
	Variance		.793	
	Std. Deviation		.890	
	Minimum		1	
	Maximum		4	
	Range		3	
	Interquartile Range		0	
	Skewness		1.519	.277
	Kurtosis		.666	.548
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	Mean		3.88	.089
	95% Confidence Interval for Mean	Lower Bound	3.70	
		Upper Bound	4.06	
	5% Trimmed Mean		3.88	
	Median		4.00	
	Variance		.594	
	Std. Deviation		.770	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		.029	.277
	Kurtosis		-.894	.548

Tests of Normality

	Kolmogorov-Smirnov a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
4. Profitability Metrics: Return on Assets (ROA)	.219	75	.000	.870	75	.000
Net Profit Margin	.254	75	.000	.869	75	.000
Earnings Before Interest and Taxes (EBIT)	.250	75	.000	.867	75	.000

a. Lilliefors Significance Correction

Descriptives

			Statistic	Std. Error
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	Range		1	
	Interquartile Range		1	
	Skewness		-1.000	.277
	Kurtosis		-1.028	.548
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	Mean		3.60	.099
	95% Confidence Interval for Mean	Lower Bound	3.40	
		Upper Bound	3.80	
	5% Trimmed Mean		3.64	
	Median		4.00	
	Variance		.730	
	Std. Deviation		.854	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-.722	.277
	Kurtosis		1.729	.548
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	Mean		3.35	.119
	95% Confidence Interval for Mean	Lower Bound	3.11	
		Upper Bound	3.58	
	5% Trimmed Mean		3.34	
	Median		4.00	
	Variance		1.067	
	Std. Deviation		1.033	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		2	
	Skewness		-.217	.277
	Kurtosis		-1.043	.548
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	Mean		4.27	.072
	95% Confidence Interval for Mean	Lower Bound	4.12	
		Upper Bound	4.41	
	5% Trimmed Mean		4.30	
	Median		4.00	
	Variance		.387	
	Std. Deviation		.622	
	Minimum		1	
	Maximum		5	
	Range		4	
	Interquartile Range		1	
	Skewness		-1.633	.277
	Kurtosis		8.948	.548
Introducing mandatory certification in financial analysis	Mean		3.80	.091
	95% Confidence Interval for Mean	Lower Bound	3.62	
		Upper Bound	3.98	

Descriptives

			Statistic	Std. Error
Accurate comprehension of financial metrics is essential for effective risk mitigation.	95% Confidence Interv…	Upper Bound	4.27	
	5% Trimmed Mean		4.18	
	Median		4.00	
	Variance		.244	
	Std. Deviation		.494	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		0	
	Skewness		.347	.277
	Kurtosis		.617	.548
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	Mean		3.08	.084
	95% Confidence Interval for Mean	Lower Bound	2.91	
		Upper Bound	3.25	
	5% Trimmed Mean		3.10	
	Median		3.00	
	Variance		.534	
	Std. Deviation		.731	
	Minimum		1	
	Maximum		4	
	Range		3	
	Interquartile Range		1	
	Skewness		-.339	.277
	Kurtosis		-.375	.548
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	Mean		3.24	.087
	95% Confidence Interval for Mean	Lower Bound	3.07	
		Upper Bound	3.41	
	5% Trimmed Mean		3.22	
	Median		3.00	
	Variance		.563	
	Std. Deviation		.750	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		.163	.277
	Kurtosis		-.234	.548
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	Mean		1.72	.052
	95% Confidence Interval for Mean	Lower Bound	1.62	
		Upper Bound	1.82	
	5% Trimmed Mean		1.74	
	Median		2.00	
	Variance		.204	
	Std. Deviation		.452	
	Minimum		1	
	Maximum		2	

Descriptives

			Statistic	Std. Error
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= …	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.256	.277
	Kurtosis		-.147	.548
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	Mean		4.23	.065
	95% Confidence Interval for Mean	Lower Bound	4.10	
		Upper Bound	4.36	
	5% Trimmed Mean		4.25	
	Median		4.00	
	Variance		.313	
	Std. Deviation		.559	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.031	.277
	Kurtosis		-.232	.548
Poor understanding of liquidity metrics can result in liquidity shortages.	Mean		4.33	.067
	95% Confidence Interval for Mean	Lower Bound	4.20	
		Upper Bound	4.47	
	5% Trimmed Mean		4.37	
	Median		4.00	
	Variance		.333	
	Std. Deviation		.577	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		-.176	.277
	Kurtosis		-.634	.548
Misunderstanding solvency metrics increases the likelihood of default risks.	Mean		4.27	.061
	95% Confidence Interval for Mean	Lower Bound	4.15	
		Upper Bound	4.39	
	5% Trimmed Mean		4.29	
	Median		4.00	
	Variance		.279	
	Std. Deviation		.528	
	Minimum		3	
	Maximum		5	
	Range		2	
	Interquartile Range		1	
	Skewness		.192	.277
	Kurtosis		-.378	.548
Accurate comprehension of financial metrics is …	Mean		4.16	.057
	95% Confidence Interv…	Lower Bound	4.05	

Descriptives

			Statistic	Std. Error
Interest Coverage Ratio	95% Confidence Interval for Mean	Lower Bound	3.45	
		Upper Bound	3.94	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		1.107	
	Std. Deviation		1.052	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.351	.277
	Kurtosis		-1.046	.548
Equity Ratio	Mean		3.76	.126
	95% Confidence Interval for Mean	Lower Bound	3.51	
		Upper Bound	4.01	
	5% Trimmed Mean		3.79	
	Median		4.00	
	Variance		1.185	
	Std. Deviation		1.089	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.407	.277
	Kurtosis		-1.110	.548
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	Mean		3.64	.075
	95% Confidence Interval for Mean	Lower Bound	3.49	
		Upper Bound	3.79	
	5% Trimmed Mean		3.63	
	Median		4.00	
	Variance		.423	
	Std. Deviation		.650	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.087	.277
	Kurtosis		-.096	.548
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	Mean		3.65	.088
	95% Confidence Interval for Mean	Lower Bound	3.48	
		Upper Bound	3.83	
	5% Trimmed Mean		3.67	
	Median		4.00	
	Variance		.581	
	Std. Deviation		.762	
	Minimum		2	

Descriptives

			Statistic	Std. Error
5. Liquidity Metrics: Current Ratio	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.398	.277
	Kurtosis		-1.006	.548
Quick Ratio	Mean		3.79	.116
	95% Confidence Interval for Mean	Lower Bound	3.56	
		Upper Bound	4.02	
	5% Trimmed Mean		3.82	
	Median		4.00	
	Variance		1.008	
	Std. Deviation		1.004	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.460	.277
	Kurtosis		-.805	.548
Cash Ratio	Mean		3.76	.117
	95% Confidence Interval for Mean	Lower Bound	3.53	
		Upper Bound	3.99	
	5% Trimmed Mean		3.79	
	Median		4.00	
	Variance		1.023	
	Std. Deviation		1.011	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.382	.277
	Kurtosis		-.908	.548
6. Solvency Metrics: Debt to Equity Ratio	Mean		3.59	.114
	95% Confidence Interval for Mean	Lower Bound	3.36	
		Upper Bound	3.81	
	5% Trimmed Mean		3.60	
	Median		4.00	
	Variance		.975	
	Std. Deviation		.988	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.291	.277
	Kurtosis		-.917	.548
Interest Coverage Ratio	Mean		3.69	.122

Descriptives

			Statistic	Std. Error
4. Profitability Metrics: Return on Assets (ROA)	Mean		3.73	.114
	95% Confidence Interval for Mean	Lower Bound	3.51	
		Upper Bound	3.96	
	5% Trimmed Mean		3.76	
	Median		4.00	
	Variance		.982	
	Std. Deviation		.991	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.292	.277
	Kurtosis		-.925	.548
Net Profit Margin	Mean		3.69	.109
	95% Confidence Interval for Mean	Lower Bound	3.48	
		Upper Bound	3.91	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		.891	
	Std. Deviation		.944	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.333	.277
	Kurtosis		-.720	.548
Earnings Before Interest and Taxes (EBIT)	Mean		3.69	.112
	95% Confidence Interval for Mean	Lower Bound	3.47	
		Upper Bound	3.92	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		.945	
	Std. Deviation		.972	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.340	.277
	Kurtosis		-.808	.548
5. Liquidity Metrics: Current Ratio	Mean		3.77	.121
	95% Confidence Interval for Mean	Lower Bound	3.53	
		Upper Bound	4.01	
	5% Trimmed Mean		3.80	
	Median		4.00	
	Variance		1.097	
	Std. Deviation		1.047	

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	75	100.0%	0	.0%	75	100.0%
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	75	100.0%	0	.0%	75	100.0%
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	75	100.0%	0	.0%	75	100.0%
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	75	100.0%	0	.0%	75	100.0%
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	75	100.0%	0	.0%	75	100.0%
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	75	100.0%	0	.0%	75	100.0%
Introducing mandatory certification in financial analysis	75	100.0%	0	.0%	75	100.0%
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	75	100.0%	0	.0%	75	100.0%
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	75	100.0%	0	.0%	75	100.0%

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Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
4. Profitability Metrics: Return on Assets (ROA)	75	100.0%	0	.0%	75	100.0%
Net Profit Margin	75	100.0%	0	.0%	75	100.0%
Earnings Before Interest and Taxes (EBIT)	75	100.0%	0	.0%	75	100.0%
5. Liquidity Metrics: Current Ratio	75	100.0%	0	.0%	75	100.0%
Quick Ratio	75	100.0%	0	.0%	75	100.0%
Cash Ratio	75	100.0%	0	.0%	75	100.0%
6. Solvency Metrics: Debt to Equity Ratio	75	100.0%	0	.0%	75	100.0%
Interest Coverage Ratio	75	100.0%	0	.0%	75	100.0%
Equity Ratio	75	100.0%	0	.0%	75	100.0%
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	75	100.0%	0	.0%	75	100.0%
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	75	100.0%	0	.0%	75	100.0%
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	75	100.0%	0	.0%	75	100.0%
Poor understanding of liquidity metrics can result in liquidity shortages.	75	100.0%	0	.0%	75	100.0%
Misunderstanding solvency metrics increases the likelihood of default risks.	75	100.0%	0	.0%	75	100.0%
Accurate comprehension of financial metrics is essential for effective risk mitigation.	75	100.0%	0	.0%	75	100.0%

Component Matrix[a]

	Component				
	1	2	3	4	5
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	.810	-.033	.118	.252	.135
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	.424	.274	-.479	-.118	-.356
Introducing mandatory certification in financial analysis	.468	.166	-.634	-.157	-.241
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	-.560	.024	-.034	-.279	.407
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	.554	.090	-.322	.187	-.413

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

```
EXAMINE VARIABLES=ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio
    CashRatio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio CognitiveBiasImpact SignificanceOfChallenges
    AgreementWithStatements_A LiquidityMetricsMisunderstanding SolvencyMetricsMisunderstanding AccurateMetricsComprehension Frequenc
   yOfMisunderstanding RelianceOnFintechTools ParticipationInTraining TrainingEffectiveness ConfidenceInStatisticalMethods
    RecommendedStrategies CertificationInFinancialAnalysis PeriodicCompetencyAssessment ImportanceOfRegulatoryOversight
  /PLOT BOXPLOT STEMLEAF NPPLOT
  /COMPARE GROUP
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Explore

Component Matrix[a]

	Component				
	1	2	3	4	5
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	.067	.729	.360	-.107	.250
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	.117	.790	.215	-.022	.242
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	.587	.300	-.521	.095	.134
Poor understanding of liquidity metrics can result in liquidity shortages.	.638	.204	-.456	.091	.065
Misunderstanding solvency metrics increases the likelihood of default risks.	.459	.478	-.294	.186	.227
Accurate comprehension of financial metrics is essential for effective risk mitigation.	.582	.413	-.205	.350	.106
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	.067	.684	.464	-.014	-.344
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	.094	.465	.581	-.188	-.436
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	.381	.129	.311	.596	.081
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	.331	-.253	.284	.614	.000

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.821	40.920	40.920	9.821	40.920	40.920
2	2.907	12.110	53.031	2.907	12.110	53.031
3	2.506	10.441	63.472	2.506	10.441	63.472
4	1.578	6.576	70.048	1.578	6.576	70.048
5	1.214	5.060	75.108	1.214	5.060	75.108
6	.850	3.542	78.650			
7	.766	3.191	81.841			
8	.664	2.767	84.608			
9	.575	2.394	87.002			
10	.522	2.175	89.177			
11	.441	1.838	91.016			
12	.394	1.642	92.657			
13	.340	1.415	94.072			
14	.300	1.250	95.322			
15	.257	1.069	96.391			
16	.213	.886	97.277			
17	.166	.692	97.969			
18	.138	.576	98.545			
19	.115	.480	99.025			
20	.091	.380	99.405			
21	.046	.190	99.595			
22	.041	.171	99.766			
23	.033	.138	99.904			
24	.023	.096	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component				
	1	2	3	4	5
4. Profitability Metrics: Return on Assets (ROA)	.886	-.266	.117	.021	.095
Net Profit Margin	.866	-.292	.087	-.018	.071
Earnings Before Interest and Taxes (EBIT)	.867	-.231	.223	.012	.099
5. Liquidity Metrics: Current Ratio	.829	.003	.029	-.372	.199
Quick Ratio	.811	.011	-.009	-.354	.162
Cash Ratio	.840	.052	.115	-.324	.120
6. Solvency Metrics: Debt to Equity Ratio	.854	-.189	.159	-.112	-.127
Interest Coverage Ratio	.883	-.184	.258	-.080	-.075
Equity Ratio	.843	-.246	.259	-.148	-.167

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Communalities

	Initial	Extraction
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues 1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always	1.000	.807
16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis	1.000	.788
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?	1.000	.619
18. If yes, please rate the effectiveness of the training in enhancing your understanding:	1.000	.631
21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?	1.000	.752
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe	1.000	.625
Introducing mandatory certification in financial analysis	1.000	.731
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution? 1= Yes 2= Not sure 3= Maybe 4= No	1.000	.559
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?	1.000	.624

Extraction Method: Principal Component Analysis.

Factor Analysis

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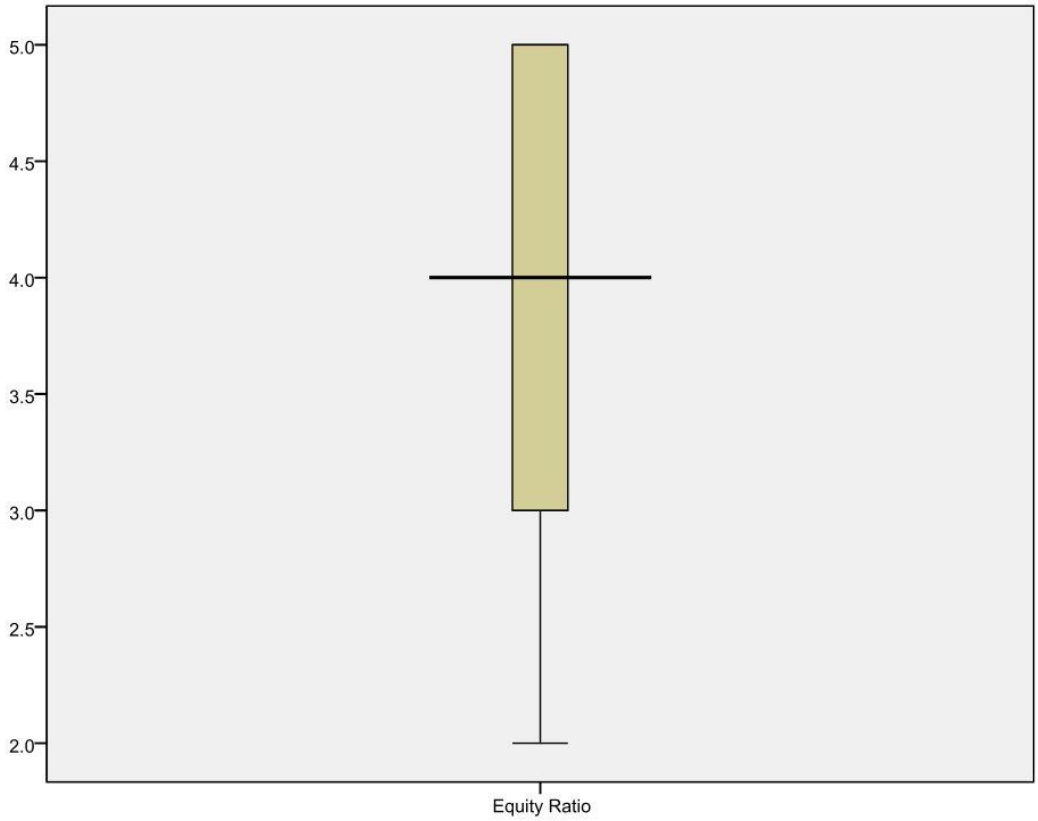
Communalities

	Initial	Extraction
4. Profitability Metrics: Return on Assets (ROA)	1.000	.879
Net Profit Margin	1.000	.849
Earnings Before Interest and Taxes (EBIT)	1.000	.865
5. Liquidity Metrics: Current Ratio	1.000	.866
Quick Ratio	1.000	.811
Cash Ratio	1.000	.841
6. Solvency Metrics: Debt to Equity Ratio	1.000	.819
Interest Coverage Ratio	1.000	.892
Equity Ratio	1.000	.889
7. To what extent do you think cognitive biases (e. g., overconfidence, anchoring) affect your interpretation of financial metrics? 1= Strongly Disagree 2= Disagree 3= Neutral 4= agree 5= Strongly Agree	1.000	.739
13. On a scale of 1 to 5, how significant are these challenges in affecting your day-to-day decision-making? 1= Not Significant 2= Slightly Significant 3= Moderately Significant 4= Significant 5= Highly Significant	1.000	.743
14. To what extent do you agree with the following statements? Misinterpretation of profitability metrics leads to inadequate risk assessment.	1.000	.733
Poor understanding of liquidity metrics can result in liquidity shortages.	1.000	.668
Misunderstanding solvency metrics increases the likelihood of default risks.	1.000	.612
Accurate comprehension of financial metrics is essential for effective risk mitigation.	1.000	.686

Extraction Method: Principal Component Analysis.

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FACTOR
  /VARIABLES ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio Cash
   Ratio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio CognitiveBiasImpact SignificanceOfChallenges
    AgreementWithStatements_A LiquidityMetricsMisunderstanding SolvencyMetricsMisunderstanding AccurateMetricsComprehension Frequenc
   yOfMisunderstanding RelianceOnFintechTools ParticipationInTraining TrainingEffectiveness ConfidenceInStatisticalMethods
    RecommendedStrategies CertificationInFinancialAnalysis PeriodicCompetencyAssessment ImportanceOfRegulatoryOversight
  /MISSING LISTWISE
  /ANALYSIS ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio CashR
   atio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio CognitiveBiasImpact SignificanceOfChallenges
    AgreementWithStatements_A LiquidityMetricsMisunderstanding SolvencyMetricsMisunderstanding AccurateMetricsComprehension Frequenc
   yOfMisunderstanding RelianceOnFintechTools ParticipationInTraining TrainingEffectiveness ConfidenceInStatisticalMethods
    RecommendedStrategies CertificationInFinancialAnalysis PeriodicCompetencyAssessment ImportanceOfRegulatoryOversight
  /PRINT INITIAL EXTRACTION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Equity Ratio

