

Impact of strategic managerial accounting techniques on the competitive advantage of Sudanese exports in light of globalization

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ABSTRACT

The main aim of this study is to clarify the impact of strategic managerial accounting techniques on the competitive advantage of Sudanese exports in light of globalization. The study tested one hypothesis is that: There is a significant relationship between applied strategic managerial accounting techniques and supporting the competitive advantage of Sudanese exports in light of globalization. Researchers distributed 70 questionnaires, 65 of them were collected as 92.8%. Statistical Package of Social Sciences (SPSS) was used to analyze data. Some of the study findings are: Using target cost enables the continuous improvement of exported products, and this supports the competitiveness of exports globally. Applying ABC enables the appropriate price of products to be determined so that they can continue to compete globally. Producing exported products according to specifications, can reduce costs and increase the quality of the exported products.

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1. Introduction

The entry of enterprises operating in the field of exports and global competition requires them to have many advantages, the most important of which are appropriate prices, quality, and the availability of qualities desired by customers or consumers and this requires accuracy in calculating costs and planning scientifically, and markets are becoming the ones that impose prices on Producers of goods and services, thus leaving them only the option to pursue and continue to reduce the cost in a manner that accepts the competitive prices prevailing in the market taking into account the maintenance of acceptable quality and achieve the target profit margin, this can only be achieved through strategic managerial accounting techniques.

The study attempts to answer this question: Does applied strategic managerial accounting techniques support the competitive advantage of Sudanese exports in the context of globalization?

The aim of this study is to examine the impact of strategic managerial accounting techniques on

enhancing the competitiveness of Sudanese exports in the light of globalization in order to show the following:

- Importance of applying strategic managerial accounting techniques to enhance the competitiveness of Sudanese exports.
- The extent to which strategic managerial accounting techniques are applied in Sudanese exporting enterprises.
- The possibility of applying strategic managerial accounting techniques to achieve competitive advantage in light of globalization.

This study attempts to test the following main hypothesis:

- There is a significant relationship between applied strategic managerial accounting techniques and supporting the competitive advantage of Sudanese exports in light of globalization. The following sub-hypothesis are derived:

- Using the Target Cost (TC) approach leads to support of the competitive advantage of Sudanese exports in the context of globalization.
- Using activity-based costing (ABC) supports the competitive advantage of Sudanese exports in the context of globalization.

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- C. Using the Total Quality cost (TQC) leads to support the competitive advantage of Sudanese exports in the context of globalization.

2. The study methodology

The deductive approach used to determine the study problem and formulation of the hypotheses, inductive approach to test the study hypothesis, and the descriptive analytical method in the random sample method to identify strategic managerial accounting techniques and their participation in supporting the competitive advantage of Sudanese exports in the context of globalization.

3. Literature review

This study used only four techniques of strategic managerial accounting: Target Cost (TC), Activity Based Costing (ABC), and Total Quality Cost (TQC).

3.1. Target cost (TC)

Target costing is a structured approach to determine the cost at which the proposed product with specified functionality and quality must be produced to generate the desired level of profitability when sold at its anticipated selling price. It starts with understanding what price the customer will pay and sets target costs based on this price. This is based on the premise that 90% of the cost of the product is embedded at the design stage itself. Initially, the firm uses market research information to determine the prices customers are willing to pay for the product, given its functionality, quality, and the substitute products offered by competing firms. From this price, the firm subtracts the profit margin required to satisfy its stakeholders and to fund the research and development of future products. The resulting quantity is the allowable cost of the product. Thus, Target Cost is equal to Sales Price Minus Profit Margin (Jeyaraj, 2010).

There are several definitions of target cost, some of which are: "Target cost is a management tool used to reduce cost during product life cycle phases (Horngren et al., 2005).

It is also defined as "the cost to be incurred for the development, production, and delivery of goods or services and it equalizes the targeted price, specifically the profit to be achieved (Horngren et al., 2007).

Target Costing can be used effectively as a Strategic Cost Management tool. For the implementation of this technique, a target price, which customers can pay, is determined in advance along with the target profit (Vechalekar, 2010).

Using this tool will increase the enterprise's competitive advantage and helps it to achieve the goals of staying, growth, and continuousness, support consumers, and increase their confidence in dealing with the enterprise. Target cost is calculated at the target selling price, which expresses the

estimated price of the product that the producer willing to pay for the product. The product design team is then asked to pay for the product within target costs (Garrison and Erick, 2002).

