THE IMPACT OF QUALITY COSTS ON FINANCIAL PERFORMANCE-AN ANALYTICAL STUDY IN THE BUSINESS BAY

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Abstract

Objective The research aims to analyze the reality of quality costs and its presentation in one of the Iraqi banks, Al Khaleej Commercial Bank, and measure the impact of quality costs on its banking services. To measure the impact of quality costs on financial performance, the following statistical indicators were used:

• A simple linear regression model analysis method using annual quality cost data to measure the impact of each quality cost category in each perspective of the balanced cards.

• Multiple linear regression model analysis method to measure the impact of quality costs combined in each perspective of the balanced cards.

For the purpose of achieving the research objectives, many methods were relied upon to collect data and information from (books, periodicals, university theses, and bank financial reports) with the use of indicators of the (P-A-F) model, represented by the cost of prevention, the cost of evaluation, and the cost of internal and external failure in measuring the independent variables represented by With the elements of quality costs, and the dependent variables (financial performance), it was measured using balanced cards (financial perspective, operations perspective, customer perspective, and growth and learning perspective).

The researcher came up with a set of conclusions, the most important of which is that quality costs are more influential in customer satisfaction and employee satisfaction and less influential in return on investment and work productivity. High evaluation costs are accompanied by an increase in internal failure costs, which indicates a weak distribution of work related to business auditing, whether accounting, administrative, or technical. .

The research reached several recommendations, the most important of which are that attention should be directed towards identifying and calculating quality costs, collecting and analyzing data, while setting basic standards for spending on prevention costs in proportion to the importance of each activity, and also working to reduce evaluation costs, identifying the reasons for the high costs of internal failure, and working to address these reasons. By reducing damage to financial forms and documents, monitoring and analyzing the causes of external failure for their negative impact on the bank's reputation, which is the basic basis for building the bank's identity and public image in front of customers, and preparing annual or quarterly reports of the quality costs spent and comparing the level of performance achieved by adopting balanced card indicators.

Keywords: quality costs, financial performance.

Introduction

The prevailing belief was that high quality must be accompanied by high costs, and this belief came because of a lack of interest in identifying and analyzing the costs of quality. Because systems for determining costs are often traditional and not designed for this purpose, banks that seek to achieve high quality of their services should identify these costs, prepare reports and analyze them, because these costs are an important tool for many important decisions for banks to use in evaluation, research. In addition, development and setting the necessary expenditure budget in order to improve financial performance and provide high-quality services. Based on the above, the importance of the research comes from the fact that it constitutes theoretical and applied research that helps the bank under investigation and other banks to establish sound frameworks that help them distribute quality costs in the correct manner, evaluate their performance with financial and non-financial indicators, and provide proposals about their performance based on quality cost indicators.

The first section: the methodological framework of the research

First: the problem of the study

The problem of the study lies in the weak interest of the management of the studied bank in studying and determining the costs of the quality of its services represented by (prevention costs, evaluation costs, and internal and external failure costs) to identify the extent of their impact on its performance, and from the preliminary exploratory studies of the researcher of the studied bank, it was revealed that the bank does not care about the costs of quality. Not realizing the impact of this on performance, it suffers from a clear lack of experience and information regarding these costs and their classifications. On this basis, the scope of the study problem can be determined by raising several questions, which we can list as follows:

- Does the bank's interest in determining quality costs and classifying them according to their types lead to improved performance?
- Does increasing compliance costs, represented by (prevention and evaluation) costs, affect the improvement of financial performance?
- Is a decrease in non-conformance costs (internal and external failure) an indicator of improved financial performance?
- What is the nature of the relationship between (profitability index, customer satisfaction index, internal operations index, growth and learning index)?

Second: Objectives of the study:

The research objectives are as follows:
1) Study the reality of quality costs in the bank.
2) Arranging quality costs according to their relative importance from the bank's point of view.
3) Directing the attention of banking management to the costs of quality as variables affecting performance and its objectives.
4) Measuring and evaluating banking performance using balanced card standards.
5) Identify and test the impact of total quality costs on financial performance indicators.
6) Providing proposals to develop banking performance based on quality cost indicators.

