

## **The Impact of Target Cost Method to Strengthen the Competitiveness of Industrial Companies**

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### **Abstract**

*This research deals with target cost method as one of the strategic management accounting methods, their impact on achieving success in the competitive field of industrial companies, achieving competitive advantages through the company to outdo competitors' capabilities, coping with the growing dynamics of the competitive environments in which they operate, and ensuring the strengthening of the competitiveness of the company.*

*The research problem can be formulated in the following question: Does the application of target cost method affect strengthening the competitiveness?" The researcher depends on an exploratory study by scanning the field for several companies in the engineering industries sector in Syria by using a questionnaire to determine the impact of target cost method in strengthening competitiveness.*

*The most important findings of the resulting of the research:*

- 1- There is a good positive and direct correlation between the cost target method and enhancing cost advantage.*
- 2- There is a good positive and direct correlation between the cost target method and enhancing quality advantage.*
- 3- There is a medium positive and direct correlation between the cost target method and enhancing environmental advantage.*

**Key Words:** Target Cost, Cost Advantage, Environmental Advantage, Competitive Advantage, Quality Advantage, Product Design,

### **Introduction**

The rapid developments in the modern production environment, such as increased local and international competition, the speed of technological progress, the diversity of customer needs, and the short product life cycle, showed inadequate traditional and management accounting methods to cope with these developments, therefore, they imposed new dimensions to the concepts of cost, the content of the measurement accuracy, and cost comparisons methods.

Those factors have led to the emergence of cost target method as one of the tools of cost management, which focuses on the hidden side of profitability, exemplified by the cost resulting from reducing the cost and rationalization of expenditure, provided that it is done from a strategic perspective that leads to the creation of greater value for the consumer; because adding extra value to the final product is considered strategic goal which is achieved through integration of the activities during the product life cycle starting from the product design stage and even after-sales service.

Therefore, this research deals with target cost method as one of the strategic management accounting methods, their impact on achieving success in the competitive field of industrial companies, achieving competitive advantages through the company to outdo competitors' capabilities, coping with the growing dynamics of the competitive environments in which they operate, and ensuring the strengthening of the competitiveness of the company.

**Research Problem**

The research problem is the inability of many of the companies in the modern production environment to reduce costs, and therefore the research problem can be formulated in the following question: "Does the application of target cost method affect strengthening the competitiveness?"

**The Importance of Research**

The importance of research comes from the following aspects:

**A- The importance of research theoretically comes from the following aspects:**

1- Managerial needs comprehensive and integrated information on all aspects of performance and costs associated with it to be able to run in a way that leads raising competitiveness.

2-The growing importance of the target cost method as a way to manage cost and profit aiming at reducing the overall cost of the product through the entire life cycle from the design stage.

**B- Practically, the importance of research comes impractically from the following aspects:**

1- The need for the application of the research topic in the light of the increasing competition and rapid changes in the modern production world environment and the most important technological developments and its impacts on the reality of the industrial environment in Syria, particularly in the sector of engineering industries.

2- The importance of the engineering industries sector which forms 53% of the total industrial production sectors in Syria according to the statistics of the Ministry of Industry which consists of four basic sectors: engineering industries sector, chemical industry sector, food industry sector and textile industry sector, in addition to being one of the sectors most dependent on modern and advanced methods in the field of manufacturing and information systems.

**Research Objectives**

Every successful management of any company should maintain competitive advantages, which are based on a unique strategy, because the strategic management of the cost oversees the success of the competitive company in the long term. So, the objectives of the research are to study the impact of the application of target cost method on strengthening competitiveness.

**Research Hypotheses**

Basing on the research problem and its importance and objectives, the research hypotheses were formulated in the following form:

1- There is not a significant correlation between the cost target method and strengthening competitiveness.

Ramifications for this hypothesis are the following sub-hypotheses:

1- There is not a significant correlation between the cost target method and the enhancing cost advantage.

2-There is not a significant correlation between the cost target method and the enhancing quality advantage.

3-There is not a significant correlation between the cost target method and the enhancing environmental advantage.

**Research Methodology**

The researcher, in the light of the importance of the objectives and the hypotheses, depends on the descriptive analytical methods in the preparation of the research as follow:

- The first approach is based on extrapolation and analysis of literature (books, letters, Arab and foreign periodicals and researches on the international information network) related to the intellectual aspects of the research for the purposes of rooting scientific research topic.

- The second approach is based on devising a general framework for the subject of the research supporting the requirements of the application.

