

THE IMPACT OF STRATEGIC MANAGEMENT ACCOUNTING TECHNIQUES ON ACHIEVING COMPETITIVE ADVANTAGE IN THE JORDANIAN PUBLIC INDUSTRIAL COMPANIES

Issa Mahmoud AlTarawneh, Aqaba University of Technology
Hussam Al-Thnaibat, Aqaba University of Technology
Salam Nawaf Almomani, Aqaba University of Technology

ABSTRACT

This study aimed to figure out the impact of the Strategic Management Accounting Techniques (SMATs) on achieving the Competitive Advantage (CA) in the Jordanian Public Industrial Companies. To achieve the objectives of the study, the descriptive analytical approach and social surveys were used and questionnaires were prepared and distributed to all the financial managers in the Jordanian public industrial companies. They were sent to (80) managers where (75) of them were subject to study by 93.8% after being chosen through the simple, random method. The study concluded many results, most important of which are: The level of the SMATs in the Jordanian public companies was high. The level of the competitive advantage dimensions in the Jordanian public industrial companies was high. There was an impact for the SMATs on the achievement of the competitive advantage, where it explains (66.1%) of the variance in achieving the competitive advantage. The study provided many recommendations, most important of which was the need to provide a modern technological environment for linking the modern SMATs with the different accounting systems in the Jordanian industrial companies, and conducting studies and research in the advanced methods and modern systems of the strategic management accounting and trying to link them to the accounting systems in general in order to accommodate the environmental variables.

Keywords: Strategic Management Accounting Techniques, Competitive Advantage, Jordanian Public Industrial Companies.

INTRODUCTION

The world today is witnessing various interrelations within the economic and social forces and variables that have contributed to the organizations' quest to improve the level of the job through reshaping the nature of the management to achieve success, which depends fundamentally on the management approach in the era of the fast changes in the commercial competition. The ability to develop organizations, including the creativity of the product and services, the main driver of growth and development through searching for strategies and ways to create new innovations to get a new competitive advantage. It can be said that the organization's survival in the business environment is subject to significant competitive pressures related to its ability to design and manage strategies that are consistent with the current conditions. (Cadez & Guilding, 2012) indicated that the emergence of the SMATs was in line with the developments in the modern business environment, as these developments led to more

attention and focus on the SMATs concepts by the management to create competitive advantages that help the management to win over its competitors.

Furthermore, the high competition requires organizations to have effective strategies that enable them to respond to different challenges so that they would be able to keep up with the major developments and changes in their internal and external environments. It is important to have an integrated vision of the organization's activities based on a clear and specific philosophy that contributes to the efficiency and effectiveness of the management in a competitive business environment (Brigham & Houston, 2009). It is no secret that the main objective of most industrial companies is enlarging profitability and reducing costs; however, this can't be achieved automatically since it requires conducting a study for all the companies for many years in addition to horizontal and vertical comparisons, as well as adopting all the modern methods in the field of the management accounting. (Cinquini & Tenucci, 2010).

The strategic dimension of the management accounting systems is concerned with applying a group of analytical techniques and systems for finding appropriate and accurate accounting information for decision makers according to the operational data of the organization for creating continuity for the activities and for achieving satisfactory returns for the relevant parties (Abboud, 2008).

The importance of employing the strategic dimension of the management accounting systems helps the industrial companies in general and the company management in particular in the field of the cost management in a way that helps to study and analyze the cost for several years related to the activity of the unit for the purpose of identifying the direction of the cost flow during those years and comparing them (Al-Ashmawi, 2011). Thus, the resulting reasons of the comparison process are determined and studied to find the appropriate treatments for them and in a way that leads to the rationalization of the decisions taken to achieve the management, guidance and analysis of the cost in the industrial company based on a group of modern management accounting methods. This is done through the analysis and study of the main and subsidiary activities of the industrial companies in order to reach the best means that help reduce the cost (Ansari et al., 2006).

The competitive advantage is an effective strategic element in seizing opportunities by offering significant and real advantages in achieving a sustainable profitability for organizations compared to their competitors (Moses, 2017). The competitive advantage is considered the cornerstone on which the performance of organizations is focused in facing the changes that are sometimes a threat to their stability. The best use of the resources and potential of these organizations and adopting competitive strategies not only make organizations able to grow, but also enable them to excel and be unique to their competitors to reach their goals and objectives. According to (Uddin, 2018), Porter determined the importance of the value chain as a diagnostic tool that separates the organization's activities to help the organization identify the advantages and differentiation of the effective cost. There are two main types of competitive advantages that provide management strategies for excelling between the companies and their competitors (Porter, 1985). Barney also suggested that to generate a competitive advantage, the organization must have valuable resources in a way that improves the regulatory effectiveness and reduces the external threats (Barney, 1991). Barney is considered the first who distinguished between the temporary and sustainable competitive advantage, where identifying and exploiting the scarce resources leads to a temporary competitive advantage while restricting the tradition of the scarce resources, and that eliminating the alternatives leads to a sustainable competitive advantage (Barney, 1991). Majeed also added that the high product quality, convenience, speed of delivery and technological support can provide the company with a competitive advantage over its

competitors, as companies gain benefits from services as a competitive advantage unlike their competitors (Majeed, 2011).

