THE EFFECT OF SELECTED MANAGEMENT ACCOUNTING TOOLS ON THE FINANCIAL PERFORMANCE OF INDUSTRIAL COMPANIES (JORDAN'S CASE)

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ABSTRACT

This study aimed to know the effect of selected management accounting tools on financial performance. The study population consisted of (43) industrial companies listed on the Amman Stock Exchange (ASE) at the end of (2020). Study questionnaires were distributed to the financial managers and accountants working in these companies, 100 questionnaires were retrieved, (96) of which were valid for analysis.

To test the study hypotheses, the researchers had used (SPSS) statistical program. The study outcomes showed that there were significant positive effects of: Just in time, and Quality costs on the financial performance of tested companies, while there were no significant effects for the Value chain, and Target Costing on the financial performance of the tested companies.

Keywords: Management accounting tools; Financial performance; Jordanian industrial companies.

INTRODUCTION

Our contemporary world is the age of information and rapid contemporary technology and is characterized by continual developments in various economic, service, investment, financing and industrial fields. In addition, it has recently witnessed a tremendous increase in the volume of data and information that needs interpretation, treatment, measurement and analysis, which had led to an increase in developing accounting approaches and tools. To achieve this it is necessary to use productive and administrative methods that contribute to the customer satisfaction.

Traditional management accounting methods have become unable to provide the management with the cost data necessary to make sound management decisions and to respond to the desires and preferences of customers, which, if the companies are able to achieve them, might gain competitive advantages that would help them to survive in highly competitive environments (Nawwaf & Iyad, 2019).

Value chain is considered one of the management accounting tools, it refers to the process by which the administrative value is added to the raw materials that companies use by conducting several operations with the aim of manufacturing a final product with the maximum value and lowest possible cost, so it increases the firm's competitiveness. Different companies perform a value chain analysis by looking at each step required to produce a new product or service and identifying ways to increase the efficiency of this chain (Abu Yusef, 2016).

The use of the target cost tool helps in pricing products and services of various sectors, as it helps to make decisions according to the basis of the market and in a way that increases competitiveness, survival, and continuity in the market.

The timely manufacturing method, which is based on the storage strategy, industrial companies employ them to increase efficiency and reduce waste and spoilage by obtaining goods as required in the production process, thus reducing inventory costs.

In recent times, quality cost approach has appeared, and it was considered one of the effective tools in detecting the problems resulting in the modern manufacturing environment, which may lead to discover the failure of the industrial companies. Product quality is the criterion for maintaining its market share, and one of its most important priorities is to provide products or services in a way that achieves its competitive advantage (Ali, 2008; Abulaila et al., 2019).

Many studies have shown that if these tools were adopted, they would increase the companies' abilities to raise the competitive advantage, productive efficiency, continuous improvement of quality, and would achieve effectiveness, that would positively reflected via their continuity. On the same degree of importance, it was expected that the application of management accounting tools will reduce waste, spoilage, and costs by trying to get rid of activities that have no added value and only maintain economically viable activities that would affect the financial performance of companies positively (Ghanmeh, 2020).

Financial performance is a reason for the success of any company and its preservation is an indication of the good use of its resources and a necessary and important requirement to maintain its viability.

The importance of the financial performance of any company is an evident as one of the important indicators to identify the strengths and weaknesses in the financial position and work to avoid weaknesses, maintain its strengths and work on developing them, with the aim of making appropriate administrative and strategic decisions (Ali, 2008).

The study problem and questions:

Relying on traditional management accounting tools would cause the management to lose the ability to identify the nature of the relationship between cost and competitive prices in the market, which necessitates careful consideration and research in the use of modern management accounting methods and their implications for the financial performance of industrial companies.

The study main question was: Is there a statistically significant effect of managerial accounting tools on the financial performance of the Jordanian industrial companies?

This main question was subdivided to the following sub questions:

1. Is there a statistically significant impact of the value chain on the financial performance of the Jordanian industrial companies?
2. Is there a statistically significant impact of the target cost on the financial performance of the Jordanian industrial companies?
3. Is there a statistically significant impact of timely manufacturing on the financial performance of the Jordanian industrial companies?
4. Is there a statistically significant effect of quality costs on the financial performance of the Jordanian industrial companies?

Study Objectives

This study aimed to provide a theoretical and practical framework for the managers in the studied companies via using management accounting tools to enhance and develop the financial performance in the Jordanian industrial companies.

Importance of the Study

The study aimed to enrich the theoretical literature and accounting thoughts for management accounting tools and identifying the extent of their use and their impact on financial performance in Jordanian industrial companies, the most prominent of which are:

1. Assist corporate administrations in defining the effect of using modern management accounting tools on their financial performance, to the extent that they serve the interests of the public dealing with them on the one hand, as well as maximizing the profits of shareholders in these companies on the other hand.
2. Assisting corporate administrations in determining the advantages of using modern administrative tools to reduce production costs in a way that facilitates determining the prices of these products reliably and in accordance with market prices in a manner that achieves the competitive advantage of these companies.
3. Informing the official and professional authorities in Jordan about the impact of using modern management accounting tools on the financial performance of industrial companies, in a way that increases their capacity in the field of planning, control and rational decision-making, and enhances the competitive position of these companies in both local and global markets.
4. Helping researchers and those interested in reaching some proposals through the presented results, which can be used to serve the future studies of researchers and those interested in studying management accounting tools.

