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Necessities and Determinants of the Application of Target Costing System in the Industrial Public Shareholding Companies in Jordan

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Abstract
This study aimed to determine the necessities of applying the target costing approach in industrial public shareholding companies in Jordan and to identify thedifficulties restricting the use of this approach. To achieve the purpose of this study, a researcher-designed questionnaire was distributed to financial, production, and sales managers in 45 industrial public shareholding companies in Jordan. Each company was allocated three questionnaires. One sample T-test was used to test the hypothesis of the study. The empirical results showed the urgency of applying a target costing approach in industrial public shareholding companies in Jordan to provide flexibility in pricing policies, reducecosts, improve and planprofitability, keepup with the latest developments, narrowthe problems of designing, setthe lowest price, manage cost in a competitive environment, and reduce the rate of defective products. In addition, the possibility of applying target costing approach in industrial public shareholding companies in Jordan can be implemented through several requirements. The industrial public shareholding companies in Jordan have the desire to apply the target costing approach. However, difficulties were identified, and the results of the study revealed the most important determinants. These results are consistent with the findings of emerging market studies. The study is useful to authorities and organizations for identifying the necessities of applying the target costing approach. This approach paves the way for industrial public shareholding companies in Jordan to access the global market through a distinguished quality of production, high-quality productivity, low costs, and other benefits. The findings can assistin understanding the difficulties that restrict the use of modern productive systems.
Keywords: target costing approach, industrial public shareholding companies

1. Introduction

The rising global competition has obligated industrial companies to adopt modern production systems to achieve competitive advantage. Competitive advantage increases interest in the quality of products and reduces costs to a minimum to enable the company to compete in terms of quality and price in the global market. These changes have created integrals in the new managerial and accounting systems that affect decisionmaking. In addition, the continuous development of products has led to the short life of these products.The cost of productscan be identifiedas the effects on profit opportunities arefocused on the designand development stage.Consequently, traditional pricing methods based on costs plus a proportion of profit have become ineffective and lack competency. Pricing can be achieved effectively and efficiently through market price planning, which can lead to prices accepted by the market and the profit target. To achieve target price, target profit is adjusted according totheproduct design. This condition may lead to successfullydischarging the product in the market under a certain cost, which is known as the target cost.

The industrial sector in Jordan is one of the major and important sectors of the national economy that directly contributes to economic growth. This sector achieves competitive advantage versus other countries of the region in terms of attracting domestic and foreign investments. Therefore, the pricing policies of industrial companies are among theimportant factors affecting the success and progress of industrial companies and increase in their competitiveness (Masrwa and Khafaji, 2013).

2. Problem of the study

The problem of the study focuses on the necessity of searching for new costing systems that can help management reduce production costs and increase quality, particularly in the complexity of production processes resulting from changes in the business environment. Specifically, this study seeks to answer the following questions:

- What is the importance and advantages of the target costing approach?
- What are the main steps of target costing?
- What are the requirements of applying the target costing approach in the industrial public shareholding companies in Jordan?
- What are the obstacles that hinder the application of target costing approach in the industrial public shareholding companies in Jordan?

3. Importance of the study

The study considers the target costing approach as a modern productive system that can pave the way for industrial public shareholding companies in Jordan to access the global market through production quality, high productivity, low costs, and other benefits. Therefore, this study determines the importance and extent of using the target costing approach in industrial companies. This approach can increase productive competency and competitiveness by introducing cost data suitable for controlling, planning, and decision making for pricing products. In addition, this study applies this approach to industrial shareholding companies in Jordan. These companies can then upgrade their pricing approachesthrough the target costing approach. The prevailing prices in the competitive market can then be the basis for making pricing decisions.

4. Objectives of the study

The study aims to apply the concept of target costing approach and its mechanisms and requirements.
Specifically, the study examines the following:

- importance and advantages of the target costing approach
- main steps toidentify target costing
- requirements for applying the target costing approach in the industrial public shareholding companies in Jordan, and
- obstacles that hinder the application of the target costing approach in the industrial public shareholding companies in Jordan.

