

## The Role of the Balanced Scorecard Technique in Evaluating and Improving Strategic Performance in the Kufa Cement Factory

Nabaa Hussein Abdulzhrara Al-Sagheer<sup>1</sup>, Ali Awadh Atshan<sup>2</sup>, Hawraa Nadhim Mutashar<sup>3</sup>

### Abstract

*This research aims to identify the most important modern techniques in the field of management accounting. The two-balanced scorecard technique is the most important technique that is included in this research. This study includes identifying the literature of the technique and what distinguishes the economic units applied to this technique. The research implies applying the technique practically in the Kufa Cement Factory, where the research sample was, to evaluate and improve strategic performance. The hypotheses were formulated to achieve the research objectives. They state whether applying the balanced scorecard technique leads to evaluating and improving strategic performance. In this study, the researcher used multiple means to achieve the hypotheses and objectives by applying the technology procedurally in the Kufa Cement Factory. The researcher relied on the financial data for the fiscal year (2019) as the base year to show and present the practical results of that technology and its role in improving the strategic performance of the Kufa Cement Factory. The researcher reached several conclusions, after conducting the practical and procedural application. Such findings include applying indicators and perspectives of the balanced scorecard technique contributes effectively to evaluating and improving the strategic performance of economic units. Besides, the researcher presented a set of future recommendations. The recommendations reflect the possibility of benefiting from the application of the balanced scorecard technique, which enhances the improvement of Strategic performance and achieving the strategic objectives of economic units.*

**Keywords:** *Balanced Scorecard Technique, Strategic Performance, Kufa Cement Factory*

### INTRODUCTION

Some developments, such as the competitive business environment, as well as technological development, globalization, political changes and fluctuations, the great openness in the field of economics and investment, the acceleration of the pace of industrial and commercial development, and the diversity of global markets, are led to increased competition in markets. Besides, the markets need goods of high quality at low prices. For all the previously mentioned developments, normally the institutions with economic activity think about reconsidering traditional accounting systems to increase the criticism directed at them due to their neglect of market considerations and the developments that have taken place in it. Additionally, it's important to search for technologies that respond to these developments by producing products with the lowest costs and with the highest quality. Such quality gives it a competitive advantage in the markets.

The economic unit must develop its methods for measuring its strategic performance and evaluating that performance. The most important of these contemporary methods, which are concerned with evaluating and improving performance, are the balanced scorecard and target costing techniques.

The Balanced Scorecard technology was developed by the world leaders R.S. Kaplan & D.P. Norton. It is presented in the early nineties, specifically in 1992. It is defined as a tool for financial and non-financial measurement used by executive managers to evaluate performance.

### Research Goals

The research aims to achieve a set of objectives, the most important are:

Getting acquainted with the literature on evaluating strategic performance.

---

<sup>1</sup> College of Dentistry, University of Alkafeel, Najaf, Iraq, E-mail: [nabaalsagheer@alkafeel.edu.iq](mailto:nabaalsagheer@alkafeel.edu.iq)

<sup>2</sup> Al-Muthanna University, E-mail: [ali.awadh@mu.edu.iq](mailto:ali.awadh@mu.edu.iq)

<sup>3</sup> Al-Muthanna University, E-mail: [Hawraa.nadhim@mu.edu.iq](mailto:Hawraa.nadhim@mu.edu.iq)

Get acquainted with the literature on the balanced marking card technique.

Evaluate and improve strategic performance by applying balanced scorecard metrics in the research sample represented by the Kufa cement plant.

## **Research Importance**

The significance of the research is manifested in studying the most important modern management accounting techniques to evaluate performance. Such techniques are represented by the balanced scorecard, and address the most important knowledge bases that include this technique. It can be considered as a contribution to providing the accounting library with such important topics, explaining its role in evaluating and improving strategic performance, within a philosophical perspective, and trying to give it an applied character in one of the laboratories of the general cement industry company.

## **Research Hypotheses**

Depending on the research problem and its objectives, the research hypothesis can be formulated as follows:

Is the application of Balanced Scorecard technology leading to the evaluation and improvement of strategic performance?

## **Research Limitations**

Temporal Boundaries: The research financial statements depend on the ended financial year 31/12/2019.

Spatial Boundaries: the spatial boundaries of the research are manifested by the choice of one of the famous factories that compete in the local and regional markets. The researcher has chosen the Al Kufa cement plant / in Najaf province as one of the factories of the Iraqi cement industry company.