Study Hypotheses

Based on the questions derived from the study problem, following are the study hypotheses:

The main hypothesis (HO1)

HO1: There is no statistically significant effect at a significant level (α≤0.05) for management accounting tools on the financial performance of the Jordanian industrial companies.

This main hypothesis stems the following sub-hypotheses:

HO1-1: There is no statistically significant effect at a significant level (α≤0.05) of the value chain on the financial performance of the Jordanian industrial companies.

HO1-2: There is no statistically significant effect at a significant level (α≤0.05) of the target cost on the financial performance of the Jordanian industrial companies.

HO1-3: There is no statistically significant effect at a significant level (α≤0.05) for just-in-time manufacturing on the financial performance of the Jordanian industrial companies.

HO1-4: There is no statistically significant effect at a significant level (α≤0.05) for quality costs on financial performance in Jordanian industrial companies.

LITERATURE REVIEW

Theoretical Framework

This includes preparing the theoretical framework for the current study by highlighting the most important topics related to the study problem and its variables and components, which are represented in both management accounting methods and financial performance. In this regard, the researchers seek to clarify each of the concepts related to these variables and the impact of the managerial accounting methods on the financial performance of Jordanian industrial companies, and discussing the most important factors that affect managerial accounting methods.

As well, the concept of financial performance, its indicators, methods of measurement and the feasibility of using them as financial indicators will also be discussed.

Management Accounting Tools

Management accounting has emerged as a result of the development, expansion and large size of economic projects, meeting the need of economic companies to provide a large amount of data and information that those interested need to help in making rational economic decisions, and depends on various traditional and modern management accounting tools.

Management accounting is defined as a set of information available inside companies that is confidential so that it can only be viewed and accessed by management and decision makers in the company, and it depends on information related to costs, revenues and sales of goods and services produced by the company (Al Matarneh, 2008).

Management accounting is the one of the tools that provides accounting information to management in a regular way so that it can carry out its administrative functions of planning, controlling, and decision-making in an effective manner. It is a system to support management in making decisions (Al-Ani, 2015).

Value Chain (VC)

It is a business style that describes the full range of activities necessary to create a product or service. The value chain includes the steps necessary to transform the product from just an idea to being distributed, and this includes all steps or procedures such as purchasing raw materials, manufacturing processes, marketing activities, etc (Albano et al., 2003).

Components of the value chain

The value chain method divides the firm's activities into two components of activities:

1. Primary activities: These activities refer to the actual creation, transportation and delivery of products to the customer, as well as the provision of after-sales services (Al-Bayati, 2019).
2. Supporting activities: These activities help to support, improve and enhance the effectiveness and efficiency of primary activities and their role is summarized in helping to make the primary activities more efficient. When the efficiency of any

of the four supporting activities increases, it benefits one of the primary activities set (Al-Hawajrah et al., 2011).

Value chain objectives

Firms conduct a value chain analysis by evaluating detailed procedures related to each of their business activities, with the aim of increasing production efficiency so that the company can provide the highest value at the lowest possible cost. The primary goal of the value chain is to provide the largest possible value at the lowest cost in order to create competitive advantage.

The concept of the value chain helps to understand and separate the beneficial activities that help in obtaining a positive competitive advantage, and the activities that lead to wasting time and effort and hinder the work. The value chain also clarifies that if the value is added during each activity, the total value of the product will be improved, which helps to achieve greater profit margins.

Target Costing (TC)

The target cost method has been emerged in recent years and had carried with it advantages that distinguished it from other costing systems, it deals with the production process from the beginning of planning for it until the product arrives to the final consumer. It may even go beyond this stage to take care of the maintenance, follow-up and operation stages of some products (Ali, 2017).

Target cost components

The goal of applying the target cost method is determined to reduce the cost, and this method is applied through the following:

1. Determine the target selling price; it is the competitive price that companies seek to reach in order to survive in the market.
2. Calculate the target cost; the target cost is calculated by subtracting the target profit from the target selling price. Usually, profitability and return on investment ratios are relied on in determining the target profit because it examines the company's ability to generate profits from sales, assets and equity.
3. Calculate the target reduction; the current costs represent all the costs of the processes needed to produce and deliver the product, and usually these costs are greater than the target cost. The difference between the target cost and the current cost represents the amount of the target cost reduction.
4. Reach the target cost; tests and designs are performed on the product to arrive at its planned cost (Al-Jubouri, 2015).

Target cost objectives

The target cost aims to achieve the following objectives:

1. Determine the selling price that achieves the target market share for the company.
2. Determine the profit margin that the company seeks to achieve before putting the product to the market.

3. Production of products with competitive quality that meet the needs of the customer.
4. Achieving management goals through long-term profits and competition. Reducing product costs to the extent that ensures achieving target profit and target selling price.
5. Monitor the product life cycle from start to sale and after sales services (Al-Khalidi, 2015).

