The Adoption and Implementation of Target Costing Approach in Manufacturing Companies in Jordan

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Abstract

This study investigates the use and adoption of target Costing approach (TC) in manufacturing companies in Jordan. To conduct the study and achieve its objectives, a questionnaire was developed and addressed to Financial Managers, Marketing Managers, Managerial Accountants, and Production Development and design Managers of Manufacturing Companies in Jordan. Five – point likert scales were used for measurement and one-sample t-test was applied to test the hypothesis of the study. The results of the study include the following: (1) manufacturing companies in Jordan apply the requirements of TC, (2) The benefits of adopting TC are cost reduction, customers' satisfaction, quality control, efficient pricing decisions, and application of team work approach; Obstacles for not adopting TC in Jordan are: nature of the company's work makes TC not applicable, information gathering and analysis are costly, and lack of management support and efficiency.

Keywords: target cost management, value engineering, quality control, price led costing, life cycle cost, cost reduction

1. Purpose of the Study

This study investigates the use of Target Costing (TC) approach by the Manufacturing Companies in Jordan (MCIJ) Listed in Amman Stock Exchange (ASE). The study aims to achieve the following objectives:

1. Determine whether the manufacturing Companies in Jordan implement the requirements of TC approach.
2. Find out the level of implementation of TC in manufacturing companies in Jordan.
3. Discover the reasons that make non – adopters of TC in Jordan unable to use TC. In other words, discover the obstacles facing manufacturing companies in Jordan in implementing the TC.
4. Find out the goals and benefits of implementing TC in manufacturing companies in Jordan.

2. Statement of the Problem

This study deals with the application of TC in manufacturing companies in Jordan. It is an attempt to answer the following questions:

1. Do manufacturing companies in Jordan use TC approach?
2. What is the level of implementing TC approach in MCIJ?
3. What are the barriers and obstacles facing MCIJ in implementing TC approach?
4. What are the benefits that the companies in Jordan try to achieve with TC?
5. How is Implementation of TC organized and which departments of the company are involved in TC implementation?

3. The Need for the Study

There is a competitive market for the Jordanian manufacturing products. This might make it difficult for these companies to be profitable.
One of the cost management techniques that could help these companies to be cost effective and profitable is application of TC. This study deals with adoption of TC in manufacturing companies in Jordan.

The objective of TC is to enable management to manage the business to be profitable in a very competitive market place. TC is a proactive cost planning, cost management, and cost reduction practice, early in the design and development cycle, rather than during the later stages of a product development and production. (Statement on Management Accounting/Strategic Cost Management (IMA, 1994 P.5).

4. Literature Review on Adoption of TC

4.1 Target Costing Approach

Target costing begins with a question: what should a product's cost be? This question can be answered by the following known equation: selling price – required profit margin = Target cost of the product (Feil, Hyo, and Kim, 2004).

This method contrast dramatically with the historical practice of many companies and industries (Cost Plus approach) where full cost is added to the profit margin to determine the price as shown in the following formula:

Full cost of product + profit margin = Selling Price.

The objective of target costing is to identify the production cost of a proposed product so that when sold, it generates the desired profit margin (Cooper, 1992).

Target costing was originally introduced in Japan under the name of Genkakikaku or "Ginkakikaku" (Monder and Hamad, 1991, Nicolini et al., 2000) and became popular in the English Language literature in 1990s (Cooper, 1995, Kato, 1993a and 1993b).

Target Costing is an important tool for sustaining manufacturers' overall efforts to remain cost competitive while meeting standards and specifications demanded by customers (Ellarm, 2000). TC uses price information in the market to determine product cost (Zeng and Ada, 2010).

In accounting literature, target costing has been introduced as a strategic management accounting system for the management of product costs (Ewert and Ernst, 1999). This management of target costs is generally referred to as TCM (Target Cost Management) and Japanese firms are concerned with achieving target costs simultaneously with planning, development and design of new products. In relation to this TCM system, specific tools were developed such as cost tables, value engineering, total quality management, and inter-organizational cost management (Cooper 1995: Kato, 1993, and Tani, et al, 1994).

