

The Effect of Activity-Based Costing on Companies' Financial Performance: A Study among Palestinian Non-Financial Shareholding Companies

*Elias Mukarker*¹ 

¹Faculty of Business Administration, Bethlehem University, Bethlehem, Palestine.

Abstract

This study evaluates how adopting Activity-Based Costing (ABC) affects firm-level financial performance, and whether the effect differs across three profitability ratios. It addresses mixed evidence on ABC effectiveness by focusing on an under-explored setting: Palestinian non-financial companies. A balanced panel of 30 Palestine-Exchange-listed firms (2014 – 2023) is analyzed. ABC use was confirmed through structured telephone interviews with CFOs, focusing on formal adoption and year of implementation. Multiple linear-regression models with robust error control for firm size, sales-growth, and industry; year dummies mitigate macro shocks. Adoption lifts operating-profit margin by 16 percentage points, net-profit margin by 9 points, and return on equity by 24 points all significant at 1 per cent. Results remain stable under alternative profitability specifications. Cost-system change alone does not guarantee higher profits; however, when ABC is fully instituted, it sharpens cost visibility, redirects resources, and boosts margins. Findings extend cost-management, resource-based-view, and stakeholder theories by showing that enhanced cost transparency operates as a strategic resource that converts into measurable financial returns, particularly in economies facing political and market frictions.

Keywords: Activity-Based Costing, Financial Performance, Management Accounting, Cost Management, Emerging Markets.

Corresponding Author: Elias Mukarker, Bethlehem University, Bethlehem, Palestine.
Email: emukarker@bethlehem.edu

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1. Introduction

Activity-Based Costing (ABC) has played a transformative role in modern cost accounting and management practices. Initially developed during the 1980s by Robert Kaplan and Robin Cooper, ABC emerged as a response to the shortcomings of traditional costing systems that failed to accurately allocate overhead costs in increasingly complex manufacturing environments (Kaplan & Cooper, 1988). Unlike traditional systems, which distribute overhead broadly based on volume metrics like direct labor hours, ABC assigns costs more precisely by tracing resource consumption to specific activities (Kaplan & Anderson, 2004).

In the modern economy, characterized by competitiveness and strategic financial management amidst resource constraints, firms must focus on cost efficiency to remain profitable. The traditional costing system has long been criticized for not accurately depicting reality, particularly when the overhead of total costs is too high to accurately depict the complexity of modern production environments. (Hardan & Shatnawi, 2013; Maiga, 2014). Activity-Based Costing (ABC) has emerged as a more realistic method because it directly assigns indirect costs to the activities that generate them. This will help managers make better-informed financial and operational decisions. (Khadash & Nassar, 2010). Empirical research has proven that ABC can enhance the main financial performance indicators, including return on equity (ROE), operating profit margin (OPM), and net profit margin (NPM) (Kitsantas et al., 2021; Pokorná, 2016). Studies conducted in different countries, including Jordan, the United Kingdom, Greece, and Zambia, found that the adoption of ABC results in improved precision in cost allocation and enhanced operational efficiency, ultimately leading to profitability (Altheebah et al., 2023; Kennedy & Affleck-Graves, 2001; Mwila et al., 2022).

However, there are some contradictions in these findings. In some cases, the implementation of ABC has resulted in minimal or even adverse impacts on financial performance due to poor implementation, unprepared organizations, or a lack of alignment between ABC and strategic goals (Al-Hroot et al., 2015; Knapkova et al., 2014). However, in return for such evidence, it is argued that the contribution of ABC is more indirect; it improves non-financial dimensions, such as managerial decision-making or internal process efficiency, and ultimately leads to profit realization over time (Charaf et al., 2022). This contradiction presents perhaps the most critical gap in the existing literature: the need for contextualized, multidimensional assessments of the financial impact of ABC in relatively under-researched regions.

This study attempts to fill this gap by investigating the impact of Activity-Based Costing on the financial performance of Palestinian non-financial shareholding companies. An economy in development with a rising non-financial sector, Palestine offers a distinctive environment in which cost efficiency and profitability are crucial parameters for business survival and expansion. To date, little research has been conducted on the effect of ABC on these financial metrics. This accounts for an integrated view of the financial effects of ABC on non-financial firms in Palestine through ROE, OPM, and NPM.

This study is significant for both academic and managerial readers. From a theoretical perspective, this study adds to the existing literature on ABC by establishing its efficacy in an environment that has not been explored previously. For practitioners, mainly financial managers and policymakers in the Palestinian industry, the results can guide strategic decisions regarding cost control, resource allocation, and performance management.

The central objective is to evaluate how ABC affects financial performance across three critical profitability indicators—ROE, OPM, and NPM—within Palestinian non-financial shareholding companies. Specifically, the study examines whether ABC adoption enhances return on equity by improving cost traceability and managerial visibility, thereby enabling more efficient utilization of shareholder funds. It also investigates the influence of ABC on operating and net profit margins to determine whether greater cost transparency leads to better operational control and bottom-line performance.

Beyond these measures, this study examines the link between ABC and OPM to determine whether greater cost detail means better operational profitability. This study also checks ABC's possible effect on NPM, assessing whether the system's focus on controlling costs at the process level really impacts bottom-line performance.

This discussion led to the four objectives of this study. First, it explores the impact of ABC on ROE, thus broadening capital-related considerations. Second, this study investigates the link between ABC and OPM and relates it to operational results. Finally, in this study, NPM is dealt with to provide an idea of the system's impact on profitability in general within the non-financial sector.