Target cost benefits

- Target costing uses market research to estimate what customers will pay for a specific product and defines competitors' prices.
- It is based on dividing the product cost into several elements according to the product's functions, which may lead to the elimination of some functions that the customer does not want.
- It describes the development plan taking into account the pricing dynamics, complexity of product components, and supplier relationship.
- The interaction between the project and the external environment, by defining the clients' desires and working to achieve them.
- It is used as a control tool, because it works to avoid the occurrence of increase in costs from the design stage and before the start of production.
- It helps in identifying which products achieve the desired profits, that is, it helps the management in making investment decisions about continuing to make a specific product or to stop making it.
- Works on long-term planning, as it determines the appropriate cost and profit and makes them a goal to reach through the application of continuous improvement activities (Al-Nuaimi, 2012).

Just in Time Manufacturing (JITM)

Timely manufacturing is one of the inventory control tools that the company uses to increase efficiency and reduce waste and spoilage, and this is done by storing the required quantities of raw materials needed for the manufacturing process, and providing them to the manufacturing at the right time and in appropriate quantities so that the required quantities of the product can be manufactured in a way that reduces the cost of storage and reduces waste and damage resulting from storing more than necessary quantities, whether of raw materials or final products (Blocher et al., 2018).

Components of Just-in-Time manufacturing

The researcher Al-Jabouri (2015) identified the main justifications for working with the method of manufacturing in a timely manner, namely:

1. Just-in-time inventory; the companies keep three types of inventory, which are: (raw materials, production in operation, and finished production).

2. A limited number of suppliers; the timely manufacturing method for the procurement of materials that the supplier focuses on reducing depends on the reduction of a specified number of suppliers, through the existence of long-term supply purchase contracts according to conditions that the supplier is bound by.
3. Improve factory arrangement.
4. Reduced initialization or preparation time: through work cells and the use of automated production methods that help reduce initialization time.
5. Total Quality Control: It is not allowing the existence of any defects or non-conformity with specifications in materials and production (Dagman, 2004).

Objectives of Just-in-Time manufacturing

- Reducing inventory to a minimum, to meet demand needs.
- Production at the lowest cost.
- It is considered as a method that seeks to provide capabilities to achieve a continuous flow of production.
- Begin to improve operations with the available equipment, and until the required ones are accurately identified.
- Eliminate surplus production, as production is according to demand.
- Eliminate wait time.
- Reduce initialization and restart time.
- Completely get rid of defective production.
- Reducing inventory to a minimum.
- Focusing on productive processes only, and minimizing unnecessary movements. (Nelson et al., 2012).

Benefits of Just-in-Time manufacturing

Reducing the cost of supply by adopting open lines of communication with suppliers to ensure supply when it is needed.

Low cost of handling raw materials, finished production and required stock space. - Reducing the start-up time so that this leads to speeding up the implementation of production orders and the ability to fulfill those requests in a timely manner without any delay, which in turn will be reflected in reducing costs.

The employees are not feeling bored as a result of repetition of work and routine performance, and employees' acquisition of new skills due to the variety of tasks that are required from them, and their participation in the process of designing and implementing the working system (Fadlallah, 2018).

Quality Costs (QC)

It is defined as costs related to a specific type of process that aims to adopt a quality system in the company, as well as costs associated with ensuring and improving the quality of products, processes and systems within the company (Garrison et al., 2017).

It is composed of two main categories:

The cost of conformity it includes

The cost of prevention: all the costs that have been specifically identified to maintain the quality of the product from the occurrence of any symptom that leads to a change in its quality.

The cost of evaluation: the cost required to measure and evaluate the product or service qualities at different periods during production. After the completion of the production or service processes.

The cost of failure, which is the costs involved in repairing or re-equipping a product or service of poor quality to conform to quality specifications, and it includes:

The costs of non-conformity: incremental costs incurred by a business when it fails to meet the quality requirements for its products.

The costs of external failure: incremental costs incurred subsequent to shipment if a defective product reaches the customer and fails during use (Gujarati & Porter, 2008).

Components of quality costs

Quality costs are divided into four components as follows:

1. Prevention costs; these costs prevent poor quality before it occurs, such as: (paying higher prices to suppliers to ensure the supply of high-quality raw materials, maintenance of furniture, training of employees).
2. Evaluation costs; these are the costs of conducting tests at different stages of the production process, such as: (inspecting the supplier's raw materials, goods in progress, and manufactured products before shipping to customers).
3. Costs of internal failure; this cost results from discovering certain products before selling them to customers, such as: (the cost of scrap, re-manufacturing defective products). It also includes the opportunity cost of the profits that could have been achieved.
4. Costs of external failure; this cost results from the customers' discovery of defective products after selling and delivering the products (Hammad, 2011).

Quality cost objectives

The main objective of applying quality costs are:

Cut costs; Quality requires doing the right things in the right way from the first time, and this means reducing damaged things or repurposing them, thus reducing costs. -Reducing the time required to complete tasks for the client; The procedures set by the company to complete the services to the client focused on achieving the goals and controlling them.

Quality achievement; By developing products and services as desired by customers (Hematfar et al., 2013).