To research the relationship between the use of the SMATs and the competitive advantage, the use of the SMATs leads to the discovery of improvements and supports the competitive advantages. It also works on collecting and analyzing costs, prices, sales volume and flows to examine the suitability of the competitive position of the company in the field of its activity (Hematfar et al., 2003). Given the fact that the SMATs seek to link the costs and benefits, whether related to products, processes or activities where the benefit to the user or beneficiary is cost-oriented. This approach works in cooperation with other methods such as target cost and cost of the product lifecycle to help management achieve competitive advantages, and the key to achieving competitiveness is to sustain the competitive advantages based on identifying and recognizing the customer demands through focusing on customers and improving operations from their point of view. The sustainable competitive advantage is a kind of competitive advantage that uses the organizational competencies with a value to customers and they are difficult to be imitated by competitors that provide the efficiency and competitiveness of the organization.

STUDY PROBLEM

Given the rapid changes in different business environments and the challenges that have covered different sectors and areas, many companies seek to gain a competitive advantage that enables them to compete, survive and maintain themselves. The competitive advantage is considered a strategic goal for any company that seeks and wants to gain a distinct and unique position among the business organizations that are similar in activity in changing and unstable environments. The concept of the competitive advantage has occupied a wide and an important place in each area of the business economics through studies that proved a direct relationship between the SMATs and the degree of achieving a competitive advantage such as (Al-Kasanzani, 2015; Al-Ani, 2015; Hamdamin et al., 2018). The results of the studies indicated that the industrial companies live in a state of uncertainty as they operate slowly while achieving the competitive advantage. There is an urgent need to employ the SMA to gain competitive advantages that add a competitive value to these companies. Therefore, some companies tend to adopt methods in the management accounting to achieve the main objectives that the organization seeks to achieve, improve its financial position, increase the market share, and bridge the gap between the scientific development of the SMATs and the reality of their application because of its effective and influential role in supporting managers, supporting them in planning and supervision to make appropriate decisions, and evaluating the organization performance in different innovative ways. In light of this, the problem can be formulated as in the following main question: What is the impact of the SMATs on the achievement of the competitive advantage in the Jordanian public industrial companies?

The following questions are thus drawn:

What is the level of practicing the SMATs by the Jordanian public industrial companies?

What is the availability of the competitive advantage dimensions in the Jordanian public industrial companies?

IMPORTANCE

The current study derives its importance from the importance represented by the Jordanian public industrial companies in general since they are the artery of various economic activities, through the optimal employment of investment. The study seeks to verify the ambiguity and uncover the best and fastest ways in achieving the competitive advantage of the industrial companies in Jordan through a questionnaire that surveys the opinions of the researchers. The importance of the study is also evident in its aspects: theoretical and applied. In the theoretical aspect, the study importance is evident through adopting some modern studies examining the study variables (SMATs and competitive advantage) and their dimensions as well as adopting the cognitive focus of the studies adopted by the study. As for the applied aspect, the importance of the current study lies in studying the level of the application of its variables with the dimensions, identifying relations between them for the Jordanian industrial companies, and providing benefit through information on the practical level of the administrators of the Jordanian industrial companies through recommendations presented to them.

HYPOTHESES

To achieve the objectives of the study, the following hypotheses have been formulated:

H01 The first main hypothesis:

There is no statistically significant impact at sig. ($\alpha \leq 0.05$) for the SMATs with their dimensions (activities-based cost techniques, target-cost technique, reference technique, and total quality technique) on achieving the competitive advantage (cost leadership and differentiation) in the Jordanian public industrial companies.

H01 Sub-Hypothesis 1 There is no statistically significant impact at sig. ($\alpha \leq 0.05$) for the SMATs with their dimensions of (activities-based cost technique, target-cost technique, reference technique, and total quality technique) on the cost leadership as one of the dimensions of the competitive advantage in the Jordanian public industrial companies.

H0.2 Sub-Hypothesis II There is no statistically significant impact at sig. ($\alpha \leq 0.05$) for the SMATs with their dimension of (activities-based cost technique, target-cost technique, reference technique, and total quality technique) on the differentiation in the Jordanian public industrial companies.