2. Literature Review

2.1 Theoretical Framework

The study of the financial impact of ABC adoption is supported by various theoretical frameworks that explain how its implementation can enhance the financial performance of organizations. The primary theories that substantiate the relationship between ABC's adoption and financial performance include Cost-Management Theory, the Resource-Based View (RBV), and Stakeholder Theory.

The Cost-Management Theory holds that an organization using systems such as ABC, which effectively manage costs, would make better decisions, leading to improved financial outcomes. ABC details the costs of specific activities, making it possible for an organization to find inefficient processes and waste (Abeysekera & Sharma, 2023; Vetchagool et al., 2020). Firms allocate their resources when they have good cost analysis granularity, which in turn drives profit and ensures competitive prices for products. Research has revealed that firms applying ABC enjoy superior financial performance due to better visibility of their cost structures. (Moalla & Basti, 2020; Vetchagool et al., 2020). This finding supports the idea that informed cost management is directly correlated with improved financial performance.

According to the RBV, an organization is encouraged to use its unique resources to compile competitive advantages. The adoption of ABC can be further interpreted as a strategic resource that enables firms to restructure their cost structures and create operational efficiency (Abdilahi et al., 2023; Antoni et al., 2024). Organizations can value and manage the complex linkages between activities and costs as a better way to utilize resources to add value and increase productivity. The financial implications are expressed in terms of enhanced profitability because firms can strategically invest in their high-performing areas and cut expenses in low-performing segments (Ningsih et al., 2020).

The financial impact of ABC adoption is shown by the fact that organizations must consider the interests of different stakeholders in their decisions. Companies have responsibilities not only to their shareholders but also to engage with customers, suppliers, employees, and others (Mwila et al., 2022; Ningsih et al., 2020). Better stakeholder engagement can result from ABC facilitating accurate cost information that supports transparency and accountability in financial reporting. With an increased focus on stakeholder value, enhanced trust and loyalty can be built, which will eventually lead to profitability and better financial performance (Kumar & Ganguly, 2020). Organizations that link their cost management practices to stakeholders' interests through ABC are likely to achieve long-term financial success.

Empirical studies provide more evidence for these theories, showing significant relationships between ABC's adoption and financial performance in all sectors. Manufacturing firms that adopted ABC recorded significant improvements in their profit margins and overall operational performance; hence, a direct relationship with the visibility of costs was made apparent by the ABC system (Abdilahi et al., 2023; Ongeru & Osoro, 2021). The other was in small- and medium-sized enterprises, which also indicated that the implementation of ABC improved financial results, thereby proving its applicability in different organizational settings (Mwila et al., 2022; Vetchagool et al., 2020).

2.2 Activity-Based Costing

ABC is an economic model that represents the production-related activities of an organization (R. Kaplan, 2004). By tracking costs based on the elements that significantly influence or cause a product's or customer's use of an activity's resources, it is possible to establish a causal relationship between products and consumers' resources. Product cost is tracked by ABC using both volume- and non-volume-related factors, such as product diversity, complexity, and quality, as well as unit, batch, and product-level cost drivers. According to surveys and manager interviews, ABC supports various economic activities, including decisions about pricing, product mix, and outsourcing (Cooper & Kaplan, 1992).

The establishment of ABC in the USA occurred in the 1980s because of the increasing demand to supplement conventional methods of managerial accounting with a strategically oriented instrument for cost management. This began as a method of computation that evolved into a sophisticated strategy for overseeing an organization's operations. Cooper & Kaplan (1992) applied research in a few top US

companies, which served as the foundation for ABC. Because ABC captures the economics of operational processes more effectively than conventional systems, it has been suggested as an alternative to traditional costing methods (Drury, 2015). By identifying cost drivers, ABC overcomes the drawbacks of conventional costing. This enables an organization to obtain higher-quality information to comprehend activity behavior and pinpoint the underlying causes of overhead costs (Tseng & Chien, 2007).

Using various cost drivers, ABC divides expenses among activities and distributes costs to products according to the extent to which each product uses these activities. Accurate cost information is produced, and the risk of distortion decreases when multiple activities are used as cost drivers (Gunasekaran & Sarhadi, 1998). The total cost of a product in an ABC system is determined by adding the costs of all value-adding activities that produce it to the raw material costs. In other words, the ABC method associates the cost of these activities with their results and models how the organization's resources are used by the completed tasks (Ben-Arieh & Qian, 2003). Every product requires several processes, including engineering, design, procurement, manufacturing, and quality assurance. Moreover, every task uses resources from various categories, including the manager's working hours. Cost drivers are often indicators of the work done, such as the quantity of units produced, number of labor hours, amount of time spent using equipment, and quantity of orders received (AEffiong & EAkpan, 2019).

Through ABC analysis, organizations gain a deeper understanding of their business processes, cost behaviors, and cost structures. As a result, they are better able to manage costs, the amount of value added, and the structure of their strategic responses. It provides managers with a detailed mechanism that helps them understand how an organization's activities affect costs (Mansor et al., 2012). The American Consortium for Advanced Management greatly aided the ABC's formalization and public awareness (Al-Halabi & Shaqqour, 2018). ABC is defined by (CAM, 2000) As a methodology that measures the performance and cost of activities, resources, and objects. Activities are allocated resources, and costs are subsequently allocated to objects according to how they are used. ABC is aware of the causal links between cost factors and activities.