Financial Performance

It is defined as an expression of the company's performance through achieving a number of financial goals represented in profitability, achieving high growth rates and improving the economic value represented by the returns achieved after subtracting the cost of capital from profits after taxes, in addition to facing the financial risks resulting from the use of debts and third-party

funds in financing the company's uses. The financial performance reflects the performance of the companies, as it is considered the main support for the various businesses and contributes to the availability of financial resources and providing the company with investment opportunities in various fields and achieving financial goals at the lowest possible financial costs that would meet the needs of stakeholders and achieve their goals (Hinson, 2010; Holota et al., 2016).

Financial performance indicators

Return on Assets (ROA): it is one of the most analytical indicators used in measuring the performance of business companies that are concerned with management, owners and investors. It is calculated by dividing sales to total assets (Kasasbeh, 2018).

Return on Equity (ROE): It is defined return on equity as the measurement of the return on each currency unit invested by ordinary shareholders. The return on equity is calculated by dividing the net profit by the average total equity. It determines if the investment of shareholders achieve an adequate return, and accordingly, they may decide to continue the activity or transfer their money to other investments that would bring them more appropriate return, and therefore, the lower this percentage, this is considered a negative indicator of the company's performance (Kootanaee et al., 2013; Al-Jubouri, 2015).

This indicator is considered as one of the important financial indicators that are used to measure profitability and assess the financial performance of companies. It is a percentage of the profitability ratios associated with investments whereby the net profit achieved during a period is linked to the property rights for the same period. Equity includes equity capital in addition to reserves and retained earnings. The financial analyst can express the denominator of the ratio with the average equity (Mahdi, 2019).

Uses of financial performance indicators

- Trend preview between fiscal periods of the same company.
- Comparing the company with other companies operating in the same sector.
- Comparing the company's indicators with some predefined standard indicators.
- Compare current data with future forecasts (Matar, 2016).

Earnings per share (EPS)

It is defined that the earnings per share is the net profit after tax minus the dividends of preferred shares and divided by the weighted average number of ordinary shares, and represents the return that the shareholder achieves on each share he owns in the company, and the result of this ratio is an important financial indicator, it reflects the performance form that was practiced by management, the rise in this percentage is a positive indication of the soundness of the company's position and its ability to make profits (Al-Jubouri, 2015).

This is considered as one of the financial performance indicators that are frequently used to measure the efficiency of the financial performance of companies (Matarneh & El-Dalabeeh, 2016).

Tobin's Q Index (TQ)

This indicator shows the ability of companies to improve their value and is calculated by dividing the market value of companies by their book value (Mohamed & Jones, 2014).

This indicator is one of the indicators of the future profit of investment, and that the reliance on this indicator is due to its ability to predict the profitability and performance of the company, it is one of the advanced financial indicators that assess the value of the company by estimating the ratio of its market value to its book value, which enhances its efficiency among other indicators (Mubarak, 2013).

Previous Studies

Mohamed & Jones (2014) aimed to propose a comprehensive strategic model for profitability management by adopting the concepts of strategic management accounting. Strategic management accounting tools and concepts were adopted to clarify and manage the main profitability drivers (costs, assets, and revenues). The study population consisted of the Egyptian communications and technology sector. As for the study sample, it included (467) companies operating in the Egyptian telecommunications and technology sector. The analysis included individuals working in those companies, including financial managers and executives. The deductive approach was used, and after the necessary statistical analyzes were made.

Main study results were: the proposed comprehensive profitability model that contains cost techniques, assets and revenues was a better indicator of profitability than the alternative models, which contain a combination of two variables (Muhammad et al., 2008).

Al-Khalidi (2015), entitled: The effect of using managerial accounting techniques on the decision-making process in Kuwaiti industrial companies. This study aimed to identify the impact of management accounting techniques with their variables (activity-based costs, target cost, balanced scorecard, on-time production system, and activities-based management system) on the decision-making process in Kuwaiti industrial companies. The study population consisted of all the industrial companies listed in the Kuwait Stock Exchange, of which there are (27) companies. The questionnaires were distributed to the whole community at the rate of (5) questionnaires for each of these companies, and the study sample settled on (105) respondents from the internal auditors, financial managers and cost accountants in the study companies, the researchers used the questionnaire as a tool to collect data. As for analyzes, the researchers used simple and multiple linear regression and the analysis of variance (ANOVA) tests for the purpose of testing the hypotheses of the study. Study results showed the presence of a statistically significant effect of managerial accounting techniques with their aforementioned variables in the decision-making process in Kuwaiti industrial companies. The results also showed: that managerial accounting techniques had contributed to accelerating the steps of the decision-making process, and the necessity of having qualified competencies to deal with management accounting techniques in Decision-making, and it was also found that workers in the field of management accounting are involved with specialists in order to reach a sound decision (Nour, 2015).

The study aimed to test the effect of modern strategic management accounting techniques on improving the quality of financial reports of Jordanian Companies for the Human Pharmaceutical Industry. The study population and its sample consisted of all the (15) human Jordanian pharmaceutical manufacturing companies listed in the records of the Jordanian Federation of Medicines Producers for the year (2014-2015). The descriptive and analytical methods were used in addition to multiple regression analysis to test the study hypotheses. The study outcomes showed the existence of a statistically significant effect of the benchmarking

technique in improving the quality of financial reports in the sample companies at the significance level ($\alpha \leq 0.05$), and the existence of a statistically significant effect of the benchmarking technique in improving the quality of financial reports in terms of relevance. Understandability in Jordanian companies for the human pharmaceutical industry is at a significance level ($\alpha \leq 0.05$) (Porter, 2004).

