Contents available at the publisher website: G A F T I M . C O M

International Journal of Technology, Innovation, and Management (IJTIM)

Journal homepage: https://journals.gaftim.com/index.php/ijtim/index

Activity-Based Costing as a Strategic Tool for Enhancing Key Financial Management Functions: Evidence from the Manufacturing Sector in Jordan

Ammar Bashatweh

Luminus Technical University College, *Amman*, *Jordan*

A R T I C L E I N F O

Keywords:
Accounting, Management, Planning, Controlling, Decision-making, Pricing, Financial decision, Jordan.

Received: Sep, 10, 2024
Accepted: `Nov, 11, 2024
Published: Dec, 25, 2024

A B S T R A C T

The objective of the study was to examine the impact of implementing the activity-based costing (ABC) on planning, controlling, decision-making, and pricing. The study population consists of employees working at Al-Hassan Industrial Estate. The sampling unit consisted of employees holding the positions of financial manager, chief accountant, and cost accountant. The study used quantitative approaches to gather data by distributing questionnaires. The research yielded many findings. The use of the activity-based costing (ABC) approach plays a crucial role in enhancing the efficacy of the financial management process. The use of the Activity-Based Costing (ABC) method has a significant impact on several financial management processes, including planning, controlling, decision-making, and pricing. Based on the findings, it is advised to promote the use of the Activity-Based Costing (ABC) method inside industrial enterprises. The study further suggested transitioning towards the adoption of an activity-based costing approach in the realm of pricing and decision-making.

1. INTRODUCTION

One of the most important local industrial sectors is food, catering, agricultural, and livestock industries since its products are many and entwined with those of several other industrial sectors to form an interconnection link marked by complementarity (Bashatweh,et a,2022). The industrial sector greatly helps to consolidate the pillars of social and economic development. Its active participation is clearly seen in driving economic progress, creating jobs, drawing quality investments, opening worldwide markets, and so enhancing the image and identity of Jordanian goods. (Bashatweh, Alshrouf, & Alkhatib, 2023).

Measuring GDP, the industrial sector directly makes about 25% of the national economy. This contribution increases to 40% because of its great links with several economic sectors and its role in boosting their activity. Over 245,000 people, mostly Jordanians, work in the industrial sector throughout almost 18,000 businesses all around the governorates of the Kingdom. About 21% of all Jordanian workers are this workforce; in the private sector, this proportion rises to almost 28%. Together, they sustain around one-fifth of Jordan's population with their approximately 1.5-billion-dinar salaries and benefits. Through providing the official foreign exchange reserves of the Kingdom with about $9 billion yearly, the sector helps to improve and stabilize the Jordanian dinar exchange rate. In 2019, approximately 140 nations worldwide experienced a growth of nearly 10%, with nearly 90% of all national exports acquired. This comment confirms the quality and adherence to international standards of industrial products, as well as the sector's capture of over 70% of the investment entering the Kingdom in the past decade, thereby establishing it as an attractive region for investment (Jordan Chamber of Industry, 2024).

The main goal of accounting is no longer to record financial transactions, but it has gone beyond that

to become a tool for measuring management operations. In the context of modern manufacturing environments, Traditional Costing Accounting employed a practice of aggregating various manufacturing overhead costs, such as rent, direct labour or machine hours etc.., into a singular cost driver or cost pool. This approach inadvertently led to systematic distortions in product costs, particularly due to the substantial proportion of overhead costs in relation to overall product costs (Kitsantas, Vazakidis, &Stefanou, 2020).

Many researchers in accounting believe that the ABC system helps management in its operations and also helps it evaluate the company's costs. The primary focus of a cost management system is on generating outputs for internal information users, using inputs and procedures necessary to fulfill management goals. A cost management information system is not constrained by externally imposed standards that delineate inputs and processes. However, the inputs and procedures are determined by individuals inside the firm (Hansen, Mowen,& Heitger 2021). The use of the Activity-Based Costing (ABC) system and subsequent examination of the organization's operational processes in relation to administrative and cost activities yields advantageous outcomes. The connection between management and accounting is well shown by the ABC system, which offers distinct information about management activities, including the costs associated with administrative tasks and the many operations of the firm. For instance, the expenditure associated with the provision of services (Adas, 2007). The Activity-Based Costing system has different areas of use, and one of the areas is the product pricing process. Its use is valuable as it can accurately calculate the data provided for the price and the possibility of determining the price based on demand and supply (Abu Nassar 2013). Jordanian industrial firms must improve operational efficiency and strategic decision-making in today's competitive and complicated business environment. The Activity-Based Costing (ABC) approach may help achieve these goals. ABC traces costs to particular activities and processes, providing firms with more accurate and relevant cost structure data. However, Jordanian industrial enterprises' planning, controlling, decision-making, and pricing processes must be examined carefully after applying the ABC method. In sectors with high levels of both local and international rivalry, firms need to allocate resources effectively and control costs. To effectively manage resources, optimize operations, and accomplish strategic goals, solid planning, and control systems are required. Business success is on making educated decisions, which affect everything from product design and market entrance to resource management and budget cuts. In addition, successful pricing strategies are essential for sustaining revenue and market share. The ABC system's installation may have a major impact on how well these crucial business processes work. However, the previous studies do not adequately detail implementing ABC in the context of Jordanian industrial firms, The previous studies cited indicate that there is an increasing need for the implementation of Activity-based costing (ABC) due to its efficacy in improving financial management decisions.