Target costing is a reverse costing Methodology in which the selling price and profit margin are used to determine the allowable cost for manufacturing a new/existing product (Dekker and smidt, 2003). The following formula is used to determine the allowable cost:

Maximum allowable cost = attainable sales price – required profit margin, then allowable cost is adjusted for already identified cost reduction opportunities and for cost increasing and cost decreasing to reach the target cost (Yazadifar and Askarany, 2012).

TC is a systematic process of managing product costs during the design stage of a new product, establishing market sales prices and target profit margins, and reducing the overall cost of products over their life cycles by examining all ideas for cost reduction in the product planning, and R and D process (Kee, 2010, Filomena et al., 2009, Iranmanesh and Theomson, 2008; Ax, et al, 2000; Kato 1993a, 1993b, Cooper and slagmuldes; 1997, and Dekker and smidt, 2003).

The decision making process under target costing approach involves a cross functional team in which employees from various departments (Production, Engineering, Research and Development, Marketing, and Accounting) are given the responsibility of determining acceptable market price, and corresponding return on sales as well as feasibility cost in which a given item may be produced. In order to reduce costs (as one objective of target costing), team members focus on eliminating non-value costs of the process, improving product design, and modifying process method. A number of cost engineering techniques are used in the cost reduction process such as just-in-time, Total Quality Control, Material Requirement Planning and value Engineering. (http://maaw, inff)
4.2 Previous Studies

4.2.1 A Study by (Abrigh, 1998)
This study showed that TC systems have three major characteristics as follows: (Cooper, 1995)
1. Targets for price, quality, and function are set in advance.
2. Major costs are indentified in the design phase.
3. The TC approach is multifunctional.

4.2.2 A Study by Dekker and Smidt (2003)
This study reports the results of a survey among Dutch Firms listed in the Amsterdam Stock Exchange on the adoption and use of costing practices that resemble the Japanese target costing concept. The findings of this study include the following:
1. Nineteen out of thirty-two manufacturing firms claimed to use target costing practices, although they used different names of them. This number equals 59.4% adoption rate for the manufacturing sample.
2. A wide range of other names for target costing are provided by the respondents, such as: “basic net price”, “manufacturing cost reduction”, “pre-calculation”, “cost price monitoring”, contribution margin maximization”, “benchmarking of cost structures of competitors”, ”direct costing feasibility”, and cost reduction.
3. The study showed that there are some reasons for not adoption of TC, such as: management is not familiar with the method, information gathering and analysis take much time and the method of implementing TC is costly.
4. The study showed that cost reduction was the most important benefit of TC practices.
5. The product development and design department are leading departments in the target cost management process.

4.2.3 A Study by Swenson, Dan, et al (Winter 2003)
Entitled “Best Practices in Target Costing”. This study examined the ways in which target costing has been applied in variety of industries in the U.S. The study began with a survey to collect information about target costing throughout the United States. The research team selected four companies as having best practices in target costing. The team then conducted site visits at each of the "best practice" companies, namely. The Boeying Company, Caterpillar Daimler Chrysler, and Continental Teves. It is one of the leading studies on TC, with many results. Some of the results of the study are presented below:
1. Target cost principles. The six key principles of target costs are (1) Price – led costing, (2) Focus on customer, (3) Focus on design, (4) cross functional involvement, (5) Value chain involvement, and (6) a life-cycle orientation.
2. The companies included in the study used cross functional target costing teams to reduce costs and close the gap between the target costs and cost projections for the new products. The cross – functional teams used many managing tools for achieving TC objectives. The following describes some of these tools, and some characteristics of successful target costing companies.
   (a) The "best practice" companies had very effective organization structure and they responded to the "voice of customer".
   (b) Value engineering is used to increase the value of Daimler Chrysler's products to customers through improved design.
   (c) Daimler Chrysler used value analysis to evaluate many of the options that are available for its vehicles.

   The product development process at the Boeing Company has changed in recent years. Before target costing was introduced, engineers tended to design "engineering marvels" with little regard to cost. Boeing now tries to minimize unique customer requirements and incorporate change that will prove value to a large customer base.