```
Equity Ratio Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    14.00        2 .  00000000000000
      .00        2 .
    13.00        3 .  0000000000000
      .00        3 .
    25.00        4 .  0000000000000000000000000
      .00        4 .
    23.00        5 .  00000000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```

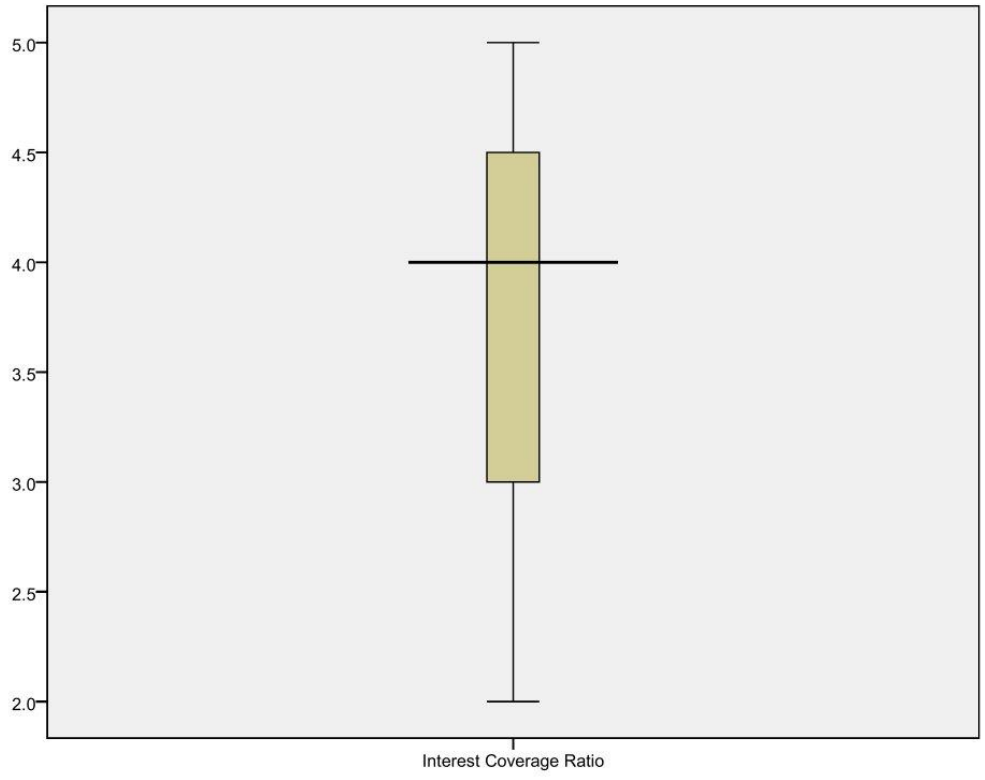
Interest Coverage Ratio

```
Interest Coverage Ratio Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    14.00        2 .  00000000000000
      .00        2 .
    14.00        3 .  00000000000000
      .00        3 .
    28.00        4 .  0000000000000000000000000000
      .00        4 .
    19.00        5 .  0000000000000000000

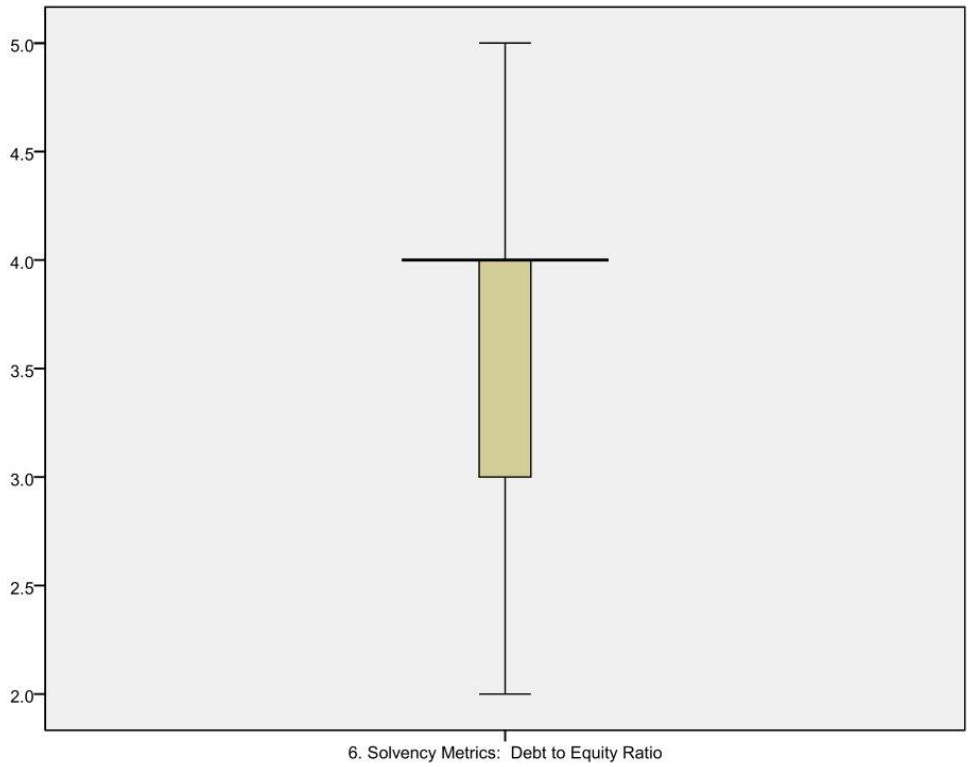
 Stem width:         1
 Each leaf:       1 case(s)
```



6. Solvency Metrics: Debt to Equity Ratio Stem-and-Leaf Plot

Frequency	Stem	Leaf
14.00	2 .	00000000000000
.00	2 .	
16.00	3 .	0000000000000000
.00	3 .	
32.00	4 .	00000000000000000000000000000000
.00	4 .	
13.00	5 .	0000000000000

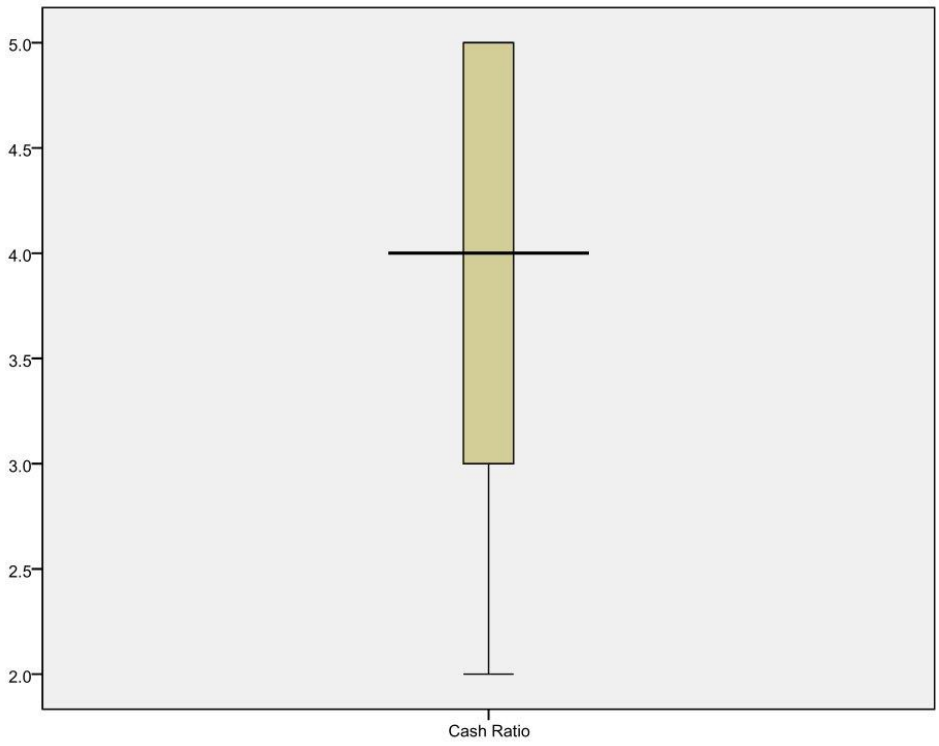
Stem width: 1
Each leaf: 1 case(s)



```
Frequency    Stem   Leaf

   11.00        2 .  00000000000
     .00        2 .
   16.00        3 .  0000000000000000
     .00        3 .
   28.00        4 .  0000000000000000000000000000
     .00        4 .
   20.00        5 .  00000000000000000000

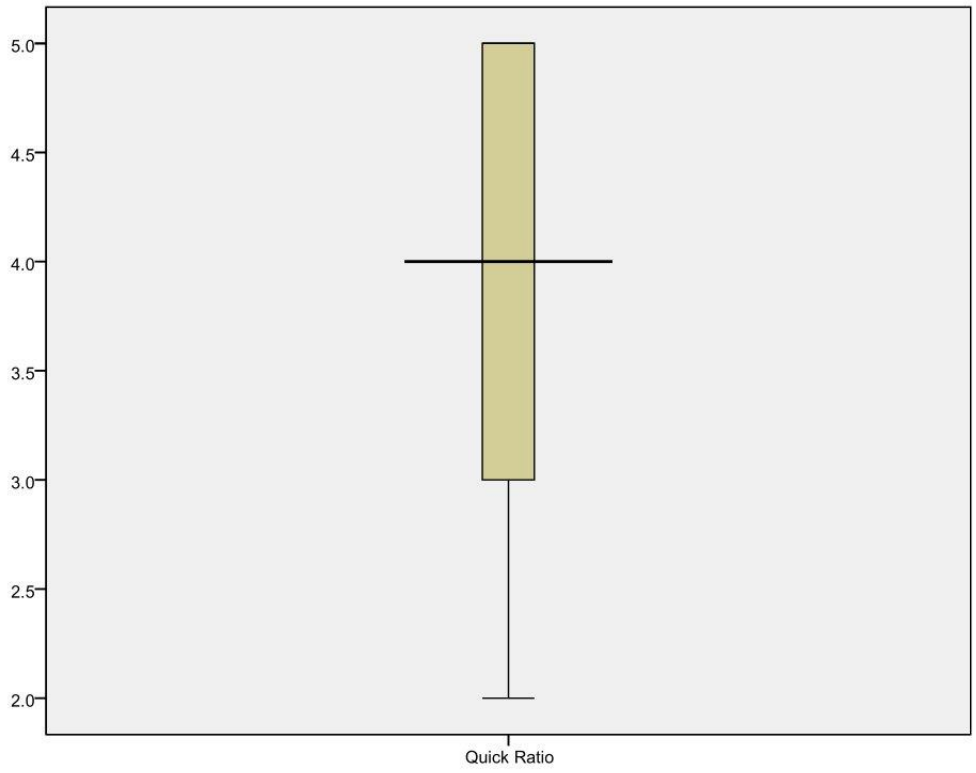
Stem width:          1
Each leaf:       1 case(s)
```



6. Solvency Metrics: Debt to Equity Ratio

```
   .00       2 .
 14.00       3 .  00000000000000
   .00       3 .
 30.00       4 .  000000000000000000000000000000
   .00       4 .
 20.00       5 .  00000000000000000000

Stem width:         1
Each leaf:       1 case(s)
```

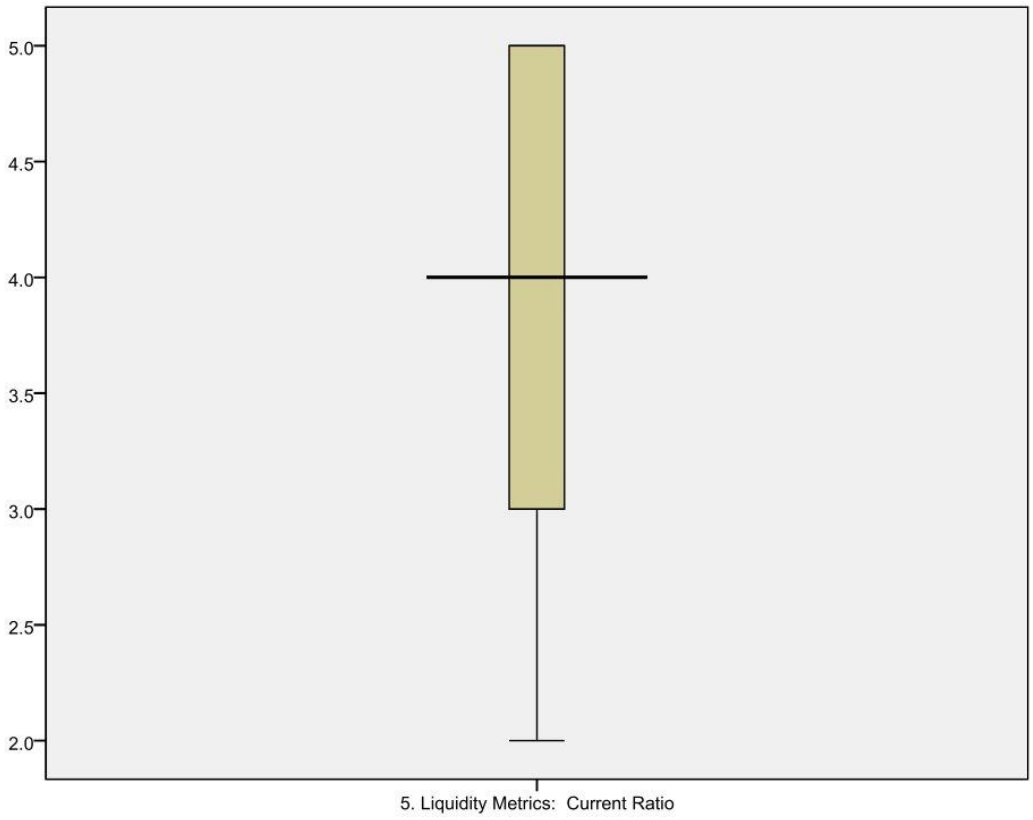


Cash Ratio

```
Cash Ratio Stem-and-Leaf Plot
```

```
   26.00        4 .  00000000000000000000000000
     .00        4 .
   22.00        5 .  0000000000000000000000

Stem width:         1
Each leaf:       1 case(s)
```