The researcher also depends on an exploratory study by scanning the field for several companies in the engineering industries sector in Syria by using a questionnaire to determine the impact of target cost method in strengthening competitiveness.

### **Research Limits**

Search limits include a range of temporal, spatial and technical limits as follows:

- Temporal limits: the field study was conducted during 2011.
- Spatial limits: the field study was conducted on private engineering industries sector in the provinces of Damascus Countryside and Aleppo, whose capital exceeds 200 million Syrian pounds.
- Technical limits: the field study was limited to a variable of strengthening the competitiveness of only three variables, namely (enhancing cost advantage, enhancing quality advantage and enhancing environmental advantage).

### **Previous Studies**

#### **1- Sliman S. Alsoboa, Jihad Saleh Aldehayy at (2013)**

Companies normally seek to formulate the strategy that works as a guide to the achievement of the important indicators of global competition in providing services and products include cost reduction, excellence, innovation, flexibility, quality, contentious improvement and other success factors. Modern managerial accounting techniques come to embody these strategies. This study examines the impact of adopting competitive strategies on the use of modern managerial accounting techniques in Jordanian public industrial companies (hereafter referred to as JPIC). This is one of the first studies to examine such questions. Data were collected via a survey of all 95 JPIC.

A questionnaire survey of these companies yielded fifty-two companies. The results of multiple regression showed that: a cost leadership strategy had a significant impact on the use of activity based costing, business process re-engineering and benchmarking; and a differentiation strategy had a significant impact on the use of the activity-based costing, target costing and activity-based management; and a focus strategy had a significant impact on the use of activity-based management. The study recommended that JPIC should continue to adopt modern managerial accounting techniques and to diversify strategies as much as possible.

#### **2- Waleed Mjalli Al-Awawdeh, Jamal Adel Al-Sharairi (2012)**

The study explored the relationship between target costing and competitiveness at Jordanian Private Universities. The research question regarding target costing focused on leadership of target selling price, customer needs, degree of developing a team work, cost of the product life cycle, stage of product design and value chain development. A questionnaire was used to elicit data.

Two scales were used to measure the estimates by financial managers, directors of planning and quality, and heads of accounting departments in the universities. The sample size was 50 subjects, and response rate was 80%. Findings of the study indicated that: universities have a medium target costing dimensions of (3.48); the dimension of target selling price leadership was the highest and reducing the life cycle of university specialization was the lowest; universities enjoy a medium competitive advantages with a score of (3.46); and expansion in specializations was the highest in performance and university's specializations cost was the weakest.

Results showed a significant difference in the strength of links between the dimensions of the target costing technique and the dimensions of strengthening the competitive advantage.

Recommendations suggested that universities in general and Jordanian Private Universities in particular, have to activate the dimensions of target costing technique to achieve the competitive advantages and promote it.

#### **3- Hussein H. Hamood, Normah Omar, Suzana Sulaiman (2011)**

Advanced management accounting techniques have been seen by IFAC's (1998) evolution framework as a shift towards value creation and providing timely and relevant information needed for decision making. The adoption of advanced management accounting techniques, such as Target Costing (TC), requires organizations to be able to deal with challenges and problems that may occur during the adoption process. In today's competitive environment, many companies are continuously seeking to produce high quality and functional products based on customers' expectations gleaned from market research. In meeting these objectives, TC has been widely adopted under the original leadership of Japanese TC since the 1960s. Hence, this paper aims to review the literature investigating the TC practices in non-Japanese contexts.

The study focuses on the TC concept and its application in ten countries. The information is based on 35 articles which were written in English, translated, and published in various refereed international journals.

Furthermore, this paper discusses the factors, issues and challenges that influence TC application in the countries, as well as the applicability level of this technique in the Malaysian context. In general, the evidence reviewed reveals a significant variation in TC practices, steps followed and participants involved in TC application in the 10 countries surveyed. In addition, environmental factors and issues relating to product features improvement are crucial for a successful implementation of TC.

The paper concludes by stating that efficient supply chain management is an important element in successful TC implementation. Essentially, manufacturing companies should company closer ties with suppliers who have a distinctive role to enhance product value in TC practices.

#### **4- Yasemin Zengin, Erhan Ada (2010)**

The purpose of this study is to explore the role of target costing in managing product costs while promoting quality specifications that will meet customer requirements. In addition, it aims to develop a target costing module that will simplify implementation of target costing especially in small and medium companies (SMEs).