This study discussed the historical development of target costing in Japan. The authors stated that target costing originated in Japan in the 1960s.
Since 1980s, when target costing was widely recognized as a major factor for superior competitive position of Japanese companies, extensive efforts have been made to convey target costing to Western countries. This study also explained the Japanese business and cultural factors that help Japanese companies implement target costing successfully. These factors include the following:

1. Top management leadership: In many Japanese companies, top management is strongly behind the initiative of target costing.
2. Team orientation: This team-orientation is part of the Japanese way of life (Albach, 1997). In Japan the group always comes before the individual (Alston, 1986).
3. Commitment to work: This sense of duty is visible in the readiness of Japanese employees to work long hours and their willingness to have short vacations (Martin et al. 1992).
4. Mutual Trust: The best example of trust-building measure is the life time employment that is common in Japan (Alston, 1986).
5. Management Accounting: This system is not designed to produce precise information for strategic decision, instead managerial accounting emphasized nonfinancial measures and strict market orientation. In addition, cost reduction is a major issue in Japanese cost management not product costing.
6. Education: Companies in Japan are also constantly striving to develop their employees through job rotation and expensive training. Learning in Japan is based on learning by doing”.
7. Information Network: Japanese companies have an excellent information network with customers and suppliers. This means that these companies received market information through intensive cooperation with suppliers and buyers.

4.2.5 A study by Helms, M.M. et al (2005)
This study concluded that some of the benefits of implementing target costing within the supply chain include the following: the most appropriate product development and process technologies, minimizing the complexities of product lines, eliminating cost overruns, limiting design problems and deliver the lower priced, highest valued product to the final customer. Target costing is not just a cost reduction technique or control framework, but part of profit management system including value analysis and value engineering.

4.2.6 A Study by Yazdifar and Askarany (2012)
This study explained the steps of implementing TC as follows:

1. Establishment of target sales price. The following factors which should be considered in setting sales price: level of perceived value of products for customers, competitors' price, the characteristics of the anticipated customers, the product life cycle, the expected sales quantity, and competitors' strategies (Kato, 1993a, 1993b).
2. Establishment of target profit: The factors that should be considered when setting target profit include: management strategy over the life cycle of product and the company's medium-term profit plan which might be 3-5 years. (Kato, 1993a, and 1993b)
3. Establishment of target cost: TC is the difference between target sales price and target profit.
4. Establishment of target cost for different activities and functions, subassemblies, cost items, and designers. Then establishment of cooperation between different functions. (Monden & Hamada, 1991)
5. Detailed cost information is required: The impact of different designs in cost reduction is important. Japanese firms use cost tables to summarize and compare the effects of different designs on costs.
6. Continuous comparison of the actual cost with the target cost. The target cost should not be exceeded. If the actual cost exceeds the target cost in any stage of the product development, an equivalent reduction should be made elsewhere (Cooper and Slagmulder, 1997)
7. Adoption of value engineering (VE) to incorporate customer requirements. V.E aims to realize all necessary functions for a product at a minimum total life cycle costs.

This study, then reports the results of a survey among CMA qualified management accountants working in manufacturing and service firms in UK, AU, and NZ on the adoption and implementation of TC. According to the findings, of the study, the extent of implementing TC in all three targeted countries in 2007 is relatively low. The findings show that only 17.9% of the surveyed firms in AU, 18.3% in NZ, and 16.7% in the UK (17.7% on average in the three countries) have implemented and accepted TC. There are also some firms that have introduced TC on a trial basis (5.5% on average in three countries).
4.2.7 A Study by Alinzehad; M. et al (April 2013)

The statistical population of this study includes a sample of 100 people from among the managers and scholars of firms accepted in Tahran Stock Exchange. Hypotheses were developed and t-test is used in the regression analysis. The findings of the study indicated that there are obstacles of applying target costing. Some of these obstacles are the following: It is impossible to assign a competitive price, customers' satisfaction idea is not common, there is no group work spirit, activity based costing is not applied, and value engineering is not utilized.