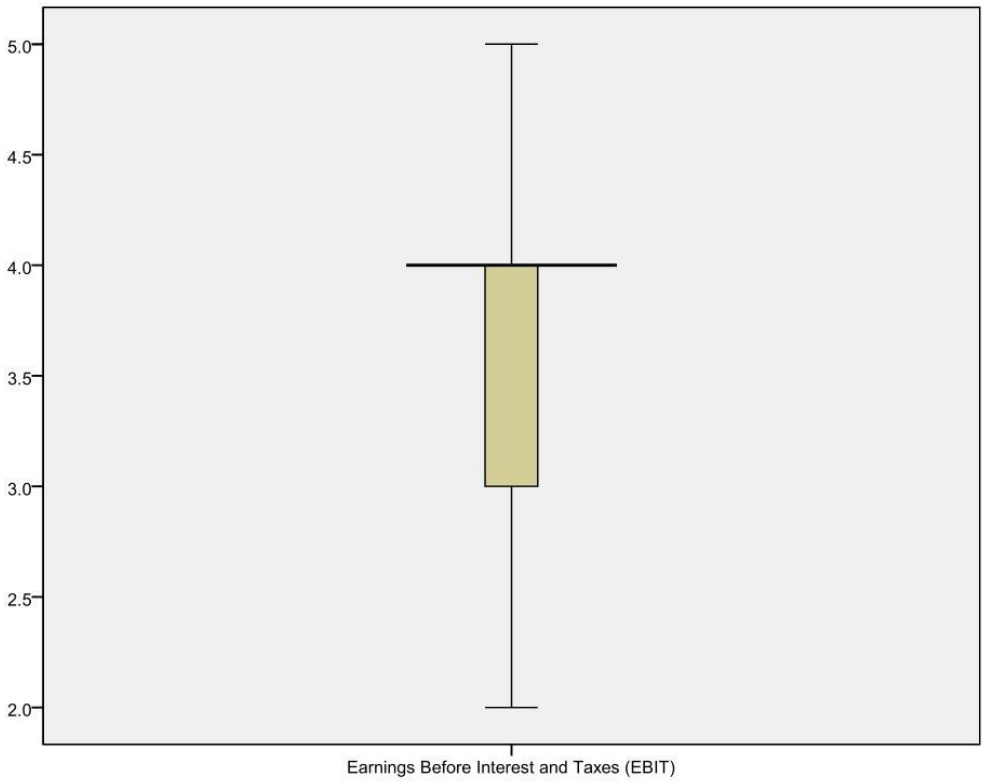
Quick Ratio

```
Quick Ratio Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    11.00        2 .  00000000000
```

```
Stem width:         1
Each leaf:       1 case(s)
```

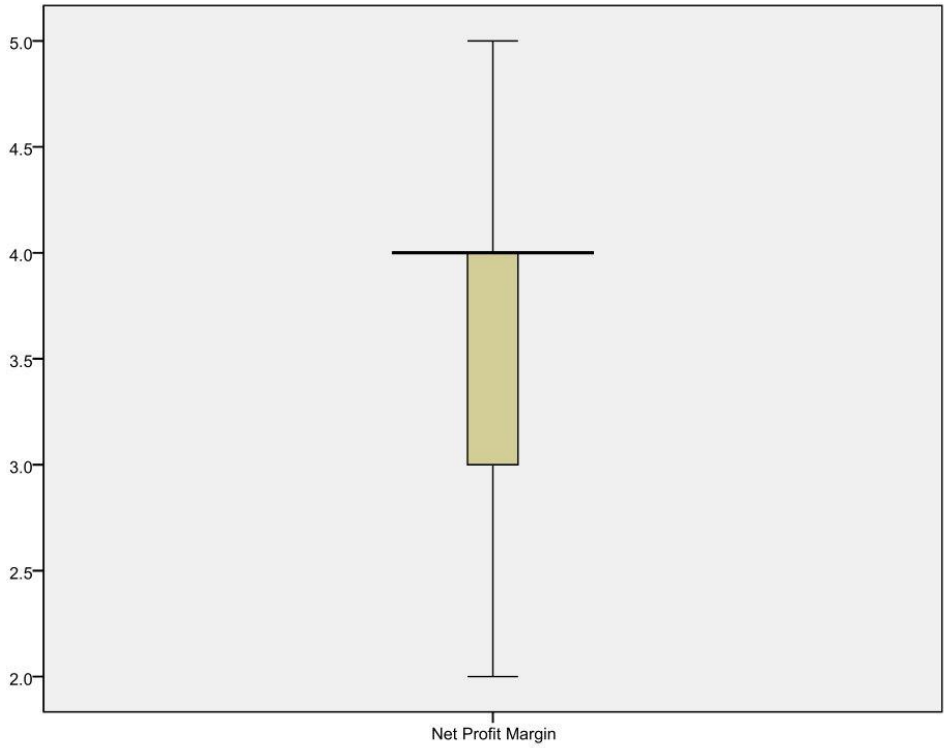


5. Liquidity Metrics: Current Ratio

```
5. Liquidity Metrics:  Current Ratio Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    12.00        2 .  000000000000
      .00        2 .
    15.00        3 .  000000000000000
      .00        3 .
```

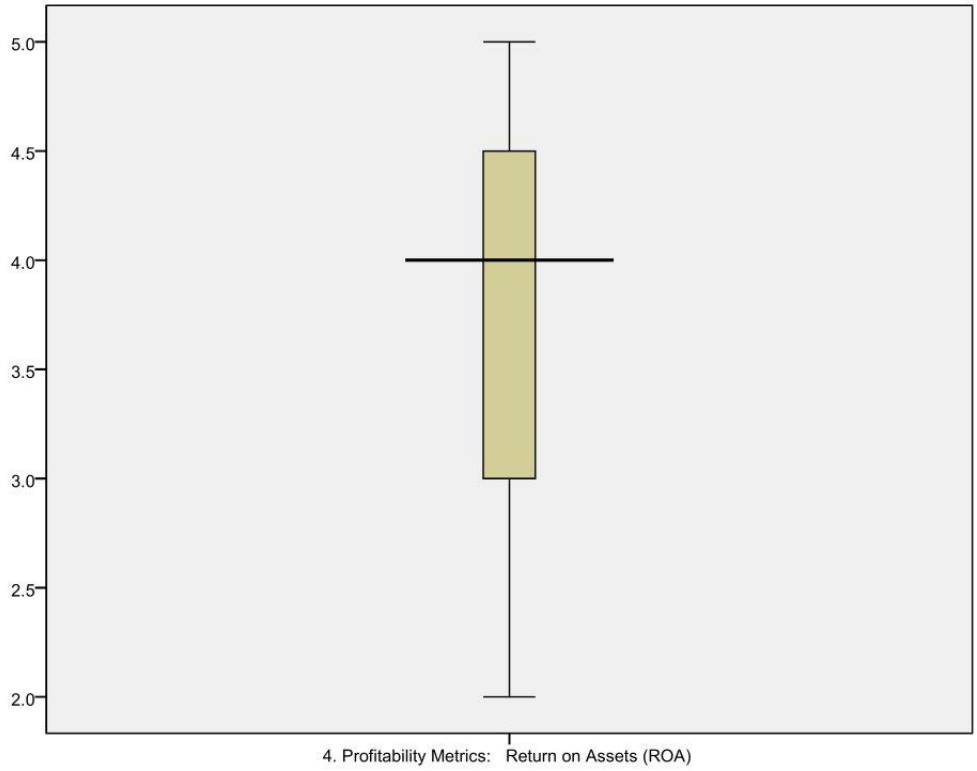


Earnings Before Interest and Taxes (EBIT)

```
Earnings Before Interest and Taxes (EBIT) Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    11.00        2 .  00000000000
      .00        2 .
    17.00        3 .  00000000000000000
      .00        3 .
    31.00        4 .  0000000000000000000000000000000
      .00        4 .
    16.00        5 .  0000000000000000
```



Net Profit Margin

```
Net Profit Margin Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    10.00        2 .  0000000000
      .00        2 .
    18.00        3 .  000000000000000000
      .00        3 .
    32.00        4 .  00000000000000000000000000000000
      .00        4 .
    15.00        5 .  000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```

Descriptives

			Statistic	Std. Error
Interest Coverage Ratio	Kurtosis		-1.046	.548
Equity Ratio	Mean		3.76	.126
	95% Confidence Interval for Mean	Lower Bound	3.51	
		Upper Bound	4.01	
	5% Trimmed Mean		3.79	
	Median		4.00	
	Variance		1.185	
	Std. Deviation		1.089	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.407	.277
	Kurtosis		-1.110	.548

4. Profitability Metrics: Return on Assets (ROA)

```
4. Profitability Metrics:   Return on Assets (ROA) Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    10.00        2 .  0000000000
      .00        2 .
    19.00        3 .  0000000000000000000
      .00        3 .
    27.00        4 .  000000000000000000000000000
      .00        4 .
    19.00        5 .  0000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```

Descriptives

			Statistic	Std. Error
Quick Ratio	Variance		1.008	
	Std. Deviation		1.004	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.460	.277
	Kurtosis		-.805	.548
Cash Ratio	Mean		3.76	.117
	95% Confidence Interval for Mean	Lower Bound	3.53	
		Upper Bound	3.99	
	5% Trimmed Mean		3.79	
	Median		4.00	
	Variance		1.023	
	Std. Deviation		1.011	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.382	.277
	Kurtosis		-.908	.548
6. Solvency Metrics: Debt to Equity Ratio	Mean		3.59	.114
	95% Confidence Interval for Mean	Lower Bound	3.36	
		Upper Bound	3.81	
	5% Trimmed Mean		3.60	
	Median		4.00	
	Variance		.975	
	Std. Deviation		.988	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.291	.277
	Kurtosis		-.917	.548
Interest Coverage Ratio	Mean		3.69	.122
	95% Confidence Interval for Mean	Lower Bound	3.45	
		Upper Bound	3.94	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		1.107	
	Std. Deviation		1.052	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.351	.277

Descriptives

			Statistic	Std. Error
4. Profitability Metrics: Return on Assets (ROA)	Skewness		-.292	.277
	Kurtosis		-.925	.548
Net Profit Margin	Mean		3.69	.109
	95% Confidence Interval for Mean	Lower Bound	3.48	
		Upper Bound	3.91	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		.891	
	Std. Deviation		.944	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.333	.277
	Kurtosis		-.720	.548
Earnings Before Interest and Taxes (EBIT)	Mean		3.69	.112
	95% Confidence Interval for Mean	Lower Bound	3.47	
		Upper Bound	3.92	
	5% Trimmed Mean		3.71	
	Median		4.00	
	Variance		.945	
	Std. Deviation		.972	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		1	
	Skewness		-.340	.277
	Kurtosis		-.808	.548
5. Liquidity Metrics: Current Ratio	Mean		3.77	.121
	95% Confidence Interval for Mean	Lower Bound	3.53	
		Upper Bound	4.01	
	5% Trimmed Mean		3.80	
	Median		4.00	
	Variance		1.097	
	Std. Deviation		1.047	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	
	Skewness		-.398	.277
	Kurtosis		-1.006	.548
Quick Ratio	Mean		3.79	.116
	95% Confidence Interval for Mean	Lower Bound	3.56	
		Upper Bound	4.02	
	5% Trimmed Mean		3.82	
	Median		4.00	

```
EXAMINE VARIABLES=ProfitabilityMetricsROA NetProfitMargin EarningsBeforeInterestandTaxesEBIT LiquidityMetricsCurrentRatio QuickRatio
    CashRatio SolvencyMetricsDebtToEquity InterestCoverageRatio EquityRatio
  /PLOT BOXPLOT STEMLEAF
  /COMPARE GROUP
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
```

Explore

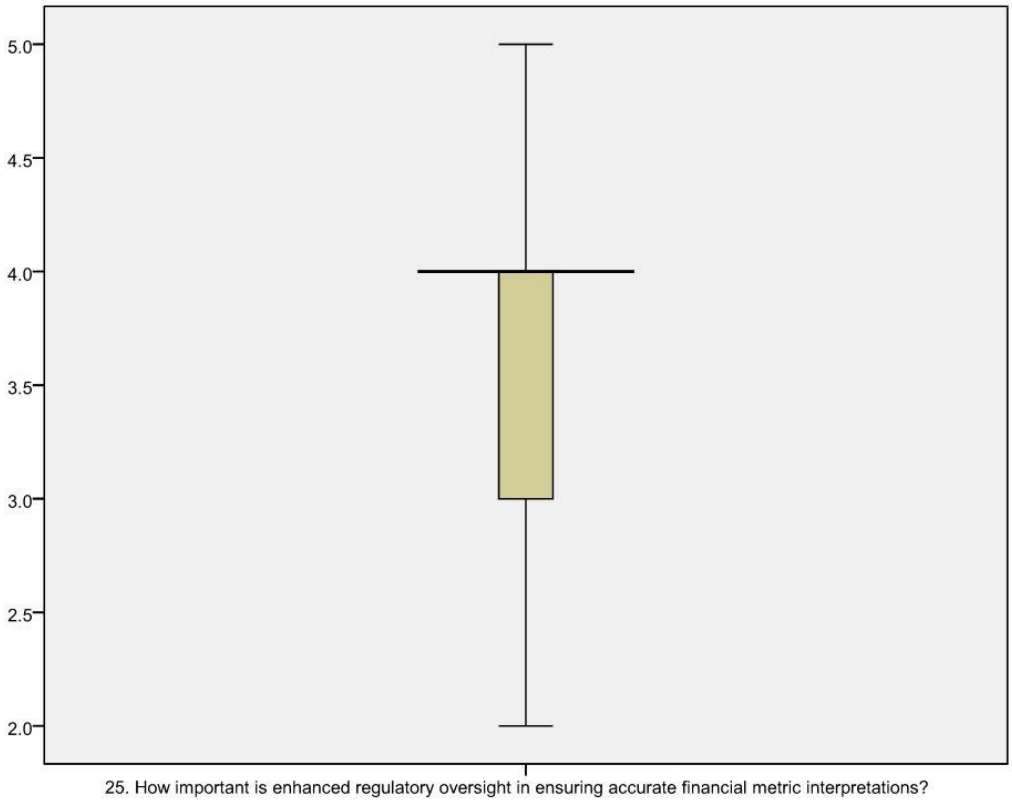
[DataSet1] C:\Users\TOSHIBA\Documents\Survey_Responses.sav