This study makes a valuable contribution to the existing body of knowledge by emphasizing the significance of applying modern cost systems, such as the activity-based costing system. This study has the potential to provide valuable insights for managers and management executives, enabling them to effectively detect financial growth and monitor the long-term viability of their companies by accurately determining costs.

This study aims to examine the impact of implementing the activity-based costing (ABC) system on the planning, controlling, decision-making, and pricing processes within Jordanian industrial companies. The ABC system is recognized as a crucial tool for enhancing these management functions.

Undoubtedly, cost accounting, particularly modern cost systems like Activity-Based Costing systems, is a pivotal idea and a subject of considerable study interest due to its potential impact on financial management processes. The existing body of literature has identified a dearth of comprehensive research that establishes a strong connection between the ABC system and financial management activities. In an attempt to achieve the aim of the study, the researchers asked the following important main questions:

1. How does using the ABC approach affect the planning process ?
2. How does using the ABC approach affect

the controlling process?
3. How does using the ABC approach affect the decision-making process?
4. How does using the ABC approach affect the pricing process?

There are five sections in this study . Section 1, the introductory section of the paper, contains the context, issue statements, research questions, aims, and relevance of the study. Section 2 explores the concepts and hypotheses of the study as well as important previous studies and their resulting findings. Section 3 gives a summary of the research process by means of an outline of the methodology, research design, population and sampling, variable measurement, instrumentation, data collecting (sampling and data collecting process), and data analysis tools. Section 4 explores the findings and discussion of the research using SPSS statistical methods, therefore offering a justification for the work done. By stressing the findings, pertinent hypotheses, and pragmatic ramifications for next studies and debate, Section 5 finishes the work. It also points out areas of interest for next investigation.

2. LITERATURE REVIEW

The traditional approach to cost accounting, which assigns overhead costs using a single driver such as direct labor or machine hours, frequently yields inaccuracies. These strategies have a tendency to allocate an excessive amount of cost to one product while allocating an insufficient amount to another. In order to tackle this matter, the concept of activity-based accounting (ABC) was established. The primary objective of ABC systems is to offer a more accurate depiction of how the many activities associated with the production of a product or provision of a service influence its cost. These systems analyze processes or activities in order to assess their impact on costs and employ several cost drivers to distribute overhead with precision. Organizations that possess the ability to identify activities that drive costs can effectively utilize Activity-Based Costing (ABC) systems (Gupta, Galloway, 2003).

The global business landscape is undergoing a significant transformation marked by substantial shifts, including the rapid expansion of information technology and an acceleration in innovating new products and services. These changes have intensified competition among companies, pushing them towards global-level aspirations. To meet evolving demands, companies now seek high-quality products coupled with exceptional services. Consequently, they are compelled to embrace advanced accounting information systems and strategies, such as Activity-Based Costing (ABC), to remain abreast of modern business advancements. Adopting ABC is crucial for accurately assessing product costs and streamlining the marketing process while upholding product quality. (Abutaber,2015)

The activity-based costing originated in the 1980s in the USA with the objective of enhancing cost management and improving organizational efficiency in many industries. Its widespread adoption may be attributed to its flexibility and application across numerous sectors. (Quesado, & Silva,2021). According IMA the Activity-based costing (ABC) is an approach that quantifies the cost and evaluates the efficacy of activities, resources, and cost objects. In the context of resource allocation, resources are allocated to specific activities, and subsequently, these activities are assigned to cost objects in accordance with their respective use. ABC acknowledges the causal connections between cost drivers and activities.

The company's activities and, therefore, the costs of each group's activities can be classified into the following groups (Abu Nassar, 2013):

1. Unit-Level Activities: Jobs Linked to the Product Unit These steps are followed for every unit of the finished good depending on the production level. Still, different manufacturing techniques create different quantities of units. The output of these activities corresponds one-to- one with the level of resources consumed. Direct worker hours, raw material costs, and overhead expenses among other things help to define unit manufacturing costs. Since these costs change in connection with the output, they are regarded as variable.

2. Activities Connected to the Creation of the Production Batch (Batch - Related Activities): When carrying out an activity is linked to a group of operations or a specific volume of production, the activities related to that and the costs resulting from them are called Batch – Related Activities . For example, in many factories, one machine produces several products. Still, the process of starting the production of any product or switching from

making one product to another requires the necessity of preparing and configuring the machine. The activities and costs associated with preparing the machine for each product are not related to the number of units produced but are instead linked to the number of times it is changed from one product to another.

3. Product Level Activities or Product-Sustaining Activities: These activities and costs are mainly related to a specific product and are not associated with the number of units produced or the number of production packages.
4. Facility-Level Activities or Facility Sustaining Activities) : These activities and expenses are generally related to the organization and are not associated with a specific product or number of production units.
5. Costs associated with the customer: These activities and costs are related to selling and distribution expenses, as the associated activities and costs are determined based on the service provided to the customer. The process of delivering the product, following up on their collection, and after-sales services are related to the customer and may not be primarily related to the product or the number of units sold.

Kee (2003) discusses the critique around the applicability of Activity-Based Costing (ABC) in the context of operational decision-making. In order to address this constraint, the paper suggests implementing adjustments to the Activity-Based Costing (ABC) system, which involve the establishment of distinct rates for flexible and committed cost drivers associated with various activities. These adjustments provide a more accurate representation of the variable and fixed costs associated with an activity, which is essential for effective operational planning. The ABC model, when adopted, facilitates the allocation of resources, optimization of product mix, and assessment of the financial implications of operational actions. Additionally, it facilitates operational management by aiding in the identification of discrepancies pertaining to resource utilization across various hierarchical levels within the organization.