One of the authors believes that the target cost goes through several stages, which are (Roy, 2011):

- Determining the allowed cost: Whereby the sales and profit targets are determined in the long run, determining the target selling price and profit margin and calculating the allowed cost.
- Determining the target cost at the product level: where the goal of reducing the cost at the product level is determined and analyzed and not to exceed the target cost at all stages of the design process until the target cost is reached.
- Determining the target cost at the level of the components of the product unit, and the target cost is equal to the target selling price minus the target profit.
- Using value engineering to reduce costs.

3.2. Activity-based costing (ABC)

Activity-based costing (ABC) has emerged as the key alternative to volume-driven (sometimes called traditional) costing systems. ABC's emphasis is on identifying those activities, whether volume-related or not, that cause indirect costs to be incurred. Costs are then allocated to products based upon their consumption of the relevant activities. ABC has been advanced as a method of cost allocation designed to (1) provide more accurate product costs, and (2) better manage organizational activities (Frey and Gordon, 1999).

Activity-Based Costing is an Information System developed in the 1980s to overcome some of the limitations of traditional cost accounting and to enhance its usefulness to strategic decision-making (Gupta and Galloway, 2003).

The activity-Based Costing Approach is anew cost approach that has emerged to address the shortcomings of the traditional cost systems and adds a strategic dimension of cost accounting to help management in making strategic decisions.

ABC approach is both an administrative and an accounting system, providing two types of financial information (activities and products costs) and non-financial (Especially those activities). (Turney and Stratton, 1992).

Many researchers (Mabberlely, 1998; Horngren et al., 2000) agreed that there are many benefits of adopting (ABC) approach, which are:

- Eliminating unnecessary activities or activities that have no added value and redistributing resources to the most beneficial activities (Horngren et al., 2000). This, in turn, will contribute to improve the performance of the activities of the industrial companies on the one hand and reducing the costs on the other, which will necessarily affect the cost of the product.

- Contributes to TQM as it affects the continuous improvement and focuses on consumer, who awaits outstanding service of the product in addition to the quality of the product, and this will only give him the opportunity to stay, continue and complete.
- Providing a range of non-financial performance measures by measuring cost drivers, including cost, time, quality, and quantity, which will focus on productivity-specific activities and exclude those that do not add value (Johnson, 1988).
- ABC approach affects pricing decisions because of calculating costs accurately and will have a positive impact on various decisions, including pricing decisions (Steimer, 1990).
- Assist management in strategic planning and resources management, which helps them to meet the challenges of the future and fierce competition in the open world markets.

Benefits of ABC include the proper costing of transactions, the ability to accurately trace specific costs to customers, products, and services, and the ability to accurately measure customer and product profitability, the implementation benefits of ABC in the manufacturing industry have been widely recognized. Service industries are said to benefit from the ABC method of cost allocation as well, "due to the fact that service firms usually have high overhead costs and are labor-intensive, ABC can help services companies identify and allocate overhead and indirect costs and quantify labor costs associated with each activity (Wetherite and Kim, 2006).

3.3. Quality concept and total quality management

Quality includes two main aspects: Quality of Design and Conformance Quality, quality of the design is measured by the extent to which the product or service specifications meet the needs and desires of the consumer. Quality of Conformity means manufacturing product according to the design specifications, engineering, and industrial specifications (Horngren et al., 1997).

3.3.1. Quality costs

Quality costs are costs incurred to prevent the occurrence of low quality, or those costs that occur as a result of the occurrence of low quality. Quality costs can be divided into (Horngren et al., 1997; Heitger et al., 1992):

1. Prevention costs: Costs incurred to prevent the production of non-conforming products such as cost of quality engineering, an inspection of incoming materials, maintenance and repair of machinery, industrial process engineering, design engineering, and cost of training to reach the desired quality level.

2. Appraisal cost: Costs incurred to detect those individual units of a non-conforming product, such as Costs of checking materials received, product testing during the manufacturing process, and final product inspection.
3. Internal failure costs: Costs incurred when a non-conforming product is discovered before it is shipped to the customer, such as the cost of reprocessing for non-conforming products before shipment to the customer, the cost of re-examination, and the margin of lost contribution due to the quality of low production.
4. External failure costs: These costs occur when the product is not in conformity with the "after" specification is discovered, such as the cost of returns, repairs, and permits granted by the enterprise to customers to encourage them to accept such products, and the margin of contribution lost from the low sales and market share and the price. It is worth mentioning that the cost of prevention and evaluation increases as quality increases while internal and external failure costs decrease as quality increases.