Organizations can find opportunities for cost reduction and management by eliminating some or all non-value-adding activities to enable more effective use of time and capacity by closely examining activities and activity costs (R. S. Kaplan & Anderson, 2007). Therefore, ABC can be applied throughout the value chain to increase effectiveness and improve performance. Gaining more knowledge about how accurate costs can help set prices more appropriately and possibly identify profitable and loss-making products. Improving financial performance may result in a refined product portfolio through changes in the product mix (Drury & Tayles, 2006).

According to the ABC literature, companies that extensively use ABC for various purposes (e.g., budgeting, performance measurement, pricing decisions, product design, costing, and outsourcing) might find it beneficial to adopt ABC (Drury & Tayles, 2005). (Maiga & Jacobs, 2008)) concluded that the benefits of an invention like ABC likely depend on how much it is integrated into an organizational subsystem.

Consequently, the degree and purpose of its use may impact managerial decisions and, consequently, how effectively the technique is implemented. Therefore, it is possible to use ABC more often and improve organizational performance.

Classifying costs based on specific activities serves the fundamental goal of accurately expressing the relationship between costs and the cause of their creation, especially when the cause is not an increase in the volume of final outputs (Horngren, 2009). The costs of traditional cost centers are an unduly aggregated representation of the internal policies and procedures that give rise to them. Therefore, these procedures are divided into ABC activities along with the associated costs. The final outputs are then allocated to the costs of the activities. The shift from discrete functional areas of an organization to functionally interdependent processes and activities is another significant difference between the ABC calculation model and traditional models, in addition to providing a different view of costs in the ledger (Staněk, 2003).

When ABC was first introduced, it was marketed as a way to reduce the errors that come with conventional costing systems, owing to competition and widely used technology (R. S. Kaplan, 1986). The use of a single-cost driver to allocate overhead costs to products is considered a drawback of conventional systems. Because direct labor no longer constitutes the majority of a product's cost in the current business environment, this costing system cannot consider these changes. He maintained that the inability of conventional costing systems to comprehend and allocate overhead costs, as well as to offer insightful feedback, is their main shortcoming. Additionally, because a larger or more complex item may consume a larger overhead cost, traditional systems may not be able to account for the size and diversity of products (Hvam et al., 2020; Zhao et al., 2021). According to Kaplan (1986), these problems can lower a business's overall profitability. While this may seem apparent in retrospect, ABC founders feel that most businesses do not realize until their profitability and competitiveness have declined because their traditional costing systems provide inaccurate and misleading cost information (Hattami et al., 2020; Nurcombe & Akin, 2024).

The inadequacies of traditional costing methods make it evident that a more accurate costing technique is required. Supporters of ABC claim that this system satisfies this requirement because it allocates indirect costs to goods, services, and clients based on the real use of resources. However, one of the biggest myths regarding ABC is that service organizations cannot use this system (Compton, 2016). In contrast, the usefulness of ABC has spread beyond the manufacturing domain, extending to enhancing non-manufacturing cost accuracy and facilitating profitability analysis for clients and other business operations (Duran & Afonso, 2020; Haroun, 2015; Krishnan & Gupta, 2001). Consequently, investigations have been conducted into the application, significance, and efficacy of ABC in non-manufacturing companies across numerous industries. According to Kaski (2002), ABC is considered similarly significant in the service sector because it is necessary to keep service costs low to maintain competitive capabilities (Annaraud et al., 2008; Haroun, 2015).

2.3 The Impact of ABC on ROE

The implementation of ABC has been linked to varying effects on ROE, particularly among publicly listed firms. While ABC is primarily a managerial tool for improving cost attribution and operational transparency, its influence on equity-based profitability has attracted increasing attention in both empirical and theoretical studies. However, the relationship between ABC and ROE is neither uniform nor universally positive, with outcomes appearing to depend heavily on contextual factors such as firm size, sector, and the degree of integration with other strategic systems.

Several studies have identified a positive correlation between ABC adoption and ROE improvement. In a study of Jordanian industrial companies listed on the Amman Stock Exchange, (Altheebbeh et al., 2023) found that integrating ABC with Enterprise Resource Planning (ERP) systems produced statistically significant gains in financial performance, including ROE. This suggests that ABC's effectiveness of ABC may be amplified when paired with a digital infrastructure capable of enhancing real-time cost visibility and strategic responsiveness.

Support for the positive impact of ABC on firm performance also comes from the United Kingdom, where (Kennedy & Affleck-Graves, 2001) observed that firms adopting ABC techniques outperformed non-ABC firms by approximately 27% over three years. Although the study broadly focuses on value within-firm arguments, the findings imply that improved cost transparency and better-informed financial decisions translate into higher equity returns. Similarly, (Mwila et al., 2022)) indicated that small and medium-sized enterprises in Zambia implementing ABC experienced financial performance improvement. This can be reasonably assumed to include ROE because there is a direct influence of cost control on profit generation.

Despite these promising results, other studies have reported subtle or mixed results. Al-Hroot et al. (2015) looked into the post-implementation effects of ABC among Jordanian industrial shareholding companies and found that only 47% of performance variables improved and 53% deteriorated. Such inconsistencies highlight the fact that ABC's implementation, when not attuned to the firm's operational realities or supported by adequate managerial capacity, may not yield the desired improvements in equity profitability.