Abu Yusuf's (2016) entitled: The effect of using modern management accounting methods on increasing investor confidence in public shareholding companies listed on the Palestine Stock Exchange.

The study aimed to identify the effect of modern management accounting methods on increasing investors' confidence in public shareholding companies listed on the Palestine Stock Exchange. The study relied on the descriptive and analytical approaches and the published financial statements of these companies for (2015) period. Study aimed to measure the financial indicators indicating the confidence of investors through the aforementioned indicators, the study population consisted of the financial statements of the public shareholding companies listed on Palestine Stock Exchange. Out of (49) population companies, a sample of (41) companies have responded.

Main result was the existence of awareness at a medium degree among senior management and decision-makers in Palestine public shareholding companies (Sekaran & Bougie, 2016).

Wang (2017), entitled: "The Study of Carbon Cost Management under the Carbon Trading Mechanism - Based on the Value Chain Theory".

This study aimed to identify the key role of carbon cost management in responding to changes in the carbon market. According to a review of the literature in China and abroad, this study breaks the limitations of the current literature which focuses only on discussing the concept of carbon cost management and accounting for carbon cost in operational activities. The most outstanding outcomes is defining the role of managerial accounting for full participation in the carbon business decisions.

Based on the value chain theory, this study presents marketing, human resource management and others, in the scope of carbon cost management accounting (Tobin, 1969).

Fadlallah (2018) entitled: "The Just-in-Time Production System (JIT) and Its Impact on the Cost of Products in Industrial Facilities" (field study). This study aimed to identify the concepts, objectives, constituents, advantages and disadvantages of the production method in the Sudanese industrial establishments. The study followed the historical method in tracking previous studies, the deductive approach to determine the dimensions of the problem and formulating the hypotheses, the descriptive method for studying the theoretical framework and the inductive approach to test the study hypotheses. The study results indicated that Sudanese industrial establishments usually apply the production system on time, as this application leads into achieving production quality, and reducing production costs (Tuovila, 2020a). Al-Bayati (2019), entitled: The effect of using the target cost on the decisions of pricing educational services in Iraqi private universities.

The study aimed to show the effect of using the target cost on the educational services pricing decisions in private universities in Iraq. The study population consisted of the account's manager, the financial manager, the internal auditors, and the cost accountants, a total of (260) individuals in 26 private universities in Iraq. The study sample was (129) individuals.

For analysis, a number of statistical methods were used, such as the Cronbach alpha test to measure the stability of the study instrument, and the (T) test for the individual sample, and to use the tests: the hypotheses, the arithmetic mean, and the standard deviation, to measure the study variables.

Most study results were: there is a significant effect of applying the target cost principles on determining the costs of educational services in Iraq, and the existence of an effect of applying targeted cost methods in pricing educational services in Iraqi private universities (Tuovila, 2020b).

Study of Ghanmeh (2020), entitled: The Impact of Quality Costs on Financial Performance in the Jordanian Service Companies Listed on the Amman Stock Exchange. This study aimed to define the impact of quality costs (prevention costs, evaluation costs, internal failure costs, and external failure costs) on the financial performance of 9 Jordanian service companies, listed on ASE at the end of (2018) year. One company was excluded because Explore test marked it as an outlier, so, (8) Jordanian companies were subjected to statistical analysis.

To achieve this goal, data were collected from published financial statements of the Jordanian companies listed on ASE, transport sector, for (2009-2018) period. The statistical program (SPSS) was used to test hypotheses. The study results were:

There is a significant impact of quality costs on financial performance as measured by Tobin's Q index, and the statistical calculation revealed that the rate of return on assets in Jordanian transport companies listed on the Amman Stock Exchange was very low (0.12%).

There was a variation in the impact of quality costs dimensions on financial performance indicators, whether the impact is positive or negative (UK Essays (2018).

STUDY METHODOLOGY (METHOD AND PROCEDURES)

Study Population and Sample

The study population consisted of 43 Jordanian public shareholding industrial companies listed on the Amman Stock Exchange, at the end of (2018), so that (111) questionnaires were distributed to financial managers and accountants working in these companies. (96) Questionnaires were retrieved and were valid for analysis.

Study Variables

Independent variables: Variables related to management accounting methods:
1- Value Chain (VC). 2- Target Costing (TC). 3- Just in Time Manufacturing (JITM). 4- Quality Costs (QC).
Dependent variable: financial performance.
The study model: Multiple regression model was used to link the independent variables: value chain, target cost, timely manufacturing, quality costs, and the dependent variable financial return performance:
Multiple regression model:

$$FP = \beta 0 + \beta 1 \times VC + \beta 2 \times TC + \beta 3 \times JITM + \beta 4 \times QC + \varepsilon$$

FP = dependent variable financial performance.
VC = First Independent Variable: Value Chain.
TC = The second independent variable: Target Cost.
JITM = Independent Variable Three: Just-in-Time Manufacturing.
QC = the fourth independent variable: the firm's quality costs.
ε = margin of regression error.