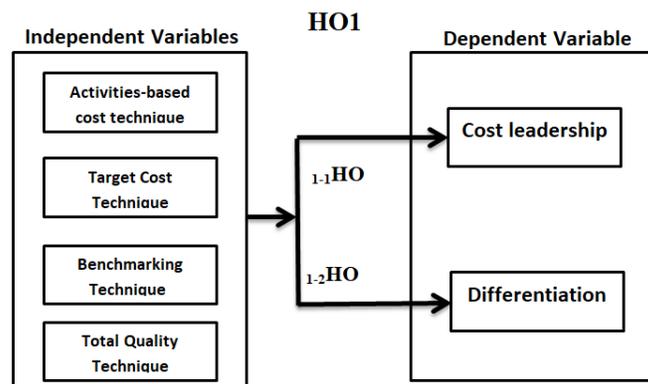


FIGURE 1
STUDY MODEL OF INDEPENDENT VARIABLES & DEPENDENT VARIABLE

PREVIOUS STUDIES

The results of examining literature and previous studies indicated no studies, to the knowledge of the researcher, that were directly concerned with the impact of the SMATs on achieving the competitive advantage in the Jordanian industrial companies; therefore, this study tried to employ what was stated in the previous studies as much as possible:

Srouf, et al., (2019) "The role of the specifications-based cost technique in achieving the competitive advantage to face the effects of globalization in the modern dyeing company". This study aimed to use a modern technique of the cost management to create and strengthen the competitive advantage of the economic unit to help it cope with globalization. The research was applied in the company and the inductive approach was used in the theoretical aspect and the analytical approach was used in the practical aspect. The researchers reached a number of conclusions, most important of which is that the adoption of the specifications-based cost technique contributes to the achievement of the quality required considering that quality means that the product matches the specifications needed by the consumer in light of the price that satisfies him. Other recommendations include 1- The need to use the specifications-based cost technique to measure the costs for improving the quality and reducing the cost, which helps facing globalization locally and globally, 2- It is necessary to determine the wishes of customers for the purpose of facing the competing products and increasing the market share of the product through using (joint analysis or value engineering),3- it is important that the economic unit use the specifications-based cost technique since it reduces the cost as it identifies the activities that do not add a value and tries to reduce or exclude their costs.

(Al-Hnaiti & Al-Qaeid, 2019) "The impact of the organizational structures on achieving the competitive advantage: a field study in the industrial companies in Jordan". It aimed to determine the organizational structures and their impact on achieving the competitive advantage through their dimensions (cost, quality, flexibility, and creativity). The study population consisted of all the private industrial and service institutions that won the King Abdullah II Award for Excellence for the 2014-2015 sessions by 7 institutions with 1241 employees. The questionnaires were adopted in this study for collecting data and they were distributed to the study sample which consisted of 208 employees in the senior and middle administrative levels. After they were checked, only 175 questionnaires were analyzed by a response rate of 1.84%. The results of the study showed a statistically significant impact of the organizational structures on achieving the competitive advantage to a high degree. Based on the results, the study recommended moving away from centrality in decision-making, activating the channels of communication between all the administrative levels, and dealing positively inside the organization and controlling it to increase its ability to bring about change and meet the internal challenges.

(Al-Awawdeh, 2019) "The impact of the strategic information systems on the competitive advantage of the branches of the Jordanian banks operating in Irbid, Jordan". The study aimed to figure out the impact of the strategic information systems on the competitive advantage of the branches of the Jordanian banks operating in Irbid, Jordan. This study examined three elements of the strategic information systems: human resources, data and information, and information technology. It also addressed two dimensions of the competitive advantage: cost and differentiation. The study population consisted of all the 57 branches of the Jordanian banks operating in Irbid, Jordan. The researcher adopted the total survey method to study and analyze the study population, and the questionnaire was used as a means for collecting data. The study results showed that there is a strong positive relationship between the elements of the strategic

information systems and the indicators of the competitive advantage. The relationship between the elements of the strategic information systems and the cost was stronger compared to the relationship between the elements of the strategic information systems and differentiation where the correlation coefficient was 0.779. With regard to the impact of the elements of the strategic information systems on the competitive advantage indicators, the results showed that the IT variable was the most variable affecting the competitive advantage, followed by the data and information variable, and the human resources variable.