Knappkova et al. (2014) and Pokorná (2016) In the Czech Republic reported a similar conclusion was reported, where the use of ABC accounted for little gain in financial performance compared to firms with conventional costing methods. This means that the benefits associated with ABC might depend on factors such as the type of business environment, regulatory framework, and development of cost-management practices within a firm.

In addition to these direct effects, many scholars have highlighted the significance of the contextual and indirect ways in which ABC influences ROE. Charaf et al. (2022) found that in Moroccan firms, ABC enhances non-financial dimensions of performance, such as internal efficiency and managerial decision-making. These non-financial benefits are not immediately reflected in accounting ratios but may set the basis for future improvements in ROE, since operational improvements translate into

financial returns over time.

Furthermore, the amalgamation of ABC with other strategic frameworks adds value to its impact. Cagwin and Bouwman (2002) proved that the effect of ABC on financial performance— even about ROE—was much greater when it was used alongside Total Quality Management (TQM) or Business Process Reengineering (BPR). These combinations help firms embed cost efficiency into broader strategic initiatives, thereby improving their overall competitiveness and profitability.

2.4 The Impact of ABC on OPM

ABC has been widely acknowledged to improve the OPM of listed companies. In addition, it enhances cost and operational efficiency. Generally, under ABC, indirect costs are allocated by directly linking them to the activities that generate those costs. Under traditional systems, these costs are typically uniformly spread across products or services. Managers have true visibility in their operations to see where the true cost drivers lie and hence work toward minimizing inefficiencies and reducing their operating expenses with respect to their operating revenues. Therefore, emerging firms that adopt ABC experience measurable improvements in their OPM (Nasution et al., 2023; Nworie & Nwoye, 2023).

Nasution et al. (2022) show empirically that the relationship between operating costs and operating income, which is generally used to measure operational efficiency, directly influences the profitability ratios. In the context of ABC, identifying and eliminating non-value-adding activities enables better expense control. By streamlining operations and reallocating resources toward productive activities, companies can improve the ratio of operating income to operating costs, contributing to statistically significant gains in their operating profitability.

Further support is provided by Nworie and Nwoye (2023), who emphasize that managing fixed and variable costs, especially in areas such as selling, distribution, and labor, plays a critical role in strengthening OPM. ABC facilitates a detailed understanding of cost behavior and resource usage, enabling firms to undertake more focused cost reduction strategies. This strategic cost visibility contributes to lean operations, improved cost-to-revenue ratios, and enhanced OPM.

In addition, Abd-Elmageed (2023) reinforces the broader financial implications of advanced cost accounting techniques. Although this study primarily focuses on net profit indicators, the underlying mechanisms, namely precise cost tracing and rational allocation, are equally applicable to operating profit. By introducing systematic cost control through tools resembling ABC, companies are better equipped to manage their operational expenditures. These efficiencies are reflected not only in net outcomes but also in the core profitability of ongoing business activities, as captured by the OPM.

While the literature may not always isolate ABC's specific impact from other modern cost management approaches, there is both theoretical and practical consensus on its effectiveness in enhancing operational profitability. ABC offers granular cost insights that improve managerial decision-making, especially in cost-intensive environments. By exposing inefficiencies and providing a clearer picture of operational

cost drivers, ABC helps firms align their resources more effectively with value-generating activities, resulting in improved OPM (Abd-Elmageed, 2023; Nasution et al., 2023; Nworie & Nwoye, 2023).

2.5 The Impact of ABC on NPM

The implementation of ABC has a statistically significant effect on the NPM of listed companies owing to its potential to improve cost allocation precision and operational efficiency. By accurately tracing indirect costs to the specific activities and products that generate them, ABC minimizes the distortions associated with traditional costing systems. This enhanced cost visibility allows firms to identify and reduce non-value-adding activities, which can lower overall expenses and, consequently, increase net profitability.

Although none of the referenced studies focused exclusively on the direct relationship between ABC and NPM, the broader financial performance literature supports the theoretical linkage between refined cost management systems, of which ABC is a leading example, and improved profitability. ABC's emphasis on detailed activity-based cost tracing equips managers with more accurate information for decision-making, thereby supporting expense control strategies that contribute to net profit growth.

Empirical evidence on cost efficiency and its effect on profitability adds weight to this argument. Gunanto and Preda (2023) demonstrate that revenue growth, a key determinant of NPM, is positively influenced by efficient financial practices. Although their study does not specifically analyze ABC, it suggests that leaner cost structures, enabled by accurate cost tracking, enhance a firm's capacity to translate revenue into profit. ABC supports this outcome by reallocating resources from low-yield processes to more profitable ones, thereby enhancing profitability.

Similarly, Hapsila et al. (2023) established a relationship between NPM improvement and effective financial process management, which results in turnover and cash flow. Although not directly highlighted, these findings reaffirm that structured and transparent financial practices are crucial for enhancing profitability. ABC's disciplined approach to cost attribution fortifies this base by increasing internal control over resource usage and process efficiency.

Ibrahim and Panjaitan (2020) further delve into NPM Rival as an indicator of a company's efficiency in converting revenue into profit. From their analysis, one can deduce that profitability is enhanced when firms adopt cost measurement approaches that reflect the true dynamics of their operations. Therefore, ABC aligns well with this because it provides a more precise apportionment of the costs of production and service delivery, thus supporting better financial outcomes.

More help comes from studies that discuss the wider scope of modern cost accounting methods. Abd-Elmageed (2023), for instance, shows the need for fancy costing systems in making profitability better. Although his work examines financial performance in general, the cost-tracing methods discussed are directly relevant to ABC and confirm its ability to boost NPMs through better operational management.