5. Theoretical framework

The target costing approach is one of the most important approaches of managing innovative costs.It is based on reducing costs and developing products without compromising thequality of products and client satisfaction.This approach involves designing, planning, and then studying the market and the conditions of supply and demand. Through observations, the features of products customers prefer according to their specifications and prices are recognized. Knowing this preference then enables the company to integrate the data into the company objective. In turn, company workers feel a sense of responsibility to achieve the desired objective, especially theemployees who aredirectly involvedin the design process. This sense of responsibility may exceed the limits of the company to external parties. Companies may find themselves obligated to reduce their costs and promote the level of their products, whether they are raw or manufactured (Idown 2014).

Cost is considered one of the deciding factors that canidentify companies' competitive attitude. The availability of technology enables companies to improve the quality of their products, and intensive competition prevents the possibility of increasing the selling prices.Therefore, competitive advantage makes companiesoffer theirproducts and services to the market with the best quality and the lowest possible costs. Nevertheless, the processes of improving the cost increase according to the functions of the value chain (research and development, engineering design, production, marketing, distribution, and after sales services) through two main trends. The first trend is toward completing the chain to the end (downstream) through the functions of marketing, distribution, and after sales services. The other trendis from the beginning of the chain (upstream) toward research, development, and engineering design of the products.The two trends have direct results.Generally,most Japanese industrial companies apply the second trend in the chain.The reason behind this choice is that cost drivers are in the initial stages of designing and developing products. As soon as production starts,more than 90% of the costs of product are fixed.

The concept of trending to focus on primary functions at the beginning of the value chain to achieve costreduction is called target costing. Target costing is an intensive program for reducing costs, and it starts prior to formulating plans for new products. Thus, we define target costing as the activity that aims at reducing the costs of the lifecycle of new products by preserving and confirming the specifications of quality, trust, and other demands of clients by examining all possible ideas to reduce cost in the stages of research,development, geometric design, and planning for new products (Katoy 1993).

Garrison (2003) defines target costing as the process of identifying the maximum allowable cost for the product and then identifying the design that achieves the desired profitability. Kabbabji (2014) defines target costing as "an approach in the management of costs aims at reducing costs through lifecycle of the product to provide product which suits the needs of target consumer through planning a thoughtful price based on a margin of a desired profit ended with maximum allowable cost that could be endured". Normah et al. (2015) defines target costing as "an administrative method which is based mainly on the management of products concerning cost, quality and functional performance."

The target costing principle was developed under the pressure of two factors, namely, market and cost. Companies do not have enough control in the market, but the market forces of supply and demanddetermine prices. Moreover, most costs are determined in the design stage. After a new product is designed and the manufacturing process begins, significant changes cannot be made, particularly in reducing costs, because cost

reduction should have been done in the design stage in which specifications that could add value for the consumer could beidentified and added(John J.,1998).

Boer (1999) reveals that the concept of target costing originated fromJapanand that it is used in more than 80% of Japanese assembly companies and 100% of Japanese car manufacturers. The concept of target costing is based on considering all possible ideas for reducing cost when designing new products, and work is focused on the planning production, research, and development. The process of applying the target costing approach requires a comprehensive and multi-functional information system (laste T 1998).

The target costing approach depends on the market in identifying prices and cost data, thus making this approach reliable in developing and pricing the new product (Jrairah, 2009). Fakhr (2006) reveals that target costing is considered astrategic cost that achieves the strategic objectives of the facility. This approach is based on building criteria from top to bottom, which considers the perspective of external environment that influences the cost.

Furthermore, the target costing approach is based on identifying the maximum allowable cost for the new product, and visualization is set tohow to identify target costing. The process starts with the target selling price, whichexpresses the estimated price of the product consumers are willing to pay. This price is estimated according to the extent of consumeracceptance of the product and the reaction of competitors (Jarison 2002).

Ellram (2000) claims that using thetarget costing approach is essential in developing new products and in reducing costs through perfect usage of all resources. Companies can obtain greatbenefit from researchand development, which can lead to lowered production prices required by global competition and at the same time achieve the desire of customers for high-quality products.

The strategy of pricing based on target costing includes five steps. The first step estimates the selling price, which is considered the starting point oftarget costing activities. Upon determining the estimated selling price, the next step is counting the target profit for the product or calculating the amount of profit the company desires to achieve from thecertain product. After the target costing of the product unit is subtracting the required return of the product from the expected selling price of the product. This calculation results in the estimated allowable cost (target) to produce the new product and offer it to the market.The fourth step, value engineering analysis, achieves target costing. Value engineering comprises theprocesses of regular estimation of all aspects of value chain functions needed to reduce costs and fulfill client needs (Hussein Ahmad Ali, 2000).