The intense competition between enterprises in the era of globalization requires administrations to seek new ways and means to manage their facilities with high efficiency. To achieve this, new information should be provided to the department, which may be different from previously requested information.

As a result of previous factors, there was a need for accounting information systems to be provided for information they had not previously provided, and the need for such systems to fit the needs and evolving processes of the enterprise to assist management in making appropriate decisions for success, survival and increased competitiveness. These factors have also led the enterprise to concentrate on quality in response to the evolving and changing tastes of customers. Therefore, the provision of accounting information systems for quality-related information reports is urgent. Cost of quality has become a substantial proportion of production costs, as estimated by many experts. Information on quality costs can be a useful management tool. Good use of this information can improve the continuity of management in control and lead to a better knowledge of cost applications (Carr and Tyson, 1992). The cost of the quality report shows the high costs of internal and external failure, if any, which brings the attention of the enterprise to reduce these costs. Reports also can be used to examine the overlaps between the four cost categories of quality mentioned above, and quality cost study provides a deeper insight into management, especially when these cost trends are compared with time in successful quality programs we find that the cost of quality should decrease over time.

We conclude that quality costs provide critical information to decision-makers. The strategic role of quality cost highlights that it provides sufficient

information and data to enhance the competitiveness of organizations as the most effective tools in achieving cost strategies.

3.4. Competitive advantage

Competitive advantage defines as “sustained above-normal returns.” She defines imperfectly mobile resources as those that are specialized to the firm and notes that such resources “can be a source of competitive advantage” because “any Ricardian or monopoly rents generated by the asset will not be offset entirely by accounting for the asset’s opportunity cost (Peteraf, 1993).

Competitive advantage is defined as the presentable values of a firm for customers so that these values outweigh the price paid by the customer (De Toni and Tonchia, 2003).

4. Analytical framework

4.1. Methods

The study sample includes Sudanese export companies. The researcher distributed (70) questionnaire forms among some of the workers in the field selected randomly (65) Forms were collected as 92.8%. (SPSS) used for analyzing the relevant data. The researcher used statistical methods following: Alpha-Cronbach coefficient test used to measure the stability of questionnaire questions, where it reached 98%, and simple linear regression used to test the study hypotheses.

The study has an independent variable with three dimensions and a dependent variable. Fig. 1 shows the relationship between the variables.

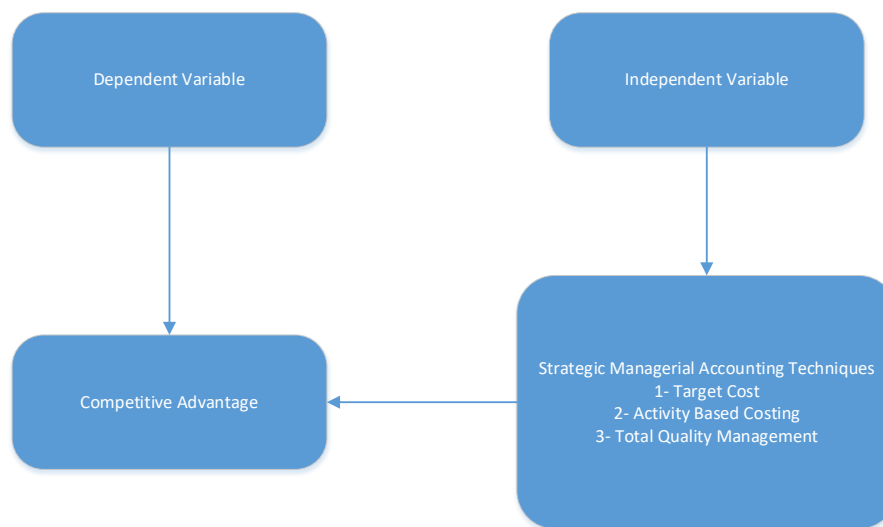


Fig. 1: Study variables

4.2. Hypothesis testing and explanation

- **First Hypothesis Test:** Using the Target Cost (TC) approach impact to support the competitive advantage of Sudanese exports in the context of globalization.

To validate the hypothesis, a simple linear regression is used in constructing the model where the Target Cost is an independent variable (X1), and competitive advantage (Y) is a dependent variable (Table 1).