The planning function is considered the primary function in administration. It can be said that the planning function is a prior measure of what must be done in the future. The administrator must predict the variables that occur in the environment surrounding him because they will affect the achievement of his goals (Hansen, Mowen& Heitger 2021). It can be said that planning is a scientific, systematic, and conscious method that an organization adopts to manage its resources and achieve its goals in a way that ensures its development and survival in the competitive environment (Al-Ghalibi, Al-Amiri, 2005).

In the context of manufacturing companies, it is necessary to undertake the estimation of production costs for the upcoming period. This estimation encompasses the evaluation of direct materials, direct labor, and indirect costs. Hence, organizations employ strategic planning to facilitate their operational activities. Additionally, it proves beneficial in the selection of an organization's objectives, the formulation of strategies to attain those objectives, and the dissemination of these objectives and corresponding strategies throughout the entire company.

Controlling it is worth noting that planning and controlling have a close relationship. Planning is a process before controlling, meaning there is no correct controlling without a plan. The planner can also benefit from the controlling process results and amend his plan accordingly to suit the conditions revealed by the controlling. Controlling over production quantities and the quality of behaviour controlling are among the main matters the administration is interested in. Likewise, the controlling process is characterized by the comprehensiveness of the organization's various activities. (Al-Ghalabi, Al-Amiri, 2005).

The use of costs in the field of controlling is mainly to compare actual costs with standard costs. Controlling also ensures that the necessary measures are taken to implement planning decisions. Controlling may include control over production, production quantities, and production workers. Controlling refers to the procedures of keeping an eye on how a plan is being carried out and making adjustments as necessary. control is often used to establish control. Feedback is data that may be used to assess and adjust the actions being done to realize a goal. Managers may use this information to either continue with the current

course of action, make adjustments to bring the implementation back in line with the original plan or undertake some midstream re-planning (Hansen, Mowen& Heitger 2021).

Pricing is one of the most critical and complex decisions facing management because this decision affects the level of profitability or the company's ability to continue competing. The pricing decision is not related to the field of marketing or finance, but rather, it is linked to the company as a whole and affects it as a whole (Jarira, 2011). The price of the product or service depends on demand and supply three influences (Hajjaj, 2013).

1. Customers: influence on the price is through the process of demand and supply
2. Competitors: Must be aware of the actions of competitors as they affect pricing decisions. Intense competition can lead to a reduction in prices.
3. Costs: The factor influencing pricing decisions and the decrease in the cost of the product is linked to the price that customers pay and the quantity that customers want to offer the product.

Setting prices is an administrative choice that impacts output, sales, and so profits and losses. Thus, it can be concluded that the product prices, the potential for re-pricing items in response to market demand, and the connection of product pricing to order size and competition will all be impacted by the ABC system.

Decision-making is the act of selecting from a range of competing possibilities. The enhancement of decision-making processes can be achieved through acquiring and disseminating information about the available alternatives, enabling managers to make more informed choices. The primary function of the accounting information system is to provide information that aids in the process of decision-making. The ubiquitous role of management is a crucial component in strategic planning and operational control. The ability to make decisions is essential for a manager's planning process. Management are faced with the task of selecting from a range of competing goals and corresponding techniques in order to effectively execute the goals they have selected (Hansen, Mowen& Heitger 2021). Management uses the decision-making model to choose between different activity paths. The decision model is usually included in descriptive or quantitative forms, and the management's task is to cooperate with accountants in analyzing and presenting data related to decision-making (Hajjaj, 2013).

The decision-making is encompassed within multiple domains, including the field of accounting. The utilization of an activity-based cost system in our research contributes to the enhancement of decision-making processes. Additionally, it has the potential to offer predictive insights into the numerous operations undertaken by the organization.

3. PREVIOUS STUDY

The adoption of the Activity-Based Costing (ABC) system has become prevalent in numerous institutions, surpassing the usage of traditional costing methods. This section aims to explore existing literature and prior research conducted by various researchers concerning the Research by Omar and Hasan (2020) clarifies ABC in relation to cement producers in Iraq's Kurdistan. This study proposes to investigate the function of an activity-based costing system in decision-making related to the Kurdistan Region of Iraq using data gathered from 120 employees of Bazian Cement Company. This paper focuses on the cement industry in Kurdistan in Iraq and provides an activity-based costing case study as well. Emphasizing Bazian Cement Company, it explores the favorable relationship between performance, quality, and cost control components of activity-based costing—that is, decision-making elements. Research indicates that, especially for companies in the cement industry, activity-based costing is rather crucial for them while making decisions. Results of this study show that activity-based costing components of performance, quality, and cost control are favorably connected with decision making. Consequently, it was concluded that, especially in decision-making, activity-based costing is rather crucial for companies including Bazian Cement Company. Most employees lack thorough ABC understanding, and organizational adoption and application of ABC is poor. Thus, the foundations of ABC's effectiveness are seen to be adoption, implementation, and staff indoctrination with ABC knowledge and comprehension.