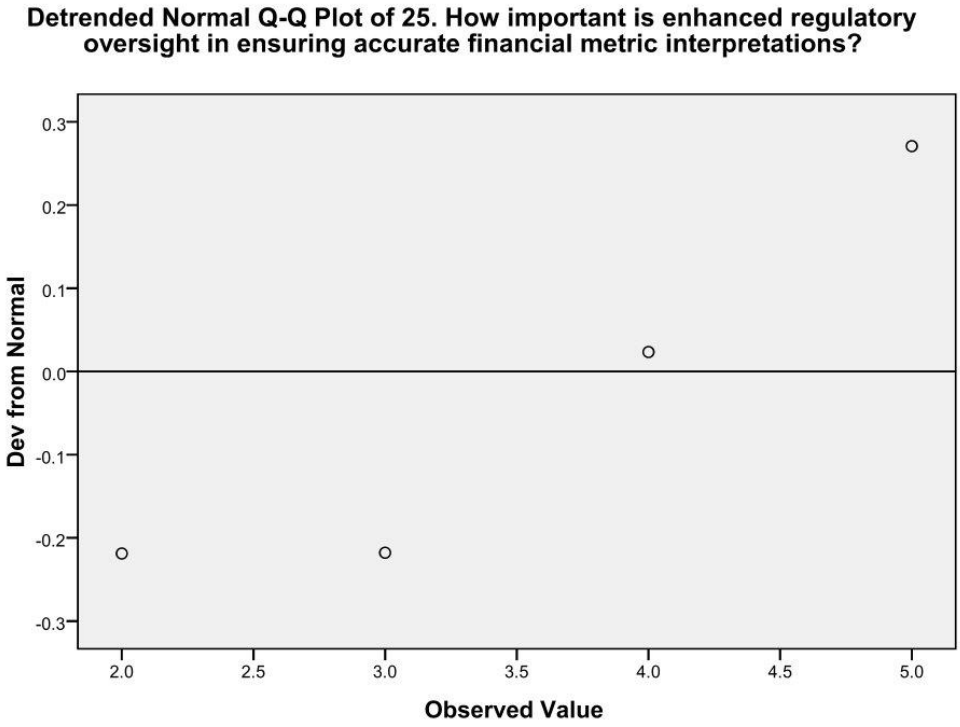
Case Processing Summary

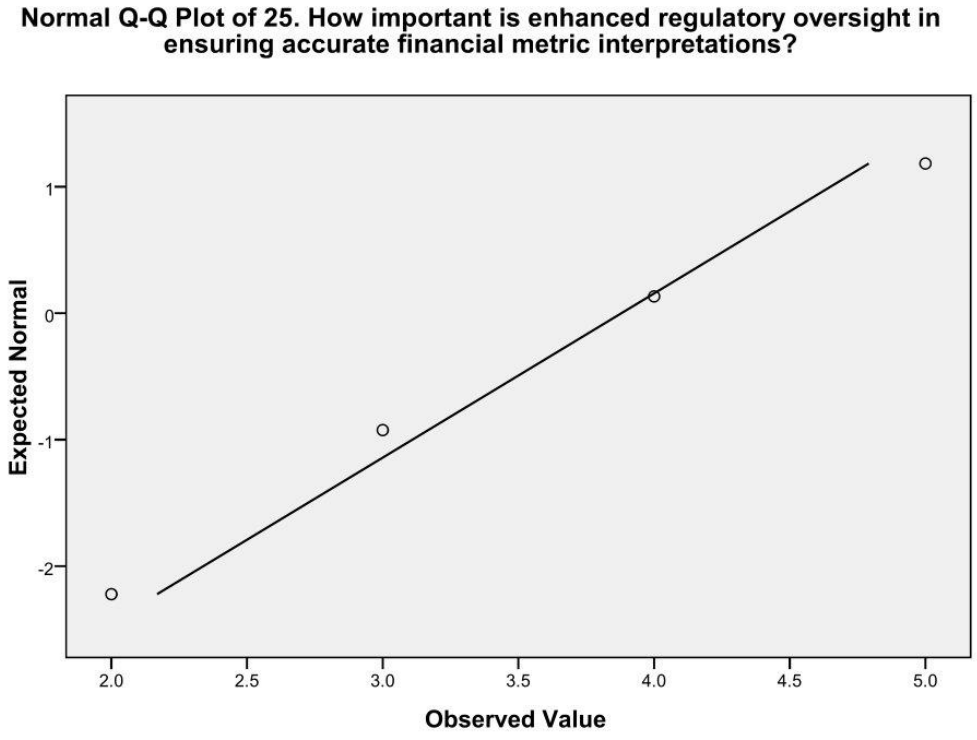
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
4. Profitability Metrics: Return on Assets (ROA)	75	100.0%	0	.0%	75	100.0%
Net Profit Margin	75	100.0%	0	.0%	75	100.0%
Earnings Before Interest and Taxes (EBIT)	75	100.0%	0	.0%	75	100.0%
5. Liquidity Metrics: Current Ratio	75	100.0%	0	.0%	75	100.0%
Quick Ratio	75	100.0%	0	.0%	75	100.0%
Cash Ratio	75	100.0%	0	.0%	75	100.0%
6. Solvency Metrics: Debt to Equity Ratio	75	100.0%	0	.0%	75	100.0%
Interest Coverage Ratio	75	100.0%	0	.0%	75	100.0%
Equity Ratio	75	100.0%	0	.0%	75	100.0%

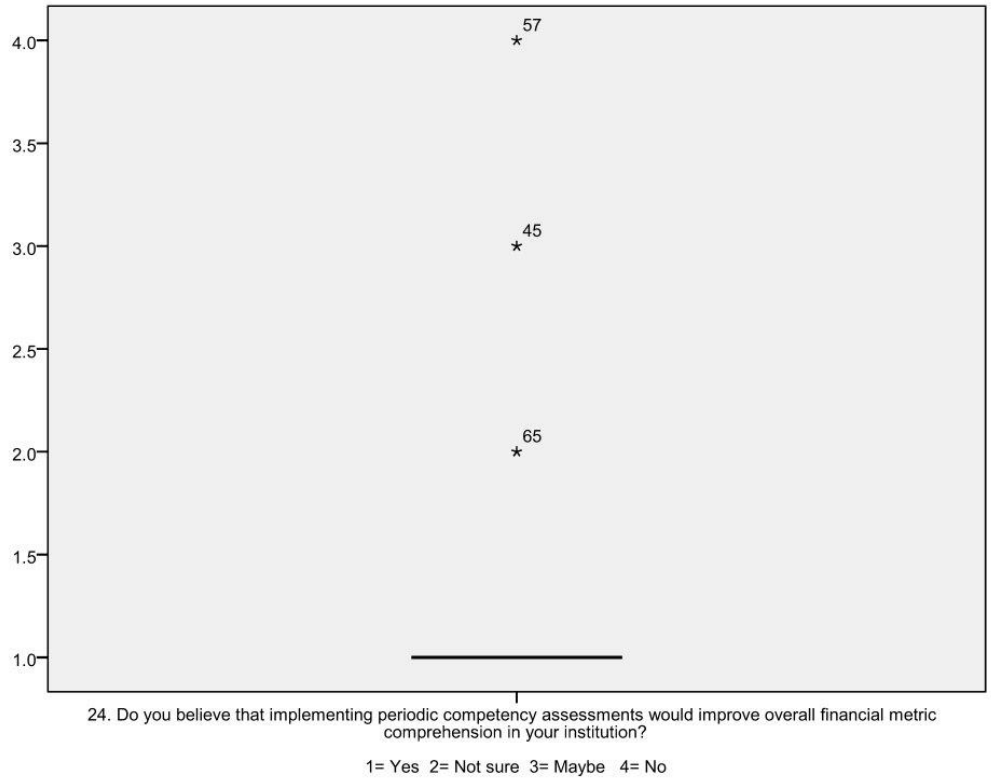
Descriptives

			Statistic	Std. Error
4. Profitability Metrics: Return on Assets (ROA)	Mean		3.73	.114
	95% Confidence Interval for Mean	Lower Bound	3.51	
		Upper Bound	3.96	
	5% Trimmed Mean		3.76	
	Median		4.00	
	Variance		.982	
	Std. Deviation		.991	
	Minimum		2	
	Maximum		5	
	Range		3	
	Interquartile Range		2	


5.0
4.5
4.0
3.5
3.0
2.5
2.0
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?


Detrended Normal Q-Q Plot of 25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?
Dev from Normal
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of 25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?
Expected Normal
1
0
-1
-2
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value



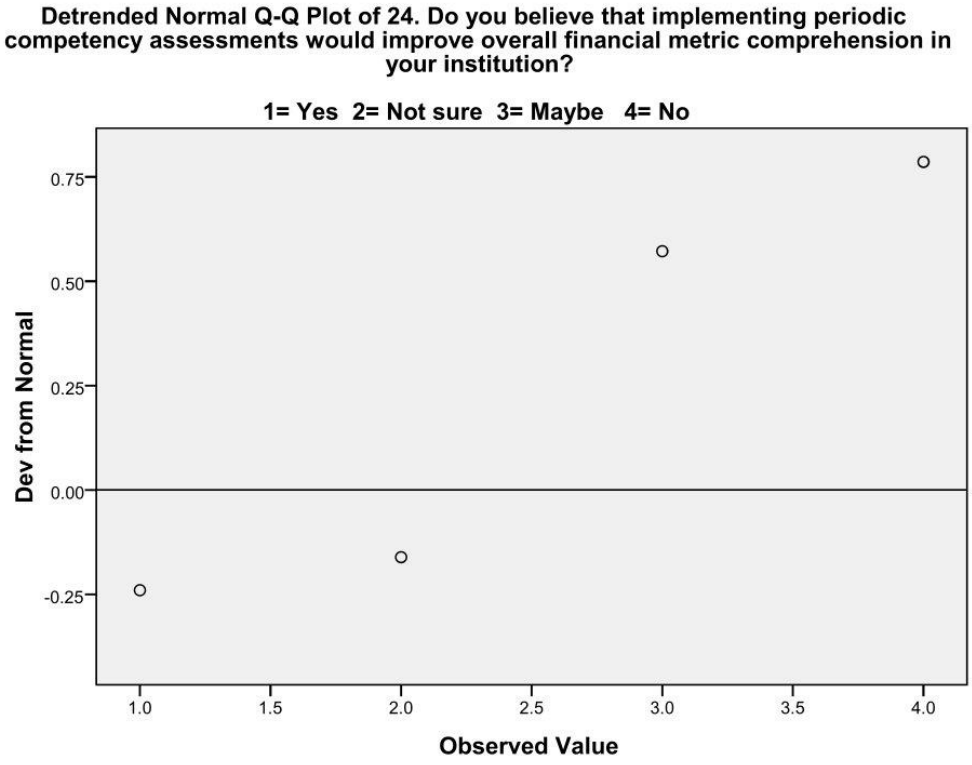
25. How important is enhanced regulatory oversight in ensuring accurate financial metric interpretations?