Tools of operations management such as quality function deployment (QFD) and value engineering (VE) have been considered and evaluated in terms of their integration into the target costing. In order to investigate the total effect, an implementation of the QFD deployment–target costing process (QFD–TC process) was conducted in a small manufacturing company.

Previous studies on target costing were mostly conducted in lead companies. This study focuses on implementation of the QFD–TC process in SMEs. Overall, it was found that the QFD–TC process was an essential technique in managing the costs of both a product and the overall production process. Combining target costing with QFD and VE techniques provides companies with a competitive cost advantage.

### ***The Theoretical Framework for Research***

#### **- The Target Cost Concept**

There were many writers' and researchers' perspectives in identifying target cost concept which can be clarified into five groups:

**Group I:** considers that the target cost method is a tool to support and manage new and future products, focusing on the design stage of the product, as defined by (Fessler & Fisher, 2000) as the process of estimating the cost of the product at the design stage, and the company commit to manufacture the product within this cost in order to make a profit when selling it with the target price desirable.

**Group II:** considers that the target cost method is Part of a comprehensive management system for the strategic cost management at the level of unit product or service as defined by (Horngren, 2006) as The Target cost for the unit, of the product, and represents disciplined estimation to the cost of the components or related parts in each unit of product or service, the company use it to achieve the target operating income per unit when it is sold by target price the target cost for the unit cost of the product is considered mandatory cost which must to be achieved through the stages of the product life cycle.

**Group III:** considers that the target cost method is a tool to determine the cost of the product based on the price set in the market, focusing on the desires of customers as defined by (Drury, 2008) as technique directed by the customer and used as a tool for cost management to improve pricing decisions and cost reductions.

**Group IIII:** Considers that the target cost method includes all the costs of the product life cycles defined by (Sakurai, 2004) is a tool for cost management in order to reduce the total cost of the product life cycle, and contribute to this process all categories: production, production engineering and product research and development, marketing, accounting.

**Group IIIII:** Considers that the target cost method is a tool aims to improve the profitability of company and reduce costs as defined by (Garrison & Noreen, 2008) as the process of determining the maximum allowed for the cost of the new product, or the original product development in order to achieve growth in sales in order to generate a profit of more than the maximum number of target cost.

From previous definitions the researcher reach to characteristics of target cost method which can be identified as follows:

1- Target cost method isa process directed by the customer, and meets their desires and needs during the product design stage.

- 2- Target cost method Sets an upper limit for the cost during the planning and design stage or product development must abide by all the activities that contribute to the value chain in the design, production and delivery of the product in order to achieve the profit target.
- 3- Target cost method is tool for planning and control at both the administrative and accounting levels, through its use in guiding objectives of cost, resources and activities, starting from the stage of planning and design of production and the end of the after-sales service and disposal of the product.
- 4- Target cost method reducing the total cost of the product life cycle, and is achieved through planning and cost estimation during the design stage of the product, and continued reduction of costs through the other stages of the product life cycle.
- 5- Target cost method achieving the goals of senior management in improving the profitability, the reduce costs, and competition in the long term of company despite the economic and technological developments, the needs of the renewable market, and internal and external pressures.

### **-The Concepts of Competitiveness, Competitive Advantage and Enhancing the Competitive Advantage**

The competitiveness is defined as the skill, technique or the outstanding source which allow company to produce values and benefits for customers more than what the competitors can offer, and emphasizes its excellence and difference from those competitors' point of view who accept this difference and excellence because it brings them more benefits and values that are superior to what other competitors offer them.

The competitive advantage is defined as: the superiority of the company to competitors, resulting from the exploiting of the essential competences of the company in creating greater values in the form of low prices or unique advantages that satisfy the customers' needs and achieve their satisfaction.

The enhancing of competitive advantage is defined as: prolonging the usefulness of the application of a unique strategy to maximize the value, through acquiring competitive advantages which are difficult for competitors to be imitated.

The researcher believes that the enhancing competitive advantage requires the usage of the company strengths and unique capabilities to achieve the following:

- 1- Defending the company against the cases of imitation to its competitive advantage by other companies.
- 2- Maintaining the current competitive advantages and developing them.