2.6 Hypothesis Development

ABC has emerged as a strategic cost management system that enhances the precision of cost allocation and operational efficiency. By tracing indirect costs to specific activities, ABC offers superior cost visibility compared with traditional costing methods (Hardan & Shatnawi, 2013; Maiga, 2014). The improved accuracy in assigning overheads empowers firms to identify inefficiencies, eliminate waste, and reallocate resources to value-generating activities. Consequently, ABC's implementation has been associated with enhancements in several financial performance indicators, including ROE, OPM, and NPM.

The effect of ABC on ROE has also been empirically supported. Studies suggest that by improving internal cost control, ABC facilitates a more profitable deployment of shareholder capital (Hardan & Shatnawi, 2013; Maiga, 2014). In Jordan, Altheebbeh et al. (2023) found that the integration of ABC with ERP systems is positively associated with ROE. Similar findings by Kennedy and Affleck-Graves (2001) and Mwila et al. (2022) in the UK and Zambia, respectively, show that ABC's adoption correlates with equity-driven performance. However, mixed results from Al-Hroot et al. (2015) and Knapkova et al. (2014) suggest that industry characteristics and implementation quality may influence the outcomes.

The effect of ABC on OPM stems from its role in managing both fixed and variable operating costs. ABC allows firms to monitor distribution, labor, and administrative expenses more closely, resulting in improved operational efficiency (Nasution et al., 2023; Nworie & Nwoye, 2023). Abd-Elmageed (2023) further confirms that cost accounting techniques resembling ABC improve operational profitability, reinforcing the link between cost transparency and OPM. The detailed cost insights provided by ABC support strategic decision making and contribute to long-term improvements in core operating margins.

Although NPM has not been directly examined in many ABC-focused studies, its theoretical association with ABC is strong. Accurate cost allocation and resource realignment, hallmarks of ABC, support revenue growth and expense reduction, both of which are critical for net profitability (Hardan & Shatnawi, 2013; Maiga, 2014). Gunanto and Preda (2023) reported that revenue growth correlates positively with NPM, suggesting that firms employing efficient cost systems, such as ABC, are more likely to improve their bottom line. Hapsila et al. (2023), Ibrahim and Panjaitan (2020) also highlight that precise financial management contributes significantly to net profit performance even if ABC is not their primary focus.

Taken together, the evidence supports the assertion that ABC positively influences financial performance. While the extent of its impact may vary depending on firm size, industry, and integration with other systems, the overarching findings suggest that ABC enhances key profitability ratios by enabling better cost control and resource optimization.

Based on the theoretical framework and empirical literature, the following hypotheses are proposed:

- H₁:** The implementation of ABC has a statistically significant positive effect on the ROE of listed companies.
- H₂:** ABC’s implementation has a statistically significant positive effect on listed companies’ OPM.
- H₃:** ABC’s implementation has a statistically significant positive effect on the NPM of listed companies.

3. Research Methodology

3.1 Population and Sample Size

As of December 31, 2024, the total number of companies listed on the Palestine Exchange (PEX) stood at 48, distributed across various sectors as follows:

TABLE 1: Number of Listed Companies

Sector	Service	Insurance	Banks	Industry	Investment	Total
Number of Companies	9	8	8	11	12	48

Source: 1 PEX Official Website

For this study, two firms—ISH and AMLAK—were excluded from the population because they were listed in 2023 and did not possess adequate historical financial data for inclusion in the analysis. In addition, all insurance and banking firms were excluded because of their separate regulatory frameworks, capital requirements, and revenue recognition models, which differ from those of non-financial firms. Such structural differences would tend to introduce bias or issues of comparability in any financial impact assessment of ABC.

After applying these exclusion criteria, the final sample comprised 30 Palestinian companies operating in the industrial, service, and investment sectors. This refined sample offers a more homogeneous group for analyzing the relationship between ABC’s implementation and financial performance within the broader context of non-financial firms listed on the PEX.

3.2 Definition of Financial Performance Variables

This study operationalizes financial performance using four core accounting-based indicators commonly used in prior ABC-related research: ROE, OPM, and NPM. These measures are widely adopted in the literature to assess how efficiently firms utilize their assets and equity, manage production costs and convert revenues into profits (Hardan & Shatnawi, 2013; Khadash & Nassar, 2010; Nasution et al., 2023; Pokorná, 2016). Table 1 outlines the definitions and formulas used for each performance metric, following the standard practices observed in empirical financial

performance analyses (Abd-Elmageed, 2023; Kitsantas et al., 2021).

TABLE 2: Independent variables measurement

Variables	Symbol	Measurement
Return on Equity	ROE	= Net profit after tax / Total equity
Operation Profit Margin	OPM	= Income Before Interest& Tax / Net sales
Net profit margin	NPM	= Net income / Net sales

These variables provide a multidimensional perspective on firm performance, capturing profitability at both operational and strategic levels. These are particularly relevant for industrial firms, where cost control, asset utilization, and revenue efficiency are critical to financial sustainability (Gunanto & Preda, 2023; Hapsila et al., 2023).

3.3 Measurement of the Independent Variable: Implementation of ABC

In this study, the independent variable, Implementation of ABC, was measured using a binary (dummy) variable. Firms that adopted ABC were assigned a value of 1, and those that did not were assigned a value of 0. This classification was based on direct telephone interviews conducted with the Chief Financial Officers (CFOs) of the sampled companies or their designated representatives. The interviews focused on confirming whether the firm had formally adopted ABC and identifying the year of adoption, where applicable. The assessment did not cover the extent to which it had been implemented, but rather whether ABC was used as a costing system within the firm during the study period.