Third: The importance of the study

The study deals with determining the costs of quality at the level of financial performance, so its importance can be determined through the following:

1)   Combining two different topics. The first is the evaluation of financial performance based on the analysis of historical financial statements to determine the actual impact of the quality costs approved by the bank. The second is the quality costs and their impact on improving financial performance, which takes several forms, which may be by reducing evaluation costs or Reducing the costs of failure (internal and external).

2)   Arranging the levels of utilization of quality costs in planning and auditing processes and ensuring the optimal use of the bank's resources.

3)   Establishing sound frameworks that help the bank to properly distribute quality costs.

4)   Its focus on a vital sector (the banking sector).

Fourth: The hypothetical outline of the study:

The hypothetical outline of the study, shown in Figure (1), is based on an analysis of the elements and foundations necessary to improve financial performance. The process of building the model relied on dividing its basic variables into:

1)   Independent Variables: - They are represented by the costs of quality, and are divided into a group of sub-variables, namely: (prevention, evaluation, internal failure, external failure).

2)   Dependent Variables: They are represented by the standards of balanced card perspectives, which are represented by a group of sub-variables, namely: (profitability, customer satisfaction, work productivity rate, employee satisfaction, and incentive rewards).
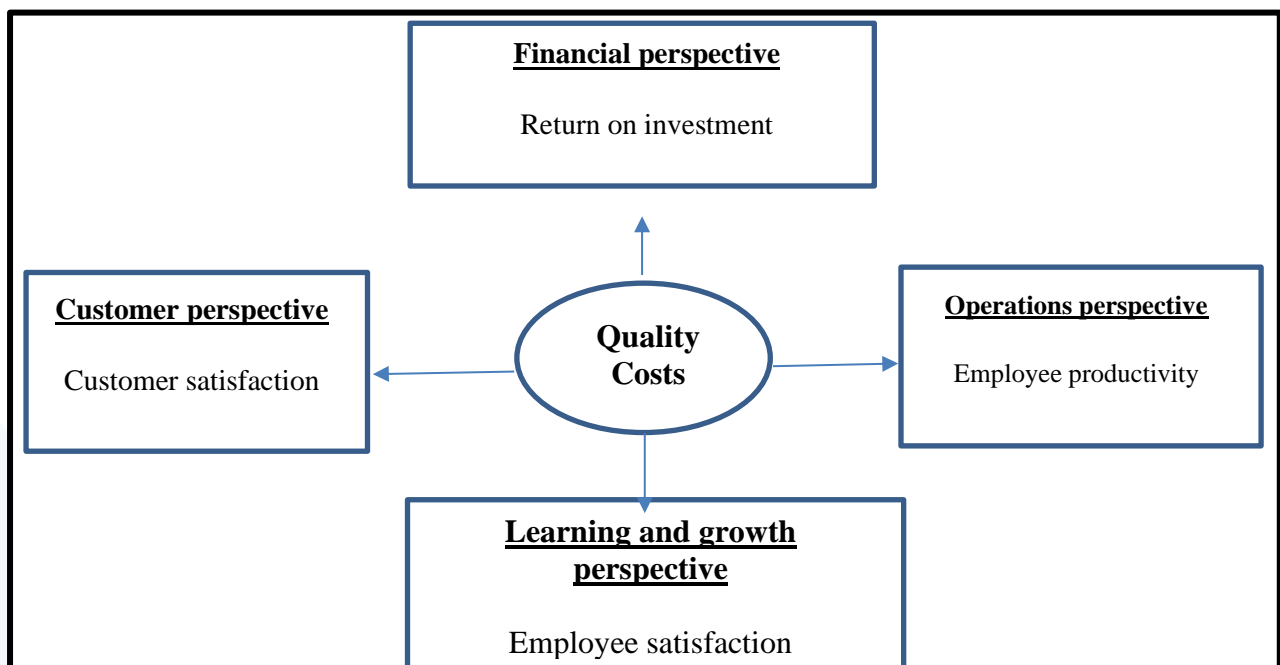
Source: Prepared by the researcher

Fifth: Study hypotheses:

The study is based on the following two main hypotheses:

The first hypothesis: There is a statistically significant relationship between quality costs, indicators and financial performance. Based on the main hypothesis, the following sub-hypotheses were formulated:

1) There is a relationship between compliance costs (prevention and evaluation) and financial performance indicators represented in: return on investment, growth in deposits, labor productivity rate, and incentive rewards.