### **- Competitive Advantages**

There were many writers' and researchers' perspectives in identifying competitive advantages which can be clarified in table (1):

Table (1) competitive advantages, according to the view of some writers and researchers:

**Table No. (1): The Target Sample, and the Actual Sample**

Study	History	Competitive advantages
Wheelwright	<b>1978</b>	Low cost, superior quality, reliability of delivery
Koufteros et al	<b>1997</b>	Competitive pricing, quality value to the customer, delivery reliability and product innovation
Holweg	<b>2005</b>	Low-cost, quality, delivery reliability, and the timing of company to entry into the market
Albakri	<b>2008</b>	Cost, quality, flexibility and delivery
Dacey	<b>2007</b>	Low-cost, quality, speed of response to customers, response time and innovation
Alissa	<b>2009</b>	The lowest price, quality of service, responsiveness to customers
Altami	<b>2009</b>	Cost, quality, time, flexibility, service, environment

**Source:** prepared by the researcher.

The researcher believes that the difference of competitive advantages is due to the difference in the time period of each study and the different sectors that are being studied, and the study in this research will be limited to the competitiveness through the following competitive advantages:

### **1- Cost Advantage**

This advantage relies on the ability of the company to provide service or goods at low cost compared to competitors and as a result getting a larger market share to the company.

## 2- Quality Advantage

The product quality is not just the removal of defects and shoddy, but it is an opportunity to search for a new method that adds a higher and greater value than the customers' expectations. It adds another burden which determines the customers' demands.

## 3- Environment Advantage

The environment advantage is one of the modern and important competitive advantages in light of the great interest in the environment, because there is a responsibility of the companies of what might impact the environment from the exercise of their activities, whether damages visible or invisible. Concern for the environment one of the company's responsibilities under laws relating to environment and which obliges companying certain obligations that it fulfilled In addition to the growing expectations of the community and the regional and international levels on the company focusing on providing goods and environmentally friendly products.

The enhancing environment advantage includes several directions as follows

- Operations and environmentally friendly products.
- Reducing waste and environmental responsibility.

## *The Field Study*

### Research Community

The research community consists of directors of the following departments: public administration of the company, financial management, human resource management, production management and sales management in the companies of the engineering industries sector in Syria. The reason for choosing these departments is that they are the most important key departments in the company and which have a direct relationship in:

- The development of policies and strategies and monitoring their implementation.
- Product development and improving their quality.
- Study the market and competitors, customers' preferences and the extent of their satisfaction with company products.

### Sample Research

A random sample of 265 people, spread over (53) companies operating in each of the provinces of Damascus Countryside and Aleppo was withdrawn. Five questionnaires were distributed in each company. The number of distributed questionnaires was (265), (224) questionnaires were restored, the other (21) questionnaires were excluded because of the lack of validity of the analysis, and therefore only (203) questionnaires were used in the analysis according to table (2):

**Table No. (2): The Target Sample, and the Actual Sample**

Number of questionnaires distributed	265
Number of questionnaires restored	224
Number of questionnaires excluded	21
Number of questionnaires used in the analysis	203

**Source:** prepared by the researcher

As it is shown in the above table, that the response rate has amounted to approximately 77% (203/265), this ratio is considered suitable for statistical analysis and a realistic outcome.

### The Characteristics of the Research Sample (Descriptive Statistics)

The researcher displays in this part the personal characteristics of the respondents of the sample which are based on their answers to the questions contained in the questionnaire within a paragraph of public information in terms of age, educational attainment, specialization and number of years of practical experience as follows:

#### A - Sample Distribution According To Age Group

**Table (3) The Sample Distribution According to Age Group Through the Frequencies and Percentage.**

Age group	frequency	Percentage
30 years old and younger	21	%10.3
from 31 to 40 years	103	50.7%
from 41 to 50 years	46	22.7%
older than 50 years	33	16.3%
Total	203	100.0%

**Source:** prepared by the researcher based on the results of the statistical analysis of the questionnaire

The previous table shows that the percentage of the people aged (31-40 years) occupy first rank. When respondents rating by age group they accounted for 50.7% of the total sample size. The percentage of the people aged (41-50 years) has reached (22.7%) of the total sample size and the owners of this class came in the second place which means that a class of people aged (31-50 years) constitutes 73.4% of the total sample size. This age group is characterized with acceptable knowledge and skill, which gives a positive indication of the presence of a great deal of credibility with the respondents and then answers the questionnaire adequately and helps strengthening governance at the research hypotheses. The percentage of people over 50 years has come third at a rate of (16.3%) of the sample size. The last age group in the order was the class of the people aged (30) years old and younger accounted for 10.3% of the total sample size, which refers to the non-adoption of these companies to the younger age groups less than thirty years as director of companies engineering industries sector.