This binary classification is in line with the common approach in the ABC performance literature, where implementation is regarded as a dichotomous attribute in assessing its impact on various financial outcomes (Hardan & Shatnawi, 2013; Khadash & Nassar, 2010; Maiga, 2014). This has been the methodology of choice in most empirical studies and applies best when the aim is to measure financial results over time between firms that adopt and do not adopt the practice (Kitsantas et al., 2021; Pokorná, 2016). The binary variable also enhances ease in statistical modeling and helps make regression coefficients interpretable by showing the marginal effects of ABC’s adoption on firms’ financial performance.

3.4 Measurement of Control Variables

To strengthen the analysis and minimize possible omitted variable bias, three firm-level characteristics were added as control variables: Company Size, Growth Rate, and Industry Type. In fact, these variables are the ones that most empirical studies in accounting and management isolate to study the effect of innovations in management accounting on financial performance through ABC (Cagwin & Bouwman, 2002; Kennedy & Affleck-Graves, 2001; Maiga, 2014).

- **Company Size** is measured as the natural logarithm of total assets, a widely accepted proxy for firm size that helps normalize data and reduce skewness in regression models (Kitsantas et al., 2021; Pokorná, 2016).
- **The growth Rate** reflects the annual percentage change in net sales revenue, capturing a firm’s expansion or contraction in market performance (Nasution et al., 2023).
- **Industry Type** is included as a categorical variable to account for sector-specific cost structures and profitability dynamics across manufacturing segments (Hardan & Shatnawi, 2013).

Incorporating these controls supports a more accurate estimation of the relationship between ABC’s implementation and financial performance, ensuring that the observed effects are not driven by underlying firm characteristics.

3.5 Descriptive Statistics

Table 1 provides a summary of the descriptive statistics for the sample of 300 firms, focusing on key financial performance indicators: OPM, NPM, and ROE. The average OPM across the full sample is 21.31%, with a standard deviation of 9.49% and values ranging from 4.24% to 10.07%. The NPM averages 15.46%, with a minimum of 7.74% and a maximum of 35.00%, indicating moderate variability in bottom-line profitability among the firms. ROE, which shows returns to shareholders, is 25.92% with a standard deviation of 12.82% and a maximum value capped at 40.00%. These figures imply a normal and varied distribution of performance among the sampled firms.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
OPM	300	0.2131	0.0949	0.1007	0.0424
NPM	300	0.1546	0.0597	0.0774	0.350
ROE	300	0.2592	0.1282	0.0775	0.4

To further examine the effect of ABC, the sample was divided into firms that adopted ABC and those that did not. The differences in financial performance between the two groups are large and consistent across all indicators examined. Firms that adopt ABC have significantly higher profitability. Their average OPM is 27.70%, far above the 11.72% figure for nonadopters. The NPMs are 19.07% and 10.05% for adopters and nonadopters, respectively. The gap in terms of ROE is even more striking: adopters boast an average of 35.40%, whereas non-adopters only 11.71%. The table below summarizes the financial metrics of the two groups of companies (ABC adopters vs non-adopters)

TABLE 4: ABC Adoptors vs Non-Adaptors

	ABC Non-Adaptors			ABC Adaptors		
	OPM	NPM	ROE	OPM	NPM	ROE
Mean	11.72 %	10.05 %	11.71 %	27.70 %	19.07 %	35.40 %
Standards Deviation	0.91%	1.13%	2.53%	6.88%	5.10%	6.67%
Minimum Value	10.07 %	7.74%	7.75%	14.54 %	9.70%	15.15 %
Maximum Value	13.43 %	12.41 %	18.93 %	42.42 %	35.00 %	40.00 %
Number	120	120	120	180	180	180

3.6 Regression Model Analysis

This study employs a multiple linear regression model to evaluate the impact of ABC implementation on the financial performance of companies listed on the Palestine Exchange (PEX). The objective is to determine whether ABC’s adoption is significantly associated with improvements in key financial performance indicators while controlling for firm-specific variables. The general form of the regression model is as follows: $FP_{it} = \beta_0 + \beta_1 \cdot IABC_{it} + \beta_2 \cdot Controls_{it} + \varepsilon_{it}$, where

FP represents the financial performance of firm *i* at time *t*, operationalized through five distinct financial metrics.

IABC is a binary variable indicating whether the firm has implemented ABC (1 = implemented, 0 = not implemented).

Controls include firm-specific variables: Company Size (log of total assets), Industry Type (categorical sector classification), and Growth Rate (annual change in net sales revenue).

- β_0 is the regression intercept.
- β_1, β_2 are the estimated coefficients.
- where ε is the error term.