Duh et al. (2009) shed light on the process of creating and implementing an activity-based costing (ABC) system tailored to a Taiwanese textile industry. According to the research, the

current cost system of the company assigns overhead costs to its commodities using a volume-based cost driver. Product cost evaluations are inaccurate due to the limitations of the company's "equivalent factor" that accounts for production complexity. Notably, the impact of rework operations on product costs is disregarded by the current volume-based cost approach. To better handle changes in overhead costs, the system should incorporate complexity-related cost drivers with volume-based drivers. The effect of rework on product costs is one of several non-volume-based drivers that the recently proposed ABC method takes into account. The present volume-based cost method can overstate costs for products with a large production volume but underestimate them for items with a high production complexity. The company is still in the analytical phase of implementing the ABC system, even if there have been advancements. This could be because of strategic changes, misalignment of incentives, inadequate support from the Management Information System (MIS), or poor inventory control.

Al-Mekhlafi, & Othman (2023) provide this research aimed to ascertain the role of ABC system in cost management within Saudi manufacturing firms specializing in Raw Materials. The Data was gathered from 154 individuals holding positions those working in accounting, finance, and management in Saudi manufacturing companies traded on the Saudi Stock Exchange, for example, all of which utilize the ABC system as of July 2021. A questionnaire designed for this purpose was administered to these staff members. The findings of this study unveiled that the ABC system is instrumental in achieving heightened production efficiency, enhancing control over administrative and financial expenditures, and aiding managers in making informed decisions regarding costs and pricing. As a recommendation, the researchers advocate for the adoption of the ABC system by other Saudi manufacturing firms. By doing so, these firms can potentially reduce their product costs, elevate production efficiency, and ultimately bolster their profitability.

Vetchagool, Augustyn, &Tayles (2020) seek to expand upon the limited and conflicting outcomes observed in earlier research studies. This paper introduces hypotheses and employs statistical testing to examine diverse models that potentially indicate positive impacts of ABC on organizational performance. Additionally, the study investigates the effects of business type and size as moderators. To evaluate the models' explanatory capabilities using empirical data, this comparative research draws upon survey responses obtained from 191 Thai firms. The study employs validated measures and utilizes structural equation modeling (SEM). The study's outcomes reveal that extensive utilization of ABC for activities like cost analysis, cost strategy formulation, and cost assessment directly enhances operational performance (OPP). Moreover, it indirectly contributes to the improvement of financial performance (FP) by enhancing OPP. These outcomes exhibit similarity among manufacturing and non-manufacturing firms, as well as large corporations and small-medium enterprises (SMEs).

The Activity-Based Costing system is a highly efficient approach for collecting useful and standardized cost-related data. The ABC system offers a notably higher degree of precision and utility in comparison to conventional cost accounting practices. The management is in strong agreement that the utilization of Activity-Based Costing enhances the understanding of cost drivers, facilitates improved cost control and management, enables a better comprehension of opportunities for cost reduction, enhances managerial decision-making processes, and provides more precise information for product or service costing and pricing. The management also concurs that the utilization of ABC methodology enhances the company's financial performance (Oseifuah,2013). According to Gupta and Galloway (2003) The implementation of the Activity-Based Costing approach has the potential to facilitate the creation of performance measurements that are both precise and pertinent, providing valuable guidance for job assessments. According to Cagwin, & Bouwman (2002), The findings demonstrate a significant association between the implementation of Activity-Based Costing (ABC) and a notable enhancement in Return on Investment (ROI) within certain contextual parameters. The correlation is evident when the implementation of ABC is combined with other strategic initiatives within organizations that are characterized by complexity and diversity. Additionally, the study posits that the utilization of success metrics pertaining to ABC can act as

markers of improved financial outcomes. According to the study conducted by Al-Khadash and Nassar (2010), a significant positive correlation has been observed between the utilization of Activity-Based Costing (ABC) and improvements in financial performance. The results of the study indicate that the process of refining cost systems, namely through the use of Activity-Based Costing (ABC), has a noteworthy impact on the establishment of prices. In markets characterized by informative feedback, Activity-Based Costing presents advantages over volume-based costing, particularly in segments where the allocation of costs with bias leads to accounting losses that hinder the ability to learn from more proficient competitors. Nevertheless, in such circumstances, ABC continues to exhibit superior performance compared to traditional costing methods, possibly due to its ability to effectively eliminate extraneous competition feedback from the decision-making process (Cardinaels, Roodhooft, & Warlop, 2004). ABC is acknowledged as a managerial instrument that enhances oversight in the production process, elucidates cost-incurring factors, contributes to cost reduction within specific activities, and aids managers in intricate decision-making processes. Consequently, over recent decades, the utilization of the ABC system has surged due to its capacity to mitigate distortions in determining product costs, proving particularly advantageous in organizations with diverse production lines and those characterized by notably high indirect costs in their overall cost structure. It emerges as a tool adept at addressing the deficiencies identified in traditional costing systems when attributing indirect costs to products. This method operates on the premise that products consume activities and resources (Quesado & Silva, 2021).

This article shows that applying Activity-based costing may increase financial management functions. Thus, the hypothesis to test is:

HO1: There is a significant impact of activity-based costing on planning in industrial companies.

HO2: There is a significant impact of activity-based costing on Pricing in industrial companies.

HO3: There is a significant impact of activity-based costing on controlling in industrial companies.

HO1: There is a significant impact of activity based costing on decision-making in industrial companies.

4. RESEARCH METHODOLOGY

The following section is devoted to describing the procedures used in carrying out the current study. The elements included in this category relate to the sampling procedures, and data collection instruments used.