4.2.8 A study by Vaisle, E. et al (June, 2013)

This study concluded that the target cost method is a management tool for analyzing and reducing the cost of a product throughout its life cycle. The target costing method is market oriented, based on the rule that the market determines the selling prices. The study showed the obstacles that slow the application of target costing are as follows: relatively high cost, low degree of satisfaction of certain customers, diversified product portfolio, and imprecise segmentation by customers and products.

4.2.9 A study by Briciu, S. et al (2013)

The study looks at the pros and cons for the implementation of target costing method in Romanian Household Appliances Manufacturing Entities. The critical factors of implementation and non-implementation of target costing were analyzed.

The results obtained through practical case study demonstrate there is possibility of adopting and implementing target costing method in the household appliances manufacturing entities in Romania. Authors' conclusions highlight the most important arguments for target cost method in Romania. The benefits of TC are as follows: (1) It improves the understanding of product costs, thus allowing early identification of problems that may occur in the cost reduction process, and (2) Staff from all departments is involved in costs analysis, thus encouraging responsibility for cost management.

5. Population and the Sample of the Study

The population of the study consisted of the manufacturing companies in Jordan. Listed in Amman Stock Exchange. According to Jordan Securities Commission, the number of these companies is (74). Eighty questionnaires were distributed to these companies. A total of (60) responses were received which represent (75%) of distributed questionnaires. This percent is reasonable and will give reliable results of the study. All these responses are included in the study analysis, and a sample t-test was used in the statistical analysis.

6. Research Methodology and Collection of Data

The purpose of this study is to investigate the use and adoption of target costing approach in manufacturing companies in Jordan. To achieve this purpose, a questionnaire was developed that built on TC literature and relevant studies.

In order to help the respondents understand and answer the questionnaire, the explanation of TC approach is given in the questionnaire.

The questionnaire includes the following parts:

Part 1: Characteristics of the respondents, part 2: the requirements for use and adoption of TC, part 3: The extent to which TC was used in manufacturing companies in Jordan, part 4: benefits and advantages achieved by manufacturing companies in Jordan with TC, and part 5: reasons and obstacles for not adopting TC In Jordan.

The questionnaire was addressed to Financial Managers, Marketing Managers, Managerial Accountants, and Production Development & Design Managers of (MCIJ). This study used both engineering and accounting functions as respondents, because Target Costing is an engineering phenomenon. Five-point likert scales were used for measurement where (I) represents "do not apply", and (5) represents "apply TC with higher degree".

7. Hypotheses of the Study

The Hypotheses of the study include the following:

H01: Manufacturing Companies in Jordan do not apply the requirements for implementing target costing.

H02: Main Hypothesis
There are no Benefits and Advantages of Adopting target costing in Manufacturing Companies in Jordan.

Sub-Hypothesis

H02-1: There is no statistically effect of Target costing on cost reduction of the products in MCIJ.
H02-2: There is no statistically effect of target costing on customer's satisfaction in MCIJ.
H02-3: There is no statistically effect of target costing on quality control in MCIJ.
H02-4: There is no statistically effect of target costing on efficiency price decisions in MCIJ.
H02-5: There is no statistically effect of target costing on coordination among departments and functions in MCIJ.
H02-6: There is no statistically effect of target costing on application of Team-work approach in MCIJ.

H03 (Main Hypothesis): There are no reasons or obstacles which hinder the application of Target costing in MCIJ.

Sub-Hypothesis

H03-1: There is no statistically effect of the nature of the work of the company on adoption of Target costing in MCIJ.
H03-2: There is no statistically effect of information gathering and analysis on the adoption of Target costing in MCIJ.
H03-3: There is no statistically effect of management support and efficiency on the adoption of target costing in MCIJ.
H03-4: There is no statistically effect of the unstable price in the market due to international trade problems, and economic crises on the adoption of Target costing in MCIJ.

8. Statistical Analysis and Hypotheses Testing

The responses of the respondents were transferred to worksheet using Microsoft Excel and the SPSS is used for analysis. The following results are achieved.