## **The Cognitive Concepts Used in Research**

The researcher describes the most important cognitive concepts in the literature of management accounting, including the following:

Balanced Scorecard technology: a strategic management technique that transforms the vision of the economic unit into practical goals through its four perspectives, namely: the financial perspective, the customer, internal operational processes, learning, and growth. It is a performance measurement technique related to the important success factors in the economic unit and contributing to the improvement and application of its most complex strategies.

Evaluation of Strategic performance: it is a stage of Strategic Management and aims to measure the effectiveness and efficiency of economic units in achieving their goals through continuous improvement, harmony, and interaction with changes in the internal and external environment, this is done by relying on a set of financial and non-financial metrics to indicate the extent of achieving the goals set.

## **THEORETICAL ASPECT**

### **Evaluation of Strategic Performance**

#### **The Concept of Strategic Performance Evaluation**

Performance evaluation has been defined as a control system that determines the effectiveness and efficiency of efforts to achieve specific goals in the organization (Kinney 2006:789).

Besides that, it is also defined as an activity that compares the actual results with the target results and provides feedback to management to help them evaluate the achieved results and make the necessary decisions on the deviations that have occurred (Hunger & Wheelwright 2004:230).

### **The Importance of Strategic Performance Evaluation**

The importance of strategic performance can be summarized as follows: (Al-Kawaz and Al-Khafaji).

The right direction for the economic unit to perform its strategy.

It aids to know the extent of agreement between the goals of the economic unit and its strategy.

Assign resources for the economic unit competently to make profits.

### **The Stages of Strategic Performance Evaluation**

The most important stages of strategic performance evaluation can be summarized as follows (Sorour, 2017:306)

The first stage determines what needs to be measured: through this stage, you specify the goals and mission of the economic unit, that is, what aspects are to be measured.

The second stage is the stage of setting standards related to performance: after determining what we should measure, the second stage refers to the development of appropriate standards for measurement. The standards are the measures that are set for comparison with actual performance to identify deviations, strengths, and weaknesses.

The third stage is the stage of measuring strategic performance: Through a set of financial and non-financial metrics. So, achieving the actual performance is measured comprehensively and clearly.

The fourth stage is the stage of comparing the actual achieved performance with the established standards: By achieving a comparison process between the actual performance with the established standards. The goals that the economic unit seeks to achieve, and the causes and deviations are identified, identified, and addressed.

The fifth stage is the stage of not taking any actions if there is no matching in the performance between the established and predetermined standards: If the actual achieved performance of the economic unit is consistent with the set and planned goals. Thus, there is no action for the economic unit, and this means that the unit has achieved its set goals.

The sixth stage is the stage of taking corrective action: The economic unit takes corrective measures if the actual achieved performance does not correspond to the established message and standards.

## **BALANCED MARKING CARD TECHNOLOGY**

### **The Concept of Balanced Label Card Technology**

It is defined by the researchers (Kaplan and Norton) as a balanced management system that includes financial and non-financial measures. The technology aims to help management translate its strategic narrative since the financial report is no longer the only way by which economic units can evaluate their activities and chart their future movements (Kaplan and Norton, 1992:7).

The Balanced Scorecard has also been defined as a practical framework for evaluating performance through two main objectives: the first is to translate the strategy into specific goals, and the second is to communicate these goals to each part of the economic unit (Fernandez et al. 2006: 624).

The balanced scorecard is a performance management system that links performance goals and metrics to the economic unit's strategy. An important benefit of the balanced scorecard is that it links performance measures to the strategy of the economic unit. These relationships are communicated to employees within the economic unit. This, in turn, will help employees understand how their actions affect the overall strategy of the economic unit. (Hansen and Mowen 2007: 723)

It is also defined as a strategic management system that defines the liability accounting system on a strategic basis. The Balanced Scorecard translates the economic unit's mission and strategy into operational objectives and performance metrics based on four perspectives (financial perspective, customer satisfaction perspective, internal operations perspective, and learning and growth perspective) (Hansen and Mowen, 2007: 723)

### **The Importance of Balanced Scorecard Technology**

The researcher Hilton refers to the importance of the balanced scorecard, which can be summarized as follows. (Hilton 10-2011:9)

Some questions are raised which are: how well does the economic unit perform in its internal operations and business operations, how well does the economic unit perform from the point of view of its customers, how well does the economic unit perform according to the perspective of innovation, learning and continuous improvement of operations How well does the economic unit perform in financial terms. The above-listed questions are extremely important for the management of any company to deal with, and the answers to these questions are all organized in a framework called a balanced scorecard.

