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Effect of Strategic Cost Management on Total Quality Management Principles

By

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Abstract

The study discussed determining the impact of strategic cost management (SCM) on total quality management (TQM) principles. The researcher reviewed the previous academic literature to identify the knowledge gap of the study and formulate its hypotheses through the descriptive and analytical approach. Data were collected from the study sample using the questionnaire. The questionnaire was distributed to the Sudanese Leather Company's accountants, administrators and industrial engineers. The researcher used exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to distribute the questionnaire statements to the variables and structural equation modeling (SEM) to determine the effect of the independent variable on the dependent variables through SPSS and AMOS programs. The study concluded that: strategic cost management (SCM) has an effect on customer focus (CF) in Sudanese leather companies and that strategic cost management (SCM) has no effect on employee participation (EP) and continuous improvement (CI) in Sudanese leather companies.

Keywords: Strategic Cost Management (SCM), Total Quality Management (TQM), Customer focus (CF), Employee Participation (EP), Continuous Improvement (CI)

JEL Classification: M40, M41, M49, M1

Introduction

In today's world and the era of globalization, competition between for-profit organizations is raging. Organizations are working on finding alternative ways to improve their performance and meet customer needs. One of the modern organizations uses strategic cost management, where writer Shank's concept of SCM appeared in the USA through three methods (value chain analysis, cost driver analysis, and strategic position analysis).

Shank1993, (Johnson, H. Thomas & Kaplan, 1987) explain the concept of strategic cost management in that it addresses traditional cost management methods through value chain analysis, strategic situation analysis, and cost drivers' analysis.

TQM is an integrated approach to improving the organization and an organized process through hard work, self-discipline, permanent training, and modern techniques and methods (Rampersad, 2001). There are several TQM practices, as in the study of (Sila & Ebrahimpour, 2003), and among the practices of TQM: are senior management commitment, teamwork, operations management, strategic planning, operations management, employee participation, education, continuing and training, customer focus, systems Information, analysis, and open organization.

The (Kutlu, & Kadaifci, 2014) study identified the essential factors and motives that affect the success of TQM: senior management commitment, leadership, and strategic planning.

From these studies came the idea of the current study and an attempt to study the effect of strategic cost management as part of strategic planning and total quality management.

Leather companies suffer from the high cost of production due to the increase in demand for high-quality products. The high cost of production is undesirable because it does not help achieve competitive advantages, so companies must manage the cost from a strategic perspective to maintain product quality.

The study aimed to identify the principles of total quality management and strategic cost management, and SCM effects on the TQM principles. The following question was formulated: Does the strategic cost management analysis affect TQM principles in the leather industry-Sudan? Is there a relationship between strategic cost management and total quality management principles? To achieve the objectives of the study, the following hypotheses formulation:

H1: There is a positive effect of strategic cost management on TQM principles at Khartoum State leather companies.
H1.1: Strategic cost management positively affects focus customers at Khartoum State leather companies.
H1.2: There is a positive effect of strategic cost management on employee participation at Khartoum State leather companies.
H1,3: Strategic cost management positively affects continuous improvement at Khartoum State leather companies.

Literature Review

Strategic Cost Management

According to (Johnson, H. T. & Kaplan, 1991), traditional cost management has not been concerned with customers and Quality. This invariably means that definitive cost management information is insufficient to meet the competitive market; traditional cost management systems are not suitable for the modern business environment for the following reasons:

1. It is slow to provide information, and its operation is costly.
2. Generating information that is not useful for decision-making.
3. Weakening the company's competitive position by paying attention to the wrong problems, focusing on the wrong customers, increasing the production cost, and making incorrect decisions.

The proportion of criticisms directed at traditional cost management, the most important of which is: that cost management should be concerned with the external environment of companies. In the 1980s, cost management emerged from a strategic perspective to operate in a complex business environment with high competition (Johnson, H. Thomas & Kaplan, 1987). Strategic cost analysis is a deep understanding and analysis of cost and compares the company's total cost with its competitors, and clarifies the role of strategic cost analysis in determining the cost status of the company compared to competitors. Strategic cost management is concerned with managing revenue and costs, which management uses to

add value to consumers and achieve its goals. Strategic cost management focuses on the output cost while improving the organization's performance. It is also related to internal and external orientation and financial and non-financial performance (McNair. C, 2000).