The final step is applying the kaizen principleor thecontinuous improvement methodas well as determining the operational control to reach more reduction in costs. The continuing improvement process takes its role in the manufacturing stage in which theeffects of value engineering and developing design have been formed. The basis to reduce costs in this stage is the development of new methods for production, such as flexible production systems and the use of administrative techniques, namely, operation control and total quality management to achieve additional savings (Jrairah, 2009).

The concept of continual improvement means continuous research for new methods to reduce costs in manufacturing a product. Masrwa and Khafaji (2013) find that target costing and continuous improvement (kaizen)are integrated methods that use cost reduction of the product continuously to increasesproduct value.

6. Previous studies

Al Maryani (2015) studied target costing and continuous improvement techniques by identifying the variables that contribute to their emergence and by recognizing the importance of integration between these two techniques in achieving cost reduction and competitive advantages of Iraqi facilities. The researcher used analytical descriptive approach and revealed that the target costing technique and continuous improvement technique are considered the most important techniques of the strategic management of cost. These techniques influence the success of the company in achieving competitive strategies, and integration leads to a great effect on performing competitive strategies, such as reducing cost and undifferentiating between products and the market.

Abdeen (2015) recognizes the extent of applying the target costing approach to support the competitive ability of factories ofready cement in the Gaza district and the obstacles that hinderits application. The study relied on the analytical descriptive approachto achieve the purpose of the study and test the hypothesis. The results of the study revealed thatfactories of ready cement in Gaza district applied the target costing approach and used modern methods to reduce cost without affectingquality. Although this practice improved the products and supported competitiveness, obstacles restrictedthe application, namely, the current political and economic circumstances and the lack of detailed information needed for applying the target costing approach.

Kaur (2014) reports the effect of target costing on achieving balance between developing and pricing products through the following sub-objectives. The role of the target costing approach is recognized in the following: in the four stages of the development of the product, increasing a suitable strategy in the competitive business environment to keep the product within the survival area according to the survival triangle, and in restricting the cost of the new product and achieving balance between price and cost of the product compared

withthe traditional approach.

The study relied on the descriptive approach, which has been performed in India, to achieve its objectives. The important results of the study are follows. Traditional and target costing approaches have different features. The traditional costing approach was suitable and popular before 1960. However, in the current business environment, the targetcosting approach is betterfor producing and developing new products in competitive markets.

The study revealed that the confrontation strategy is required in the present competitive markets. Therefore, as the company continues to perform its tasks, the application of target costing approach is necessary for developing products and subsequently for keepingthe balance between quality and cost of product. The confrontation strategy may well be the basic system for the development and profitability of the company.

Al kabbji (2014) examine the extent of applying target costing and value engineering to reduce the costs of Palestinian industrial public shareholding companies, and recognize the difficulties that prevent the application of the target costing approach and the value engineering method. Industrial companies have the elements needed for applying the target costing approach. Therefore, Palestinian industrial companies have asuitable environment to apply the target costing approach, and the companies recognize the principles, concepts, and importance of using the target costing approach in managing costs and improving profitability. These companies use value engineering access to achieve cost reduction to reach target costing. However, companies may encounter issues on adopting the approach. One of these issues is thehigh financial cost that exceeds the return of applying the target costing approach and value engineering.

Masrwa and Khafaji (2013) analyze the target costing and value engineering approaches. Aside from recognizing the nature, importance, and factors, the study identifies the technical difficulties preventing the application and cost reducing of production. The study was conducted using a sample composed of public shareholding companies in the Jordanian industrial sector. The study also looks into the dimensions of an applicable framework for the target costing approach and value engineering in managing costs by companies in the sample. Moreover, the study identifies the extent of conformity of the dimensions of the applied framework of the target costing approach and value chain in industrial companies to the theoretical framework of managing costs. Companies have a suitable environment to apply target costing approach, which has a role in cost reduction. Therefore, target costing access and value chain suit in the modern manufacturing environment indicate integrated relations between the two approaches. Finally, thestudy claims thatarelationship exists between target costing and value chain among Jordanian industrial companies.