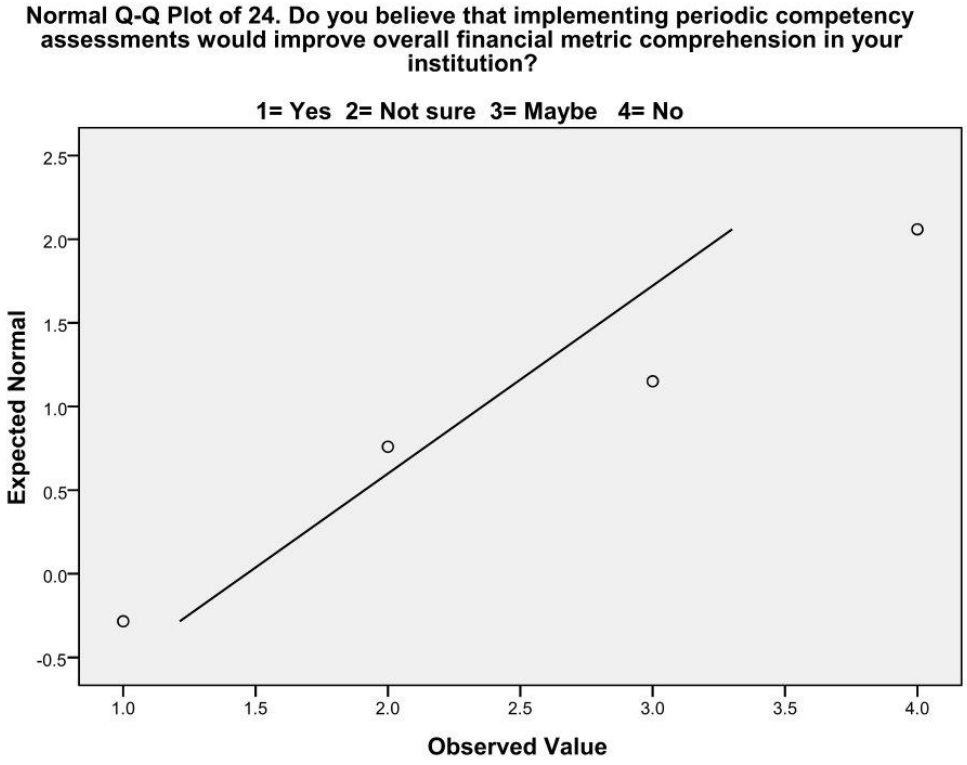
```
25. How important is enhanced regulatory oversight in ensuring accurate Stem-and-Leaf Plot

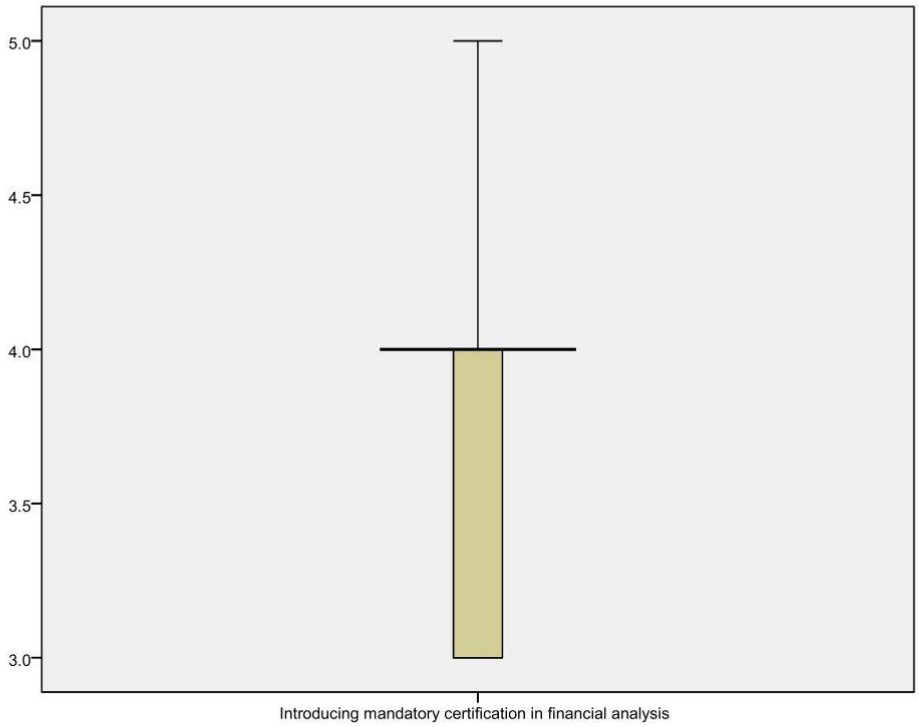
 Frequency    Stem   Leaf

     1.00        2 .  0
      .00        2 .
    24.00        3 .  000000000000000000000000
      .00        3 .
    33.00        4 .  000000000000000000000000000000000
      .00        4 .
    17.00        5 .  00000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```


Detrended Normal Q-Q Plot of 24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution?
1= Yes 2= Not sure 3= Maybe 4= No
Dev from Normal
0.75
0.50
0.25
0.00
-0.25
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Observed Value


Normal Q-Q Plot of 24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution?
1= Yes 2= Not sure 3= Maybe 4= No
Expected Normal
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Observed Value



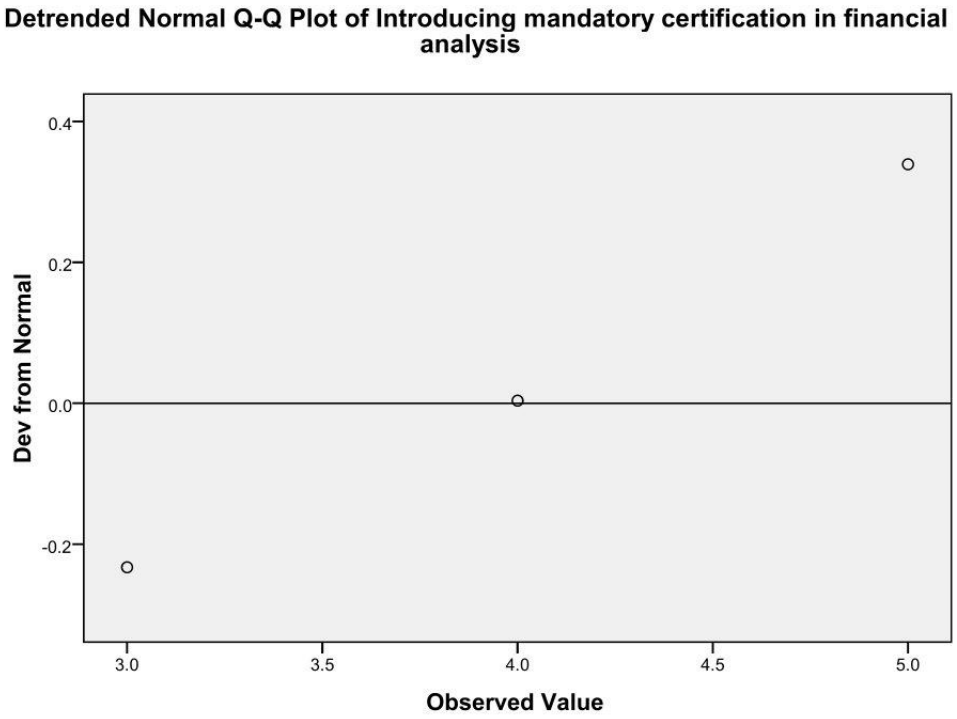
24. Do you believe that implementing periodic competency assessments would improve overall financial metric comprehension in your institution?

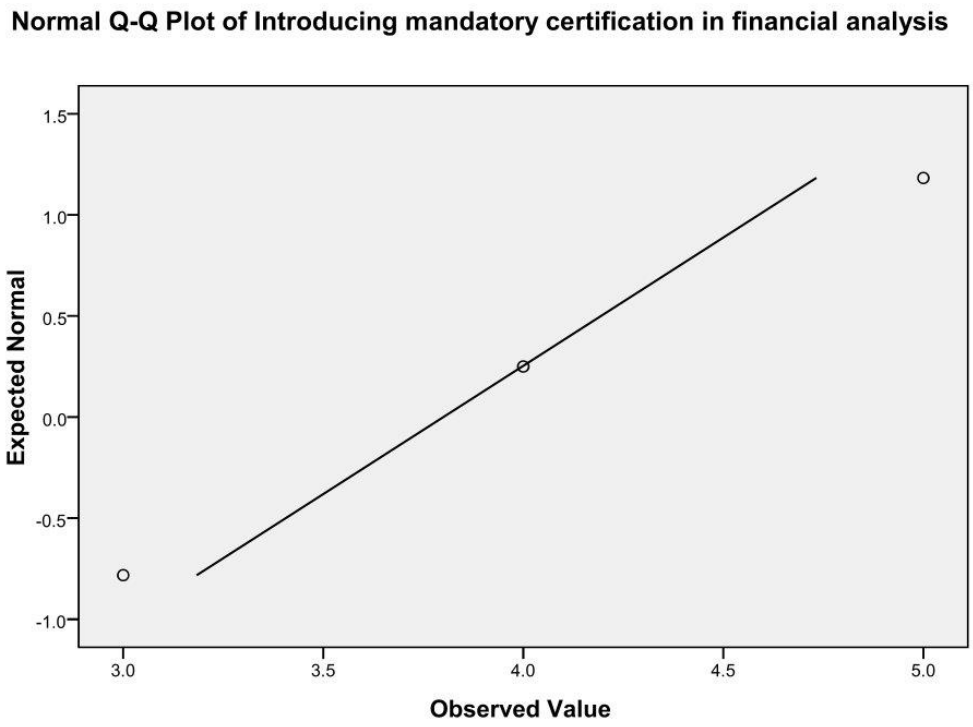
1= Yes 2= Not sure 3= Maybe 4= No

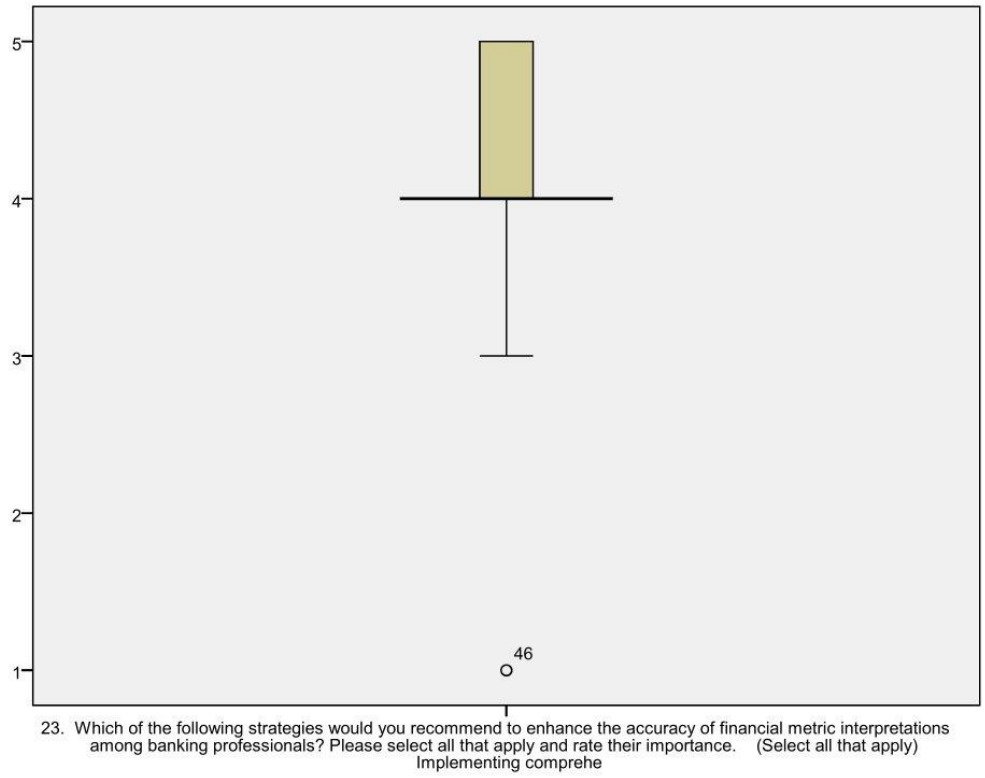
24. Do you believe that implementing periodic competency assessments wou Stem-and-Leaf Plot

Frequency	Stem	Leaf
58.00	1	. 00000000000000000000000000000000000000000000000000000000000000
17.00 Extremes		(>=2.0)

Stem width: 1
Each leaf: 1 case(s)


Detrended Normal Q-Q Plot of Introducing mandatory certification in financial analysis
Dev from Normal
0.4
0.2
0.0
-0.2
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Introducing mandatory certification in financial analysis
Expected Normal
1.5
1.0
0.5
0.0
-0.5
-1.0
3.0
3.5
4.0
4.5
5.0
Observed Value



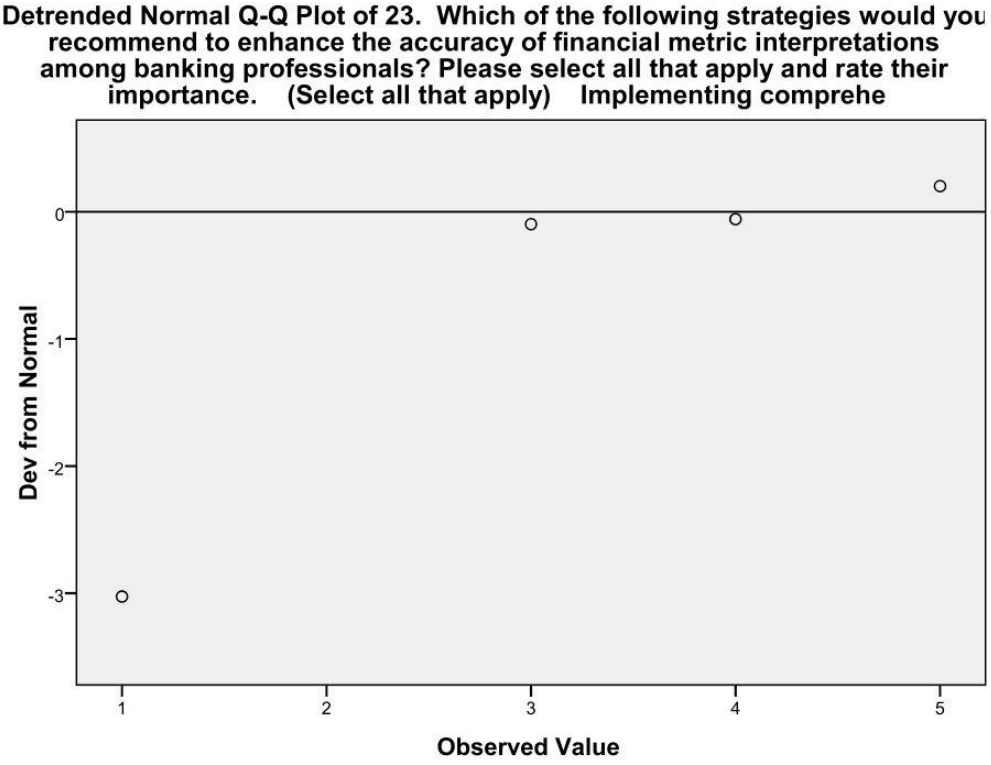
Introducing mandatory certification in financial analysis

```
Introducing mandatory certification in financial analysis Stem-and-Leaf Plot

 Frequency    Stem   Leaf

    32.00        3 .  00000000000000000000000000000000
      .00        3 .
    26.00        4 .  00000000000000000000000000
      .00        4 .
    17.00        5 .  00000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```

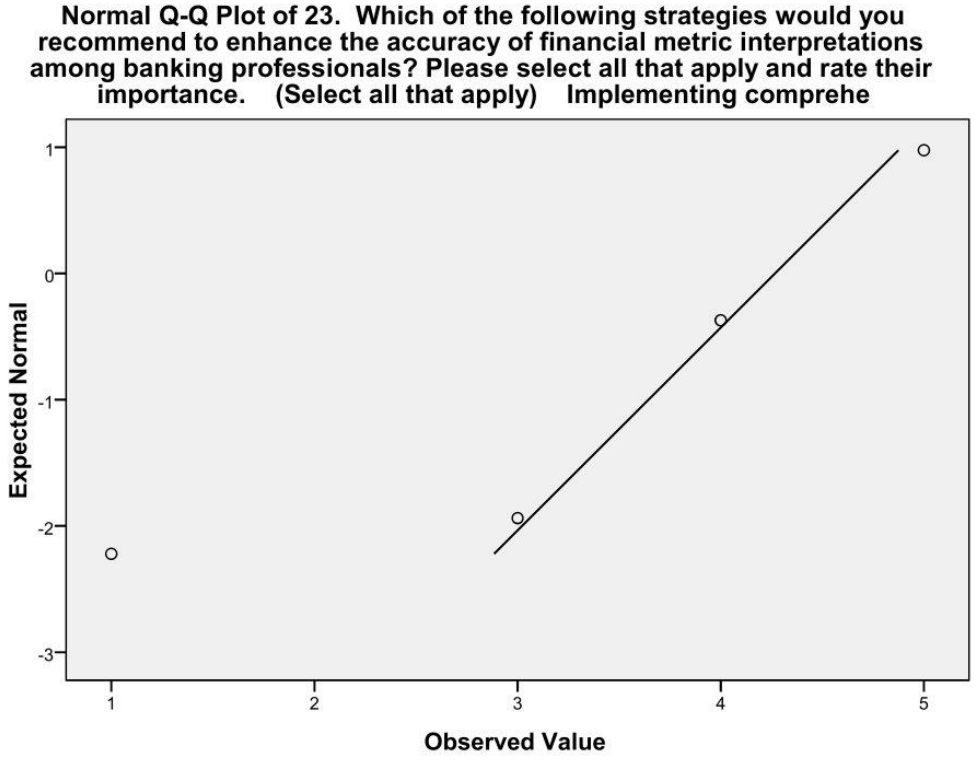

Detrended Normal Q-Q Plot of 23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe
Dev from Normal
0
-1
-2
-3
1
2
3
4
5
Observed Value

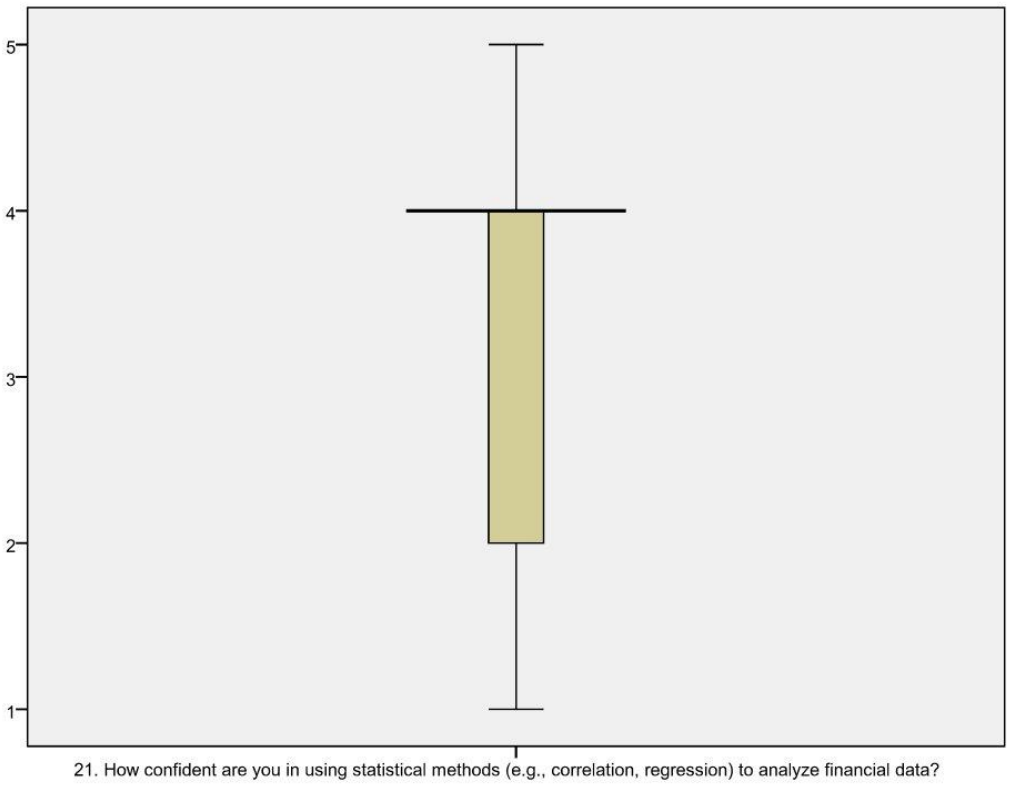
23. Which of the following strategies would you recommend to enhance th Stem-and-Leaf Plot

```
 Frequency    Stem   Leaf

     1.00 Extremes    (=<1.0)
     1.00        3 .  0
      .00        3 .
    49.00        4 .  0000000000000000000000000000000000000000000000000000
      .00        4 .
    24.00        5 .  000000000000000000000000

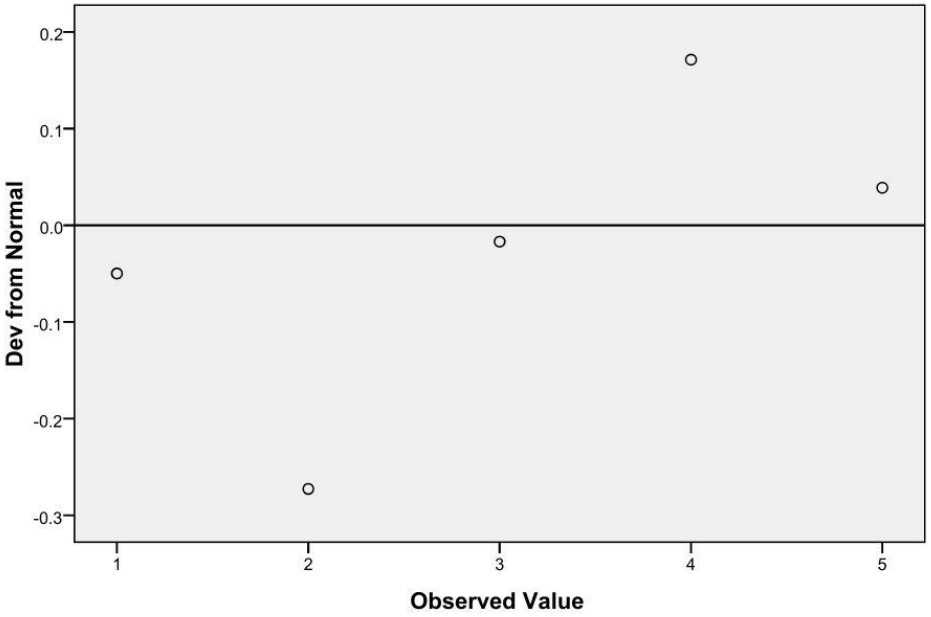
 Stem width:         1
 Each leaf:       1 case(s)
```