(Al-Kasanzani, 2018) "The impact of using the modern management accounting methods in the industrial companies to achieve the competitive advantage: (Case study of the Kurdistan Region of Iraq)". The study aimed to figure out the impact of using the modern management accounting methods in the industrial companies to achieve the competitive advantage, and their impact on granting a competitive advantage for the product. This will satisfy the consumer and customers and achieve acceptable profits for the company. The researcher adopted the industrial companies in the Kurdistan region of Iraq as a case study/model for the study. To achieve the objectives of the study, the researcher applied a questionnaire for the purposes of demonstrating the impact of using the modern management accounting methods (target cost, value engineering, activities-based cost, continuous improvement, and balance score card) on the study sample consisting of 50 companies in the Kurdistan region of Iraq. The study showed that the degree of the impact on the study sample by the modern management accounting methods in the industrial companies was medium in general on the overall performance as well as their five areas. The study also showed a statistically significant impact for using the modern administrative and contemporary accounting systems on the competitive advantage where the significance level in the total level was less than 0.05.

METHODOLOGY

This study is based on using two approaches of scientific research.

Descriptive analytical approach: It was used to review the most important literature related to the SMATs and the competitive advantage in addition to the previous studies with some analysis and comparisons whenever possible to cover the theoretical aspect of the study.

Field research: It was used to cover the practical aspect of this study, through which the study tries to test the validity of its hypotheses, answer its questions, and draw its conclusions by relying on the questionnaire prepared for the purposes of this study in accordance with the practical steps known.

POPULATION AND SAMPLE

The current study consisted of the Jordanian public industrial companies listed on the ASE according to the ASE 2019 bulletin. The sample is represented by the financial managers and accountants, where 21 companies have been excluded for incomplete financial statements. Forty-two companies were adopted to complete all their financial statements, with all 42 financial managers selected; 33 financial managers were recovered by 78.6% and a random sample of accountants n.42 out of 126 by 33.3% where at least one accountant was taken from each company. The following table shows the characteristics of the study sample. Questionnaires were distributed manually and electronically to all the members of the sample. 80 Questionnaires were

distributed and 75 questionnaires were recovered and adopted for the purposes of the statistical analysis. The following table shows the characteristics of the study sample.

STATISTICAL TREATMENT

The study uses the (SPSS). V.22 in analyzing data to answer the items of the study tool and test its hypotheses in accordance with the following statistical treatments:

Calculation of frequencies and percentages to describe the characteristics of the study sample and calculate the means and standard deviations to answer the study questions.

Calculation of the multiple regression analysis for testing the validity of the study model and the dimensions of the independent variable and its impact on the dependent variable and its dimensions.

Stepwise Multi-regression analysis to test the entry of the independent variables into the dependent variable prediction equation.

One variance analysis to test the differences of the demographic variables in the researchers' perceptions of the dependent variable.

The test of the variance inflation factor and the tolerance test to ensure that there is no high Multicollinearity among the independent variables. Skewness test to ensure that the data follow the normal distributions. Cronbach's Alpha to measure the internal consistency of the study dimensions.

Viewing Results.

ANSWERING STUDY QUESTIONS

The results of the descriptive statistics of the data, namely the means, standard deviations of the study dimensions and the items that are formed for each dimension are presented.

Answer to the first question: What is the level of practicing the SMATs in the Jordanian public industrial companies?

Means and standard deviations of the perceptions of the members of the study sample for the level of the (SMATs) in the Jordanian public industrial companies from the point of view of the researchers.

Sequence of items	Dimensions of (SMATs)	Mean	Standard deviation	Rank	Level according to mean
01-Jun	activities -based cost technique	3.75	0.53	1	High
07-Dec	Target cost technique	3.71	0.55	3	High
13-18	Reference comparison technique	3.65	0.58	4	medium
19-24	Total Quality technique	3.72	0.54	2	High
Jan-24	Total mean	3.71	0.52	-	High

Table 1 shows that the mean for the dimensions of the level of the strategic management accounting techniques in the Jordanian public industrial companies was 3.71 by a standard deviation of 0.52. This means that the perceptions of the study sample members of the level of the SMATs are high. By analyzing the dimensions of the SMATs, it is clear that the activities-based cost technique was ranked first with a mean of 3.75 and a standard deviation of 0.53,

followed by the total quality technique with a mean of 3.72 and a standard deviation of 0.54, the target cost technique with a mean of 3.71 and a standard deviation of 0.55, and finally the reference comparison technique in the fourth and final rank with a mean of 3.65 and a standard deviation of 0.58.

Answer to the second question: What is the level of the availability of the dimensions of the competitive advantage in the Jordanian public industrial companies?