2) There is a relationship between the costs of non-compliance (internal and external failure), and financial performance indicators represented in: return on investment, growth in deposits, labor productivity rate, and incentive rewards.

The second hypothesis: There is a significant effect between quality costs (conformity costs, non-conformity costs) and financial performance indicators. Based on the main hypothesis, the following sub-hypotheses were formulated:

1) There is a significant effect between compliance costs (prevention and evaluation) and financial performance indicators represented in: return on investment, growth in deposits, labor productivity rate, incentive rewards, and growth in deposits.

2) There is a significant impact between the costs of non-compliance (internal and external failure), and financial performance indicators represented in: return on investment, growth in deposits, labor productivity rate, and incentive rewards.

Sixth: The spatial and temporal limits of the study

1) Spatial boundaries: - Khaleej Commercial Bank was chosen as a practical field because it represents the appropriate banking environment to test the impact of quality costs on financial performance. Due to the possibility of obtaining annual and more detailed reports, which helped determine all types of quality costs.

2) Time limits: - The study included six years (2014-2019) according to the available data and information in the detailed annual reports.

Seventh: Sources and methods of collecting information and data

In formulating the theoretical aspect of this study, reliance was placed on available Arab and foreign sources that dealt with the subject of the study, including books, periodicals, studies, university dissertations, and the information network through which the theoretical framework of the study was built and processed in a way that serves the practical framework in it. The study was adopted In collecting the actual data and numbers related to the costs of quality and financial performance necessary for the field side to review the annual reports of the bank in the study sample for the years (2014-2019) and the useful data these reports contain for the purposes of analyzing the costs of quality and indicators for measuring financial performance.

Eighth: Quantitative methods used to measure and analyze the study variables

- A model has been approved (P-A-F)(*) (Total quality costs = prevention costs + evaluation costs + internal and external failure costs).

- To measure financial performance, it was adopted (Balanced Score Card By Kaplan and Norton). BSC) with its four axes (financial perspective, customer perspective, internal operations perspective, and learning and growth perspective) according to the measurement indicators shown in Table (1).

Table (1) Indicators adopted to measure financial performance

Dependent variables	Measurement indicator	calculation method
Profitability	Return on investment	Net profit/total assets
Customer satisfaction	Deposits	Growth in deposits
Productivity	Labor productivity rate	Net profit/number of employees
Employee satisfaction	Incentive rewards	Growth in incentive rewards
	Profits	Revenues - costs

(Ross, 2002:171) (Kosmidou&Zopounidi, 2008:88)

Ninth: Statistical methods used
The study's approach was based on the analytical method because it is more appropriate to the nature of the study and its objectives. The ready-made statistical program SPSS was used to study correlations and influence. Among the most important statistical methods used are the following:
1)   The simple correlation that measures the relationship between two variables: the independent variable (X) and the dependent variable (Y), whose value ranges between +1 and -1, knowing that obtaining a small value (close to zero) for this coefficient does not mean that there is no A relationship between the two variables.
2)   Multiple linear regression: It is a statistical measure to measure the effect between several quantitative variables, and it can be relied upon to study the effect between a dependent variable and several independent variables.
3)   Coefficient of determination (R2): It is a measure that shows how much the independent variable (X) explains the deviation of the dependent variable (Y), that is, the degree of contribution of (X) to the change occurring in (y). It is between zero and one, the higher the value of the coefficient. Determination (R2) This was an indication that (x) has a significant impact on (y).