Descriptive research is a form of scientific investigation designed to portray and define a phenomenon or a specific population. Its primary objective is to assemble data to offer a precise and comprehensive overview of a particular scenario or group without manipulating variables or establishing cause-and-effect connections. This method commonly employs surveys, observations, or existing data sources to compile information. Explanatory research is a form of scientific investigation focused on comprehending the connections between variables and clarifying causal links. It surpasses descriptive research by delving into the causes behind a phenomenon or the elements that impact it. (Creswell,2014); (Shadish, et, al., 2002)

The research strategy of the study is based on a quantitative approach, where hypotheses were developed to investigate the impact of ABC planning, pricing, control and decision making in the industrial sector. Secondary data were obtained from previous studies conducted on the same topics. SMART-PLS was used to analyze the data in order to achieve the objectives of the study. In contrast, primary data denotes information directly gathered by researchers for a particular research endeavor or goal. This process encompasses the firsthand gathering of data from individuals, institutions, or other origins utilizing diverse research methodologies like questionnaires, interviews, observations, or experiments. (Leedy, & Ormrod,2014).

According to Hair et al. (2010), convenience sampling is appropriate when the sample size exceeds 100 individuals. The researchers believe that convenience sampling is acceptable for this study and provides an adequate representation of the variables under study.

5. RESULTS AND DISCUSSION

Factor loadings, Cronbach's alpha, Composite Reliability (rho_a and rho_c), and Average Variance Extracted (AVE) are some of the important metrics that are included in the table for various research

dimensions.

Activity-Based Costing (ABC): All values suggest that the dimensions related to "Activity-Based Costing" meet good reliability standards.

- Factor Loadings: The loadings for all items range from 0.774 to 0.899, which are considered strong, as loadings greater than 0.7 are acceptable.
- VIF: Values range from 1.898 to 3.492, indicating no major multicollinearity issues, as values under 5 are generally acceptable.
- Cronbach's Alpha and Composite Reliability (rho_a and rho_c): All values exceed 0.7, indicating good internal consistency and reliability.
- AVE: The AVE values range from 0.677 to 0.893, which are above the acceptable threshold of 0.5, suggesting that the dimensions explain a sufficient amount of variance in the data.

Planning (PL):

- Factor Loadings: Ranging from 0.802 to 0.877, indicating strong relationships between the items and the dimension.
- VIF: Values range from 1.931 to 2.984, which are within acceptable limits.
- Cronbach's Alpha and Composite Reliability: Both values are strong, ranging from 0.889 to 0.918, indicating high reliability.
- AVE: 0.692, which is above the threshold of 0.5, indicating good variance extraction.

Controlling (C):

- Factor Loadings: Ranging from 0.742 to 0.876. While the loading for item C4 (0.742) is slightly lower than ideal (above 0.7 is preferred), it is still acceptable.
- VIF: The values range from 1.703 to 2.828, indicating no significant multicollinearity problems.
- Cronbach's Alpha and Composite Reliability: Both are good, with Cronbach's Alpha around 0.884, suggesting good internal consistency.
- AVE: 0.686, which is acceptable.

Decision Making (D):

- Factor Loadings: Ranging from 0.821 to 0.867, all are high, showing strong relationships between the items and the dimension.
- VIF: Values range from 2.139 to 2.955, which are within the acceptable range.
- Cronbach's Alpha and Composite Reliability: Both are high, with Cronbach's Alpha at 0.894 and Composite Reliability at 0.895, indicating excellent reliability.
- AVE: 0.703, which indicates strong variance extraction.

Pricing (P):

- Factor Loadings: Ranging from 0.796 to 0.894, which are good, although item P4 has a loading of 0.796, which is on the lower end but still acceptable.
- VIF: Values range from 1.757 to 2.75, which are within the acceptable limits.
- Cronbach's Alpha and Composite Reliability: Both are good, with Cronbach's Alpha at 0.868 and Composite Reliability at 0.873, indicating good internal consistency.
- AVE: 0.717, which indicates good variance extraction.

The overall interpretation of the results indicates that the factor loadings across all dimensions are strong, meaning that the items contribute significantly to their respective dimensions. This suggests that each item is well-aligned with its intended construct, reinforcing the validity of the dimensions being measured. Additionally, the VIF values are within an acceptable range, all falling below the threshold of 5. This suggests that there are no significant multicollinearity issues, and the independent variables do not exhibit severe overlap. As a result, the model can confidently proceed without concern for inflated standard errors or biased coefficient estimates due to multicollinearity.

Cronbach's Alpha and Composite Reliability values are also notably high, indicating strong internal consistency and reliability across all dimensions. With values typically exceeding 0.7, this is a clear sign that the scales used for each dimension are reliably measuring what they are intended to, which is a standard expectation in social science

research. Furthermore, the Average Variance Extracted (AVE) values for all dimensions are above the acceptable threshold of 0.5. This suggests that the dimensions are effectively explaining the variance in the data, confirming that they have good convergent validity and capture the majority of the variance in the underlying construct.

However, while most results are positive, there is a slight concern with item C4 in the "Controlling" dimension, which has a factor loading of 0.742. Although this is still above the acceptable threshold of 0.7, it is on the lower end, and may warrant further examination or improvement to enhance the overall reliability of the dimension.

