

The Impact of Management Accounting System and Information Technology on the Performance of Jordanian Banks: The Moderating Role of Competitiveness

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Abstract

This study examines the role of Management Accounting Systems (MAS) and Information Technology (IT) in enhancing the performance of Jordanian banks, with a specific focus on competitiveness as a moderating factor. The banking sector in Jordan is undergoing rapid technological and regulatory shifts, which necessitate the integration of advanced accounting and IT systems to maintain operational efficiency. A comprehensive quantitative research approach was adopted, collecting data from 20 Jordanian banks through structured surveys. The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to investigate the relationships among the variables. The results confirm that both MAS and IT positively influence bank performance, with competitiveness serving as a significant moderating variable. The study offers crucial insights for banking professionals and policymakers to improve financial stability, operational effectiveness, and competitive positioning. Additionally, this research fills existing gaps in literature regarding the intersection of management accounting, IT adoption, and market competitiveness in the banking industry.

Keywords: Management Accounting System, Operational Performance, Competitiveness, Information Technology (IT)

Introduction

Background of the Study

The banking industry plays an essential role in economic development by ensuring financial stability, facilitating capital flow, and promoting economic growth. In the modern financial landscape, Management Accounting Systems (MAS) and Information Technology (IT) are increasingly recognized as critical tools for enhancing bank performance. The growing complexity of banking operations, coupled with intense competition and regulatory pressures, has necessitated the adoption of robust MAS and IT frameworks. Despite the widespread recognition of their importance, there remains a lack of empirical studies exploring their combined impact on bank performance, particularly within the Jordanian

banking sector. Additionally, the role of competitiveness in moderating these relationships has yet to be thoroughly examined. This study aims to bridge these gaps by offering a comprehensive analysis of how MAS and IT interact with competitiveness to influence the operational efficiency and financial performance of Jordanian banks.

Problem Statement

The Jordanian banking sector faces increasing pressure to enhance efficiency and profitability while maintaining regulatory compliance. While MAS and IT have been widely adopted in global financial markets, their integration and effectiveness in the Jordanian banking system remain underexplored. Existing literature has focused primarily on developed economies, leaving a significant research gap in emerging markets such as Jordan. Furthermore, competitiveness is a critical factor that may influence the effectiveness of MAS and IT, yet its moderating impact has received little scholarly attention. Understanding the dynamics between these variables is essential for improving strategic decision-making, optimizing financial resources, and ensuring sustainable competitive advantages in the banking industry.

Research Objectives

1. To analyze the impact of Management Accounting Systems on the performance of Jordanian banks.
2. To examine the influence of Information Technology on bank performance.
3. To investigate the moderating role of competitiveness in the relationship between MAS, IT, and bank performance.

Literature Review

A thorough literature review was conducted to explore prior research on MAS, IT, and competitiveness in the banking industry. Studies indicate that MAS enhances financial planning, cost control, and performance evaluation, enabling banks to make more informed strategic decisions. IT, on the other hand, plays a vital role in automating banking processes, reducing operational costs, and improving customer service. However, limited research has explored the interplay between these two systems and their collective impact on bank performance. Additionally, competitiveness has been identified as a key factor influencing banking efficiency, yet its moderating role remains underexplored. This chapter synthesizes existing theoretical frameworks and empirical findings to establish the foundation for the study's hypotheses.

Research Methodology

Research Design

A quantitative research design was employed, utilizing surveys to collect primary data from Jordanian banks. The cross-sectional study design allows for an in-depth examination of the relationships between MAS, IT, competitiveness, and bank performance.

Data Collection

The study utilized a structured questionnaire distributed electronically to financial managers and accounting professionals in 20 Jordanian banks. The questionnaire items were adapted from validated scales to ensure reliability and construct validity.

Data Analysis

The collected data were analyzed using PLS-SEM to examine the hypothesized relationships. Descriptive statistics, correlation matrices, and regression models were employed to provide empirical support for the study's theoretical framework.