If any company wants to remain able to survive in a changing and more competitive business environment than ever before, it needs to apply the four perspectives of the balanced scorecard. The perspectives indicate that to be keen on taking care of the business operations of the economic unit, constantly monitoring the needs of customers, assessing their satisfaction with the services provided to them by the economic unit, and all these can be done by applying the balanced scorecard.

The Balanced Scorecard for many economic units plays a key role in the formulation of the strategy and thus plays a strategic and decisive role in pushing the economic unit forward.

The Balanced Scorecard is a system or technology that communicates information, teaches, and helps to link the achievements of the present time, beside to the priorities.

### **Advantages of Balanced Label Card Technology**

Throughout the importance of the balanced scorecard for the economic unit, we can clarify its advantages:

provides facts about performance results that help managers to be informed constantly and continuously and make accurate, quick, and rational decisions.

The Balanced Scorecard has the factors of strength and long-term competitive advantage, to enable the economic unit to focus on those factors.

Facilitates the process of obtaining information within the economic unit by transferring information between departments and divisions within the economic unit.

through the method and method of the balanced marking card, the economic unit can form a basis for linking its vision with its material and human resources and achieving the optimal use of those resources.

The Balanced Scorecard is a catalyst for management at the lower levels to activate the effectiveness of the economic unit.

Through the indicators of the Balanced Scorecard, the management can examine the performance and make the necessary adjustments during the strategy implementation. (Noor, 2017: 40-41; Al-Aasheq, 2016: 28).

## **The Perspectives of the Balanced Marking Card Technology**

### **Firstly: Financial Perspective**

The researchers (Hansen and Mowen, 2007: 748) believe that the financial perspective sets short-term and long-term financial performance goals. The financial perspective is concerned with the global financial consequences of the other three perspectives, and therefore the goals and metrics of the others should be linked to the financial perspectives. The financial perspective has three strategic axes: revenue growth, cost reduction, and asset utilization. This is the main idea and serves as the basic aggregate for developing specific operational goals and metrics. A brief explanation of each axis of the financial perspective is given below.

### **Secondly: Customer Satisfaction Perspective**

The researchers see that the customer's perspective is similar to an early warning of financial problems, where customer satisfaction is a key indicator that the goals of the economic unit are not achieved or, if achieved, it may include wrong goals. Whether these customers belong to the economic unit services or purchases of products, components of a government agency, or beneficiaries of a non-profit organization. So, if the problems identified by the metrics are allowed to persist from the customer's perspective, a decline in financial results specifically in the metrics of the financial perspective is sure to appear very shortly. However, by measuring and monitoring the customer's perspective, managers may be alerted to the need to diagnose and solve existing problems before there is a crisis. (Hilton and Platt 2020: 536)

### **Thirdly: The Perspective of Internal (Operational) Processes**

This perspective is concerned with focusing on internal operations, which may add to the customer's perspective by creating value for the customer. At the same time adds to the financial perspective by increasing shareholder value and by comparing with the reference or comparative performance of the main competitors. Through this procedure, the objectives of improving internal operations are determined. There are various sources to analyze competitors' costs, such as the methods of published financial statements, prevailing prices, customers, processors or suppliers, former employees, industry experts, and financial analysts. (Bhimani et al, 2015: 702)

### **Fourthly: A Perspective of Learning and Growth**

The learning and growth perspective helps economic units to know how well their employees are developing and maintaining by assessing their skills, employee satisfaction, training programs, and dissemination of information. (Weygandt et al 2018:468)

## **The Practical Side**

1. Improving and Evaluating the strategic performance of the Al-Kufa cement plant by applying the technology of a balanced marking card.

## **A Brief Overview of Southern Cement General Company and Al-Kufa Cement Plant**

Al-Kufa cement plant is one of the laboratories affiliated to the Iraqi General Cement Company / its southern associates and affiliated to the Iraqi Ministry of Industry and Minerals. The company was established according to Ministerial Order No. 2963 on 20/06/1995. The company started actual work on 01/07/1995 and its capital was (871,500,000) Iraqi dinars. In 1999, the company's capital was increased to (1,471, 500,000) dinars. The company is considered to be of a financially and administratively independent moral nature, it is a self-financed and wholly state-owned economic unit headquartered in Najaf province / Kufa district and affiliated with the Iraqi Ministry of Industry and Minerals.

## **The Indicators of Strategic Performance at Al-Kufa Cement Factory**

Al-Kufa cement factory uses a set of indicators that are developed to determine performance. Although these indicators are important, they may focus only on the financial performance and omit the non-financial aspects. So, perhaps the most prominent performance indicators used in Kufa cement factory are the following:

A- The Average of Return Investment: this measure includes three components, which are: revenue, costs, and investment. The mathematical formula of this measure is:

The Average of Return Investment = the Operating Income before benefits and taxes / invested capital.