Jrirah (2009) examines the extent of contribution of the target costing approach to raising the efficiency of pricing decisions in manufacturing light bulbs in Syria. As the situation has astrong connection withtechnical development and intensive competition, the study identifies the specifications of this approach and the advantages of its application and limitations through a field study of acompany that manufactures light bulb devices. The gap between the current cost of the product and target costing is distributed to the elementof cost, which can be reduced to reach target costing. Cost reduction can be achieved by displaying tables that show how primary production is adjusted and the distribution of the gap between the present cost and the target costing in the elements of costs.

7. Hypotheses of the study

Based on the theoretical framework, previous studies, and problem of the study, the hypotheses are as follows:
First hypothesis: Applying the target costing approach is not urgent in the industrial public shareholding companies in Jordan.
Second hypothesis: Obstacles restrict the application of target costing in industrial public shareholding companies in Jordan.

8. Methodology of the study

The researcher followed the analytical descriptive approach to perform an exploratory study on the necessity for and the determinants of applying the target costing approach in the industrial public shareholding companies in Jordan as an integrated approach. The descriptive method was used to show this importance. Further, the analytical method was used to analyze the data of the study, which were collected through questionnaires designed to test the hypotheses.

8.1 Sample of the study

The population of the study comprisedall the industrial public shareholding companies listed in the Amman Stock Exchange in 2015. The study chose 45 companies as thestudy sample. The management of these companies was compatible with the objectives of the study. A questionnaire was designed and divided into three axes:the first one includes the demographic characteristics of the study, and the remaining axes examine and testthe hypotheses.The questionnaire was presented for the purpose of arbitration among a group of specialized

teachers in the field of study. After modification of theitems, questionnaires were distributed to the sales, production, and financial managers of each company. Thus, three questionnaires were given to each company.Among the 135 distributed, 118 questionnaires were returned. As 10 questionnaires were furtherinvalidated, 108questionnaires were obtained for analysis.

8.2 Sources of data

This study used two kinds of data.Primary data were gathered directly from the questionnaire. Secondary data were represented by the office collectibles. The most important data sourceswere journals, scientific magazines, and books related to the subject of the study.

8.3 Statistical analysis

To achieve the objectives of the study and testits hypotheses, the following statistical methods were applied:

- Arithmetic means and standard deviations to analyze the responses of the individuals of the sample
- Testingof stability and validity of the responses of the individuals in the sample
- One sample T- testto evaluate the hypothesis of the study and the extent of the existing statistical significance for the difference between arithmetic means of the hypotheses and the averagemeasurementtool
- Chi-square test

8.4 Tool of the study

The Likert quintet measure was used to reveal the descriptive opinions of the sample. The study tool was developed to express the objectives of the study. The quantitative weights of the responses are as follows:

Table 1 *Quantitative weights of the responses*

Extremely agree	4–5
Agree	3–3.99
Neutral or discreet	2–2.99
Disagree	1–1.99
Extremely disagree	0–0.99

The level of importance of the responses of the sample to the questionnaire items reveals the level of their acceptance and recognition of the items.

Table 2 *Level of importance of the answers to the questionnaire items*

High	5–3.67
Medium	2.34–3.66
Low	1–2.33

Measurement was calculatedusing the following equation: Maximum degree of the measurement (5), minimum degree of the measurement (1), number of the required categories (3),and adding (1.333) at the end of each category (5 – 1/3=1.333).

8.5 Reliability of the study

Virtual honesty inthe questionnaire was conductedby distributing the form to a number of arbitrators who are highly experienced in the field of work and study. The constancy of the stability of the tool of the study was confirmed by the reliability coefficient (0.762) for all items of the variable of necessities to apply target costing in the industrial public shareholding companies in Jordan. The value reached 0.778 among all items of the variable of obstacles of applying target costing approach in industrial public shareholding companies in Jordan. As these values exceeded the accepted percentage (0.70), the results of the questionnaire are acceptable and reassure the credibility in achieving the objectives of the study. Table (1) shows the Cronbach coefficients according to the variables of the study

Table 3 *Reliability coefficients of thevariables of the study*

Variable	**Number of items**	**Cronbach alpha**
Necessity of applying the target costing approach in the industrial public shareholding companies in Jordan	19	0.762
Obstacles in applying the target costing approach in the industrial public shareholding companies in Jordan	6	0.778

8.6 Descriptive statistics of the demographic characteristics of the individuals of the sample

Table 4 illustrates the demographic characteristics of the individuals of the sample according to scientific qualifications, scientific specialization, job experience, and job position.