8.1 Reliability Test (Cronbach's Alpha)

Table (1) presented below shows the research Cronbach's Alpha.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements for TC实施</td>
<td>0.912</td>
</tr>
<tr>
<td>Benefits and advantages of TC adoption</td>
<td>0.867</td>
</tr>
<tr>
<td>Obstacles of not adopting TC</td>
<td>0.802</td>
</tr>
<tr>
<td>All paragraphs</td>
<td>0.921</td>
</tr>
</tbody>
</table>

If Alpha Coefficients were above 0.80, they were considered high, and if they were above 0.75, they were accepted, while if they were below 0.60, then results indicated weak internal inconsistency. As shown in table (1), the results of Cronbach's Alpha were registered acceptable; however, Cronbach's Alpha results were between 0.802 and 0.912.

8.2 Descriptive Statistics of Demographic Variables

Table (2) shows the characteristics of the respondents regarding the gender, academic degree, professional certificate, area of specialty and current position. The table shows that 91.7% of the respondents are B.Sc and M.Sc holders, and 85.2% are CPAs. Also, 45.9% of the respondents are majoring in accounting, and 42.4% are production development and design managers. These statistics about the respondents indicate that they are highly qualified. Their qualifications make their responses more accurate and objective; consequently, the results of this study will be more reliable.
Table 2: Descriptive statistics of Demographic Variables

<table>
<thead>
<tr>
<th>variable</th>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>50</td>
<td>82.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td>Academic Degree</td>
<td>Diploma</td>
<td>4</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td>B.Sc</td>
<td>43</td>
<td>71.7</td>
</tr>
<tr>
<td></td>
<td>M.Sc</td>
<td>12</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>PH.D</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Professional Certification</td>
<td>JCPA</td>
<td>41</td>
<td>67.2</td>
</tr>
<tr>
<td></td>
<td>CPA</td>
<td>11</td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>CMA</td>
<td>5</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>3</td>
<td>4.9</td>
</tr>
<tr>
<td>Area of Specialty</td>
<td>Accounting</td>
<td>28</td>
<td>45.9</td>
</tr>
<tr>
<td></td>
<td>Business Admin.</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>Economic</td>
<td>3</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>Finance</td>
<td>6</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>Banking</td>
<td>6</td>
<td>9.8</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>8</td>
<td>13.2</td>
</tr>
<tr>
<td>Current Position</td>
<td>General Managers</td>
<td>3</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>Marketing Manager</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>Financial Manager</td>
<td>10</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>Managerial Accounting</td>
<td>12</td>
<td>19.7</td>
</tr>
<tr>
<td></td>
<td>Production development and design manager</td>
<td>26</td>
<td>42.4</td>
</tr>
</tbody>
</table>

8.3 The Extent to which TC was Used in Manufacturing Companies in Jordan

Table (3) shows the frequency given by the 60 respondents to each level of implementing TC stated in terms of each sentence. These sentences are arranged according to the level of TC implementation. The first sentence represents the lowest level of implementation, and the last sentence represents the highest level. For example, table (3) shows that 27.9% of respondents indicated that they implement TC in their companies, while 6.6% of the respondents indicated that a decision has been taken not to introduce TC in their companies. The percentage of applying TC in manufacturing companies in Jordan is (27.9%). This percent is reasonable, if it is compared with a percentage of adoption of target costing in UK, AU, and NZ. It was 17.7% on average of these countries (Yazdifa, et al, 2012).

Table 3: The Extent of TC Usage in Manufacturing Companies in Jordan

<table>
<thead>
<tr>
<th>Level of usage</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A decision has been taken not to introduce TC</td>
<td>4</td>
<td>6.6</td>
</tr>
<tr>
<td>Discussions have not taken place Regarding the introduction of TC</td>
<td>12</td>
<td>19.7</td>
</tr>
<tr>
<td>Some consideration is being given to the introduction of TC in future</td>
<td>11</td>
<td>18.0</td>
</tr>
<tr>
<td>TC has been introduced on a trail basis</td>
<td>17</td>
<td>27.9</td>
</tr>
<tr>
<td>TC has been implemented and accepted</td>
<td>17</td>
<td>27.9</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100%</td>
</tr>
</tbody>
</table>

8.4 Testing the Hypotheses

H01: This Hypothesis states: Manufacturing Companies in Jordan do not apply the requirements for implementing TC. (The requirements as stated in the questionnaire include the following: TC is calculated by subtracting the required profit from the selling price, the company use VE to reduce cost, the company recognizes the effect of market price, quality and functionality of the product when estimating TC, the company makes balance being cost effective and meeting the standards and specifications demanded by customer, and many barriers are removed between departments to facilitate implementation of TC.