B- Remaining Income: is an accounting measure of income after subtracting the cost of capital, and the mathematical formula for this measure is:

Remaining Income = Operating Income before benefits and taxes - (required average of return \* invested capital).

C- Return on Sales: it is a portion that measures the effectiveness of cost management in the economic unit, and the mathematical formula of this measure is:

Return on Sales = Operating EBIT / Operating Revenue \* 100%

Note: For the research sample Al-Kufa cement factory achieved losses from 2003 to 2021. The laboratory was unable to make any calculation of financial indicators because of those losses, and according to the reports and financial statements of the Kufa cement factory.

### **Evaluating And Improving the Strategic Performance in the Kufa Cement Factory Through the Balanced Marking Card with Its Four Perspectives**

To know the financial metrics above and to identify the financial performance of the Kufa cement factory. A table of the total costs of the Kufa cement factory will be prepared for the end of the financial year on 31/12/2019. The other table shows the revenues received during the financial year /2019 and the result of the ongoing activity of the Kufa cement factory on 31/12/2019.

**Table 1. The Total Costs of the Kufa Cement Factory for the Year (2019).**

Account Number	Account Name	The Amount / Iraqi Dinar
31	Salaries and Wages	22*846*142*113
321	Raw Materials and Primary Materials	6*058*805*753
322	Fuel and Oils	14*851*795*310
323	Spare Tools	5*952*812*782
324	Packing Materials	3*462*831*644
325	Miscellaneous	311*615*531
326	Staff Equipment	87*025*492
327	Water and Electricity	6*262*598*880
331	Maintenance Services	1*158*445*956
332	Research and Consulting Services	-
333	Advertising, Printing and Hospitality	33*024*500
334	Transport, Imports and Communications	1*213*139*527
335	Renting Fixed Assets	1*269*270*769
336	Miscellaneous Service Expenses	64*400*138
36	Interest and Land Rents	-
37	Extinctions	4*079*131*349
38	Transfer Expenses	9*127*450
39	Other Expenses	2*250*000
The Total Costs		

**Table 2. Financial Analysis statement (Income Statement) for Kufa Cement Factory.**

Data	Details
Total Revenues	65.523.232.000
Total Costs	(67.662417193)
The Activity's Results Profits or Losses	(2.139.185.193)

Table No. (2): Prepared by the Researcher Based on Sales and Production Reports for the Kufa Cement Factory.

Throughout the actual results above, and to determine the strategic performance of the Kufa cement factory, identifying and addressing weaknesses, evaluating and improving strategic performance, financial and non-financial indicators will be made according to the actual data extracted. The actual data are extracted from the records and data of the Kufa cement factory, and through the four perspectives of the Balanced Scorecard.

Firstly: The Financial Perspective: The balanced scorecard of the Kufa cement plant should include financial metrics and financial performance indicators from a financial perspective. It helps the Kufa cement plant to know the level of operating income and return on investment resulting from cost reduction and sales volume growth of the factory's products. Besides, the objectives of the other three perspectives should be related to the objectives of the financial perspective, the most important financial indicators for this perspective will be presented, as follows:

The Percentage of Profit Margin: This measure shows the relationship between profit margin and total revenue at the Kufa cement factory. So, whenever the higher profit margin percentage; is evidence of an improvement in the financial level of the Kufa cement factory, and vice versa. The equation of this measure is as follows:

$$\text{The Percentage of Profit Margin} = \text{Profit Margin} / \text{Total Revenue} * 100$$

The Percentage of Pure Operating Profit: This measure demonstrates the relationship between the percentage of pure operating profit before profits, taxes, and total revenues. whenever the percentage of pure operating profit becomes higher, this indicates an improvement in the financial performance index of the Kufa Cement Factory and vice versa. The equation for calculating this measure is as follows:

$$\text{The Percentage of Pure Operating Profit} = \text{pure operating profit before profits and taxes} / \text{total revenues} * 100$$

Percentage of the Revenues to Marketing and Administrative Costs: This measure shows the relationship between the total manufacturing costs and the number of units produced in the Kufa Cement Factory. Whenever the percentage of the revenues to marketing and administrative costs gets higher, this is a financial indicator of the Kufa Cement Factory's ability to pay administrative and marketing costs. This can be measured by the following:

$$\text{Percentage of the Revenues to Marketing and Administrative Costs} = \text{total revenue} / \text{marketing and administrative costs} * 100$$