Table2: Measurement Model Assessment

Dimensions	Items	Factor loading	VIF	Cronbach's Alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ABC	ABC1	0.899	3.492	0.841	0.856	0.893	0.677
	ABC2	0.794	1.974				
	ABC3	0.774	1.898				
	ABC4	0.820	2.485				
Planning	PL1	0.802	2.183	0.889	0.899	0.918	0.692
	PL2	0.832	2.462				
	PL3	0.829	2.466				
	PL4	0.877	2.984				
	PL5	0.818	1.931				
Controlling	C1	0.876	2.828	0.884	0889	0.916	0.686
	C2	**0.826**	2.379				
	C3	**0.836**	2.299				
	C4	**0.742**	1.703				
	C5	**0.854**	2.236				
Decision Making	D1	0.821	2.419	0.894	0.895	0.922	0.703
	D2	0.867	2.955				
	D3	0.846	2.507				
	D4	0.836	2.433				
	D5	0.822	2.139				
Pricing	P1	0.842	2.204	0.868	0.873	0.910	0.717
	P2	0.894	2.75				
	P3	0.852	2.089				
	P4	0.796	1.757				

Fornell Discriminant Validity

These values indicate a strong level of discriminant validity, as they are all greater than the commonly accepted threshold of 0.7. This suggests that each construct has good internal consistency and is sufficiently distinct from the other constructs.

The correlations between the constructs in the model demonstrate that discriminant validity is achieved. For example, the correlation between Planning and ABC is 0.695, which is lower than the square root of the AVE for both constructs (0.832 for Planning and 0.823 for ABC), confirming discriminant validity. Similarly, the correlation between Planning and Controlling is 0.724, which is also lower than the square root of the AVE for both constructs (0.832 for Planning and 0.828 for Controlling), further supporting discriminant validity. The correlation between Planning and Decision Making is 0.527, which is less than the square root of the AVE for both constructs (0.832 for Planning and 0.838 for Decision Making), confirming discriminant validity as well. A similar pattern is observed for Planning and Pricing, with a correlation of 0.505, which is lower than the

square root of the AVE for both constructs (0.832 for Planning and 0.847 for Pricing), again confirming discriminant validity.

For other pairs of constructs, the correlations also remain below the square root of the AVE for both constructs, confirming discriminant validity across the model. For instance, the correlation between ABC and Controlling is 0.687, lower than the square root of the AVE for both constructs (0.823 for ABC and 0.828 for Controlling). The correlation between ABC and Decision Making is 0.493, which is also lower than the square root of the AVE for both constructs (0.823 for ABC and 0.838 for Decision Making). The correlation between ABC and Pricing is 0.329, which is less than the square root of the AVE for both constructs (0.823 for ABC and 0.847 for Pricing). Similarly, the correlations between Controlling and Decision Making (0.587), Controlling and Pricing (0.512), and Decision Making and Pricing (0.482) are all less than the square root of the AVE for their respective constructs, confirming discriminant validity across all pairs.

Table(3): Fornell _Discriminant Validity

	Planning	ABC	Controlling	Decision Making	Pricing
Planning	0.832				
ABC	0.695	0.823			
Controlling	0.724	0.687	0.828		
Decision Making	0.527	0.493	0.587	0.838	
Pricing	0.505	0.329	0.512	0.482	0.847

Hypotheses Results and Discussions

Table 4 shows the findings of hypothesis testing, which found that the four previously submitted hypotheses had been accepted.

Table (4): Hypotheses Results

	Original sample (O)	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**R-square**	**R-square adjusted**	**P values**	**results**
HO**1**	0.695	0.698	0.039	17.823	0.483	0.481	0	Accepted
HO**2**	0.687	0.691	0.039	17.581	0.472	0.47	0	Accepted
HO**3**	0.493	0.497	0.061	8.108	0.243	0.24	0	Accepted
HO**4**	0.329	0.336	0.071	4.634	0.108	0.105	0	Accepted

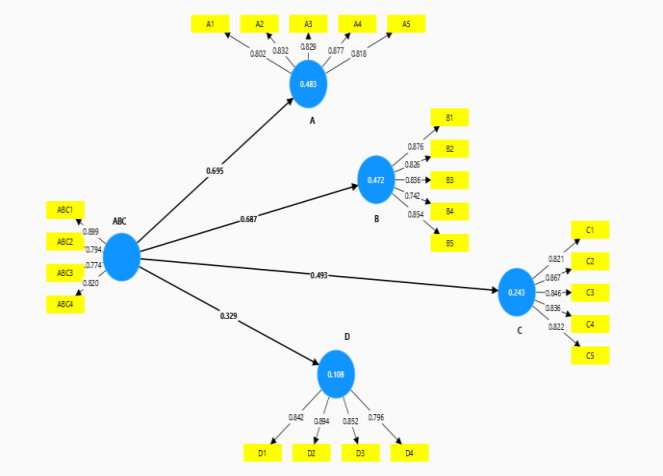

Table 7 shows the findings of hypothesis testing, which found that the four previously submitted hypotheses had been accepted. It includes HO**1** (ABC → Planning(R^2=0.483), HO2 (ABC → controlling(R^2=0.472), HO**3** (ABC → Decision Making(R^2=0.243)). HO**4**(ABC → Pricing(R^2=0.108).

The findings of this study confirm hypothesis, which states that the ABC system has a significant impact on planning, controlling, decision-making, and pricing.

According to the findings of this study, the ABC system boosts planning and controlling substantially. As a result, The ABC system helps management in the planning and controlling process, and thus the implications of this increase the financial management's confidence in its work and this was reflected in its performance which influenced financial performance. These findings are consistent with earlier studies that have found

that the ABC system has a major influence on good planning.