#### **B - Distribution of Sample According to Qualifications**

Table (4) shows distribution of respondents according to their qualification through the frequencies and percentages set forth in the following table

**Table (4): Distribution of the Sample According to Qualification**

Qualification	Frequency	Percentage
BS degree	174	85.7%
Master	17	8.4%
Doctorate	7	3.4%
Other certificates	5	2.5%
Total	203	100.0%

**Source:** prepared by the researcher depending on the results of the statistical analysis of the questionnaire.

The table shows that holders of BS degree occupy first place when respondents rating by qualification. The percentage of respondents carrying BS degree accounted to (85.7%). The percentage of respondents who hold advanced degrees in research sample (MS) was (8.4%) and the holders of this class came in second place. As for PhD holders, they came third by a ratio of (3.4%) which refers to the scientific level of the respondents who can answer scientifically the phrases in the questionnaire which enhances the credibility of the statistical analysis. The final category in the ranking is the respondents who hold the other certificates with percentage of (2.5%) and represented in certificates of vocational and technical institutes.

#### **C- The Distribution of the Sample According to the Scientific Specialization**

Table (5): shows distribution of respondents according to the scientific specialization of the managers in the research sample.

**Table (5): Distribution of the Sample According to the Scientific Specialization**

scientific specialization	frequency	Percentage
Engineering	68	33.5%
Accounting	64	31.5%
Management	43	21.2%
Other specialties	28	13.8%
Total	203	100.0%

**Source:** prepared by the researcher depending on the results of the statistical analysis of the questionnaire.

The Previous table shows that the percentage of specialists in engineering amounted to (33.5%) from the overall sample and occupied the first rank at the classification of the sample according to scientific specialization. The percentage of specialists in accounting amounted to (31.5%), and it amounted to (21.2%) in management whereas it amounted to (13.8%) in the other specialization such as humanities, law, education and sociology.

From the above mentioned ratios, notice that most of the respondents have a scientific specialization which enables them to answer the questionnaire as required which enhances the credibility of this tool.

**D –The distribution free respondents according to years of Experience**

Table (6) shows the distribution of the respondents according to years of experience of the research sample

**Table (6): Distribution of the Research Sample According To experience**

years of experience	Frequency	Percentage
5 years or less	8	3.9%
From 6 to 10 years.	98	48.3%
From 11 to 15 years	64	31.5%
More than 15 years	33	16.3%
Total	203	100.0%

**Source:** prepared by the researcher depending on the results of the statistical analysis of the questionnaire.

The Previous table shows that the percentage of the years of experience up to 5 amounted to (3.9%) whereas the percentage of years of experience ranging from (6-10 years) amounted to (48.3%) and occupied the first rank. The percentage of respondents whose years of experience range from (11-15) amounted to 31.5%, whereas the respondents with years of experience more than 15 amounted to (16.3%).

From the previous percentages we notice that 96% of the sample exceeds 5 years of experience, which means that the majority of respondents have sufficient experience which enables them to answer the questionnaire that enhances the credibility of this tool .

***Test of Validity and Reliability of the Tool Used***

It has been ascertained that the questionnaire prepared for this research is valid to measure what it has been prepared to measure and it includes all the elements that must be included in the analysis on one hand and the clarity of paragraphs and vocabulary on the other hand in order to be understood by the respondents through the following:

**A – Virtual sincerity**

Virtual sincerity has been confirmed through the distribution of the questionnaire on the number of arbitrators to know the extent of its sincerity in the measuring of research variables. The number of arbitrators is (5) from the Faculty of Economics at the University of Aleppo. In the light of arbitrators ‘opinions some phrases have been modified, some have been deleted, some have been reworked and others have been added.

**B- The Reliability of the Questionnaire**

Reliability testing was conducted on a sample research by using the coefficient of Alpha Cronbach. The Alpha Cronbach values range between (0- 1) and in order to be characterized reliably, the minimum value for coefficient must be not less than (0,70).

Table (7) shows the results of the analysis of Alpha Cronbach coefficient for each part of the questionnaire.

**Table (7): Alpha Cronbach Coefficient for Each Part of the Questionnaire**

Part of the questionnaire	The Alpha Cronbach value	Reliability evaluation	Ranking
Cost target	0.722	Acceptable	3
Cost advantage	0.709	Acceptable	4
Quality advantage	0.801	Acceptable	1
Environmental advantage	0.763	Acceptable	2
All parts	0.914	High	-----

**Source:** prepared by the researcher depending on the results of the statistical analysis of the questionnaire.



We notice from Table (7) that the value of Alpha Cronbach coefficient for the questionnaire parts ranging from (0.709) for the variables phrases part of cost advantage, and (0.801) for the variables phrases part of quality advantage.