Means and standard deviations of the perceptions of the members of the study sample for the availability of the competitive advantage dimensions in the Jordanian public industrial companies from the point of view of the researchers

Sequence of items	Dimensions of (SMATs)	Mean	St. D	Rank	Level according to mean
25-30	Cost leadership	3.69	0.55	2	High
31-36	Differentiation	3.71	0.53	1	High
25-36	Total mean	3.7	0.53	-	High

Table 2 shows that the overall mean for the dimensions of the competitive advantage was 3.70, which means that the researchers' perceptions of the availability of the competitive advantage dimensions in the Jordanian public industrial were high. By analyzing the dimensions of the competitive advantage, it is clear that the differentiation was ranked first with a mean of 3.71 and a standard deviation of 0.53, while the cost leadership was ranked second and last with a mean of 3.69 and a standard deviation of 0.55.

TESTING STUDY HYPOTHESES

Before applying the regression analysis to test the study hypotheses, the tests of the VIF, tolerance and Skewness were conducted to ensure that the data were appropriate to the regression analysis assumptions as follows:

It was confirmed that there was no Multicollinearity among the independent variables using the Variance Inflation Factor test, the Tolerance test for each of the independent variables, taking into account that the (VIF) of the value 10 and the tolerance test value is greater than (0.05) and the Skewness test taking into account that the data follow the normal distribution if the value of the Skewness factor is less than 1. Table 3 shows the results of these tests:

Dimensions of the independent variable	VIF	Tolerance	Skewness
activities -based cost technique	2.941	0.167	0.358
Target cost technique	4.095	0.285	0.444
Reference comparison technique	2.44	0.41	0.111
Total Quality technique	3.974	0.125	0.322

It is clear from the table above that the VIF value for all the variables covered by the first main hypothesis is less than 10 ranging from 2.440-4.095, the tolerance test values ranged from 0.111-

0.410, which is an indication of the lack of a Multicollinearity among the independent variables and that the data follow the normal distribution by calculating the Skewness coefficient, where the values were less than 1.

The validity of the model was also confirmed to test the main and dependent study hypotheses. Results of the analysis of variance to confirm the validity of the model to test the study hypotheses.

Variable	Dependent variable	Freedom degree	Edited R ²	F calculated value	F significance
first main hypothesis	Competitive Advantage	(3,71)	0.661	246.32*	0
	Cost leadership	(3,71)	0.683	279.37*	0
	Differentiation	(3,71)	0.561	131.094*	0

The statistical results in table 4 indicate the suitability of the model to test the main hypothesis, and that there is a statistically significant impact at sig. $0.05 \alpha \leq$, for the SMATs with its dimensions (activity-based cost technique, target cost technique, reference comparison technique, and total quality technique) on achieving the competitive advantage in the Jordanian public industrial companies, based on the calculated value (F) of 246.32 at sig. $\alpha : 0.000$, which is significant at sig. $0.05 \alpha \leq$. The statistical results in the same table also show that the dimensions of the strategic management accounting techniques as an independent variable explain 66.1% of the variation in the dependent variable (achieving competitive advantage), a relatively high interpretive power that reflects an acceptable degree of strength and reliability of the study model.

***The first main hypothesis:** there is no statistically significant impact at sig. $\alpha \leq 0.05$ for the SMATs with their dimensions of (activities-based cost technique, target cost technique, reference comparison technique, and total quality technique) on achieving the competitive advantage (cost leadership and differentiation) in the Jordanian public industrial companies.*

Dimensions of SMATS	B	Standard error	Beta	Value of t	Statistical significance
activities -based cost technique	0.148	0.061	0.156	2.430*	0.016
Target cost technique	0.144	0.049	0.133	2.944*	0.003
Reference comparison technique	0.344	0.084	0.367	4.074*	0
Total Quality technique	0.236	0.067	0.252	3.498*	0.001

The statistical results in Table 5 with the follow up of Beta coefficients and T test show that the dimensions of the independent variable (activities-based cost technique, target cost technique, reference technique, and total quality technique) respectively have a statistically significant impact on the dependent variable (achieving competitive advantage) in terms of the high values

of (t) shown in the previous table at sig. $\alpha \leq 0.05$ and the statistically significant impact of beta values.

Order of independent variables in the prediction equation	Value of R ²	T calculated value	Statistical significance
Reference comparison technique	0.631	6.513*	0
Total Quality technique	0.647	4.043*	0
Target cost technique	0.657	3.974*	0
activities -based cost technique	0.661	2.991*	0

When conducting the step wise multiple regression analysis to determine the importance of each dimension of the independent factor individually in contributing to the mathematical model, which represents the impact of the dimensions of the SMATs on achieving the competitive advantage, Table 6 shows the order of the entry of the dimensions of the independent factor in the regression equation. The dimension of the reference comparison technique was ranked first explaining 63.1% of the variance in the dependent variable (achieving competitive advantage), followed by the total quality technique, which explains 64.7% of the variance in the dependent variable (achieving competitive advantage), the target cost technique which along with the (target cost technique and total quality technique) explained 65.7% of the variance in the dependent variable (achieving the competitive advantage), and finally the dimension of the cost technique based on activities which with the previous dimensions explained 66.1% of the variance in the dependent variable (achieving the competitive advantage).