Percentage of manufacturing costs to the total costs: This measure shows the relationship between the costs of manufacturing to the total. Whenever the manufacturing costs as higher than the total costs, this is an indicator of the increase in the fixed and proportional costs of the Kufa cement factory to the total costs, and vice versa. The equation of this metric is as follows:

$$\text{Percentage of Manufacturing Costs to the Total Costs} = \text{Manufacturing Costs} / \text{Total Costs} * 100$$

The Percentage of Total Revenues to Total Costs: This measure shows the relationship between the total revenues and the total costs of the Kufa Cement Factory. Whenever this ratio is greater than one, an integer means the ability of the Kufa Cement Factory to pay the total costs from the total revenues achieved. Whenever the result is less than one, an integer, indicates the inability of the revenues for the cement factory. Ability to pay the total costs. The equation for this measure is as follows:

$$\text{Percentage of Total Revenues to Total Costs} = \frac{\text{Total Revenues}}{\text{Total Costs}} * 100$$

The table below shows the results of the financial measures from the financial perspective of the balanced scorecard, according to the actual data of the Kufa Cement Factory.

**Table 3. Results of applying the financial perspective standards for the balanced scorecard for the Kufa Cement Factory.**

Objective	The scale application	The scale equation	Application results depending on the actual cost data
Achieve total profits	Total profit/total revenue *100	$-2.139.185.193/65.523.232.000*100$	-3.26%
Achieving pure profit	Net Profit/Total Revenue *100	$-2.127.385.193/65.523.232.000*10$	-3.24%
Marketing and administrative assignment coverage	Marketing and administrative revenue/costs *100	$65.523.232.000/50.868.001.914*100$	128.81%
Reduce manufacturing costs Making profits	Manufacturing costs / total costs *100	$49.154.222.531/67.662.417.193*100$	72.646%

Table No. (3): Prepared by the Researcher Based on the Actual Data of Kufa Cement Factory and the Reduction Data.

The above table reflects the percentage of profit margin, which was calculated by the researcher at the Kufa cement factory, reached (-3.26%). So, the above percentage appeared negative because the result of the activity at the Kufa cement factory was a financial loss. So, the above percentage reflected increasing in total costs on total revenues, and based on that indicator. Al-Kufa cement factory should re-examine the total costs and work to reduce them or get rid of indirect costs that do not affect the production process, as for the measure of the percentage of pure operating profit, it amounted to (-3.26%) -3.24%). This is also a negative indicator due to the lack of incoming revenues for the laboratory and the increase in total costs. It is also noted from the above table that the percentage of manufacturing costs to total costs reached (72.646%), which is a good percentage, it also needs to be increased because the higher the proportion of factory costs to total costs, this indicates an improvement in the strategic performance of Kufa cement plant.

Secondly, the customer's perspective measures the close relationship between the Kufa cement plant and its customers, by determining its market share and its ability to retain customers, gain new customers, fulfill customers' wishes, and generate value for the customer. So, If Al-Kufa cement factory fails to provide products that meet customers' wishes, no proper revenue will be generated for it, which will lead to a deterioration in the financial and economic situation of the plant. Therefore, the Kufa cement factory must pay attention to the customer's perspective by providing product quality, on-time delivery, and reliability in delivery. So, it was developed by the researcher and described in the following as a useful tool in the process of analyzing customer satisfaction goals if the laboratory applies the technology of a balanced marking card.

**The Percentages of Advertising Costs to the Total Costs of the Kufa Cement Factory:** This measure clarifies the relationship between the advertising costs that the Kufa Cement Factory spends to advertise its products versus the factory's total costs. Whenever the percentage becomes higher, it is an indication of the factory's interest in promoting its products in contemporary and modern ways to increase market share and acquire new customers, and the opposite is true. The equation for this measure is as follows:



$$\text{The Percentages of Advertising Costs to Total Costs} = \text{Advertising Costs} / \text{Total Costs} * 100$$

**The Percentage of Selling Services Costs to Total Costs:** The costs of selling services include what the Kufa Cement Factory spends on marketing its products. If the percentage of this measure increases, it means that the Kufa Cement Factory is moving towards achieving customer satisfaction, and the equation for this measure is as follows:

$$\text{The Percentage of selling services costs to total costs} = \text{selling services costs} / \text{total costs} * 100$$

The following table displays the results of applying the previous measures related to the customer satisfaction perspective in the Kufa Cement Factory

**Table 4. Results of applying customer satisfaction perspective measures in the Kufa Cement Factory.**

Objective	The scale application	The scale equation	Application results depending on the actual cost data
Determine market share	Advertising costs / total costs *100	147.474.050/67.662.417.193*100	0.217 %
Achieving customer satisfaction	Selling services costs / total costs *100	5.823.250/67.662.417.193*100	0.0086%

Table No. (4): Prepared by the Researcher Based on the Financial Statements of the Kufa Cement Factory.