Strategic costing is defined as the administrative use of cost information directed towards the four stages of the strategic management cycle consisting of the stage of formulating and forming strategies, the stage of communicating strategy to the various administrative levels, the stage of implementing procedures, and the stage of designing and implementing a system for monitoring the steps in implementing the process to assist the management in making decisions (Shank,1989). It was also defined as the cost structure analysis in light of the establishments' strategies to help the management make decisions (Anderson, 2006). Others have pointed out that strategic costing is a description of cost management focusing on strategic issues (Horngren et al., 2009)

SCM was defined as integrating accounting information and corporate strategy (Shank & Govindarajan., 1993). There are three tools for strategic cost management: value chain analysis, strategic position analysis, and cost driver's analysis, to support the competitive advantage.

Gliaubicas., & Kanapickienė, (2015) study dealt with the possible effects of using strategic cost management in Lithuania's companies. The study relied on the inductive approach through the presentation and analysis of the literature and the data obtained through a questionnaire. The results of the study showed that intense competition has an effect. Strong on the use of strategic cost management in the sense that the companies that have severe competition use strategic cost management, that the use of strategic cost management is high in companies that have a market-oriented strategy, and that the use of SCM does not depend on the size of the company.

(Rounaghi et al., 2021) Explained that strategic cost management integrates financial management, cost management and management strategies. This integration reduces the cost. Cost management and control are essential for all companies to face competitors

(Nystrom, et al (1995) study debated the strategic cost analysis of competing industrial companies in the North American Free Trade Agreement area. Trucks focus on the culture of costs as a necessity for making strategic decisions. The study found that the applied cost strategy of decision support systems in the industrial sector helps managers in the field of manufacturing or purchasing, as well as assisting in decision-making and encouraging strategic thinking, and also that strategy enables comparing the costs of parts and components of products to identify the most competitive areas and forecast those costs in light of the expected changes.

(Shank & Govindarajan., 1993) the study dealt with the strategic cost management method. It aimed to develop a framework for strategic cost analysis through (value chain analysis, strategic position analysis, and cost driver's analysis). This study concluded that the cost analysis according to the value chain concept is better than relying on added value.

The value chain transfers the product from the producing company to the final consumer (Kaplinsky & Morris, 2001). A value chain is a group of activities that add value to a product and transfer it to the final consumer (Miller & Da Silva, 2007).

The (Downey, 2007) identified the general features of the concept of strategic position analysis as follows:

1. Determine the data related to the company's strategy.
2. To be analyzed, define the organization's external and internal environment.
3. A set of quantitative and analytical methods that can be used to analyze the organization's strategic position.

Cost driver is any action that causes a cost to change, resulting in activities that use fewer or greater resources (Estermann & Claeys-Kulik, 2013). a cost driver is an act that links a change in cost with a shift in the consumption of a firm's resources (Babad & Balachandran, 1993). the cost driver is a process that clarifies the relationship between activities and their costs (Răvaş & Monea, 2009). the cost driver, which is an intermediate factor between cost, activities and resources (Yan-mei, 2009)

Total Quality Management

According to (Kehoe, 2012), Quality is the organization's fulfillment of customers' needs. Total Quality Management is an integrated management set of activities and processes focusing on continuous improvement and customer requirements (Powell, 1995). Total Quality Management (TQM) is a method management follows to improve the company's performance (Zehir &Sadıkoğlu, 2012). Total Quality Management is a set of approaches and techniques the company uses to improve performance continuously (Boon et al., 2007). Total Quality Management has been defined as a complete management philosophy that helps continuously improve all operations and activities of the company. Quality is achieved from the stage of raw materials stage to the final consumer (Kaynak, 2003). Total Quality Management is essential in improving administrative work (Prajogo, & Sohal, 2003). Total Quality Management is an approach to activate a business's effectiveness, flexibility, and competitiveness to achieve customer needs (Oakland, 1993). Total Quality Management is a source of support for the competitive advantage of business organizations (Terziovski,2006). Total Quality Management is a source for improving organizational performance by continuously improving the organization's activities (Claver-Cortés et al., 2008).

The Concept of Total Quality Management

(Jones & George, 2003) pointed out that TQM is an organizational strategy accompanied by a set of means that motivate the organization to provide high-quality products and services to the customer. He added (McNurlin & Sprague, 2005) A management technique that focuses on managing the Quality of a product or service through the use of measures of control Quality to achieve high levels of customer satisfaction as well as the possibility of cost reduction. (Slack & Lewis, 2019), explained that TQM is the effective system for the comprehensive or integrated development of Quality through the Quality of maintenance and the Quality of multi-group improvement endeavours in the organization so that products and services are at high economic levels that achieve customer satisfaction.

Principles of Total Quality Management

I agree (dan Snell, 2015), (Oschman, 2017), (Stevenson et al., 2018) that the principles of Total Quality Management are as follows:

A- Support for higher management: It is intended to create a climate that encourages success in applying quality management principles.