Planning involves devising strategies to establish a competitive edge, supported by objectives, tasks, and schedules. It demands careful consideration of available resources; otherwise, the strategies formulated may be impractical and unattainable. After adoption, the management team utilizes the plan as a roadmap for execution. Cost planning and control encompass cost estimation, defining an agreed-upon budget, and overseeing actual and projected costs vis-à-vis that budget. Assessing actual outcomes against the plan reveals areas of performance shortfall, prompting increased attention to those aspects or adjustments to the plan. The planning process is often regarded as the fundamental pillar of organisational operations. The implementation of planning strategies plays a crucial role in the monitoring of production and the identification of any deviations that may arise throughout the manufacturing process. In line with this, the assessment of production-based management is conducted, and alternative approaches are used, such as the utilisation of activity-based costing The use of the activity-based costing approach is favored in financial management since it enables effective control over indirect costs, leading to a more equitable allocation of expenses among various services and products. Therefore, the tracking of indirect costs enables the organisation to accurately assess expenses, therefore facilitating the pricing of goods and services and informing decision-making processes.

During the planning phase, organizations make decisions regarding which activities to monitor, choose suitable cost drivers, and establish the structure for the Activity-Based Costing (ABC) system. Controlling encompasses the assessment and fine-tuning of organizational activities to ensure their alignment with predetermined objectives. In the ABC system, controlling involves the comparison between actual costs obtained from the ABC system and the anticipated or budgeted costs. Discrepancies revealed through ABC between projected and actual costs can signify the necessity for adjustments in resource allocation or operational procedures. ABC furnishes more intricate and precise cost details, enabling enhanced oversight of expenditures. Planning serves as the foundation for implementing ABC, while ABC, in turn, furnishes more precise cost data for effective control. Controlling contributes to ensuring that the real-time performance aligns with the strategies outlined through ABC and other strategic endeavors.

According to the findings of this study, the ABC system boosts decision-making, and pricing substantially. As a result, The ABC system helps management in the decision-making, and pricing process, and thus the implications of this increase the financial management's confidence in its work and this was reflected in determining cost which influenced Profitability.

Pricing determinations encompass establishing the sales price of goods or services, considering costs, market demand, competition, and strategic objectives. Activity-Based Costing (ABC) assumes a critical role in pricing strategies by shedding light on the actual costs tied to diverse products or services. It enhances comprehension of cost drivers and allows for more precise allocation of overheads, thereby impacting pricing choices. This comprehensive understanding of actual costs per product or service empowers organizations to set prices that align with their cost structures while staying competitive in the market.

Moreover, ABC furnishes intricate cost insights that aid decision-making, providing a more precise grasp of expenses associated with various activities, products, or services. It assists in pinpointing avenues for cost reduction, refining processes, and allocating resources, thereby contributing to strategic decision-making. ABC's detailed cost analysis further contributes to establishing more precise pricing for products or services.

Finally, the process of ascertaining the expenses associated with different products, services, and various other entities that have importance in management decision-making. Strategic planning involves the development and execution of strategies and measures to effectively steer and govern organizational activities. The cognitive and behavioral processes involved in decision-making are considered to be important aspects of human functioning. The process entails the determination of a plan of action or choosing between several possibilities, predicated on a predetermined set of criteria. The study recognises the significance of achieving profitability and competitive advantage

for companies, particularly in the context of intense market competition.

These findings are consistent with prior studies, which found that the ABC system improved financial management processes and was efficient in supporting firms' operational effectiveness (Adams, 1996; Hardan& Shatnawi 2013; Oseifuah, 2013; Kitsantas, Vazakidis,&Stefanou, 2020; Masadeh,2023).

6. CONCLUSIONS AND RECOMMENDATIONS

This study aims to examine the impact of implementing the activity-based costing (ABC) system on the planning, controlling, decision-making, and pricing processes within Jordanian industrial companies. The study population consists of employees working at Al-Hassan Industrial Estate in Jordan. The sampling unit consisted of employees holding the positions of financial manager, chief accountant, and cost accountant. The ABC system is recognized as a crucial tool for enhancing these management functions. The results of this study suggest that the implementation of the ABC system influences on the processes of planning, controlling, decision-making, and pricing. This suggests that financial management is subject to the influence of several aspects like as planning, controlling, decision-making, and pricing. This study offers valuable contributions by presenting a theoretical framework that explores the concept of activity-based costing and its potential to enhance the effectiveness and efficiency of financial management, also This study offers the prospect of valuable insights for managers and top-level executives, equipping them to adeptly identify financial expansion and oversee the sustainability of their firms through precise cost determination. The study recognises the significance of achieving profitability and competitive advantage for companies, particularly in the context of intense market competition. The main limitations of the conducted research are its exclusive emphasis on ABC, neglecting other pertinent or analogous costing and management methods such as activity-based management (ABM), and just in time (JIT). Subsequent research endeavors might explore the utilization of additional factors or variables, like activity-based management (ABM) and just-in-time (JIT), which could assist companies in cost reduction. Furthermore, this study suggests incorporating new technologies, notably Artificial Intelligence (AI), into the Activity-Based Costing (ABC) system to improve forecasting, real-time cost tracking, and strategic decision-making. Artificial intelligence can automate cost classification, detect inefficiencies, and support dynamic pricing strategies, potentially improving financial management practices in industrial firms.

REFERENCES

Abu Nassar, Muhammad. (2013). Cost Accounting, third edition, Wael Publishing and Distribution House, Amman-Jordan.

Abutaber, T. (2015). The impact of Activity Based Costing (ABC) application on product quality. Australian Journal of Basic and Applied Sciences, 9, 219-223.