It is noted from the table above that the first measure is the percentage of advertising costs to the total costs is a very small percentage. Such a percentage indicates that the Kufa Cement Factory does not care about advertising space and that the amounts spent on advertising and activities related to advertising are very small compared to the total expenses. Besides, it is noted that the Kufa Cement Factory needs to increase its expenses, as it is important to gain new customers. Also, it is noted in the second measure that the percentage of the costs of selling services to the total costs is also very small, amounting to (0.0086%). This indicates the Kufa Cement Factory's lack of interest in its customers' services and does not meet their desires, which leads to the loss of customers in the long term.

Thirdly: The perspective of internal operations: Among the goals that the internal operations perspective seeks, is to raise efficiency, increase productivity, exploit idle energy, comprehensive quality management, and cost management. Therefore, the internal operations perspective seeks to achieve the above goals that should be carried out by the Kufa Cement Factory internally, and the standards will be presented. This perspective is explained below, which is considered a useful tool in the process of analyzing objectives from an internal operations perspective.

The percentage of quality control costs to the total costs of the factory. Quality control operations are considered very important for the products of the Kufa Cement Factory, as they lead to increasing the quality of the product. Whenever the percentage of quality control costs to the total costs gets higher, this is evidence of the factory's keenness to provide high-quality products to customers. The equation for this measure is as follows:

$$\text{The percentage of quality control costs to total costs} = \text{quality control costs} / \text{total costs} * 100$$

The percentage of costs spent on employee services to the total costs of the factory: This measure shows the relationship between the amounts spent by the factory to serve its employees, such as (transportation for dependents, food supplies, clothing, health insurance, etc.) and the factory's total costs. Whenever the percentage of the factory's spending on employee services increases to the total costs, this is evidence of the factory's interest. employees, which will improve their performance and thus be reflected in the factory's performance by increasing production and reducing costs. The equation for this measure is as follows:

$$\text{Ratio of Employee Services Costs to Total Costs} = \text{Employee Services Costs} / \text{Total Costs} * 100$$

The Percentage of Manufacturing Costs to the Number of Units Produced: This measure shows the relationship between the total manufacturing costs and the number of units produced in the Kufa Cement Factory. Whenever the manufacturing costs get higher, this indicates an increase in the average cost per ton, and vice versa. Naturally, the Kufa Cement Factory always tries to seek to reduce the costs per ton, and the equation for this measure is as follows:

$$\text{The percentage of manufacturing costs to the number of units produced} = \text{manufacturing costs} / \text{number of units produced}$$

**Table 5. Results of applying internal operations perspective standards according to actual data for the Kufa Cement Factory.**

The objective	The scale application	The scale equation	Application results depending on the actual cost data
Quality improvement	Quality control costs/total costs *100	27.505.16/67.662.417.193*100	0.040 %
Supporting employees to improve performance and increase productivity	Staff services costs / total costs *100	1.839.651.48/67.662.417.193*100	2.72%
Reducing per-unit costs	Manufacturing costs/number of units produced *100	49.154.222.531/812055	60530

Table No. (5) Below Displays the Results of Applying the Internal Operations Perspective Scale for the Kufa Cement Factory.

Through the table above it is clear that the percentage of quality control costs amounted to 0.040%, which is a very small percentage. The management of the Kufa Cement Factory must pay attention to quality control expenses to improve the performance of operational operations and thus improve the strategic performance of the factory. As for the employee services measure, it reached (2.72%), which is also a small percentage, as the percentage of employee services to the total costs increased, that is, the factory's interest in employee services increased, which reflects positively on improving productivity and reducing costs. Thus, the ratio of employee services increased and the relevant measure improved. It is noted in the other measure that the manufacturing cost per ton produced in the factory reached (60,530) dinars. This indicator predicts that the Kufa Cement Factory will control manufacturing costs per ton and thus control competitive prices and enter local markets.

Fourthly: The learning and growth perspective. The learning and growth perspective is concerned with the skills of workers inside the factory by developing those skills through continuous training and qualification programs, as well as incentive rewards to motivate workers to reach the best internal processes and thus improve performance, which generates value for the customer and, as a result, growth in sales and revenues. The most important measures in this perspective were developed by the researcher.