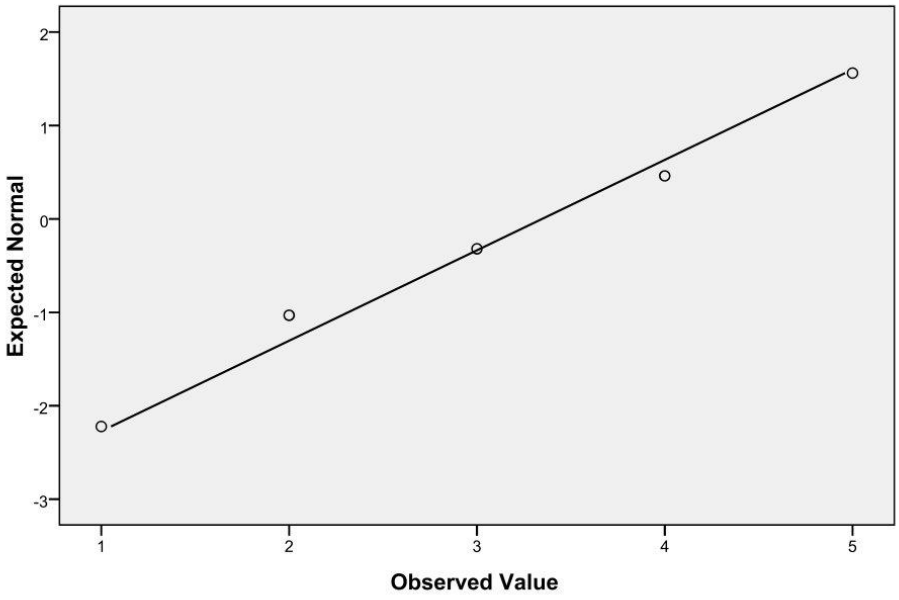
23. Which of the following strategies would you recommend to enhance the accuracy of financial metric interpretations among banking professionals? Please select all that apply and rate their importance. (Select all that apply) Implementing comprehe

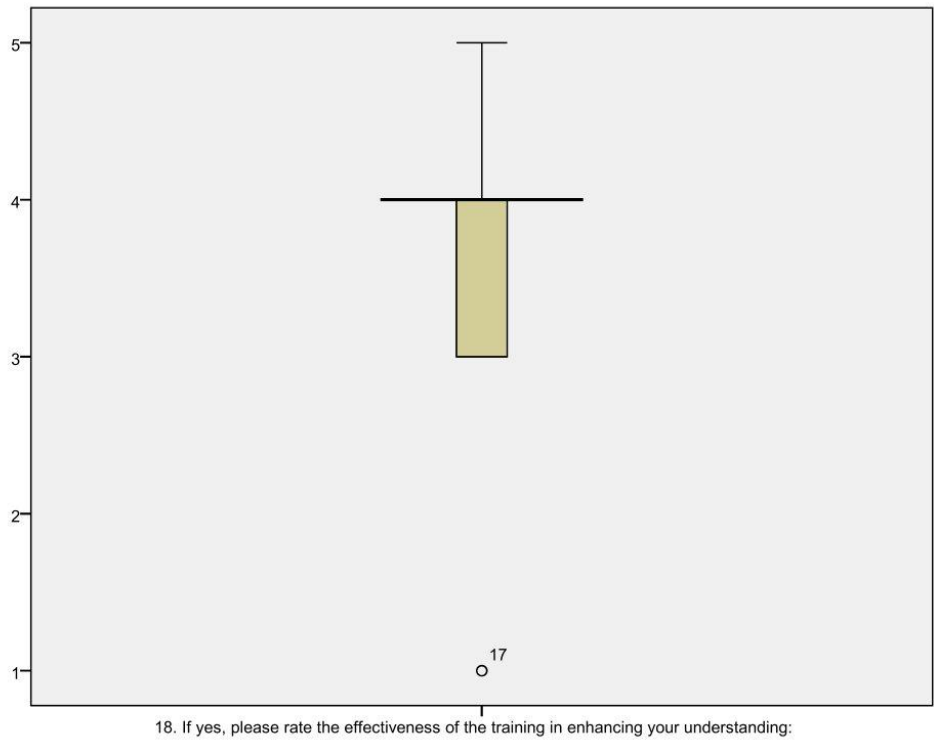
Detrended Normal Q-Q Plot of 21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?



```
Stem width:          1
Each leaf:       1 case(s)
```

Normal Q-Q Plot of 21. How confident are you in using statistical methods (e. g., correlation, regression) to analyze financial data?

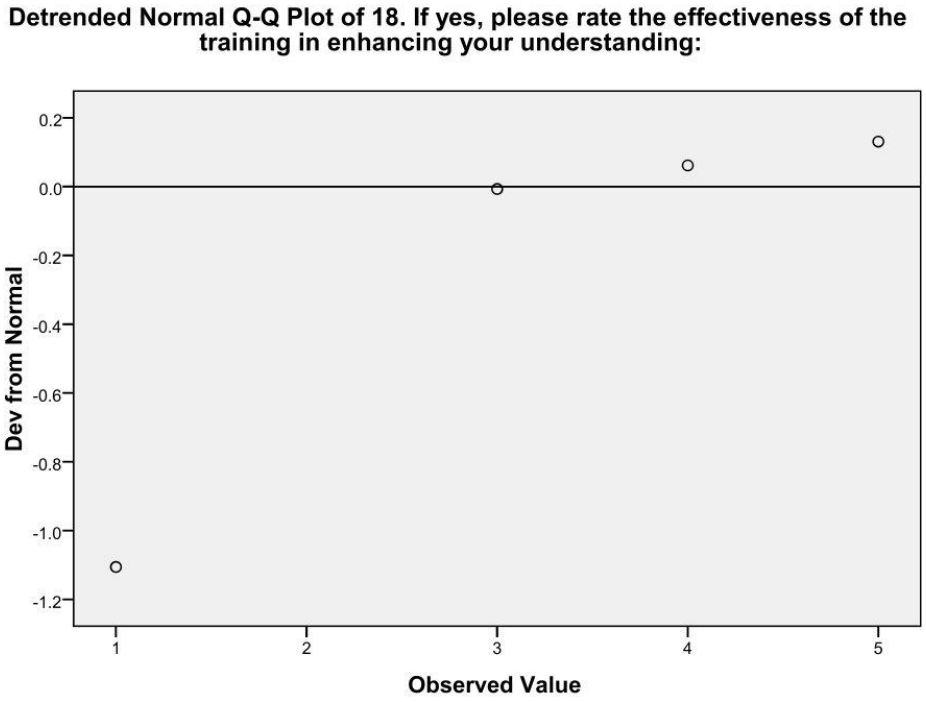




21. How confident are you in using statistical methods (e.g., correlation, regression) to analyze financial data?

21. How confident are you in using statistical methods (e.g., correlatio Stem-and-Leaf Plot

Frequency	Stem	Leaf
1.00	1 .	0
.00	1 .	
20.00	2 .	00000000000000000000
.00	2 .	
14.00	3 .	00000000000000
.00	3 .	
32.00	4 .	00000000000000000000000000000000
.00	4 .	
8.00	5 .	00000000

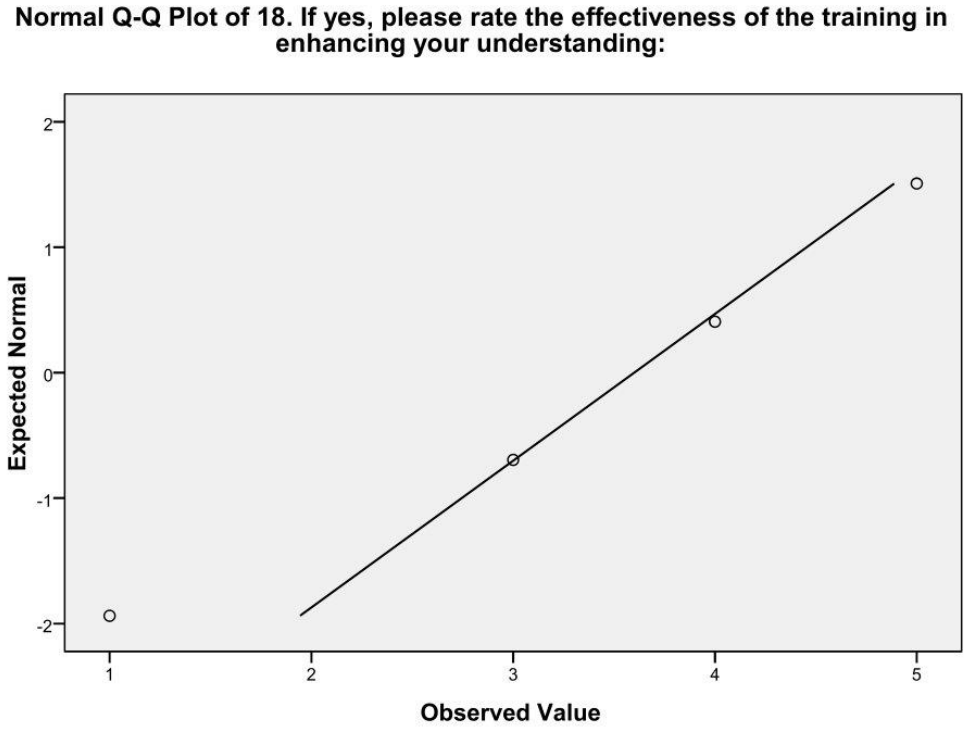

Detrended Normal Q-Q Plot of 18. If yes, please rate the effectiveness of the training in enhancing your understanding:
Dev from Normal
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
1
2
3
4
5
Observed Value

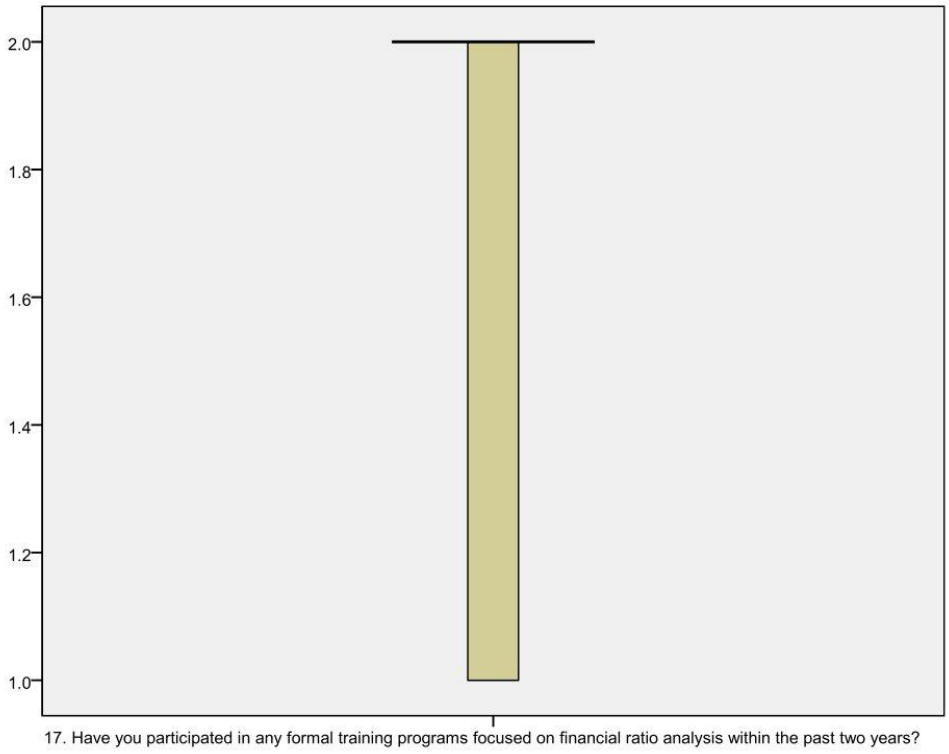
18. If yes, please rate the effectiveness of the training in enhancing y Stem-and-Leaf Plot

```
 Frequency    Stem   Leaf

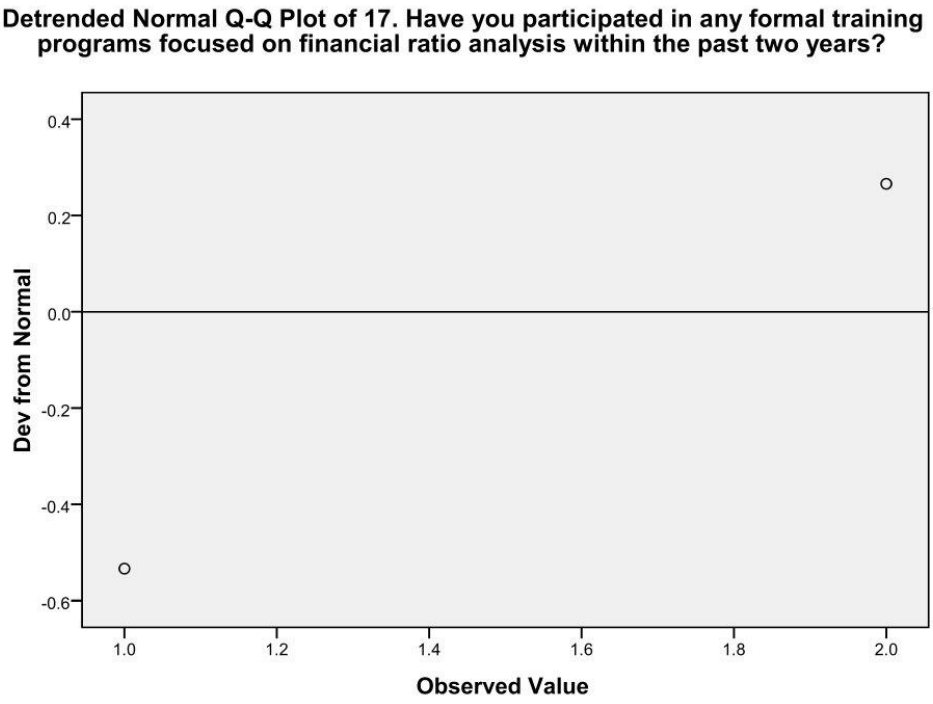
     3.00 Extremes    (=<1.0)
    30.00        3 .  000000000000000000000000000000
      .00        3 .
    33.00        4 .  000000000000000000000000000000000
      .00        4 .
     9.00        5 .  000000000

 Stem width:         1
 Each leaf:       1 case(s)
```





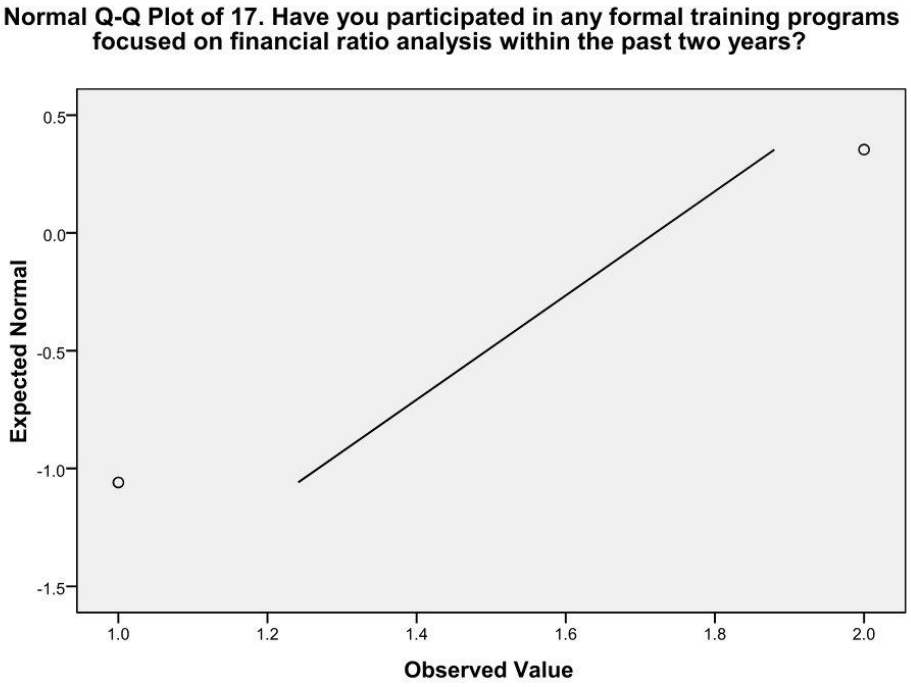
18. If yes, please rate the effectiveness of the training in enhancing your understanding:

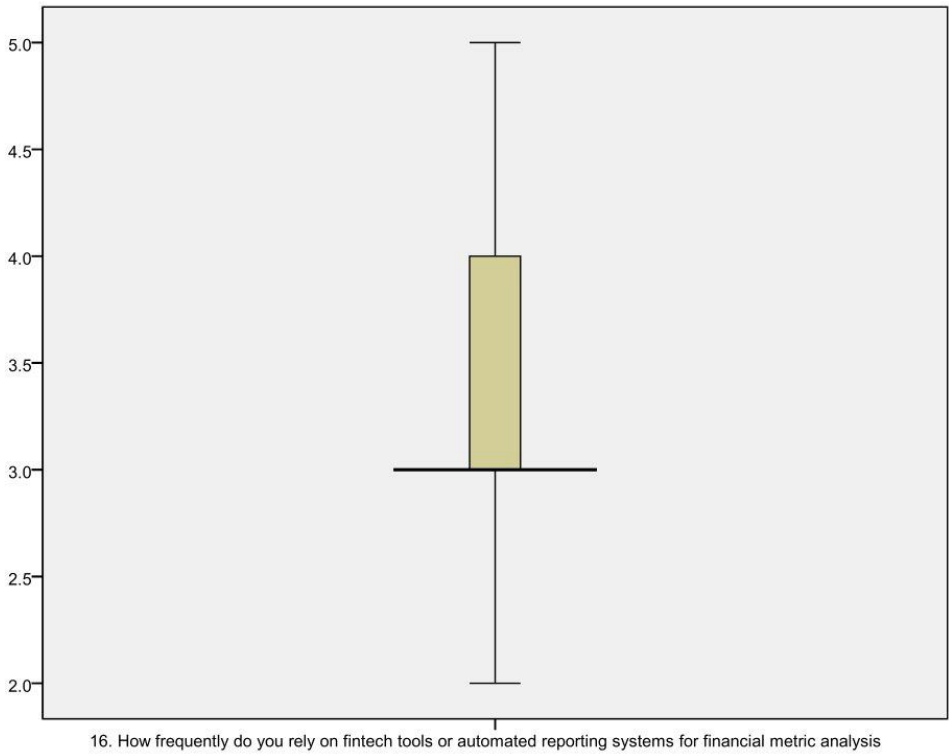

Detrended Normal Q-Q Plot of 17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
-0.6
1.0
1.2
1.4
1.6
1.8
2.0
Observed Value

17. Have you participated in any formal training programs focused on fin Stem-and-Leaf Plot

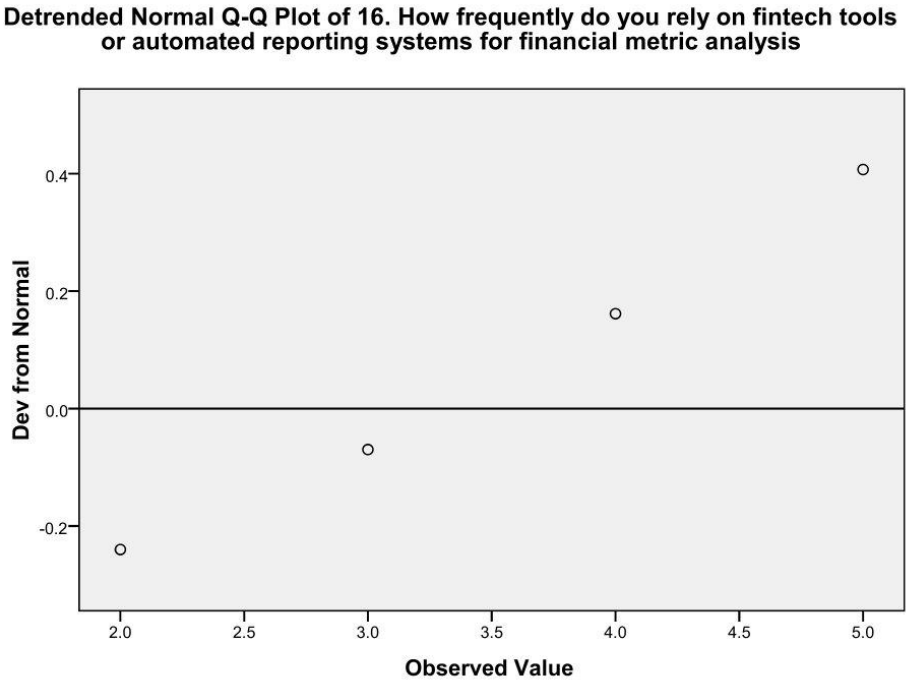
Frequency	Stem	Leaf
21.00	1 .	000000000000000000000
.00	1 .	
.00	1 .	
.00	1 .	
.00	1 .	
54.00	2 .	000000000000000000000000000000000000000000000000000000000000

Stem width: 1
Each leaf: 1 case(s)





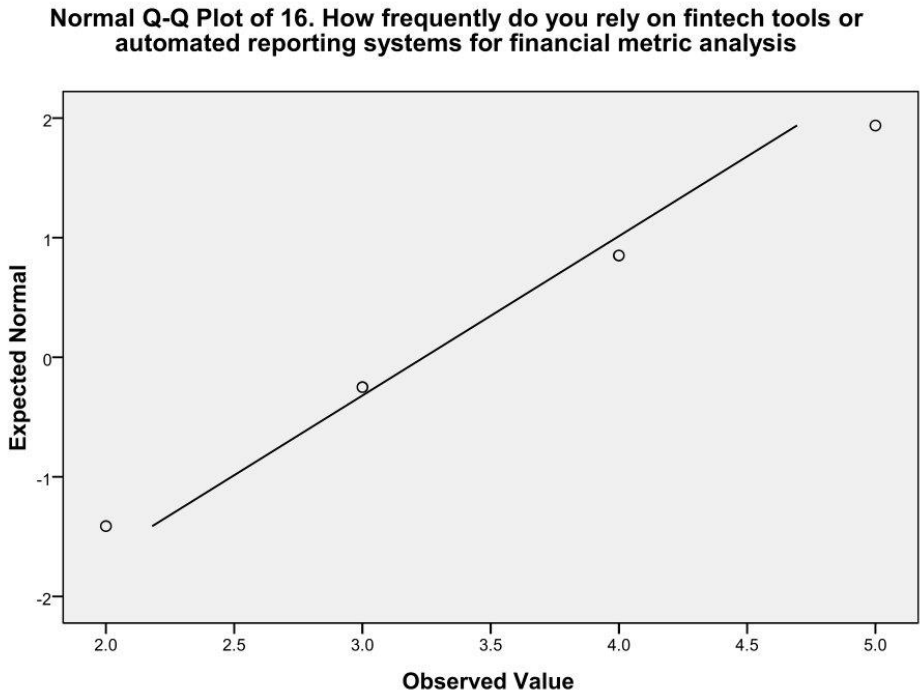
17. Have you participated in any formal training programs focused on financial ratio analysis within the past two years?

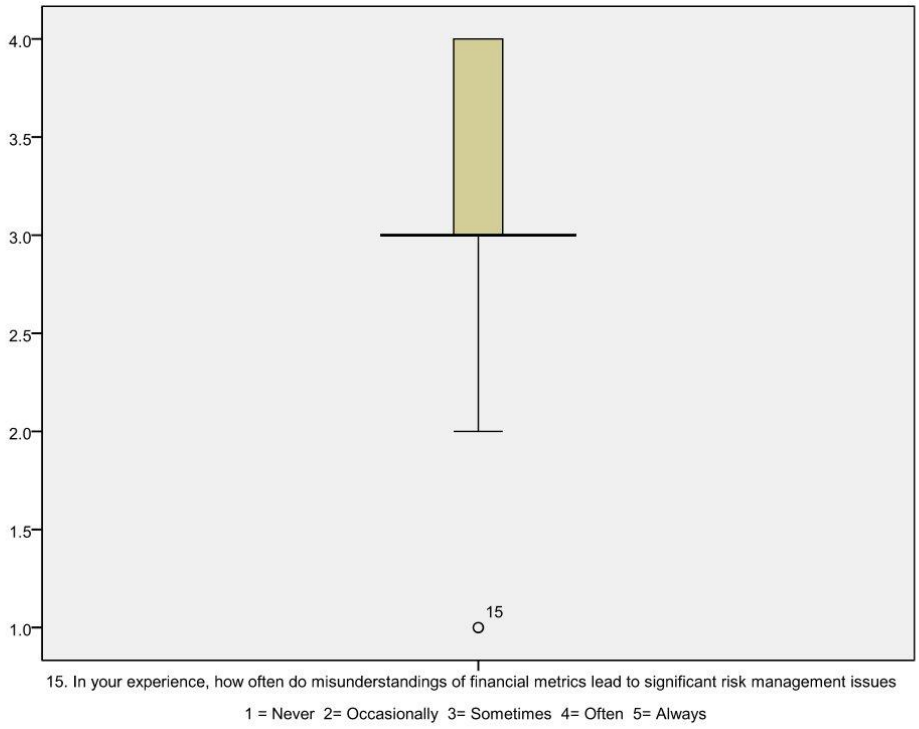

Detrended Normal Q-Q Plot of 16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis
Dev from Normal
0.4
0.2
0.0
-0.2
2.0
2.5
3.0
3.5
4.0
4.5
5.0
Observed Value

16. How frequently do you rely on fintech tools or automated reporting s Stem-and-Leaf Plot

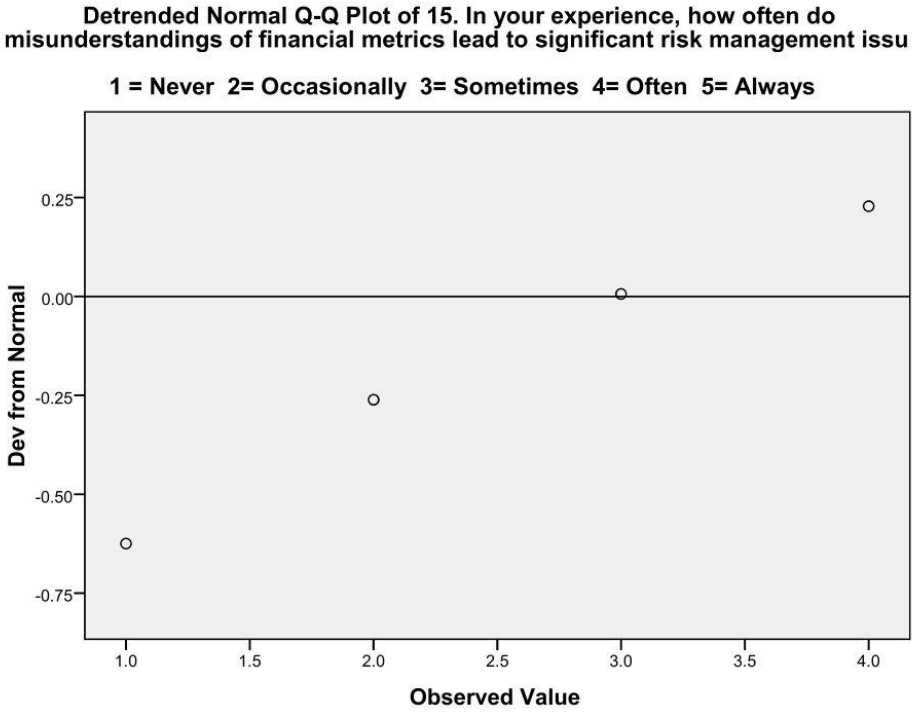
Frequency	Stem	Leaf
11.00	2 .	00000000000
.00	2 .	
38.00	3 .	00000000000000000000000000000000000000
.00	3 .	
23.00	4 .	00000000000000000000000
.00	4 .	
3.00	5 .	000

Stem width: 1
Each leaf: 1 case(s)

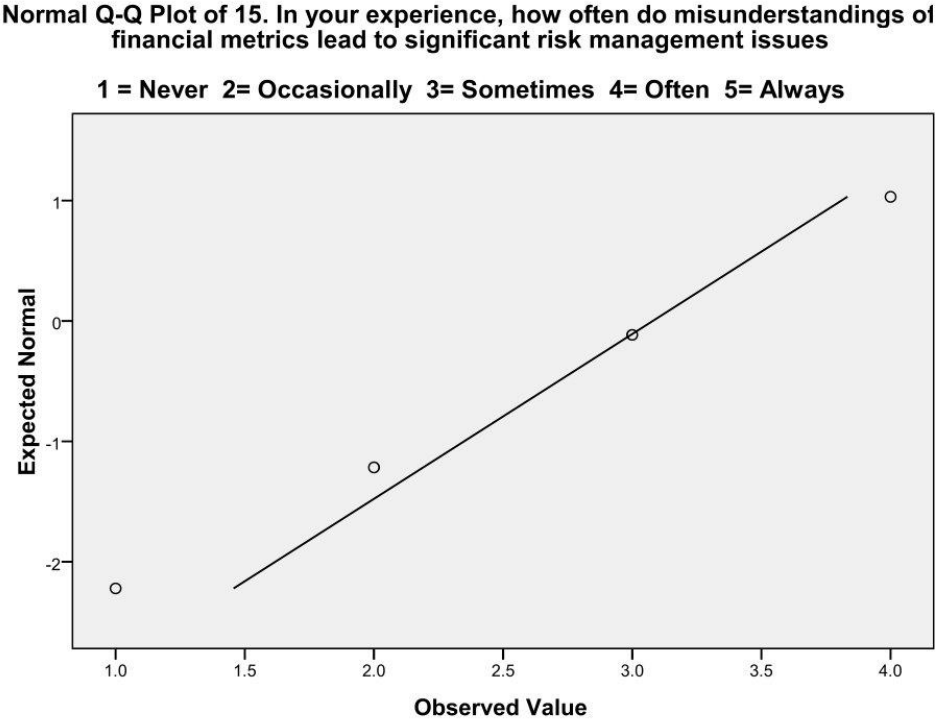


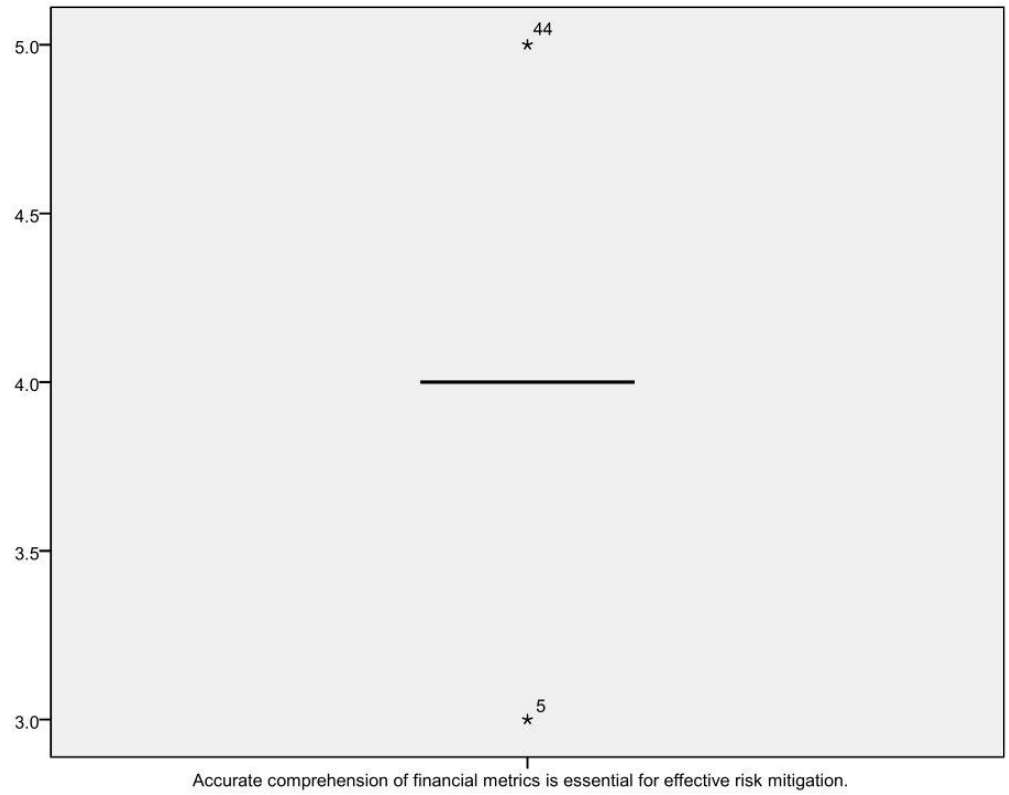


16. How frequently do you rely on fintech tools or automated reporting systems for financial metric analysis


Detrended Normal Q-Q Plot of 15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issu
1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always
Dev from Normal
0.25
0.00
-0.25
-0.50
-0.75
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Observed Value