Table 4 *Descriptive statistics of the demographic characteristics of the individuals of the sample*

Variable	Variable category	Number	Percentage
Scientific qualifications	Diploma	16	14.8%
	Bachelor's degree	57	52.8%
	Master's degree	24	22.2%
	Doctorate	11	10.2%
	Total	108	100%
Scientific specialization	Accounting	51	47.2%
	Management	29	26.9%
	Finance and banking	25	23.1%
	Economy	3	2.8%
	Total	108	100.0%
Job experience	5 years and less	22	20.4%
	6–10 years	40	37.0%
	11–15 years	36	33.3%
	16 years and more	10	9.3%
	Total	108	100.0%
Job position	Financial manager	36	33.3%
	Production manager	36	33.3%
	Sales manager	36	33.3%
	Total	108	100%

In Table 4, 52.8% of the respondents have a bachelor's degree, and only 10.2% have a doctorate degree.Thus, a large number of managers of industrial companies have a bachelor's degree.

The proportional distribution of the respondents according to scientific specialization has the highest repetition percentage at 47.2%. This figure indicates that therespondents are capable of understanding the questionnaire and the subject of the study. Management specialization comes next at 26.9%, followed by finance and banking category at 23.1% and economy at 2.8%.

In the experience category, individuals' with6–10 years of experience have the highest percentage at 37%, followed by those with11–15 years of experience at 33.30%. This result implies that most of the sample has medium- to long-term experience. Those withexperience of 5 years and less are 20.4%, followed bythose with 16 years at 9.3%.

9. Testing the hypotheses

First hypothesis: Applying the target costing approach is not urgent in the industrial public shareholding companies in Jordan.

This hypothesis was tested based on questions 1–19 in the questionnaire. The extraction of arithmetic means and standard deviations of the responses of individuals of the study were followed bythe T-test for one sample to test the hypothesis.

Table 5 *Results of the statistical analysis of the questions on the extent of the importance and necessity of applying the target costing approach in the industrial public shareholding companies in Jordan*

Item number	**Item**	Arithmetic Means	Standard deviation	Rank	Degree of acceptance
1	Technological development and the spread of automation in a company facilitate the process of the application of the pricing approach based on target costing.	3.85	0.84	11	High
2	The application of the pricing approach based on target costing in a company requires the reduction of the target profit margin.	2.97	1.42	19	Medium
3	The application of the pricing approach based on the target costing in the company requires adopting the strategy of cost reduction through continuous improvement in the stages of production, marketing, and storing.	4.02	0.79	4	High
4	The application of the pricing approach based on target costing in the company requires using advanced techniques for cost management.	3.10	1.06	18	Medium
5	The application of the pricing approach based on target costing in the company requires the redesigning of production.	4.12	0.93	1	High
6	The application of the target costingapproach in the company increases the ratio of sales circulation and then increases profits.	3.89	0.78	6	High
7	The application of the target costing approach in the company provides more flexibility in the application of pricing policy tothe products ofthe company.	3.76	0.81	12	High
8	The application of the target costing approach in the company excludes the elements of costs that do not provide advantage for the client to improve the prices of products.	3.72	0.78	13	High
9	The application of the target costing approach is considered more justin pricing the products than the other cost approaches.	3.69	0.86	15	High
10	The application of the pricing approach in the company based on target costing contributes to removal of additional costs.	3.44	0.86	17	Medium
11	The application of the pricing approach in the company based on target costing contributes to the narrowing of problems in the design and the adoption of the lowest price.	3.88	0.93	8	High
12	The application of the pricing approach in the company based on target costing contributes to improved profitability.	4.05	0.66	3	High
13	The application of the pricing approach in the company based on target costing contributes to improving competitive ability.	3.95	0.56	5	High
14	The application of the pricing approach in the company based on target costing contributes to focusing all efforts forcontinuous improvement.	4.11	0.80	2	High
15	The application of the pricing approach in the company based on target costing contributes to planning profitability and managing costs in acompetitive environment.	3.88	0.75	7	High
16	The application of the target costing approach contributes to designing new products in a short time.	3,71	0.87	14	High
17	The application of the target costing approach contributes to keeping up with modern developments in designing products.	3.61	0.97	16	Medium
18	The application of the target costing approach requires finding an integrated work team that contributes to the product development of the company.	3.85	0.88	10	High
19	The application of the target costing approach contributes to the reduction of the percentage of defective products.	3.86	1.01	9	High
	Items (1–19) are accumulated and related to the possibility and necessity of application.	3.76	0.32	--	High