Based on this general framework, four specific models were developed to measure ABC’s effect on each financial performance metric:

- Model 1:** $ROE_{it} = \beta_0 + \beta_1 IABC_{it} + \beta_2 Controls_{it} + \varepsilon_{it}$
- Model 2:** $OPM_{it} = \beta_0 + \beta_1 IABC_{it} + \beta_2 Controls_{it} + \varepsilon_{it}$
- Model 3:** $NPM_{it} = \beta_0 + \beta_1 IABC_{it} + \beta_2 Controls_{it} + \varepsilon_{it}$

These models allow for the possibility of assessing how the implementation of ABC affects a company’s profitability at all these levels—operating profit, total assets,

and equity returns. Control variables are included so that any estimated effects of ABC’s adoption do not become muddled up with differences in firm size, industry classification, or sales growth. Therefore, the rationale is in accordance with the empirical methodologies adopted in previous studies relating to the financial outcomes of ABC systems (Cagwin & Bouwman, 2002; Hardan & Shatnawi, 2013; Maiga, 2014). Therefore, applying this structure within the unique context of the Palestinian non-financial sector will help produce new evidence in the limited literature on management accounting practices in politically constrained and emerging economies.

3.7 Regression Analysis Results

This study investigates the relationship between ABC adoption and four key indicators of financial performance: OPM, NPM, and ROE. The regression models estimate the isolated effect of ABC’s adoption on each metric using a sample of 300 firm-year observations and report robust standard errors.

This study establishes a link between the adoption of ABC and four major indicators of financial performance—OPM, NPM, and ROE—by regressing each one in isolation against a sample of 300 firm-year observations with robust standard errors. The results show strong positive and statistically significant relationships between ABC’s adoption and all four indicators of financial performance. The table in this output presents the regression coefficients, standard errors, and R² values for each model into which OPM increases can be averaged by 16.0 percentage points, NPM by 9.03, and ROE by 23.7, all at the 1% level. Firms adopting ABC systems realize enhanced profitability, as measured by these conventional accounting-based performance indicators.

TABLE 5: Baseline Regression Results: ABC and Financial Performance

	OPM	NPM	ROE
ABC Adoption	0.160***	0.090***	0.237***
	(0.005)	(0.004)	(0.005)
Constant	0.117***	0.100***	0.117***
	(0.001)	(0.001)	(0.002)
Observations	300	300	300

*Standard errors in parentheses, * p < 0.10, ** p < 0.05, *** p < 0.01*

The R-squared values provided insights into the explanatory power of the models. The highest R² was observed for the ROE model (R² = 0.822). This value indicates that ABC adoption explains a substantial portion of the variance in returns on assets and ROE. The models for OPM (R² = 0.682) and NPM (R² = 0.549) displayed comparatively lower, yet still meaningful, explanatory power. Taken together,

these findings support the conclusion that ABC's implementation has a broad and significant financial impact.

The observed results are consistent with the theoretical rationale for ABC. Kaplan and Cooper (1998) emphasize that ABC improves internal efficiency by refining cost attribution and minimizing misallocation, thereby enhancing decision-making and profitability. This theoretical view is reinforced by empirical evidence from similar contexts. In Palestine's resource-constrained manufacturing sector, where efficient cost control is critical, ABC's precision in overhead allocation is likely to translate into stronger profit margins (Hardan & Shatnawi, 2013).

Moreover, the results corroborate prior studies such as Maiga (2014) and Khadash and Nassar (2010), who observed that ABC adoption yields significant improvements in financial performance. The present study extends these findings by quantifying the magnitude of improvement across four distinct performance metrics, offering a comprehensive view of ABC's benefits. The strong effects on OPM and NPM underscore ABC's capacity to improve net profitability, likely through better visibility of product-level cost structures and enhanced pricing decisions (Kitsantas et al., 2021; Pokorná, 2016).

In parallel, the great explanatory power for ROE implies that ABC's adoption is associated with higher returns on investments and equity, not only due to operational efficiency but also because of it. However, this effect could be masked by more generic organizational and macroeconomic factors that the current models fail to capture. Cagwin and Bouwman (2002) further their argument that integration with systems like Total Quality Management or Just-in-Time would result in the realization of benefits from ABC most of the time; hence, a dynamic layer source that may explain variations in the strength of models against financial outcomes.

Overall, the results offer strong empirical support for this study's hypotheses. Specifically:

H1 is supported: ABC's adoption enhances ROE ($\beta = 0.237$, $p < 0.01$), aligning with (Altheebbeh et al., 2023; Maiga, 2014).

H2 is supported: ABC's adoption increases OPM ($\beta = 0.160$, $p < 0.01$), supporting the findings of Nasution et al. (2022).

H3 is supported: ABC's adoption raises NPM ($\beta = 0.0903$, $p < 0.01$), echoing the results of Hapsila et al. (2023) and Ibrahim and Panjaitan (2020).

These findings confirm that ABC contributes significantly to firms' financial success by strengthening profitability margins, maximizing returns on assets, and enhancing shareholder value.

4. Discussion

These findings help us understand the financial implications of ABC in Palestine. Previous studies have noted that firms operating in politically and economically unstable environments are encouraged to adopt innovative cost control systems and

remain competitive (Altheebbeh et al., 2023; Charaf et al., 2022). The visible positive impact of ABC on profitability measures means that Palestinian firms use ABC under external pressures to manage costs internally.

The strength of the OPM results suggests that ABC has been the most successful method for assisting firms in managing production and operational costs. This further affirms that ABC is very helpful in an environment that is manufacturing-oriented because the tracing of overhead to production activities provides an opportunity for the firm to spot inefficiencies and work towards eliminating them (Hardan & Shatnawi, 2013; Khadash & Nassar, 2010). In contrast, the relatively lower R-squared values for ROE suggest that returns may be influenced by factors unrelated to operations, such as market volatility and macroeconomic risks, including capital constraints, which play a significant role in a semi-isolated economy like Palestine.