Each leaf: 1 case(s)





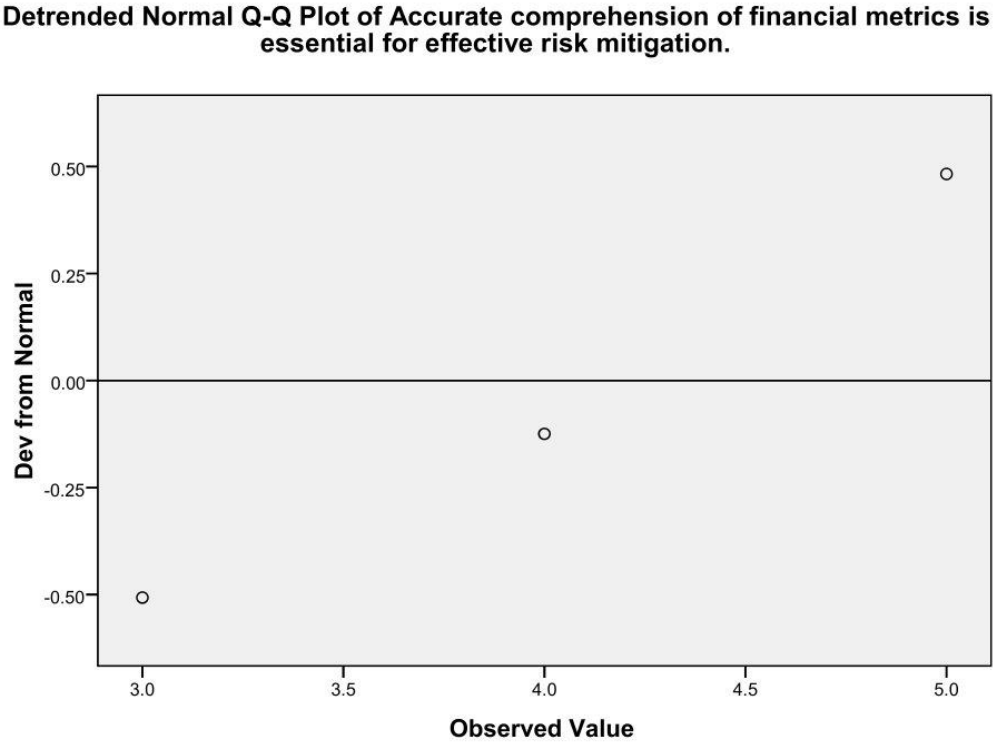
15. In your experience, how often do misunderstandings of financial metrics lead to significant risk management issues

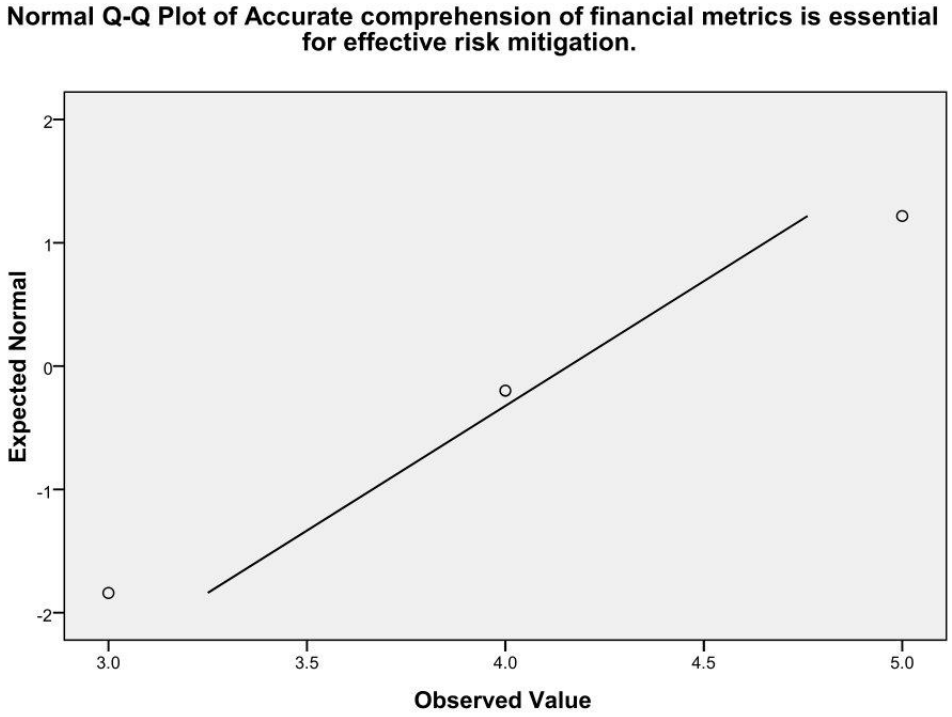
1 = Never 2= Occasionally 3= Sometimes 4= Often 5= Always

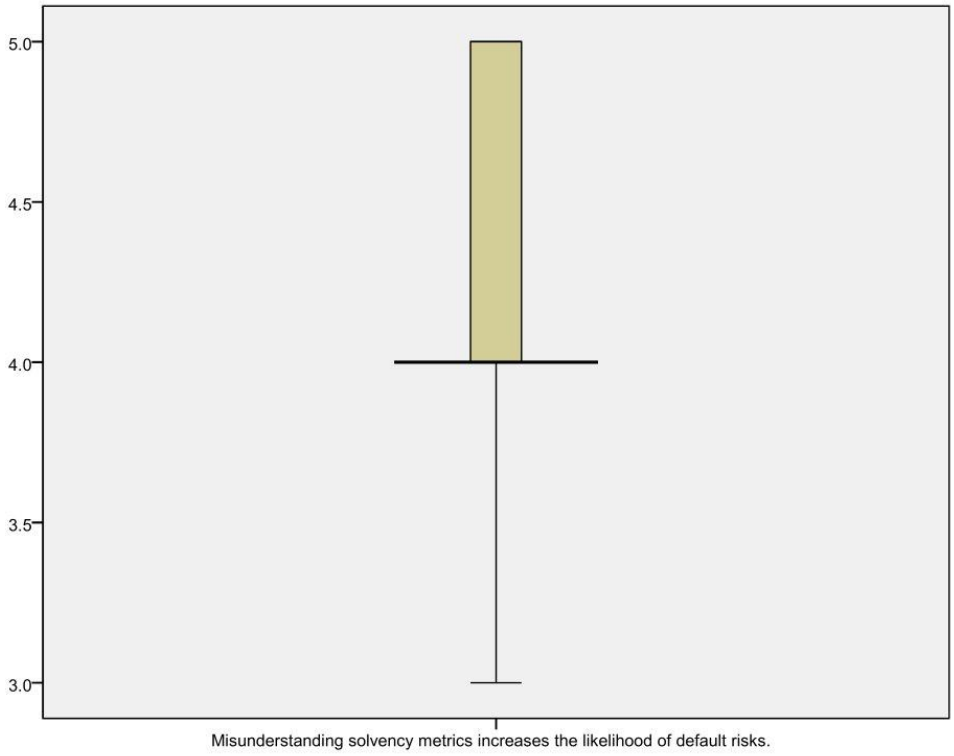
15. In your experience, how often do misunderstandings of financial metr Stem-and-Leaf Plot

Frequency	Stem	Leaf
1.00	Extremes	(=<1.0)
14.00	2 .	00000000000000
.00	2 .	
38.00	3 .	00000000000000000000000000000000000000
.00	3 .	
22.00	4 .	0000000000000000000

Stem width: 1


Detrended Normal Q-Q Plot of Accurate comprehension of financial metrics is essential for effective risk mitigation.
Dev from Normal
0.50
0.25
0.00
-0.25
-0.50
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Accurate comprehension of financial metrics is essential for effective risk mitigation.
Expected Normal
2
1
0
-1
-2
3.0
3.5
4.0
4.5
5.0
Observed Value



Accurate comprehension of financial metrics is essential for effective risk mitigation.

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Accurate comprehension of financial metrics is essential for effective r Stem-and-Leaf Plot

 Frequency    Stem   Leaf

     4.00 Extremes    (=<3)
      .00        0 .
    55.00        0 .  4444444444444444444444444444444444444444444444444444444
    16.00 Extremes    (>=5)

 Stem width:        10
 Each leaf:       1 case(s)
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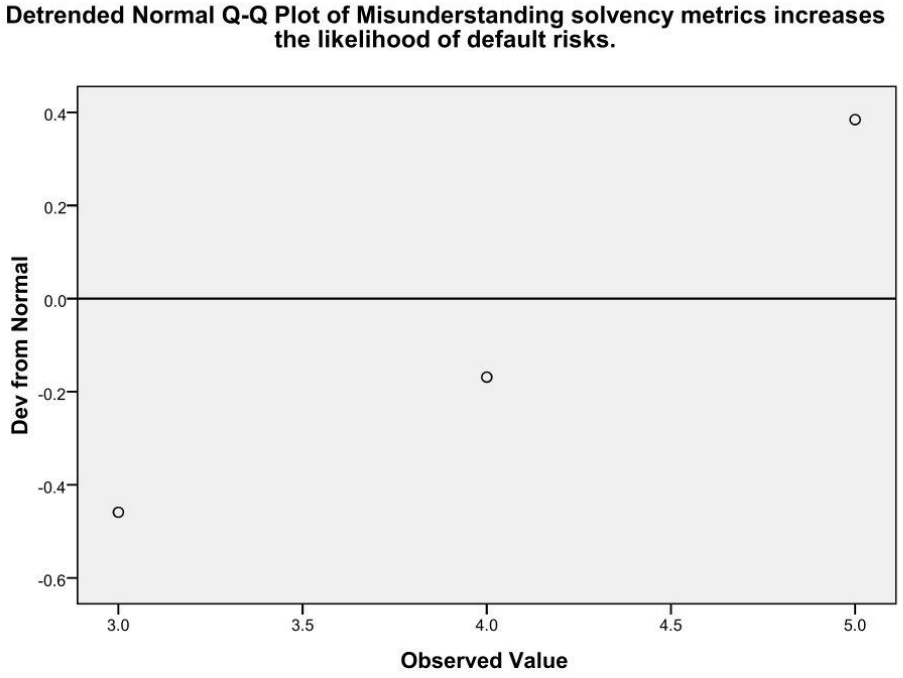
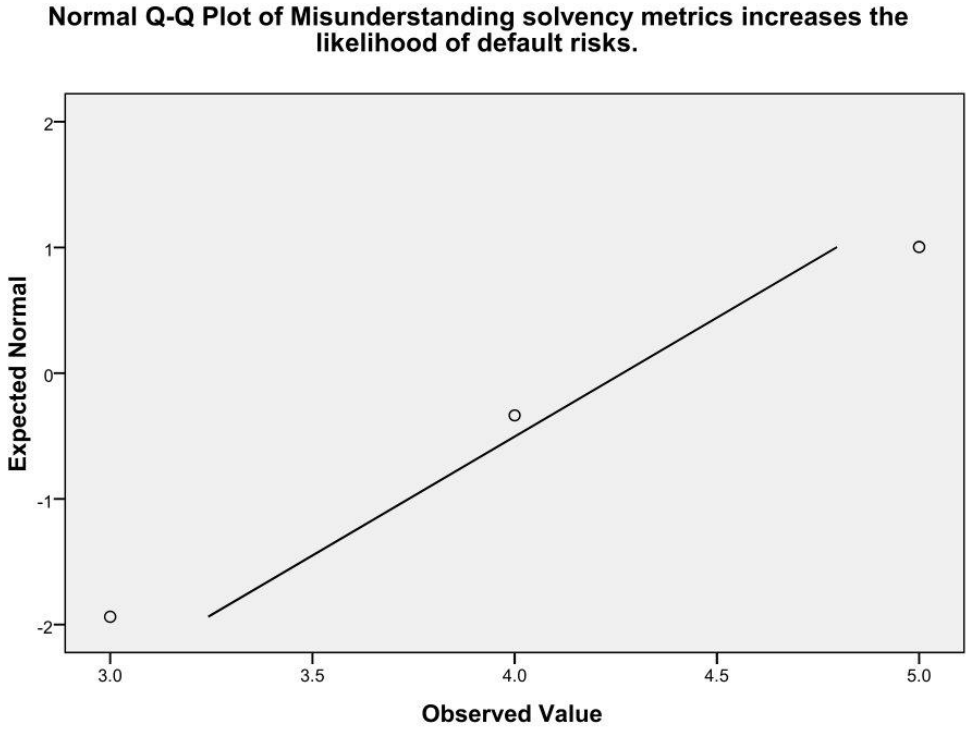
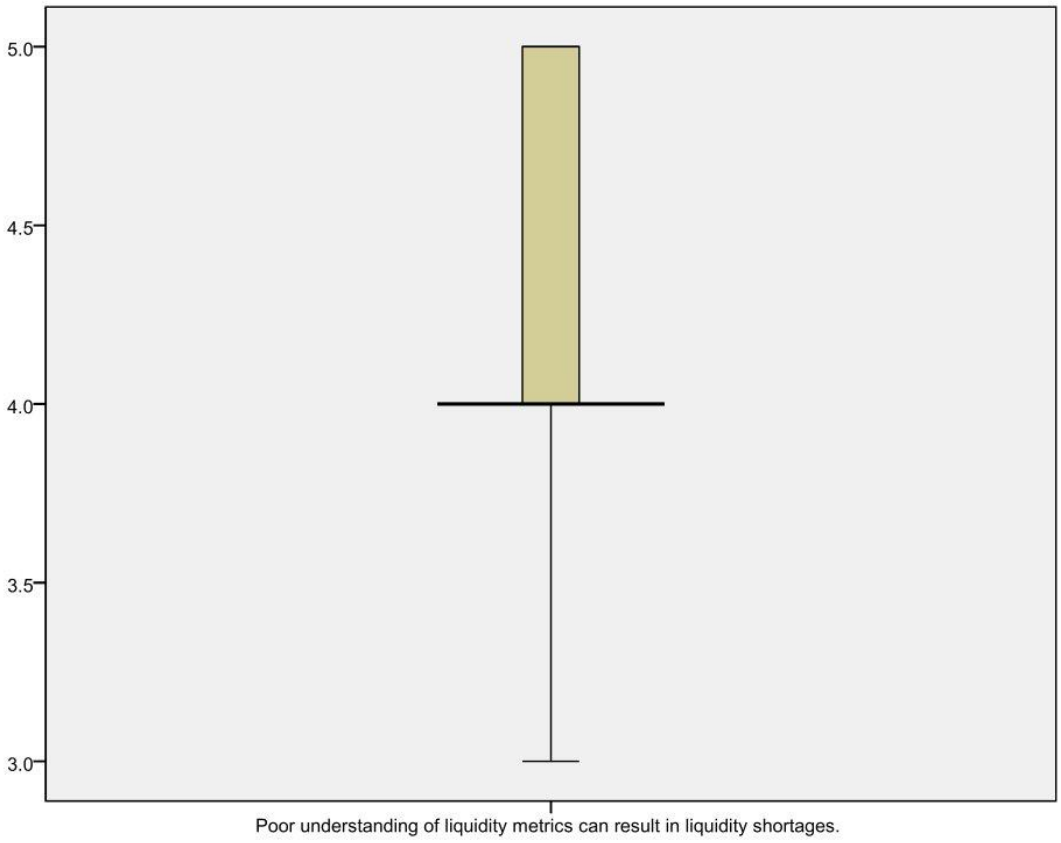

Detrended Normal Q-Q Plot of Misunderstanding solvency metrics increases the likelihood of default risks.
Dev from Normal
0.4
0.2
0.0
-0.2
-0.4
-0.6
3.0
3.5
4.0
4.5
5.0
Observed Value


Normal Q-Q Plot of Misunderstanding solvency metrics increases the likelihood of default risks.
Expected Normal
2
1
0
-1
-2
3.0
3.5
4.0
4.5
5.0
Observed Value



Misunderstanding solvency metrics increases the likelihood of default risks.

```
Misunderstanding solvency metrics increases the likelihood of default ri Stem-and-Leaf Plot

 Frequency    Stem   Leaf

     3.00        3 .  000
      .00        3 .
    49.00        4 .  0000000000000000000000000000000000000000000000000
      .00        4 .
    23.00        5 .  00000000000000000000

 Stem width:         1
 Each leaf:       1 case(s)
```