β0 = equation constant.
β1, β2, β3, β4 = the regression coefficients of the independent variables.

Statistical Tests

Stability test

Cronbach alpha test was used to determine the reliability of the measuring instrument, so the reliability coefficient was calculated for all study axes. The alpha value of the whole questionnaire was 0.961, which is a good percentage being higher than the statistically acceptable percentage (Alpha ≥ 0.60) (Wang, 2017).

Normal distribution test

The researchers used the coefficients of torsion and kurtosis to ensure the extent to which the data followed the normal distribution (Table 1).

Coefficients	**Value Chain**	**Target Cost**	**Just in time**	**Manufacturing Quality Cost**	**Financial Performance**
Coefficient of torsion	-0.234	-0.253	-0.454	-0.58	0.326
Kurtosis coefficient	-0.322	-1.151	-0.639	0.683	-1.133

TABLE 1
THE VALUES OF THE NORMAL DISTRIBUTION TEST

Test Results

The values of the coefficients of kurtosis and kurtosis are less than 2 and close to zero indicating that the data follow a normal distribution (Gujarati & Porter, 2008).

Multiple linear correlation test

The researcher used the Variance Inflation Factor (VIF) test to test the correlation between the independent variables, and the results are as follows:

TABLE 2
VIF TEST RESULTS

Variable	**Value Chain**	**Target Cost**	**Just in time Manufacturing**	**Quality Cost**
Tolerance	0.168	0.206	0.496	0.495
VIF	5.938	4.848	2.018	2.019

This Table 2 shows that the VIF values were all less than the number 10, and the Tolerance value was greater than 0.10, confirming that the study model was devoid of multiple linear correlation.

Autocorrelation test

Durbin-Watson Test was used to test the self-correlation problem in the study data, and the rule that considers this self-test problem does not exist is adopted if the D-W value ranges between the two numbers (0 and 4).

It was found that the value of the test was 1.839, which reflects the absence of the Autocorrelation problem in the study data (Wseem, 2020).

STUDY RESULTS

The Statistical Results

They showed that the paragraph that states "Management accounting methods had helped make financial decisions, which in turn had improved financial performance," came first with an arithmetic average of (4.6563). This was attributed to the importance of managerial accounting methods used in helping companies' managements in making rational decisions that contribute to improving financial performance. While the paragraph "increases control over the invested capital in the company by applying management accounting methods" ranked last with an arithmetic average of (4.2813), and despite this, the arithmetic average is of a high level that reflects the importance of management accounting methods in controlling the volume of investments in the companies under study.

Hypothesis Test Results

The main hypothesis

(HO): There was no statistically significant effect at a significant level (α≤0.05) for managerial accounting methods on the financial performance of Jordanian industrial companies.

The multiple regression test of the above hypothesis with the following results:

TABLE 3 MULTIPLE REGRESSION TEST RESULTS FOR THE MAIN HYPOTHESIS				
Variables	Sig.	T	B	Beta
Constant	0.00	7.65	2.28	
Value Chain	o.67	-0.425	-0.06	-0.084
Target Cost	o.34	o.955	0.13	0.17
Just in time Manufacturing	0.13	2.525	0.21	0.29
Quality Cost	0.002	3.21	0.22	0.37

F: 14.886, R: 0.629, R2:0.396, Adjusted R2: 0.369, Sig: 0.000

From Table 3, the main hypothesis as well as sub hypotheses were verified as follows:

Main hypothesis (HO)

Table 3 shows that the value of the correlation coefficient of 0.629 reflects the strength of the relationship between the independent variables and the dependent variable. The determination coefficient, R2, is equal to 0.396, and this indicates that the independent variables represented by

management accounting methods combined explain only 39.6% of the change in the dependent variable is financial performance, and this value confirms the presence of other independent factors that significantly affect the explanation of the change in financial performance in the Jordanian industrial companies listed on the Amman Stock Exchange. F = 14.886, and the confidence level of the model Sig. (F-statistic) = 0.001, which is less than 5%, indicates that the study model enjoys convenience and indicates that there is a statistically significant effect at a significant level (α ≤ 0.05) for management accounting methods on financial performance in Jordanian industrial companies. Consequently, the first main nihilistic hypothesis is rejected and the alternative hypothesis is accepted, which states, "There is a statistically significant effect at a significant level (α ≤ 0.05) of management accounting methods on financial performance in Jordanian industrial companies."

This main hypothesis was subcategorized into the following sub-hypotheses:

HO-1: There is no statistically significant effect at a significant level (α≤0.05) of the value chain on the financial performance of the Jordanian industrial companies.

From the above Table 3 that the value of t was -0.424, for the chain value variable and it was not statistically significant at Sig 0.672, which was greater than 0.05, thus the null hypothesis would be accepted which states "There was no statistically significant effect at a significant level (α ≤ 0.05) of the value chain on the financial performance of the Jordanian industrial companies. "This result differed from studies of Nour (2015).