The second section: The theoretical framework for the research
First: The theoretical framework of melasma quality
1. The concept of quality costs:
     Researchers have provided various definitions of the cost of quality, and the concept has been used in different ways. Table (2) shows the definitions of some researchers and those interested in the cost of quality and their opinions.

Table (2) Definitions of quality costs from the point of view of researchers and interested parties.

T	Researchers	Definition of quality costs
1	(Feigenbaum,2001:110)	The cost of finding, controlling, evaluating, and feedback on quality compliance, reliability and safety requirements, and the cost of failure to achieve requirements within the factory and to customers.
2	Al.Endres.2007.p124	Quality costs are the costs of failure and evaluation costs that result from poor control and poor diagnosis.
3	(Ross,2009:362)	These are the costs resulting from not meeting customer requirements and performing work incorrectly.
4	(Dilworth,2010 :51)	These are the costs incurred by the organization due to poor quality or preventing the realization of these costs.
5	(Petty,2007)	It is the sum of the organization's costs associated with implementing prevention, evaluation, and treatment activities for internal and external failure.
6	(Horngern, Datar &Foster ,2016:661)	These are the costs that appear as a result of producing a low-quality product.
7	(Russel,2016 :99)	It is the total cost of good quality, which is known as the cost of ensuring quality, and the total cost of poor quality, which is known as the cost of non-compliance with specifications.
8	(Huxtable,2005)	It is the sum of the costs of things that would not have been necessary if everything had been done correctly the first time.

The previous definitions reflected the inclusion of the term quality costs and its inclusion of different concepts. Feigenbaum indicated that quality costs in organizations have been calculated to include two main areas: monitoring (control) costs, which are the costs incurred to prevent the occurrence of defects and obtain products within specified specifications. It also prevents the manufacture of unsatisfactory products from the beginning, and these costs include (prevention and evaluation costs). The second area includes the costs of failure to control quality, which are caused by materials and products that do not meet quality requirements, as they are outside the limits of specifications. This opinion was supported by all from (Dilworth, Horngren, Datar, Russell & Foster) where the above definitions focused on obtaining high-quality products for the purpose of meeting customer requirements and maintaining the organization's reputation, as they focused on (prevention costs), but the researcher agrees with (Ross)'s point of view, considering the costs of quality They are the costs resulting from not meeting customer requirements and completing work incorrectly.

2. The importance of determining quality costs
The importance of quality costs can be highlighted through the benefits they provide to the organization (Ross, 2009:371).

1) Identify profit opportunities
2) Formulating capital budgets and other investment decisions related to quality
3) Make decisions related to purchasing and supplier.
4) A standard for measuring and evaluating performance.
5) Ensure that quality costs are distributed appropriately.
6) Diagnose quality problems.
7) Determine budget goals and profit planning.

Quality costs are a good measure of performance, because they reveal how individuals perform their duties and motivate them to achieve the organization's goals (Dale & Zimmerman, 2011:177).

3. Quality cost items

Most researchers agreed to divide the quality costs of the product into four elements: prevention costs, evaluation costs, and failure costs, which are classified into internal and external failure costs. The following is a summary of the quality costs in Table (3).

Table (3) Quality cost elements

T	Costs	description	details
1	Prevention Costs	These are the amounts spent to prevent non-conformity with specifications until they reach the customer (Evans & Lindsay, 2012:469).	• Assigned quality planning • Costs of controlling production processes • Assigned to design and develop product design specifications • Cost of quality training • Commissioned market research • Technology costs • Other preventive costs
2	Appraisal costs	These are the costs associated with (measuring, evaluating, and auditing) products or services to ensure compliance with performance requirements and quality standards (Quarles & Sower, 2017:124).	• Cost of inspection and testing of purchased materials or production in progress • Cost of quality materials and equipment necessary for testing and inspection • The costs necessary to evaluate the work of other departments in the organization • Testing and inspection costs during production operations
3	Internal failure costs	These are the costs required for the purposes of evaluating, decision-making, or correcting errors in products or services before delivering the product or service to the customer (Besterfield, 2014:51).	• Product processing and repair costs • Cost of reworked production waste • Employees do not benefit from training • The cost of treatment failure due to the use of insufficient repair equipment • Machinery malfunction
4	External failure costs	These are the costs incurred by the organization from non-conformity of the product or service after delivering it to the customer (Naagarazan & Arivalagar, 2017:2).	• Cost of guarantees. • The cost of restoring the service again. • The cost of returning the product to the organization (return cost). • Legal liability for the product. • The cost of losing the organization's reputation. • Cost of fines.