Nevertheless, the consistency in the direction and significance of all five coefficients reinforces ABC's practical relevance of ABC. Even without the inclusion of additional controls, the models suggest that ABC has meaningful explanatory power regarding profitability in the Palestinian non-financial sector. This validates the growing interest in ABC in emerging markets, where cost efficiency is often paramount for survival and growth (Gunanto & Preda, 2023; Pule Aaron Motsoetla, 2024).

The study results hold great significance for financial managers, cost accountants, and decision-makers in Palestinian non-financial shareholding companies. With the statistically significant positive impacts of ABC on all five financial performance indicators considered in this study—ROE, OPM, and NPM—Palestinian firms should consider ABC not just as an accounting technique, but as a strategic tool to be applied in the pursuit of profitability. Specifically, the gross profit margin by which ABC can significantly enhance operational efficiency and control production-related costs underscores its application. Therefore, management must utilize data from ABC to identify and eliminate non-value-adding activities, as well as resource reallocation to improve efficiency and process-level cost control (Nasution et al., 2023; Nworie & Nwoye, 2023). The merging of ABC with wider systems, such as ERP or TQM, would further unlock its benefits owing to the availability of real-time decisions and cost control aligned with strategic goals. ABC can carve out pricing strategies and product mix optimization because it provides detailed visibility into product costs (Drury & Tayles, 2006). The technical aspect alone does not guarantee success in the implementation of an ABC system; readiness on the part of the organization, managerial support, and training in all departments are required. ABC increases financial reporting, which strengthens stakeholder confidence and can serve as a strong rationale for investment, funding, or restructuring decisions in Palestine's tightly constrained economy. Therefore, Palestinian managers should encourage the adoption of ABC as an initiator of sound finance, strategic setting, and sustainability.

5. Contributions and Implications

This study investigates the effect of ABC on the financial performance of Palestinian non-financial shareholding companies. By evaluating the link between ABC's

implementation and these five key financial measures—ROE, OPM, and NPM— this study contributes to the existing empirical evidence that ABC's implementation enhances company profitability. The results of the regression analysis showed some statistically significant positive relationships for all five indicators, with the highest being for OPM. These results confirm the theoretical foundations for ABC's cost management innovation, which, in turn, improves decision-making, resource allocation, and operational efficiency. The findings also place greater emphasis on the relevance of ABC in developing economies, such as Palestine, where firms facing financial constraints, market uncertainties, and cost pressures will significantly benefit from its implementation. In this sense, ABC is regarded not only as an improvement in technical accounting but also as a strategic tool in achieving both financial sustainability and competitiveness. This study adds to the limited literature on ABC in new markets and provides useful ideas for both teachers and workers interested in cost systems that focus on results in places with limited resources.

This study makes several valuable contributions to academic knowledge and managerial practice. It adds to the empirical literature on ABC by exploring its impact in a highly under-researched context—Palestinian non-financial shareholding companies—thus bridging an important geographical and sectoral gap with new evidence of how ABC operates in economies constrained at multiple levels. The findings confirm the generalizability of ABC's financial benefits beyond the traditionally studied markets. This reinforces their relevance across diverse organizational and national settings.

Second, it contributes to theory by providing empirical evidence for the core assumptions of Cost-Management Theory, Resource-Based View (RBV), and Stakeholder Theory. This shows that ABC works not only as a technical cost-split method but also as a resourceful strategy that can drive performance through better asset use, equity returns, and operating efficiency. These outcomes support the notion that cost management innovations can deliver competitive advantages when merged with larger organizational strategies.

From a practical perspective, this study underscores the strategic value of ABC for financial managers and decision-makers operating in high-risk, resource-scarce environments. The strong positive effects observed on ROE and OPM suggest that firms adopting ABC can improve profitability by reallocating resources, enhancing cost transparency, and making better-informed operational decisions. Furthermore, the results encourage policymakers and institutional leaders in developing economies to support the diffusion of advanced cost management systems such as ABC as a pathway to financial sustainability and growth.

6. Limitations and Future Research

Despite its contributions, this study had several limitations. First, the use of a binary variable to measure ABC's implementation does not capture the depth, quality, or maturity of ABC's usage across firms. Companies may differ significantly in how fully they integrate ABC into their operational and strategic processes, which could

influence performance outcomes. Second, this study focuses exclusively on non-financial companies listed on the Palestine Exchange, which may limit the generalizability of the findings to other sectors, such as financial or non-listed firms. Third, while the regression models yield significant results, they do not include all possible control variables that could influence financial performance, such as firm age, ownership structure, and managerial expertise. Furthermore, cross-sectional data restrict the ability to observe the long-term causal effects of ABC's implementation over time. Finally, this study relies on accounting-based performance measures, which may not fully capture the non-financial benefits of ABC, such as improvements in customer satisfaction, process quality, or strategic alignment. Future research could address these gaps by incorporating longitudinal designs, qualitative assessments of implementation quality, and broader performance dimensions to better understand ABC's holistic impact of ABC.

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The authors declare that they have no competing interests.

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The author contributed to: Conceptualization; Methodology; Data collection; Formal analysis; Writing original draft; Writing – review and editing

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Use of Artificial Intelligence

The author declare that generative artificial intelligence (AI) tools were used only to assist with language editing and clarity of expression during the preparation of the manuscript. The authors reviewed and edited all AI-assisted outputs and take full responsibility for the content, interpretation, and conclusions of the manuscript. No AI tools were used to generate, manipulate, or analyse the research data, nor to produce the study's scientific results.

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