Sub-hypothesis 1: There is no statistically significant impact at sig. $\alpha \leq 0.05$ for the SMATs with their dimensions of (activities-based cost technique, target cost technique, reference comparison technique, and total quality technique) on the cost leadership as one of the dimensions of the competitive advantage in the Jordanian public industrial companies.

Dimensions of SMATS	B	Standard error	Beta	Value of t	Statistical significance
activities -based cost technique	0.183	0.063	0.179	2.911*	0.004
Target cost technique	0.138	0.05	0.118	2.745*	0.006
Reference comparison technique	0.268	0.087	0.265	3.081*	0.002
Total Quality technique	0.388	0.07	0.382	5.572*	0

The statistical results in Table 7 and the follow up of Beta coefficients and T test showed that the dimensions of the independent variable (activities-based cost technique, target cost technique, reference technique, and total quality technique) respectively have a statistically significant impact on the dependent variable (cost leadership) in terms of the high values of (t) shown in the previous table at sig. $\alpha \leq 0.05$ and the statistically significant significance of beta values. The

results in the table above also indicated that there was no statistically significant impact for the dimension of the independent variable (technical merit) on the dependent variable (cost leadership).

Order of independent variables in the prediction equation	Value of R ²	T calculated value	T statistical significance
Total Quality technique	0.645	6.131*	0
Reference comparison technique	0.671	4.008*	0
activities -based cost technique	0.678	3.585*	0
Target cost technique	0.683	2.703*	0.002

When conducting the step wise Multiple Regression analysis to determine the importance of each dimension of the independent factor individually in contributing to the mathematical model, which represents the impact of the dimensions of the SMATs on the cost leadership, Table 8 shows the order of the entry of the dimensions of the independent factor in the regression equation. The dimension of the total quality technique was ranked first explaining 64.5% of the variance in the dependent variable (cost leadership), followed by the reference comparison technique which along with the total quality technique explained 67.1% of the variance in the dependent variable (cost leadership), the activities-based cost technique which along with the (total quality technique and the activities-based cost technique) explained 67.8% of the variance in the dependent variable (cost leadership), followed by the target cost technique which along with the previous dimensions explained 68.3% of the variance in the dependent variable (cost leadership).

***Sub-hypothesis 2:** There is no statistically significant impact at sig. $\alpha \leq 0.05$ for the SMATs with their dimensions (activities-based cost technique, target cost technique, reference comparison technique, and total quality technique) on the differentiation in the Jordanian public industrial companies.*

Dimensions of SMATS	B	Standard error	Beta	T value	Statistical significance
activities -based cost technique	0.113	0.076	0.12	1.497	0.135
Target cost technique	0.149	0.061	0.139	2.463*	0.014
Reference comparison technique	0.42	0.105	0.45	4.006*	0
Total Quality technique	0.084	0.084	0.09	1.007	0.314

The statistical results in table 9, beta coefficients and T test show that the dimensions of the independent variable (target cost technique and reference comparison technique) respectively have a statistically significant on the dependent variable (differentiation) given the high values of the calculated T in the previous table at sig. $\alpha \leq 0.05$ and the statistically significant impact of beta values. The results in the table above also indicated that there was no statistically significant

impact for the independent variables (activities-based cost technique and the total quality technique) on the dependent variable (differentiation).

Order of independent variables in the prediction equation	Value of R²	T calculated value	T statistical significance
Reference comparison technique	0.541	8.231*	0
Target cost technique	0.559	3.597*	0

When conducting the step wise Multiple Regression analysis to determine the importance of each dimension of the independent factor individually in contributing to the mathematical model, which represents the impact of the dimensions of the SMATs on differentiation, Table 10 shows the order of entry of the dimensions of the independent factor in the regression equation. The dimension of the reference comparison technique occupied the first place explaining 54.1% of the variance in the dependent variable (differentiation), followed by the target cost technique which along with the reference comparison technique explained 55.9% of the variance in the dependent variable (differentiation).