This means that the value of the Alpha Cronbach coefficient for all parts of the questionnaire is greater than(0.70). This indicates that the research tool characterized by internal consistency between its phrases. The value of the coefficient Alpha Cronbach for total phrases questionnaire has reached(0.904) and this value is high which in turn indicates that the degree of stability is well characterized by the questionnaire which is valid for measuring what it has been prepared for.

### Testing Hypotheses

Analysis of variance (ANOVA) has been used in the program SPSS18 in order to know whether the regression models used in the research is significant or not, and the study of the relationship between the factors extracted as independent variables on one hand and strengthening competitiveness as the dependent variable on the other hand when the level of significance is(5% ).

Hypotheses have been statistically tested by using SPSS 18, using the correlation coefficients between the independent variables and the dependent variable for each hypothesis which were tested by regression test in order to find correlation coefficients between dependent variables and independent variables to determine whether there is a correlation, and the strength of the relationship between these variables, and then the regression equations were prepared relying on the F-Test and T-Test to determine the degree of significance of regression equations and significance variables.

#### 1- There is Not a Significant Correlation between the Cost Target Method and Enhancing Cost Advantage

To determine whether there is a significant correlation or not between the target cost method as the independent variable on one hand and the dependent variable (enhancing cost advantage) on the other hand, the regression analysis was performed and the results were as follows:

**Table (8): The significant and Definition of the Regression Model to the Axis of target Cost Method /Enhancing Cost Advantage**

Independent variable	correlation coefficient (R)	determination coefficient (R <sup>2</sup> )	Value F	significant	Value T	significant
Target cost method F	0.89	0.80	821.34	0.000	28.65	0.000
	Regression model estimated			B0	0.423	0.000
				B1	0.877	0.000

**Source:** Prepared by the researcher based on the results of the statistical analysis of the questionnaire

It is obvious from table (8) that the model representative of variables axis of target cost method / enhancing cost advantage is significant, because the value of Sig (F) (0.000)is smaller than(0.05).

The value of the correlation coefficient (R) which describes the strength of the correlation between the independent variable target cost method and the dependent variable enhancing cost advantage is(89%).This value indicates the existence of a good positive and direct correlation between the independent variable and the dependent variable.

The value of(T)calculated in absolute terms for the target cost method as an independent variable was (28.65) which is greater than the value of T spread sheet.

Thus the null hypothesis that says "there is not a significant correlation between the cost target method and enhancing cost advantage has been rejected, whereas the alternative hypothesis that says" There is a significant correlation between the cost target method and enhancing cost advantage when the level of significance is 5%" has been accepted.

The value of the coefficient of determinationR<sup>2</sup>showsthat the information provided by the target cost method explains80%ofthe improvement in the enhancing cost advantage which is a good and high rate.

From the above mentioned information the researcher was able to reach the estimated regression model equation and related to axis target cost method to enhancing the cost advantage which takes the following form\*:

$$Y_1 = b_0 + b_1 F$$

$$Y_1 = 0.423 + 0.877 F \dots\dots\dots \dots\dots \dots (1)$$

**2- There is Not a Significant Correlation between the Cost Target Method and Enhancing Quality Advantage**

To determine whether there is a significant correlation or not between the target cost method as the independent variable on one hand and the dependent variable (enhancing quality advantage) on the other hand, the regression analysis was performed and the results were as follows:

**Table (9): The significant and Definition of the Regression Model to the Axis of target Cost Method /Enhance Quality Advantage**

Independent variable	correlation coefficient (R)	determination coefficient (R2)	Value F	significant	Value T	significant
Target cost method F	0.88	0.79	758.37	0.000	27.53	0.000
	Regression model estimated			B0	0.315	0.000
				B1	0.89	0.000

Table prepared by the researcher based on the results of the statistical analysis of the questionnaire.

It is obvious from table (9) that the model representative of variables axis of Target cost method / enhancing quality advantage is significant, because the value of Sig (F) (0.000) is smaller than(0.05).

The value of the correlation coefficient (R) which describes the strength of the correlation between the independent variable target cost method and the dependent variable enhancing quality advantage is(0.88%).This value indicates the existence of a good positive and direct or relation between the independent variable and the dependent variable.