For this hypothesis we use one sample t-test to test the significant of the mean difference from the reference mean (3).
Table 4 shows that the mean difference (0.6506) is significant where t-value (5.22) and (sig = 0.000) less than 0.05, so we reject null hypothesis and accept that "Manufacturing companies in Jordan do apply the requirements for implementation TC".

Table 4: One sample t-test for Requirements of Implementing TC

<table>
<thead>
<tr>
<th>Requirements applications for TC implementation</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Mean difference</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.6506</td>
<td>0.9644</td>
<td>0.6506</td>
<td>5.006</td>
<td>0.000</td>
</tr>
</tbody>
</table>

H02 Main hypothesis
There are no benefits and advantages of adopting TC in manufacturing companies in Jordan.

To test this hypothesis and sub-hypothesis, a series of one-sample t-test was used to the role of TC adoption on the determined benefits and advantages of TC. Table (5) shows one-sample t-test to detect the benefits and advantages of adopting TC.

Table 5: One-Sample t-test to detect the Benefits and Advantages of TC

<table>
<thead>
<tr>
<th>Goal</th>
<th>Mean</th>
<th>SD</th>
<th>Mean different</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost reduction</td>
<td>4.66</td>
<td>0.515</td>
<td>1.66</td>
<td>24.49</td>
<td>0.00</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>4.45</td>
<td>0.654</td>
<td>1.45</td>
<td>16.87</td>
<td>0.00</td>
</tr>
<tr>
<td>Quality control</td>
<td>4.38</td>
<td>0.813</td>
<td>1.38</td>
<td>12.92</td>
<td>0.00</td>
</tr>
<tr>
<td>Efficient pricing decisions</td>
<td>4.39</td>
<td>0.620</td>
<td>1.39</td>
<td>16.88</td>
<td>0.00</td>
</tr>
<tr>
<td>Coordination among department &amp; functions</td>
<td>4.47</td>
<td>0.569</td>
<td>1.47</td>
<td>19.62</td>
<td>0.00</td>
</tr>
<tr>
<td>Application of team-work approach</td>
<td>4.33</td>
<td>0.803</td>
<td>1.33</td>
<td>12.58</td>
<td>0.00</td>
</tr>
</tbody>
</table>

H02-1: There are no benefits and advantages of adopting TC regarding cost reduction.
Table (5) shows that the mean difference (1.66) is significant where t-value (24.48) and (sig = 0.00) less that 0.05, so we reject null hypothesis and accept that "There are benefits and advantages of TC adopting regarding cost reduction".

H02-2 There are no benefits and advantages of adopting TC regarding customer satisfaction.
Table (5) shows that the mean difference (1.45)is significant where t-value (16.87) and (sig = 0.00) less that 0.05, so we reject null hypothesis and accept that there are benefits and advantages of adopting TC regarding customer satisfaction".

H02-3 There are no benefits and advantages of adopting TC regarding quality control.
Table (5) shows that the mean difference (1.38) is significant where t-value (12.62) and (sig = 0.00) less that 0.05, so we reject null hypothesis and accept that "There are benefits and advantages of adopting TC regarding quality control".

H02-4 There are no benefits and advantages of adopting TC regarding efficient price decisions.
Table (5) shows that the mean difference (1.39) is significant where t-value k(16.88) and (sig = 0.00) less than 0.05, so we reject null hypothesis and accept that "There are benefits and advantages of adopting TC regarding efficient pricing decisions".

H02-5 There are no benefits and advantages of adopting TC concerning coordination among departments & functions. 
Table (5) shows that the mean difference (1.47) is significant where t-value (19.62) and (sig = 0.00) less that 0.05, so we reject null hypothesis and accept that "There are benefits and advantages of adopting TC concerning coordination among departments & functions".