CONCLUSIONS

The results showed that the perceptions of the study sample members regarding the level of the SMATs were high. Through analyzing the dimensions of the SMATs, it is clear that the activities- based cost technique was ranked first, followed by the total quality technique, the target cost technique in the third and finally the reference comparison technique dimension. The results showed that the researchers' perceptions of the availability of the competitive advantage dimensions in the Jordanian public industrial companies were high. It is clear that differentiation ranked first, followed by the cost leadership in the second and last place. The results show that the SMATs with their dimensions of the (activities- based activity technique, target cost technique, reference technique, and total quality technique) explain 66.1% of the variance in the dependent variable (achieving the competitive advantage). The results showed that the dimensions of the independent variable (activities based cost technique, target cost technique, reference technique, and total quality technique) respectively had a statistically significant impact on the dependent variable (achieving the competitive advantage). The dimension of the reference comparison technique was ranked first explaining 63.1% of the variance in the dependent variable (achieving the competitive advantage), followed by the total quality technique which along with the reference comparison technique explained 64.7% of the variance in the dependent variable (achieving the competitive advantage), the target cost technology dimension that along with the dimensions of (target cost technique and total quality technique) explained 65.7% of the variance in the dependent variable (achieving the competitive advantage), and finally the dimension of the cost technique based on activities which with the previous dimensions explained 66.1% of the variance in the dependent variable (achieving the competitive advantage).

The results showed that the dimensions of the independent variable (activities-based cost technique, target cost technique, reference technique, and total quality technique) respectively had a statistically significant impact on the dependent variable (cost leadership). The total quality

technique occupied the first rank explaining 64.5% of the variance in the dependent variable (cost leadership), followed by the reference comparison technique which explained the dimension of the total quality technique by 67.1% of the variance in the dependent variable (cost leadership), the activities-based cost technique which with the dimensions of the (total quality technique and activities-based cost technique) 67.8% of the variance in the dependent variable (cost leadership command), and finally the target cost technique dimension that along with the previous dimensions explained 68.3% of the variance in the dependent variable (cost leadership). The results showed that the dimensions of the independent variable (target cost technique and the reference comparison technique) respectively had a statistically significant impact on the dependent variable (differentiation) where the dimension of the reference comparison technique was ranked first explaining 54.1% of the variance in the dependent variable (differentiation), followed by the target cost technique which with the reference comparison technique explained about 55.9% of the variance in the dependent variable (differentiation).

RECOMMENDATIONS

Based on the findings, the study recommends:

1. The need that the Jordanian public industrial companies listed on the ASE develop the SMATs including the activities-based cost technique, target cost technique, reference technique, and total quality technique to achieve efficiency in the Jordanian industrial companies in line with the business environment.
2. The need that the Jordanian industrial companies maintain clear and specific strategic visions and orientations based on a careful analysis of the internal and external environment. Such visions should express the aspirations of the leadership of companies to reach in the future in a way that supports the competitive advantage, through increased interest in the participation of the employees in determining and developing the strategic directions of companies.
3. The need to raise awareness of the importance of applying the SMATs for the Jordanian industrial companies and benefiting from such techniques to improve the performance levels and provide a modern technological environment for the possibility of linking the SMATs with the different accounting systems with the Jordanian industrial companies.
4. Companies should be always aware of the wishes of customers and strive to achieve them, because those desires are constantly changing as a result of the developments in the world.
5. Companies should rely on manufacturing systems that help reduce the product cost before the production stages run in parallel, i.e. the production of many parts of the product simultaneously.
6. Conducting studies and research in advanced methods and modern systems of strategic management accounting and trying to link them to the accounting systems in general, in order to accommodate the environmental variables.

REFERENCES

- Abu-Bakr, A.M. (2012). Impact of the management accounting development on the strategy of Responding to the wishes of consumers: an applied study on large industrial companies in Khartoum, Abu Dhabi University.
- Abu, H.S. (2014). "Limitations affecting the development of the management accounting methods: A Field study in the industrial companies listed on the Palestine Stock Exchange." Unpublished MA Thesis, Business School, Islamic University, Gaza.
- Jouda, A., Nimr, H.K., & Khreisat, A. (2011). "The extent to which the management accounting methods are used in the Jordanian public industrial companies." *Journal of Management and Economics*, 33(78), 13-37.
- Hamadamin, A.H., Rizkar, J.I., & Rizkar, A. (2018). "Effects of the adoption of the modern management accounting techniques in the industrial companies on the achievement of the competitive advantage: Exploratory study on the industrial companies in the Kurdistan region of Iraq", *Journal of Jehan University, Erbil Scientific*, (2), 259-280.
- Al-Haniti, A. Y. and Al-Qaeid, M. A. (2019). "Impact of the organizational structures on achieving the competitive advantage: a field study in the industrial companies in Jordan", *Jordanian Journal in Business Administration*, 15(1), 1-20.