HO-2: There is no statistically significant effect at a significant level (α≤0.05) of the target cost on the financial performance of the Jordanian industrial companies.

We noticed from the Table 3 that the value of t = 0.95 for the target cost variable was not statistically significant, as the Sig value was 0.344, which was greater than 0.05, thus accepting the null hypothesis that states "There is no statistically significant effect at a significant level (α ≤ 0.05) of the target cost on the financial performance of the Jordanian industrial companies." However, this result was not in agreement with the studies of Kasasbeh (2018) and Al-Bayati (2019).

HO-3: There is no statistically significant effect at a significant level (α≤0.05) for just-in-time manufacturing on the financial performance of the Jordanian industrial companies.

We noticed from the Table 3 that the value of t = 2.541 for the manufacturing variable in time was statistically significant, with the value of 0.013 Sig., which is less than 0.05, thus accepting the alternative hypothesis which states "There is a statistically significant effect at a significant level (α ≤ 0.05) for a timely manufacturing on the financial performance of the Jordanian industrial companies." The results of this hypothesis were in agreement with both Kootanaee et al. (2013) and Fadlallah (2018) studies.

HO-4: There is no statistically significant effect at a significant level (α≤0.05) for quality costs on financial performance in Jordanian industrial companies.

We notice from the Table 3 that the value of t = 3.207 for the variable of quality costs is statistically significant, being 0.002 Sig., which was less than 0.05, thus accepting the alternative hypothesis which states "There is a statistically significant effect at a significant level (α ≤ 0.05)

for quality costs on financial performance in Jordanian industrial companies." The results of this hypothesis were in agreement with Ghanmeh (2020).

CONCLUSIONS

In light of the statistical results, the most important of them were: the interest of the industrial companies' managements should in regular and continuous development via applying updated management accounting methods and tools such as: just in time manufacturing and quality costs, because of their positive effect on financial performance, in addition study results encourages the use of the value chain and target costing tools in Jordanian industrial companies by taking strict procedures to reduce spoilage costs, time wasting when applying the value chain in addition to developing tight programs to define the target markets and provide the upper management with information continually and permanently on the prices of competitors, which would lead to improving the financial performance of these companies.

REFERENCES

Abu Yusef, I. A. (2016). The effect of using modern management accounting methods to increase investor confidence in public shareholding companies listed on the Palestine Stock Exchange. (Unpublished Master Thesis), Islamic University, Gaza, Palestine.

Abulaila, M. D., Abdulrahman, I., & Aloudat, A. A. (2019). The Impact of Quality Cost on Financial Performance of Banks Operating in Jordan. *Research Journal of Finance and Accounting, 10*(2), 53-61.

Al Matarneh, G. F. (2008). Requirements and Obstacles to Implementing the Targeted Cost Approach in the Jordanian Public Joint Stock Industrial Companies - (field study). *Damascus University Journal of Economic and Legal Sciences, 24*(2), 277-305.

Al-Ani, S. S. M. (2015). *The effect of strategic management accounting techniques in improving the quality of financial reports - (a field study on Jordanian companies for the human pharmaceutical industry).* Unpublished MA thesis submitted to Middle East University, Amman, Jordan.

Albano, R. E., Bird, H. M. B., Clifton, B., & Townsend, W. P. (2003). *Target Costing: Market Driven Product Design.* New Jersey, United States: Marcel-Dekker Publishing.

Al-Bayati, B. B. H. (2019). *The effect of using the target cost on pricing decisions for educational services in Iraqi private universities.* Unpublished Master Thesis submitted to Al al-Bayt University, Mafraq, Jordan.

Al-Hawajrah, K., Al-Ziyoud, H., Al-Houri, S., & Shalash, A. (2011). The Impact of Senior Management Support and Its Commitment on Total Quality Management Indicators from the Point of View of Managers and Department Heads: A Case Study of Sahab Industrial City. *Jordanian Journal of Business Administration, 7*(4), 557-576.

Ali, A. M. (2008). *Financial management.* Amman, Jordan: Ithraa for Publishing and Distribution.

Ali, M. (2017). Using financial indicators to compare the performance of commercial banks with the Islamic banks listed on the Palestine Stock Exchange. *Journal of Economic and Administrative Sciences*, *24*(102), 206-528.

Al-Jubouri, N. J. M. A. (2015). *Advanced cost accounting.* Baghdad, Iraq: National Library and Archives.

Al-Khalidi, A. S. M. (2015). *The effect of using management accounting techniques on the decision-making process in Kuwaiti industrial companies.* Unpublished Master Thesis submitted to Al al-Bayt University, Mafraq, Jordan.

Al-Nuaimi, S. Al-Din H. (2012). Predicting Firms Performance and Profit Using the Tobin's Q Equation. *Journal of Accounting and Financial Studies, 7*(20), 20-37.

Blocher, E., Stout, D., Juras, P., & Smith, S. (2018). *Cost Management: A Strategic Emphasis*, (8th Edition), New York City, United States: McGraw-Hill Education.

Dagman, K-H. L. F. (2004). *Intermediaries Handling Disintermediation Due to the Changing Business Environment of E-commerce a Case Study of Incoming Operators in the Visiting/Resort Industry.* Unpublished master's thesis submitted to Lulea University of Technology, Luleå, Sweden.