The Percentage of incentive rewards to the total costs of the factory. This measure shows the relationship between the amount of motivation rewards and the total costs of the factory. whenever the percentage of this measure gets higher, there is evidence of the factory's interest and encourages employees to make greater efforts to improve internal operations. Thus, the factory's strategic performance is improved. The equation for this measure is as follows:

$$\text{The percentage of incentive bonus to total costs} = \text{incentive bonuses} / \text{total costs} * 100$$

The Percentage of employee training costs to the total costs: This measure shows the relationship between the costs of training and qualifying workers, and the total costs of the factory. Whenever the percentage of this measure gets higher, this is evidence of the factory's interest in training and qualifying its employees to develop their abilities to develop internal processes. This will lead to improving the strategic performance of the factory. The equation for this measure is as follows:

$$\text{The Percentage of employee training costs to total costs} = \text{employee training costs} / \text{total costs} * 100$$

**Table 7. Shows the results of the metrics for the learning and growth perspective in the Kufa Cement Factory.**

The objective	The scale equation	The scale application	Application results depending on the actual cost data
Encouraging and motivating employees	Incentive rewards / total costs *100	1.021.635.000/67.662.417.193*100	1.50 %
Supporting employees to improve performance and increase productivity	Costs of training and qualifying workers / total costs *100	8.447.000/67.662.417.193*100	0.0124%

Table No. (7): Prepared by the researcher based on the financial statements of the Kufa Cement Factory.

Both the above table and the results of the measure that the percentage of incentive rewards to the total costs amounted to (1.50%), which is a small percentage compared to the total costs of the factory. Therefore, according to this indicator, the Kufa Cement Factory must pay attention to its workers, which motivates them to provide the best services and improve the required performance. The other scale is training and qualifying workers. The percentage reached (0.0124), which is a very small percentage. This means that the factory is not interested in training and qualifying its workers compared to the total costs. So, if the factory's interest in training and qualifying its workers increases to improve internal operations, thus generating value for the customer and improving the financial and strategic performance of the factory.

## CONCLUSION

The second chapter reflected the applied side of the research. The application of data was presented in the Kufa Cement Factory, where the steps of the balanced scorecard technique were applied according to the four perspectives, and the financial and non-financial indicators standards were applied for the four perspectives of the balanced scorecard technique. Besides, to measure the financial and non-financial (strategic) performance of the Kufa Cement Factory and achieve. The goal of the research is to prove the research hypothesis. Such hypotheses indicate applying the two balanced scoring techniques contributes to evaluating and improving the strategic performance in the Kufa Cement factory in a more effective way compared to not applying that technique. The theoretical and practical conclusions of the research will be presented and the recommendations that the researcher came up with will be included.

## Conclusions of the Theoretical Aspect

The process of evaluating strategic performance in Iraqi industrial and service units, as a result of modern development, technological advancement, intense competition, and other reasons, has led to not being satisfied with financial standards to evaluate strategic performance. Such a strategy requires other non-financial standards to be added to the financial standards. Such standards include the extent of customer satisfaction, the suitability of operational processes, and the extent of capacity. Besides, Learning and growth in developing human capabilities, all of these measures are provided by the balanced scorecard technique.

The balanced scorecard technique is one of the modern management accounting techniques. This technique has proven its superiority over traditional methods in evaluating and improving strategic performance.

The optimal use of the balanced scorecard technique in industrial and service economic units helps in ascertaining the extent to which these units generally achieve their strategic objectives, identifying their weaknesses, and then making the correct decisions to address those points.

The failure to apply the balanced scorecard technique in the Iraqi economic units and the Kufa Cement Factory led to a major deficiency in knowing and measuring the strategic performance of those units.

### **Conclusions of the Practical Side**

The results of the financial indicators scale in the Kufa Cement Factory, besides applying the financial perspective, all showed negative due to the high costs of cement and the achievement of financial losses for the factory.

The application of the balanced scorecard technique from the customer's perspective also showed that the Kufa Cement Factory needs to pay attention to advertising costs. Also, it needs to pay attention to services after-sales services to improve the customer's vision of the factory. Such vision leads to increasing customers, improving sales, and thus improving strategic performance.

The results of applying the operational processes perspective for the balanced scorecard in the Kufa Cement Factory also showed very small outcomes. Such results are represented by the quality control measure and the costs of employee services. The costs were very low compared to the total costs, so the cement factory must pay attention to these costs to seek to improve operational processes. This leads to increased customer satisfaction, besides improved financial performance.