- Al-Khalaf, N., & Al-Jabbar, H. (2015). "Analysis of the impact of positionary factors on the selection of contemporary management accounting methods".
- Al-Khalil, M.A.(2012). "Application of modern management accounting methods in the Jordanian public industrial companies". Unpublished MA thesis, Business School, Middle East University: Jordan, Amman.
- Al-Daour, J. (2014). Recent trends in cost accounting. Al-Azhar University, Gaza: Palestine.
- Dawwod, S. (2013). "The impact of environmental uncertainty on the level of adoption of environmental management accounting practices: A pilot study on some Syrian industrial companies". *Teshreen university journal for scientific studies and research*, 9(1), 139-156.
- Ramadneh, E. (2017). "Using the target cost to achieve the competitive advantage: Case study of salt", Unpublished MA thesis.
- Abboud, S.M. (2008). *Cost management in banking activity (First Edition)*. Iraq: Dar al-Murtada house for Printing, Publishing and Distribution.
- Al-Ashmawy, M.A. (2011). *Cost Accounting: Traditional and modern perspectives (First edition)*. Amman, Jordan: Dar al-Murtada for printing, publishing and distribution.
- Al-Awwada, W.M.(2019). "The impact of strategic information systems on competitive advantage for Branches of Jordanian Banks operating in the Irbid city-Jordan". *Arab Journal of Management*, 39(1), 113-144.
- Al-Kasanzani, A., & Hussein, A. (2018). "The impact of the use of modern management accounting methods in industrial companies to achieve the competitive advantage: (Case study of the Kurdistan Region of Iraq) ", unpublished MA thesis, Al-Bayt University, Jordan.
- Al-Kaabi, B., & Fadhil, F. (2016). "Environmental factors affecting the application of contemporary administrative accounting methods in Iraq", *Journal of Management and Economics*, 39(106), 201-217.
- Masarwa, Z., & Khafaji, O. (2013). "Target cost, value chain and the complementary relationship between them in public industrial companies in the Jordanian industrial sector: field study." *Journal of Accounting and Financial Studies*, 8(23), 318-348.
- Al – Sayyed, S. (2015). "The impact of the use of modern management accounting techniques to streamline decision– making in the Jordanian industrial companies". *European Journal of Business and Management*, 7(10), 260-270.
- Al- Hawari, E., & Nassar, M. (2017). "The factors affecting the different management accounting practices in small and medium sized enterprises in Jordan". *Journal of academic research in business and social sciences*, 7(12).
- Al-Najjar, F. (2016). "Social responsibility and its impact on competitive advantage (an applied study on jordanian telecommunication companies). *International Journal of Business and Social Science*, 7(2), 114-125.
- Ansari, S. Bell, J. & Swenson, D. (2006). A template for implementing target costing. *Cost Management*, 20(5), 20-27.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Brigham, E., & Houston, J. (2009). *Fundamentals of financial management, (Twelfth edition)*. Mason, USA: Cengage Learning.
- Brubaker, M. (2018). Factors affecting China's apparel manufacturing industry's international competitive advantage. Colorado State University, Colorado: Department of Design and Merchandising.
- Cadez, S., & Guilding, C. (2012). Strategic management accounting and performance: A Configurationally analysis. *Industrial Management & Data Systems*, 112(3): 484-501.
- Distanont, A., & Khongmalai, O. (2018). The role of innovation in creating a competitive advantage. *Kasetsart Journal of Social Sciences*.
- Hematfar, M., Arasteh, A., & Nooryan, S. (2013). The steps of implementing target costing.
- Hitt, M.A., Ireland, R.D., & Hoskisson, R.E. (2016). "Strategic management: Concepts and cases: Competitiveness and globalization, (Eighth edition)". Canada, South-Western Stamford: Cen gage Learning.
- Majeed, S. (2011). The impact of competitive advantage on organizational performance. *European Journal of Business and Management*, 3(4), 191-196.
- Moses, T. (2017). Knowledge management strategies for competitive advantage in the convenience foods franchise industry. Walden University: ProQuest Dissertations & Theses Global.
- Abbas, M., Mehrbaksh, N., Parvaneh, S., Sayyadeh, P.S., Saudah, S. & Sayedeh, P.S. (2019). The impact of enterprise risk management on competitive advantage by moderating role of information technology. *Computer Standards & Interfaces*, 63, 67-82.
- Porter, M. (1985). *Competitive Advantage*, New York, NY: The Free Press.
- Prodromos, C., & Dimitrios, C. (2018). "The role of innovation in building competitive advantages: an empirical investigation", *European Journal of Innovation Management*, 21(1), 44-69.

- Uddin, S.S. (2018). Corporate ability and corporate social responsibility: A study on how they influence the competitive advantage of an apparel company, Bangladesh University of Textiles.
- Wen-Cheng, W., Chien-Hung, L., & Ying-Chien, C. (2011). Types of competitive advantage and analysis. *International Journal of Business and Management*, 6(5), 100-104.