The value of (T) calculated in absolute terms for the target cost method as an independent variable was (27.53) which is greater than the value of T spreadsheet.

Thus the null hypothesis that says "there is not a significant correlation between the cost target method and enhancing quality advantage "has been rejected, whereas the alternative hypothesis that says "There is a significant correlation between the cost target method and enhancing quality advantage when the level of significance is 5%" has been accepted.

The value of the coefficient of determinationR<sup>2</sup>showsthat the information provided by the target cost method explains79%ofthe improvement in the enhancing quality advantage which is a good an acceptable and high rate. From the above mentioned information the researcher was able to reach the estimated regression model equation and related to axis target cost method to enhancing the quality advantage which takes s the following or m\*:

$$Y_2 = b_0 + b_1 F$$

$$Y_2 = 0.423 + 0.877 F \dots\dots\dots \dots\dots \dots (2)$$

**3- There is not a Significant Correlation between the Cost Target Method and Enhancing Environmental Advantage**

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\*.Y<sub>1</sub>:The dependent variable in the regression equation which represents the enhancing cost advantage  
 - F The independent variable in the regression equation which represents target cost method.  
 \*.Y<sub>2</sub>:The dependent variable in the regression equation, which represents the enhance quality advantage  
 - F The independent variable in the regression equation, which represents target cost method.

To determine whether there is a significant correlation or not between the target cost method as the independent variable on one hand and the dependent variable (enhancing environmental advantage) on the other hand, the regression analysis was performed and the results were as follows:

**Table (10): The Significant and Definition of the Regression Model to the Axis of Target Cost Method /Enhancing Environmental Advantage**

Independent variable	correlation coefficient (R)	determination coefficient (R <sup>2</sup> )	Value F	significant	Value T	significant
Target cost method F	0.79	0.63	346.43	0.000	18.61	0.000
	Regression model estimated			B0	0.641	0.000
				B1	0.84	0.000

**Source:** prepared by the researcher based on the results of the statistical analysis of the questionnaire.

It is obvious from table (10) that the model representative of variables axis of Target cost method / enhancing environmental advantage is significant, because the value of Sig (F) (0.000) is smaller than (0.05).

The value of the correlation coefficient (R) which describes the strength of the correlation between the independent variable target cost method and the dependent variable enhancing environmental advantage is (0.79%). This value indicates the existence of a medium positive and direct correlation between the independent variable and the dependent variable.

The value of (T) calculated in absolute terms for the target cost method as an independent variable was (18.61) which is greater than the value of T spreadsheet.

Thus the null hypothesis that says "there is not a significant correlation between the cost target method and enhancing environmental advantage has been rejected, whereas the alternative hypothesis that says "There is a significant correlation between the cost target method and enhancing environmental advantage when the level of significance is 5%" has been accepted.

The value of the coefficient of determination R<sup>2</sup> shows that the information provided by the target cost method explains 63% of the improvement in the enhancing environmental advantage which is a weak rate.

From the above mentioned information the researcher was able to reach the estimated regression model equation and related to axis target cost method to enhancing the environmental advantage which takes the following form\* :

$$Y_3 = b_0 + b_1 F$$

$$Y_3 = 0.641 + 0.84 F \dots\dots\dots (3)$$

From the results of testing the previous three sub-hypotheses, the null hypothesis that says that "There is not a significant correlation between the cost target method and strengthening competitiveness" is rejected, whereas the alternative hypothesis that says "There is a significant correlation between the cost target method and strengthening competitiveness when the level of significance is 5%" is accepted.

**The Results**

1. There is a good positive and direct correlation between the cost target method and enhancing cost advantage.
2. There is a good positive and direct correlation between the cost target method and enhancing quality advantage.
3. There is a medium positive and direct correlation between the cost target method and enhancing environmental advantage.

\*. Y<sub>3</sub> :The dependent variable in the regression equation, which represents the enhance environmental advantage

- F The independent variable in the regression equation, which represents target cost method.

4. Most suppliers for companies of engineering industries sector are foreign companies working outside Syria which weakens the opportunity to rely on relationships with suppliers to increase profits because there is not a possibility of applying the method of production just in time due to the high cost of shipping and customs clearance. It also weakens the opportunity to receive rewarding rebates to increase the intensity of competition faced by the company as a foreign company's customer
5. Most of the managers in the companies of engineering industries sector believes that the least expensive way to reduce the cost of the product is through the continuous improvement of mutual relations between the basic activities of the company, through the reduction of waste and raising the level of quality..
6. Most of the companies are not able to make a substantial amendment to the design of products quickly because of the high cost of changing designs adopted, and the lack of specialized departments in research and development companies.