B. Focus on the beneficiary: (Stevenson et al., 2018) emphasizes that not focusing on the beneficiary will increase the likelihood of dissatisfaction with the university's services. Therefore, the satisfaction of the beneficiary is considered the basis of the work of universities. Satisfaction is achieved when the wishes and needs of the beneficiary are met, as well as the need to provide an extensive database of its customers and their requirements (Al-Damen, 2017).

C. Continuous improvement: The idea of continuous improvement stems from the basis that everything is capable of continuous improvement, and this means that improvement is not limited to the services provided by the university but includes the university as a whole and all that is related to it, where the philosophy of continuous improvement that is considered the essence of total quality management focuses on making for a manifestation of the processes during which services are provided improved and within the scope of the daily duties of officials and employees (Idris & Al-Rubaie, 2013).

D. Employee Participation: The participation of employees is an essential principle of total quality management, and all quality improvement programs include making employees responsible for performing the work and making sure that it is done correctly, as universities rely heavily on the human resources in which they work, which must have the necessary ability and efficiency to carry out the work assigned to them to the fullest, because employees, regardless of their administrative levels, are the primary source of success and creativity, and it does not enable any university to achieve its goals. Only by educating the employees about it, raising their awareness of its importance, and motivating them to achieve quality programs and advanced methods.

E. Training and Development: The provision of human resources, training, and qualification is a fundamental pillar in the application of the methodology of total quality management as required, and the more the training programs related to total quality management include all employees in the university, the more the university administration succeeds in applying total quality management, and this process includes qualifying the employees of the university with the necessary behavioural skills to perform the duties assigned to the university To them, and to boost their self-confidence so that they can make informed decisions (Russell & Taylor, 2006)

3. Methodology

The study sample included administrators, accountants, and industrial engineers in leather companies in Khartoum State; researchers distributed (174) questionnaires, and (168) were collected. The researchers used Spss and Amos software, version 24, for the statistical procedures.

The study included one independent variable, strategic cost management (SCM), and three dependent variables represented in the main principles of total quality management, namely: customer focus (FC), employee participation (EP), and continuous improvement (CI).

4. Results and Discussions

Statistical Reliability

The researcher used the alpha Cranach parameter to test for statistical Reliability; The Cronbach value for all study axes was (96.3%), implying a high degree of statistical Reliability for the questionnaire; table 1 shows this process.

Table 1. Cronbach Alpha

study axes	Number of phrases	Cronbach alpha value
SCM	6	0.965
FC	3	0.970
EP	3	0.954
CI	3	0.977
All	**15**	**0.963**

Source. *Spss result*

Exploratory factor analysis

Exploratory Factor Analysis (EFA) shows latent variables, and each latent variable carries a set of questionnaire statements. The researchers concluded that questionnaire statements were loaded with latent factors by more than 70%. Table 2 shows this, and the value of KMO is 0.824, as in Table 3. The scale is appropriate if the KMO is more significant than 0.60 (Hair, Anderson, Tatham, & William, 1998), and this shows that the sample size is appropriate to achieve the study's objectives.

Table (2): *Rotated Component Matrix*

Phrases	Code	SCM	FC	EP	CI
Sudanese leather companies are interested in reducing the costs of their products	SCM1	.933			
Sudanese leather companies are interested in the elements of indirect costs	SCM2	.930			
Sudanese leather companies are interested in cost management from a strategic perspective	SCM3	.887			
Sudanese leather companies are interested in analyzing the value chains of their products	SCM4	.862			
Sudanese leather companies are interested in analyzing the strategic position	SCM5	.859			
Sudanese leather companies are interested in driving costs to add value to their products	SCM6	.844			
Sudanese leather companies are adopted an information system to know the customer's needs and the possibility of satisfying them.	**FC1**		.948		
Sudanese leather companies try to search for means of customer satisfaction with their products.	**FC2**		.929		
The customer returns the basic rule in the light of which the Quality of the products is determined according to the specifications you want.	**FC3**		.921		
The Sudanese leather companies' management encourages employees to participate in decision-making to improve performance.	**EP1**			.952	
There is understanding and cooperation between employees and senior management regarding total quality principles.	**EP2**			.947	
Senior management tries to reduce cases of individual conflict when applying the principles of total quality management.	**EP3**			.938	
The Sudanese leather companies always seek to improve their production process to comply with total quality management principles and achieve possible flexibility.	**CI1**				.960
The Sudanese leather companies have a crucial role in improving quality control tools and using modern tools.	**CI2**				.940
The Sudanese leather companies rely on new systems and methods to improve their product performance, especially by adopting total quality management.	**CI3**				.838

Source. Spss result

Confirmatory Factor analysis (CFA)

Confirmatory factor analysis (CFA) ensures the plausibility of factor structure resulting from the EFA. Table 2 confirmed that 15 indices loaded on four latent variables (SCM, FC, E.P, CI) with greater than 0.80. and the CFA showed the Quality of the model with values close to those indicated (CFI = 0.981, RMSEA = 0.058) by Hair et al. (1998) and (Netemeyer, Bearden & Sharma, 2003), who suggested CFI ≥ 0.90 and RMSEA 0.06. and table 2 shows model fit measures.