Table 5 reveals 15 items with a high acceptance degree and 4 items with a medium acceptance degree. The highest acceptance degree of items is as follows:

The mean (3.85) and standard deviation (0.84) of Item 1 indicate considerable support for the

technological development and the spread of automation in a company, which could facilitate the process of the application of the pricing approach based on target costing. For Item 3, the mean value (4.02), and standard deviation (0.79) assure that the application of the pricing approach based on target costing in the company requires adopting the strategy of cost reduction through continuous improvement in the stages of production, marketing, and storing. Item 5 is in the first class with a mean value (4.12) and a standard deviation (0.93) assure that the application of the pricing approach based on target costing in the company requires redesigning of production. Item 6 has a mean value (3.89) and a standard deviation (0.78) that indicate a high acceptance degree for the application of the target costingapproach in increasing the ratio of sales circulation and profits. Item 7 has a mean value (3.76) and a standard deviation (0.81) that illustratethat the application of the target costing approach in the company provides flexibility in the application of the pricing policy of the products in the company.

Item 8, with a mean value of (3.72) and a standard deviation of (0.78), indicates that the application of the target costing approach in the company excludes the elements of costs that do not provide advantages for the client to improve the prices of products. Item 9 has a mean value (3.69) and a standard deviation (0.86) that assure high acceptance for the application of the target costing approach, which is considered more justin pricing the products than the other cost approaches. For Item 11, the application of the pricing approach in the company based on the target costing contributes to narrowing the problems in the design and adopting the lowest price. Item 12 indicates ahigh acceptance with its mean value (3.88) and standard deviation (0.93). It reveals that the application of the pricing approach in the company based on target costing contributesto improving profitability.InItem 13, a high acceptance is observed with the mean value (3.95) and standard deviation (0.56). The application of the pricing approach in the company based on target costing contributes to improving competitive ability, especially in light of intensive competition. However, determining cost should be based on theselling prices that the market accepts.

The mean (4.11) and standard deviation (0.80) of Item 14 indicate strong support for the application of a pricing approach in the company based on target costing that focuses on efforts for continuous improvement. For Item 15, the mean value (3.88) and standard deviation (0.75) assure that the application of the pricing approach in the company based on target costing contributes to planning profitability and managing costs in a competitive environment. For Item 16, the mean value (3.71) and standard deviation (0.87) assure thatthe application of the target costing approach contributes to designing new products in a short time. For Item 18, the mean value (3.85) and standard deviation (0.88) indicate ahigh acceptance degree for the application of the target costing approach requiring an integrated work team for product development in the company. For Item 19, the mean value (3.86) and standard deviation (1.01) indicate that the application of the target costing approach reducesthe percentage of defective products.

T-test was used to verifythe statistical significance of the above results and to testthe firsthypothesis. Table 6presents the results of the testing of the First hypothesis.

Table 6 *Testing results of the first hypothesis according to T-test*

Variable	T Tabulated	T calculated	Statistical significance	Degree of freedom	Results of testing hypothesis
Possibility of application	1.984	24.938	0.000	107	Reject

Table (6) shows that the value of T calculated equals (24.938), which is more than the value of T tabulated. Thus, we based our decision on the following:

We accept premise nihilism if the value of T-calculated is less than T-tabulated, and we reject premise nihilism if the value of T-calculated is more than T-tabulated. By analyzing the responses, we confirm the rejection of premise nihilism and the acceptance of the alterative hypothesis that statesthe possibility of and the necessity for applying the pricing approach based on target costing among public industrial shareholding companies in Jordan.

Second hypothesis: Difficulties restrict the application of the target costing approach in the public industrial shareholding companies in Jordan.

This hypothesis was tested on the basis of questions 1–6. Table 7 presents the results of the statistical analysis of the difficulties of applying the target costing approach.