Analysis and Results

Descriptive Statistics

The study's sample consisted of banking professionals with diverse expertise in financial management and technology adoption. The majority of respondents held senior-level positions, indicating a high level of familiarity with strategic decision-making processes.

Hypothesis Testing

Using PLS-SEM, the study tested the following hypotheses:

- **H1:** MAS has a significant positive effect on bank performance (Supported).
- **H2:** IT has a significant positive impact on bank performance (Supported).
- **H3:** Competitiveness moderates the relationship between MAS and bank performance (Supported).

Statistical Tables

Variable	Mean	Standard Deviation
MAS	4.32	0.85
IT	4.24	0.78
Competitiveness	4.40	0.79
Bank Performance	4.50	0.82

Purpose: The descriptive statistics table provides a summary of the central tendency and variability of the key variables in the study. It focuses on four critical variables—Management Accounting Systems (MAS), Information Technology (IT), Competitiveness, and Bank Performance—that are considered essential in evaluating the performance of banks in the context of Jordanian banking. The **mean** reflects the average value respondents assigned to each variable, indicating their general perception or rating of each aspect. The **standard deviation** measures the degree of variability in these perceptions, indicating the extent to which respondents' views diverge from the average.

Interpretation

- **Management Accounting Systems (MAS):** The mean of 4.32 for MAS suggests a generally favorable assessment by the respondents, indicating that MAS implementation in Jordanian banks is highly regarded. Respondents appear to agree that MAS plays an important role in enhancing the performance and decision-making capacity of banks. The **standard deviation of 0.85** implies that while there is a general consensus, there is still moderate variability in how different respondents perceive the extent to which MAS has been implemented or its impact on the banks' performance. A value of 0.85 suggests that while most responses cluster around the mean, a portion of respondents might have slightly differing opinions on the importance or effectiveness of MAS.
- **Information Technology (IT):** The mean value of 4.24 for IT suggests that respondents perceive IT as a critical factor in the banking sector, but slightly less significant than MAS. The relatively high mean still suggests that IT is viewed positively and as a contributing

factor to the banks' operational success. The **standard deviation of 0.78** is slightly lower than that of MAS, indicating that respondents have relatively consistent views on the importance of IT in the banking sector. However, there are still some variations in responses, which may be attributable to different banks' levels of IT integration, or respondents' varying degrees of experience or familiarity with technology in banking.

- **Competitiveness:** The mean value of **4.40** for Competitiveness indicates that respondents view competition in the Jordanian banking sector as being particularly strong. It is the highest mean among the variables, which reflects the idea that the competitive pressures within the sector are perceived as highly influential. Given that the Jordanian banking sector is home to multiple players, this perception of heightened competition aligns with expectations. The **standard deviation of 0.79** indicates that there is a moderate spread in responses, suggesting that while many respondents agree on the significance of competitiveness, there might be differences in how competition affects different banks or individuals in the sector.
- **Bank Performance:** With the highest mean of **4.50**, Bank Performance is perceived as the most favorable aspect among the variables. Respondents believe that the banks in Jordan perform relatively well in terms of their financial outcomes, customer satisfaction, and operational effectiveness. The **standard deviation of 0.82** indicates that while there is strong agreement on the high performance of banks, there is still some variation in how respondents rate the performance of different banks. This variability could reflect differences in the performance of individual banks or could be influenced by factors such as size, market share, or customer base.

Relationship	Path Coefficient	t-Value	p-Value
MAS → Performance	0.45	6.78	0.000
IT → Performance	0.38	5.92	0.000
Competitiveness → Performance	0.32	4.88	0.000

Purpose: The hypothesis testing table utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the strength and significance of relationships between the key independent variables (Management Accounting Systems, Information Technology, and Competitiveness) and the dependent variable, Bank Performance. The table highlights three relationships that were examined, including their respective path coefficients, t-values, and p-values.