Sources: (Datar & Foster, 2016: 661) ;(Slack & Johnston, 2014: 728); (costing, 2009: 85)**;** (Dilworth, 2010: 51-52); (Stevenson, 2012: 401)**;** (Kerzner, 2011: 1101)**; (**Schroeder, 2017: 152)**.**

4. The cost of quality banking service

The researcher believes that it is possible to determine the costs of quality that are consistent with the reality of banking work, as they include the following:

First: Prevention costs: These are the costs that are spent in order to prevent the provision of defective products/services (Davis & Chase, 2013: 223). These prevention costs include the following:

1) Training costs: These are the costs of developing employees and preparing training programs for all employees in the organization that focuses on spreading and deepening awareness in the field of quality (Al-Ali, 2008:57). Training employees is one of the common approaches to improving the quality of services (Shafer & Meredith, 2008:90).).

2) Technology costs: There are many transactions carried out within and between organizations, and these transactions are usually paper transactions that include paying wages, payments, receiving and paying checks. When these transactions move from paper to the computer for processing and storage, you will have a computer-based processing system. Organizations have been able to automate these systems better than competitors, as they will achieve competitive advantages in the areas of speed, accuracy, and cost reduction (Heizer & Render, 2011:289).

3) Information costs: These are the costs of building and maintaining the information system (Al-Ali, 2018:57).

4) Other preventive costs: These costs represent administrative costs (Feigenbaum, 2001:116-117).

Second: Evaluation costs: These are the costs associated with monitoring performance and detecting failure (Rowbotham & Azhhemi, 2013:334). Evaluation costs vary greatly from one service organization to another, so evaluation costs tend to be at higher rates in service organizations than in commodity organizations (Evens James, 2007:31), as these costs include monitoring performance, auditing work, and ensuring the accuracy of reports (Asher, 2006: 155), and (Aubrey & Zimbler) believe that evaluating or auditing each transaction becomes necessary, because the nature of banking work varies. From the rest of the services because it deals with money that requires supervision and extreme attention, so the sampling method is not suitable for evaluation processes in the banking service (Al-Salmani, 2012:55). These types of auditing operations can be expressed in the term operational auditing, which includes auditing the technical, administrative and financial aspects of banking services. Then prepare reports on the evaluation results and submit them to the official or responsible party with the necessary recommendations (Boynton, et al, 2011:987).

Third: The costs of internal failure: These are the costs that occur due to not completing the work correctly the first time, as they focus on correcting these works before the banking service is delivered to the customer (Al-Salmani, 2012: 55). The costs of internal failure may not be clear in the field of services as well. As is the case in the field of manufacturing, costs are much lower for service organizations that require direct contact with the customer, and therefore have little opportunity to correct the error before the service reaches the customer (Evans & Lindsay, 2012:473). Common failure costs are: The time workers spend with customers and the costs of the time they spend to obtain correct information from others, and also include the costs of accounts, bad debts and stationery (Asher, 2016:156).

Fourth: External failure costs: These are the costs associated with not meeting the customer's requirements and failing to fulfill them (Kerzner, 2011:1101). External failure costs are among the most important quality costs in services. The reason is that with the service the customer spends a lot of time receiving the service, so there is Fewer opportunities to correct errors than in manufacturing (Reid & Sanders, 2012:118), and common external failure costs in banks are the costs of legal services, compensation costs, and fines (Naagarazan & Arivalagar, 2017:3).