### ***The Recommendations***

Depending on the results of the field study in the engineering industries sector in Syria the following recommendations can be provided:

1. The necessity of supporting and paying attention of senior management to apply target cost method to achieve the substantial reductions in production costs to strengthen competitiveness.
2. The necessity of developing cost systems applied in the Syrian industrial companies to be efficient strategic information systems through the adoption of comprehensive modern entrances of cost management in order to achieve profitability targets and to strengthen their competitiveness. Because the application of target cost method cannot be discussed and applied in isolation of other modern methods and entrances, which cannot replace one another, but they are interrelated and must be employed in an integrated manner with each other.
3. The necessity to provide the requirements of the application of some systems such as the production just in time through re-considering the laws of customs clearance and holding long-term partnerships with suppliers.
4. Emphasizing the importance of integrating the customers' and suppliers value chain with that of the company which provides important sources of information that help to embody the desires and requirements of the customers in the final product in the early stage of engineering and design.

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**Questionnaire**

Please tick the appropriate answer for you:

General Data:

Name: -----

Age	Answer
30 years and younger	
From 31 to 40 years	
41 to 50 years	
more than 50	

Qualifications	Answer
BS degree	
Masterdegree	
Doctorate degree	
Other certificates	

scientific specializations	Answer
Engineering	
Accounting	
Management	
Other specializations	

years of experience	Answer
5 years or less	
From 6 to 10 years	
From 11 to 15 years	
More than 15 years	

**Please Tick the Appropriate Answer**

First - The target cost method		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	The process of reducing the cost of the product is the one of the first priorities in the company objectives.					
2	The slice consumers of company products are able to assess the level of the price, quality and product characteristics					
3	The launching of new products and modifying the design of the existing products are done in a short period.					
4	There is a cooperative relationship between the company and suppliers in the field of the quality and the cost of the product components.					
5	The management of the company takes Interest in conducting studies and market researches in general.					
6	The management of the company conducts strategic analysis/ competitors' data analysis.					
7	The management of the company identifies the customer.					
8	The management of the company specifies the requirements of the customer.					
9	The management of the company specifies the selling price of the product depending on the market.					
10	The management of the company specifies target profit for each product.					
11	The management of the company determines the target cost of the product by Subtracting target profit margin for the product from the selling price.					
12	The management of the company determines the costs gap (differences / deviations) by comparing the cost of the initial design and target cost of the product.					
13	The management of the company determines the final design of the product.					
14	The management of the company determines the costs gap (differences / deviations) comparing the current cost and the target cost of the product.					
15	The management of the company makes a decision to reduce costs to fill the cost gap.					

**The Streng the Ning Competitiveness**

The cost advantage						
The Questions		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
16	The management of the company tries to reduce waste and loss to the least extent in material costs.					
17	The management of the company tries to reduce waste and loss to a less extent in wages					
18	The management of the company tries to reduce waste and loss to the least extent in the industrial indirect costs					
19	The management of the company tries to reduce waste and loss to the least extent in marketing and administrative costs.					
20	The management of the company tries to reduce waste and loss to the least extent in storage costs.					
21	The management of the company tries to reduce waste and loss to the least extent in the cost of quality.					
22	The management of the company tries to reduce waste and loss to the least extent in environmental costs.					
23	The senior management evaluates the cost performance for sections, quarterly and annually.					

The Quality advantage						
The Questions		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
24	The management of the company supports reducing the percentage of the defective and damaged products, compared with similar companies.					
25	The management of the company does its best to produce products that have specifications which identical to the standard specifications.					
26	The management of the company supports of the improvement of the quality of the product design.					
27	The management of the company supports the application of the requirements for ISO certification.					
28	Circulating of the quality standards to all the employees at the company.					
29	The management of the company enhances a awareness about the quality in the company.					

The Environment advantage						
The Questions		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
30	The management of the company works on identifying activities related to environment in the activities of the company.					
31	The management of the company works on identifying costs related to environment activities in the company.					
32	The management of the company works on studying the alternatives available to the environmental treatments.					
33	The management of the company tries to study and analyze the impact of the environmental dangers.					
34	The management of the company works on applying the appropriate Environmental standards that qualify it to get a certificate of ISO 14001.					