Adams, M. (1996). Activity-based costing (ABC) and the Life Insurance Industry. Service Industries Journal, 16(4), 511-526.

Adas, salah (2007). A suggested framework for implementation the activity-based costing ABC in Palestinian universities. Unpublished master thesis. Islamic University of Gaza. Gaza- Palestinian.

Al-Ghalabi, Taher, Al-Amiri, Saleh (2005). Social Responsibility and Business Ethics. first edition. Wael Publishing and Distribution House, Amman - Jordan.

Al-Khadash, H. A., & Mahmoud, N. (2010). The implementation of activity-based costing and the financial performance of the Jordanian industrial shareholding companies. Afro-Asian Journal of Finance and Accounting, 2(2), 135-153.

Al-Mekhlafi, M. A., & Eddin Othman, M. S. (2023). The role of activity based costing system in cost control in Saudi manufacturing firms.. *International Journal for Quality Research*, *17*(2).

Bashatweh, A. D., Alshrouf, M., & Alkhatib, A. A. (2023). Industrial Operation Performance: Unveiling the Influence of Information Quality, Sharing, and Customer Relationships. Journal of Palestine Ahliya University for Research and Studies, 2(3), 104-113.

Bashatweh, A.D., Abutaber, T.A., AlZu'bi, M.J., KHader, L.F.A., Al-Jaghbir, S.A., AlZoubi, I.J. (2023). *Does Environmental, Social, and Governance (ESG) Disclosure Add Firm Value? Evidence from Sharia-Compliant Banks in Jordan*. In: Alareeni, B., Hamdan, A. (eds) Sustainable Finance, Digitalization and the Role of Technology. ICBT 2021. Lecture Notes in Networks and Systems, vol 487. Springer, Cham. https://doi.org/10.1007/978-3-031-08084-5_42

Cagwin, D., & Bouwman, M. J. (2002). The association between activity-based costing and improvement in financial performance. Management accounting research, 13(1), 1-39.

Cardinaels, E., Roodhooft, F., & Warlop, L. (2004). The value of activity-based costing in competitive pricing decisions. Journal of management accounting research, 16(1), 133-148.

Charles Horngren, Srikant Datar, George Foster (2009), Cost

Accounting, an Administrative Introduction, Part One, translated by Ahmed Hamid Hajjaj, Al-Marrekh Publishing and Distribution House, Riyadh, Kingdom of Saudi Arabia.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.

Duh, R., Lin, T.W., Wang, W. and Huang, C. (2009), "The design and implementation of activity-based costing: A case study of a Taiwanese textile company", International Journal of Accounting & Information Management, Vol. 17 No. 1, pp. 27-52. https://doi.org/10.1108/18347640910967726

Gupta, M., & Galloway, K. (2003). Activity-based costing/management and its implications for operations management. Technovation, 23(2), 131-138.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. Pearson Education.

Hansen, D. R., Mowen, M. M., & Heitger, D. L. (2021). Cost management. Cengage Learning. 6th Edition

Hardan, A. S., & Shatnawi, T. M. (2013). Impact of applying the ABC on improving the financial performance in telecom companies. International Journal of Business and Management, 8(12), 48.

Institute of Management Accountants. Implementing Activity-Based Management: Avoiding the Pitfalls. file:///C:/Users/user/Downloads/Implementing%20Activity%20Based%20Management.pdf

Jordan chamber of industry, (2024). Industry sector. https://jci.org.jo/Chamber/About/20159?l=en

Jrirh, S. T. (2011). Target Costing Based Pricing Approach: Potential Application to Drugs Sector and Medical Companies in Jordan. Dirasat, Administrative Sciences, 38(1), 161-179.

Kee, R. C. (2003). Operational planning and control with an activity-based costing system. In Advances in Management Accounting (pp. 59-84). Emerald Group Publishing Limited. pp. 59-84. https://doi.org/10.1016/S1474-7871(02)11003-3

Kitsantas, T., Vazakidis, A., & Stefanou, C. (2020). Integrating activity based costing (ABC) with enterprise resource planning (ERP) for effective management: A literature review. Technium 2, (7),160-178.

Leedy, P. D., & Ormrod, J. E. (2015). Practical research. Planning and design (11th ed.). Boston, MA: Pearson

Masadeh, A. (2023). Application of Using the Activity-Based Costing System on Product Development in Jordan's Manufacturing Listed Manufacturing Firms. International Journal of Professional Business Review, 8(6), e02458-e02458.

Omar, Raqeeb, & Hasan, Nawzad (2020). Activity based costing system and its role in decision making. A case study of cement companies in kurdistan region of iraq. International Journal of Psychosocial Rehabilitation, 24(06), 5915-5929.

Oseifuah, E. K. (2013). Activity based costing approach to financial management in the public sector: the South Africa experience. European Scientific Journal, 9(1).

Oseifuah, E. K. (2013). Activity based costing approach to financial management in the public sector: the South Africa experience. European Scientific Journal, 9(1).

Quesado, P.; Silva, R. (2021) Activity-Based Costing (ABC) and Its Implication for Open Innovation. J. Open Innov. Technol. Mark. Complex, 7, 41. https://doi.org/10.3390/joitmc7010041

Vetchagool, W., Augustyn, M. M., & Tayles, M. (2020). Impacts of activity-based costing on organizational performance: evidence from Thailand. *Asian Review of Accounting*, *28*(3), 329-349.

.