Fadlallah, A. A. Y. (2018). The Just-in-Time Production System (JIT) and its Impact on the Cost of Products in Industrial Facilities - (Field Study). Unpublished master's thesis submitted to Red Sea University, Red Sea State, Republic of Sudan.

Garrison, R. H., Noreen, E. W., & Brewer, P. C. (2017). *Managerial Accounting*, (16th Edition). New York City, United States: McGraw-Hill Education.

Ghanmeh, A. S. K. (2020). *The effect of quality costs on the financial performance of the Jordanian service companies listed on the Amman Stock Exchange*. Unpublished MA thesis submitted to Middle East University, Amman, Jordan.

Gujarati, D. N., & Porter, D. C. (2008). *Basic Econometrics*, (5th Edition). New York City, United States: McGraw-Hill Education.

Hammad, T. A-Al (2011). *Commercial Banking Performance Assessment: Risk and Return Analysis*. Edition 2, Alexandria, Arab Republic of Egypt: University House for Printing, Publishing and Distribution.

Hematfar, M., Sanati-arasteh, A., & Nooryan, S. (2013). The Steps of Implementing Target Costing (April 17, 2013). Available at SSRN: https://ssrn.com/abstract=1455184 or http://dx.doi.org/10.2139/ssrn.1455184

Hinson, R. (2010). The Value Chain and E-business in Exporting: Case Studies from Ghana's Non-traditional Export (NTE) Sector. *Telematics and Informatics Journal*, *27*(3), 323-340.

Holota, T., Hrubec, J., Kotus, M., Holienčinová, M., & Čapošová, E. (2016). The Management of Quality Costs Analysis Model. *Serbian Journal of Management*, 11(1), 119-127.

Kasasbeh, S. H. K. (2018). The effect of prevention costs in reducing costs in Jordanian industrial companies. Unpublished Master Thesis submitted to Al al-Bayt University, Mafraq, Jordan.

Kootanaee, A. J., Babu, K. N., & Talari, H. F. (2013). Just-in-Time Manufacturing System: From Introduction to Implement. *International Journal of Economics, Business and Finance, 1*(2), 7-25.

Mahdi, S. H. S. (2019). Modern management accounting methods and their role in pricing banking services - (Case study of banks operating in West Kordofan State - Sudan). *Journal of the College of Administrative and Financial Sciences, 1*(3), 18-44.

Matar, M. (2016). *Recent trends in financial and credit analysis: methods, tools, and practical uses*. 4th Edition, Amman, Jordan: Wael Publishing and Distribution House.

Matarneh, G. F., & El-Dalabeeh, A-R. (2016). The Role of Target Costing in Reducing Costs and Developing Products in the Jordanian Public Shareholding Industrial Companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 6*(4), 301-312.

Mohamed, A. A., & Jones, T. (2014). Relationship between Strategic Management Accounting Techniques and Profitability: A Proposed Model. *Measuring Business Excellence, 18*(3), 1-22.

Mubarak, S. El-D. A-M. (2013). *Cost accounting for administrative purposes - (cost management approach)*. Alexandria, Arab Republic of Egypt: Al-Wafa Legal Library.

Muhammad, M. S., Ismail, I., & Nour, A. N. (2008). *Financial Analysis - (Decision Making Entrance)*. 3rd Edition, Amman, Jordan: Wael Publishing and Distribution House.

Nawwaf, A. M., & Iyad, Z. (2019). The Impact of Liquidity and Profitability Indicators on the Market Performance Indicators of Banks Listed on the Palestine Exchange. *Journal of Economic Sciences, Management and Commercial Sciences, 12*(1), 114-131.

Nelson, M., Spiceland, J. D., & Sepe, J. (2012). *Intermediate Accounting*. New York City, United States: McGraw-Hill Education.

Nour, S. K. M. (2015). *The role of management accounting using the value chain method in achieving the strategic objectives of the industrial companies listed on the Amman Stock Exchange - (field study)*. Unpublished Master Thesis submitted to Zarqa University, Zarqa, Jordan.

Porter, M. E. (2004). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York City, United States: New York Free Press.

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill Building Approach*, (7th Edition). Hoboken, New Jersey, United States: Wiley.

Tobin, J. (1969). A General Equilibrium Approach to Monetary Theory. *Journal of Money, Credit and Banking, 1*(1), 15-29.

Tuovila (2020). *Earnings management is the use of accounting techniques to produce financial statements that present a positive view of a company's business activities and financial position*. St. John's University Queens, New York.

Tuovila, A. (2020). *Managerial Accounting*. Retrieved from Investopedia.com, https://www.investopedia.com/terms/m/managerialaccounting.asp

UK   Essays   (2018).   *Emergence   of   Management   Accounting*.   Retrieved   from   UKEssays.com,
       https://www.ukessays.com/essays/finance/emergenc-of managment- accounting.php

Wang, Z. (2017). The Study of Carbon Cost Management under the Carbon Trading Mechanism - Based on the Value
       Chain Theory. *Low Carbon Economy, 8*(2), 51-62.