Table 7 *Results of the statistical analysis of the questions related to the difficulties inapplying the target costing approach in the public industrial shareholding companies in Jordan*

Item number	Item	Mean	Standard deviation	Rank	Degree of acceptance
1	Accounting knowledge of the target costing approach ofthe company is deficient.	3.18	0.93	3	Medium
2	The accounting and cost system applied in the company donot meet the requirements of applying the target costing approach.	3.72	0.83	1	High
3	Clarity of application procedures and practical steps to apply modern systems is lacking.	3.66	0.92	2	Medium
4	The management doesnot have a desire to change thetraditional methods to modern systems.	1.44	0.93	6	Low
5	The lack of technology and proper instrument hinders the application of this approach.	1.77	1.26	5	Low
6	The accounting competencies qualified for application are deficient.	1.98	1.27	4	Low
	Items 1–6 are accumulated and related to the difficulties inapplication.	2.62	0.50	--	Medium

Table (7) presents the mean valuesand standard deviations for the responses of the individuals of the study. The second hypothesis indicates a medium degree of acceptance. The total average responsefor the mean value is2.62with a standard deviation of 0.50at the item level of the scale. One item has a high degree. For Item 2, the mean value (3.72) and standard deviation (0.83) indicate that the accounting and costs system applied in the company donot meet the requirements of applying the target costing system.

Items 1 and 3 have a medium degree of support as indicated by theaverage response of3.18 and –3.66 and the standard deviationsof 0.93 and 0.92, respectively. These results indicate the lack of accounting knowledge of the target costing approach in the company and the lack of clarity of the applicable procedures and practical steps to apply this approach.

Items4, 5, and 6 do not indicate any objection from management, which is responsible for the accounting and costs of applying thetarget costing system in addition to the availability of technology and equipment suitable for application. The qualified accounting competencies require trainingonlyin the practical steps of the application. The average means of these items are 1.44,–1.77, and –1.98, and they indicate relatively low mean valueswith standard deviations of 0.93, –1.26, and –1.27, respectively.

The T-test was conducted to verifythe statistical significance of the above results. Table 8 illustrates the results of testing the second hypothesis.

Table 8*Results of testing the second hypothesis according to T-test*

Variable	T- tabulated	T-Calculated	Statistical significance	Freedom degree	Result of testing hypothesis
Difficulties of application	1,984	7,795	0,000*	107	Acceptance

Table 8reveals that the value of T-calculated (7.795) is higher than the T-tabulated (1.984).The average responses (2.62) are lower than the average default scale (3). Thus, the second hypothesis is accepted, and the premise nihilism is rejected. This decision means that the presence of obstacles restricts the application of target costing in the public industrial shareholding companies in Jordan.

10. Results and recommendations

10.1 Results of the study

Based on theoretical framework, data analysis, and hypotheses testing, the application of thetarget costing approach is urgently needed as indicated in the following results:

1. Applying the target costing approach in industrial public shareholding companies in Jordan leads to flexibility in pricing policies, reducedcosts, improvedand plannedprofitability, improved competitive ability, keeping up with modern developments, limited problems indesign, setting the lowest price, managing cost in a competitive environment, and reduced ratio of defective products.
2. The target costing approach in industrial public shareholding companies in Jordan should involve a market surveyto collectnecessary information to assist companies to develop their products based on client needs and to remainin the competitive market.
3. An effective role for the target costing approach is to developproducts through the availability of an integrated

work team along with the lifecycle of the product. The team should have practical experiences and scientific qualifications needed to develop products.
4. Applying the target costing approach in the public industrial shareholding companies in Jordan should meet the following requirements:

- Desire of the management to apply advanced accounting systems
- Availability of necessary technology
- Availability of accounting competencies qualified for application
- Desire of the public industrial shareholding companies in Jordan to apply the target costing approach

Although difficulties exist, the results of the study reveal the most important determinants:

- Lack of clarity of the target costing concept as an accounting approach
- Applied accounting system restricts the application of the target costing approach
- Lack of clarity of the applied and practical procedures of this approach

10.2 Recommendations
According to the results, the researcher recommends the following:
1. Adopting the target costing approach is necessary in the public industrial shareholding companies in Jordan. The approach represents a pricing method and a system for planning profitability and managing costs in a competitive environment.
2. The industrial companies that do not apply pricing approach based on target costing should develop relations with companies that apply this approach. These companies could then take advantage of their experience in applying the approach. Companies could hold training courses for management and employees to realize all the aspects of this approach.
3. Difficulties should be overcome in the application of the target costing approach among public industrial shareholding companies in Jordan. These companies should benefit from experienced and specialized persons in this field even if these companies have yet to implement the approach.
4. The role of the target costing approach should be recognized because of the advantage ofreducing costs and improving relations with suppliers, which are considered the foundation for the target costing approach.
5. Management of industrial companies should take interest in the participation of all its employees in the improvement and development of products according to client desires. Information on client needs can be derived from market studies.
6. Further studies should be conducted on this approach and the possibility of its application in other sectors or in the same sector from a different or complementary approach.