Table (3): *Model Measure*

Measure	CMIN	DF	CMIN/DF	CFI	RMSEA	PClose
Estimate	119.388	87.000	1.372	0.981	0.058	0.296
Threshold	--	--	Between 1 and 3	>0.95	<0.06	>0.05
Interpretation	--	--	Excellent	Excellent	Excellent	Excellent

Source. *Spss result*

Hypothesis Testing

Structural equation modeling (SEM) was used to test the hypotheses, specifically the (path analysis) method, which is one of the structural equation modeling methods, as shown in Figure 1 and Table 4, where it was found that: there is an effect at significance level 0.01 for strategic cost management (SCM) on customer focus(FC), which confirms the acceptance the (H1), there is no effect at significance level 0.05 for strategic cost management (SCM) on employee participation (EP) and continuous improvement (CI), which confirms the unacceptance the (H2, H3).

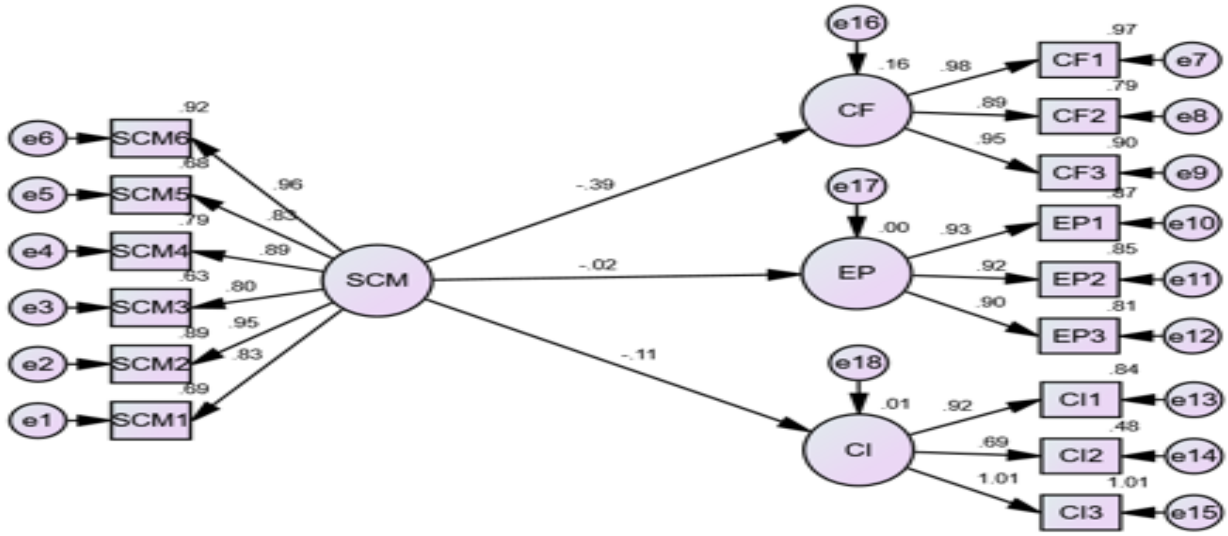

Figure 1. *Structural Equation Modelling*

Table (4): *Regression Weights:*

Hypothesis			Standardized estimates	C.R. t-value	P-value	Hypothesis Supported?
CF	<---	SCM	-.394	-4.343	***	Yes
EP	<---	SCM	-.024	-.237	.812	No
CI	<---	SCM	-.114	-1.197	.231	No

Note **, *p-value < 0.05; ***, p-value < 0.001. Significant at the 0.05 level*
Source. *Spss result*

Conclusion & Suggestions

This study attempted to know the impact of strategic cost management on the basic principles of total quality management (customer focus, employee participation, and continuous improvement) in Sudanese leather companies. The conceptual and analytical model helps to bridge the gap that defines the impact of strategic cost management on the principles of TQM. Through the analytical study, hypotheses were tested, and it was found that strategic cost management affects customer focus and does not affect employee participation and continuous improvement. Therefore, strategic cost management partly affects the principles of total quality management.

The researchers suggest future studies to fill this deficiency: studying the impact of strategic cost management methods on total quality management, studying the effect between target costing and total quality management, and exploring the relationship between activity-based costing and total quality management.

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