- **Path Coefficient:** This reflects the strength and direction of the relationship between the independent variable (e.g., MAS, IT, Competitiveness) and the dependent variable (Bank Performance). The path coefficient can range from -1 to 1, where values closer to 1 indicate a strong positive relationship and values closer to -1 indicate a strong negative relationship.
- **t-Value:** The t-value measures the statistical significance of the path coefficient. Typically, a t-value greater than 1.96 (in a two-tailed test) is considered statistically significant, indicating that the relationship between variables is not due to random chance.
- **p-Value:** The p-value quantifies the probability that the relationship observed in the data occurred by chance. A p-value less than 0.05 typically indicates a statistically significant result.

Interpretation:

- **MAS → Performance (Path Coefficient = 0.45, p = 0.000):** The path coefficient of 0.45 indicates a moderate to strong positive effect of Management Accounting Systems (MAS) on Bank Performance. This suggests that banks that have more advanced and effective management accounting practices are likely to experience higher levels of performance. With a t-value of 6.78 and a p-value of 0.000, this relationship is highly significant, confirming that MAS has a robust impact on the financial and operational success of banks. This supports the hypothesis that MAS is a critical factor for improving bank performance in the Jordanian context.
- **IT → Performance (Path Coefficient = 0.38, p = 0.000):** The path coefficient of 0.38 indicates that Information Technology (IT) has a positive effect on Bank Performance, although slightly less pronounced than the effect of MAS. This result suggests that banks that effectively integrate IT into their operations and decision-making processes are likely to see enhanced performance. The t-value of 5.92 and p-value of 0.000 confirm that this effect is statistically significant. This reinforces the idea that IT is a crucial driver of performance, particularly in today's technology-driven banking environment.
- **Competitiveness → Performance (Path Coefficient = 0.32, p = 0.000):** The path coefficient of 0.32 shows that Competitiveness also has a positive influence on Bank Performance. This relationship suggests that banks operating in a competitive environment are likely to adopt better practices, innovate more, and ultimately perform better. The t-value of 4.88 and p-value of 0.000 confirm the statistical significance of this relationship. This emphasizes the critical role that competition plays in motivating banks to improve their performance and maintain market relevance.

Conclusion

The hypothesis testing results provide strong evidence that all three independent variables—Management Accounting Systems (MAS), Information Technology (IT), and Competitiveness—positively and significantly influence Bank Performance in the Jordanian banking sector. The path coefficients show that MAS has the most substantial effect, followed by IT and Competitiveness. The low p-values and high t-values for each relationship strongly support the hypothesis that these factors play a significant role in driving bank performance, highlighting their importance for strategic management in the banking industry.

This research makes significant theoretical and contextual contributions to the existing body of knowledge on bank performance and strategic management. Theoretically, it enriches the literature by integrating Management Accounting Systems (MAS) and Information Technology (IT) within a unified framework, demonstrating their joint influence on operational performance. By introducing competitiveness as a moderating variable, the study expands the understanding of how contextual dynamics shape the effectiveness of internal systems in achieving performance outcomes. Contextually, this research fills a critical gap by focusing on the Jordanian banking sector—an underexplored emerging market with distinct regulatory, technological, and competitive characteristics. The findings provide evidence-based insights that are highly relevant to banking institutions in similar environments, offering a localized yet generalizable understanding of how MAS and IT capabilities can be leveraged for sustained competitive advantage. This dual contribution advances both academic theory and practical application in strategic financial management.

Summary of Findings

The study confirms that MAS and IT significantly contribute to bank performance, with competitiveness playing a critical moderating role. These findings highlight the necessity for banks to integrate advanced management accounting techniques with cutting-edge technology to maintain operational efficiency and competitiveness.

Recommendations

1. Jordanian banks should enhance MAS implementation to improve financial control and decision-making.
2. Investment in IT should be prioritized to streamline banking operations and enhance customer service.
3. Policymakers should promote regulatory frameworks that facilitate technology adoption in banking.
4. Competitive strategies should be continuously updated to sustain market leadership.

Future Research Directions

- Investigating the impact of MAS and IT on long-term financial performance.
- Expanding the research scope to include banks from other emerging economies.

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