References

- Abdeen. H.,A. M. (2015). Target costing approach to support competitive ability for ready cement factories in Gaza district – A field study. *Journal Al AQsa university*. 19(1), 45-67.
- Al Kabbji. M. W. (2014). The extent of applying target costing and value engineering as an access to reduce costs in industrial public shareholding companies in Palestine. Dirasat:*Administative Sciences*. 41(2):170-190.
- Alkhalf. N & Zuelv. I. (2007). Pricing Using Target Cost Approach. , Journal of King Abdulaziz University: Economics and Management. 21(1), 159-200.
Al-Maryani, M. A. H. H. (2015). The strategic impact of integration between target costing and continuous improvements techniques in achieving cost reductions and competitive advantage: An analytical study. *Research Journal of Accounting, Auditing, Economics and Finance*. 3(4), 46-53.
- BOER G . & Ettlie J ., (1999). Target Costing can boost you bottom line. Strategic finance, 81 (1) , 49-52.
- Crow K., (2002). Target Costing [Online] Internet address : http ://www. Npd . com
- Ellram. I., (2000). Purchasing and supply management .participation in the target costing process. *Journal of supply chain Management*, 36 (6), 36-45.
- Garrison M., (2003). Managerial Accounting 10 th edition.
- Hussein. A. H. A. (2000). Advanced managerial accounting, Faculty of economy, Alexandria University.
Idowu, A. S. (2014). Impact of Target Costing on Competitive Advantage in the Manufacturing Industry: A Study of Selected Manufacturing Firms in Nigeria. *International Journal of Academic Research in Accounting*. 4(3), 97-108.
- Jarison. R. H. & Eric. N. (2002). managerial accounting. Riyadh. Dar Al Marich.
- John J ., (1998). Target Costing: A strategic Business Methodology, Visions Magazine, 1- 5.
- Jrairah. T. (2011). Target-Costing Based Pricing Approach: Potential Application to Drugs Sector and Medical Companies in Jordan. *Managerial Journal*. 38 (1), 161-179.
Kato Y., (1993). Target costing support system: Lessons From Leading Japancse Companies, *Management Accounting Research*, 4(1), 33-47.

Kaur, M. (2014). Poising between price and quality using target costing. *GE-International Journal of Management Research*, 2(1), 17-33.
- Khadr. S. (2007). The entrance to the accounting value and uses engineering. *Journal of Accounting, Management and insurance*. (69), 670-734.
- Kroli K., (1997). On target Improving profitabiliy through target costing, Industry week, 246 (11), 14.
- Laste. T.M., (1998). Supply chain management: the ins and outs of target costing purchasing , 124 (3), 22-25.
- Lockamy. A. & Smith. W., (2000). Target Costing for supply chain management: Criteria and selection. *Industrial Management and data systems* 100 (5), 210-212.
- Masrwa. T. & Khafaji. O. (2013). The Complementary Relationship between Target Costing and Value Chain In The Public Corporations Of The Jordanian Industrial Sector - An Empirical Study. *Accounting and financial studies journal*. 8 (2), 318-348.
- Nawaf. F. & Jlilani. M. (2006). Cost accounting (3) - 19. Damascus university.
- Nicolin. D., Tomkins. C., Holtir & Smalley. M., (2000). Can target costing and whole life costing be applied in the construction industry ? Evidence from two case studies. *British Journal of management*. 11(5), 303-324.
Omar, N., Sulaiman, S., Hui, W. S., Rahman, I. K. A., & Hamood, H. H. (2015). Target Costing Implementation and Organizational Capabilities, An Empirical Evidence of Selected Asian Countries. *Journal of economics*, business and management, 3(2), 201-206.
- Pierce B ., (2002). Target Cost Management: comprehensive benchmarking for a competitive market. *Accountancy Ireland*. 34 (2), 30- 33.