H02-6 There are no benefits and advantages of adopting TC on application of team-work approach.
Table (5) shows that the mean difference (1.33) is significant where t-value (12.58) and (sig = 0.00) less that 0.05, so we reject null hypothesis and accept that "There are benefits and advantages of adopting TC on Application of team-work approach".
H03 (Main hypothesis): There are no reasons and obstacles which hinder the application of TC in manufacturing companies in Jordan.

To test this hypothesis and sub-hypothesis, a series of one-sample t-test was used to discover reasons and obstacles of not adopting TC by manufacturing companies in Jordan.

Table (6) one-sample t-test to determine the reasons and obstacles of not adopting TC is presented below.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Mean</th>
<th>SD</th>
<th>Mean different</th>
<th>t-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of work of the company make TC not applicable</td>
<td>3.41</td>
<td>0.95</td>
<td>0.41</td>
<td>3.29</td>
<td>0.00</td>
</tr>
<tr>
<td>Information gathering and analysis takes too much time</td>
<td>3.73</td>
<td>0.77</td>
<td>0.73</td>
<td>7.39</td>
<td>0.00</td>
</tr>
<tr>
<td>Lack of Management support and efficiency</td>
<td>3.45</td>
<td>0.93</td>
<td>0.45</td>
<td>3.72</td>
<td>0.00</td>
</tr>
<tr>
<td>Unstable price in the market</td>
<td>3.77</td>
<td>0.98</td>
<td>0.77</td>
<td>0.06</td>
<td>0.00</td>
</tr>
</tbody>
</table>

H03-1 Nature of work is not considered as an obstacle of not adopting TC by manufacturing companies in Jordan.

Table (6) shows that the mean difference (0.41) is significant where t-value (3.29) and (sig = 0.00) less than 0.05, so we reject null hypothesis and accept that "Nature of work is considered as an obstacle of not adopting TC by manufacturing companies in Jordan".

H03-2 Information gathering and analysis is not considered as an obstacle of not adopting TC by manufacturing companies in Jordan.

Table (6) shows that the mean difference (0.73) is significant where t-value (7.39) and (sig = 0.00) less than 0.05, so we reject null hypothesis and accept that "Information gathering and analysis is considered as an obstacle of not adopting TC by manufacturing companies in Jordan".

H03-3 Management support and efficiency is not considered as an obstacle of not adopting TC by manufacturing companies in Jordan.

Table (6) shows that the mean difference (0.45) is significant where t-value (3.72) and (sig = 0.00) less than 0.05, so we reject null hypothesis and accept that "Management support and efficiency is considered as an obstacle of not adopting TC by manufacturing companies in Jordan".

H03-4 Unstable prices in the market are not considered as an obstacle of not adopting TC by manufacturing companies in Jordan.

Table (6) shows that the mean difference (0.77) is significant where t-value (6.06) and (sig = 0.00) less than 0.05, so we reject null hypothesis and accept that "Unstable prices in the market are considered as an obstacle of not adopting TC by manufacturing companies in Jordan.

9. Conclusion

The purpose of this study is to investigate the use and adoption of target costing approach (TC) in manufacturing Companies in Jordan. In order to conduct the study, a questionnaire was designed and addressed to Financial Managers, Marketing Managers, Managerial Accountants, and Product Development and design Managers & Manufacturing Companies in Jordan.

Five-point likert scales were used for measurement and one-sample t-test is applied for testing the hypothesis of the study. The results of study include the following: (1) Manufacturing Companies in Jordan apply the requirements for implementation of TC, such as: the company uses value engineering to reduce cost, meeting customer's requirements, and remove barriers among departments to facilitate TC implementation. The benefits of TC include: cost reduction, quality control, efficient pricing decisions, customer satisfaction and application of team work approach. Obstacles facing the companies that do not use TC include the following: the nature of the work of the company makes TC not applicable, high cost of information gathering and analysis, and unstable prices in the market make it difficult to determine the selling price which is the starting point of TC.
10. References


Evert, R., and Ernst, C (1999), "Target Costing, Coordination and Strategic Cost Management" European Accounting Review, 8, pp. 23-49.