The results of the learning and growth perspective scale in the Kufa Cement Factory also showed a very small percentage in the scale of incentive rewards and training. Such rewards lead to the weakness of the Kufa Cement Plant's interest in this important indicator, which leads to improving operational processes and as a result, increasing customer satisfaction and improving financial performance.

### **RECOMMENDATIONS**

The companies are interested in the industrial sector in general and the Kufa Cement Factory in particular in applying the balanced scorecard technique as one of the modern management accounting techniques. Such a technique works to measure the level of financial and non-financial performance and identify and address weak points.

Activating the guiding role of Iraqi universities in directing the economic units operating in the government public sector. Such a role is combined with the most important recent developments occurring in the fields of cost accounting and administrative accounting. In turn, have produced contemporary accounting techniques that have had a pioneering role in increasing the value of economic units and strengthening their competitive capabilities, such as the scorecard technology: equilibrium, theory of constraints, and project risk management.

Training workers at the Kufa Cement Plant on contemporary accounting techniques for management accounting and cost accounting. Besides that, it is important to develop their capabilities and raise their skills to ensure the success of applying these techniques efficiently. Achieving benefits will be reflected in the value

of the plant and enhance its strategic performance, in addition to paying attention to spreading the culture of change in all sections of the plant. When applying contemporary strategic cost management techniques that support it, this interest will contribute significantly to the success of the project of applying modern management accounting techniques.

The Board of Directors of the Kufa Cement Factory formed a multi-functional and multi-specialization team with great skills and experience to undertake the economic feasibility study.

Kufa Cement Factory's interest in human resources in the factory by granting incentive rewards to support and increase financial support. Such support is useful for holding qualification courses to develop technical skills, support and develop operational processes, meet customers' desires, and work to improve financial performance.

Increase the Kufa Cement Factory's interest in quality control processes to improve operational processes. Besides producing quality and increasing competition to increase customer satisfaction, win new customers grow sales, and thus improve financial and strategic performance.

## REFERENCES

### Arabic's References

- Al-Kawaz, Salah Mahdi, Ali Hussein Al-Khafaji (2019) (A study of the application of the balanced scorecard in evaluating strategic performance) An applied study in the Diwanayah tire factory for the period 2006-2017, Al-Muthanna Journal of Administrative and Economic Sciences / Magazine 9, Issue 3.
- Sorour, Manal Jabbar (2017), (Strategic Cost Management): Al Jazeera Printing and Publishing Office, Iraq, Baghdad.
- Nour, Israa Nayef Muhammad (2017), Using the Balanced Scorecard to Improve the Performance of Income Tax Departments in the Northern Governorates of the West Bank, Master's Thesis in Tax Disputes Submitted to the College of Graduate Studies, An-Najah National University, Palestine.

### English's References

- Kinney, Michael R. (2006), "Cost Accounting", Business Press, United State.
- Hunger, J. David & Thomas L. Whelem, Strategic Management and Business Policy, Ninth Edition, Pearson Prentice Hall, 2014.
- Kaplan, S. Robert and Norton, David P. (1992). *The Balanced Scorecard measures that drive performance*, Harvard Business Review, January-February.
- FERNANDES, K., Raja, V. & Whalley, A. (2006) *Lessons from implementing the balanced scorecard in a small and medium size manufacturing organization*. Technovation. 26. pp.623-634.
- Hansen, Don R. and Mowen, Maryanne M. 2007, *Managerial Accounting*, Eighth Edition, Thomson South-Western Company.
- Hilton, Ronald W. *Managerial Accounting, Ninth edition*, The McGraw-Hill companies, Inc. 2011
- Hilton, Ronald W. and Platt, David E. 2020, *Managerial Accounting - Creating Value in a Dynamic Business Environment*, Twelfth Edition, McGraw-Hill Education, New York
- Bhimani, Alnoor, Horngren, Charles T., Datar, Srikant M. and Rajan, Madhav V. 2015, *Management and Cost Accounting*, Sixth Edition, Pearson Education Limited.
- Weygandt, Jerry J., Kimmel, Paul D. and Kieso, Donald E. 2018, *Financial and Managerial Accounting*, Third Edition, John Wiley and Sons, Incorporated.

### Official Reports, Laws, and Instructions

- Financial data for the years 2019/2020, Kufa Cement Factory.
- Trial balances before and after the closing for the year 2019.
- The organizational structure of the Kufa Cement Factory.
- Production and sales reports for the year 2019.
- Quality reports for the year 2019.
- Cost reports for the year 2019.