Table 1: Simple linear regression analysis results for the first hypothesis

	Regression Coefficients	T	SIG	Results
$\hat{\beta}_0$	3.030	12.300	0.000	Accepted
$\hat{\beta}_1$	0.110	2.001	0.002	Accepted
R	0.423			
R ²	0.173			
F	8.530			
$Y = 3.030 + 0.110X_1$				

Based on Table 1, using the Target Cost (TC) as an independent variable, impact on support the competitive advantage of Sudanese exports in the

context of globalization as a dependent variable, the values of simple correlation coefficient will be 0.423.

The value of determination coefficient reached (0.173), and this value indicates that Target Cost (TC) as an independent variable does impact (17.3%) on support the competitive advantage of Sudanese exports in the context of globalization (dependent variable).

The simple regression model was significant, as the test value (F) reached (8.530), which is a function of significance level (0.002).

$\hat{\beta}_0 = 3.030$ indicates the average competitive advantage of Sudanese exports in the context of globalization when Target Cost is zero.

$\hat{\beta}_1 = 0.110$ shows the Target Cost, one unit, which increases the competitive advantage of Sudanese exports in the context of globalization by 11%.

From the above, it is clear that the first hypothesis of the study has been validated and accepted.

- **Second Hypothesis Test:** Using the activity-based costing (ABC) approach supports the competitive advantage of Sudanese exports in the context of globalization.

To validate the hypothesis, a simple linear regression is used in constructing the model where the activity-based costing (ABC) an independent variable (X2), and competitive advantage (Y) as a dependent variable, and Table 2 illustrates this:

Table 2: Simple linear regression analysis results for the second hypothesis

	Regression Coefficients	T	SIG	Results
β_0	2.890	39.170	0.000	Accepted
β_1	0.253	14.310	0.000	Accepted
R^2	0.710			
R	0.490			
F	204.76			
$Y = 2.890 + 0.253X2$				

Base on Table 2, using the activity-based costing as an independent variable, impact on support the competitive advantage of Sudanese exports in the context of globalization as a dependent variable, where the values of simple correlation coefficient (0.710).

The value of the determination coefficient reached (0.490), and this value indicates that activity-based costing as an independent variable does impact (49%) on support the competitive advantage of Sudanese exports in the context of globalization (dependent variable).

The simple regression model was significant, as the test value (F) reached (204.76), which is a function of significance level (0.000).

$\beta_0 = 2:890$ indicates the average competitive advantage of Sudanese exports in the context of globalization when activity-based costing is zero.

$\beta_1 = 0.253$: shows the unit increases activity-based costing, one unit, which increases the competitive advantage of Sudanese exports in the context of globalization 25.3%.

From the above, it is clear that the second hypothesis of the study has been validated and accepted.

• **Third Hypothesis Test:** Using Total Quality Cost (TQC) supports the competitive advantage of Sudanese exports in the context of globalization.

To validate the hypothesis, a simple linear regression is used in constructing the model where the Total Quality cost (TQC) an independent variable (X3), and competitive advantage (Y) as a dependent variable, and Table 3 illustrates this:

Table 3: Simple linear regression analysis results for the third hypothesis

	Regression Coefficients	T	SIG	Results
β_0	2.521	29.160	0.000	Accepted
β_1	0.425	18.320	0.000	Accepted
R	0.650			
R^2	0.420			
F	304.18			
$Y = 2.521 + 0.425X3$				

Based on Table 3, using the Total Quality cost (TQC) as an independent variable impact on support the competitive advantage of Sudanese exports in

the context of globalization as a dependent variable, where the values of simple correlation coefficient (0.650).

The value of the determination coefficient reached (0.420), and this value indicates that Total Quality cost (TQC) as an independent variable impacts (42%) on support the competitive advantage of Sudanese exports in the context of globalization (dependent variable).

The simple regression model was significant, as the test value (F) reached (304.18), which is a function of significance level (0.000).

$\beta_0 = 2:521$: indicates the average competitive advantage of Sudanese exports in the context of globalization when Total Quality cost (TQC) is zero.

$\beta_1 = 0.425$ shows unit increases in Total Quality cost (TQC), one unit, which increases the competitive advantage of Sudanese exports in the context of globalization by 42.5%.

From the above, it is clear that the third hypothesis of the study has been validated and accepted.

5. Results and conclusion

From the theoretical and analytical framework, we reached the following findings:

- Using Target Cost (TC) leads to support the competitive advantage of Sudanese exports in the context of globalization.
- Using activity-based costing (ABC) supports the competitive advantage of Sudanese exports in the context of globalization.
- Using Total Quality cost (TQC) leads to support the competitive advantage of Sudanese exports in the context of globalization.

So, we can say that the main hypothesis is achieved.

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Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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