Second: The theoretical framework of financial performance

1. The concept of financial performance: The topic of performance is one of the most important topics that are of interest to the management of industrial or service organizations alike, because through measuring performance, the organization determines where it stands in terms of achieving the goals it seeks to achieve, whether in the short term or in the long term. So that the organization's management can take what it deems appropriate in achieving all the planned goals (Al-Mahiawi, 2016: 357).

Financial performance represents an important indicator that reflects its success in achieving efficiency and effectiveness in exploiting human, material and information resources in light of the competitive challenges it faces and for achieving its goals. Hence, the study of the bank's financial performance goes beyond the financial and operational objectives to the objectives of customer and employee satisfaction in addition to increasing employee productivity (Kroll & Paruell, 2008: 259).

Financial performance refers to (the results achieved from the overall interaction of the organization's activities and its resources, which is represented by the organization's ability to obtain good people and maintain good results) (Schermerhorn, Osborn, Hunt: 2010: 26). Miller & Brimley also defined it as (a reflection of the way in which the organization uses its human and material resources in a way that makes it able to achieve its goals) (Miller & Brimley, 2000: 757). Wright defined financial performance as (those desired results that the organization seeks to achieve) (Kroll & Paruell, 2008: 259).

2. Financial performance objectives: The process of evaluating the performance of organizations is very necessary for their management in particular, as several objectives can be achieved through it, the most important of which are the following: (Al-Mahiawi, 2016: 359).

1) It helps in knowing the degree to which the organization's available resources have been exploited compared to the goals to be achieved.
2) Determine the internal situation in terms of strengths and weaknesses, as well as knowing the opportunities and threats that surround the organization in its external environment.
3) Develop plans for the organization.
4) It helps in rationalizing management decisions regarding different areas of the organization.

3. The importance of financial performance: Everyone saw it (Tuggle, 2008: 4) (Dyso & Medow, 2015: 371), The importance of knowing financial performance can be used to:

- Direct resource allocations.
- Evaluating administrative performance.
- Helping managers diagnose good performance.

- Explains the reality of the trade-offs between profit and investment.
- Ensuring that the organization's management knows the right time to intervene in a deteriorating business.
- Emphasizing the level of coordination between business and policy parts.
- Discuss the consistency of the structure's divisions in implementation.
- Getting to know the situation of those involved in the implementation to observe the motivations and trends of individuals.

The importance of financial performance comes from the fact that it expresses the organization's ability to create acceptable results in achieving the requests of the group interested in the organization. It is considered a representative of the extent to which the organization is able to successfully accomplish a task or achieve a goal with excellence (Obaid, 2010: 56). In light of the importance, many researchers have set performance goals that they seek to achieve (Al-Karkhi, 2011:41), including the following:

1) Enable senior management to obtain a clear picture to conduct a comprehensive evaluation review.
2) Rational use of available resources to achieve the highest returns at the lowest costs with good quality.
3) A comprehensive evaluation of the national economy based on the results of the evaluation of each project, including industry and sector.
4) The creation of a large information base used in drawing up balanced and realistic scientific policies and plans.
5) Identifying defects and weaknesses in the organization's activity and working to eliminate them by developing appropriate solutions for them after analyzing them and knowing their causes.

Figure (2) Balanced score card for performance measures
Source: Kaplan, R., &Norton, D. "The Balanced Scorecard Measures that Drive Performance", Harvard Business Review, 2002:72

Third: The theoretical relationship between the research variables

Because of intense competition and the resulting expanded use of information technology, it played a major role in paying attention to the quality of services provided. This led to the introduction of new variables that affect the reality of operating financial services. Since quality costs are one of the important indicators affecting financial performance, this requires calculating quality costs based on sound scientific foundations, leading to the optimal use of the organization's resources (Dyso & Medow, 2015: 371).

The third section: the analytical and practical framework for the research
First: An introductory overview of Al Khaleej Commercial Bank

The study population consists of the different levels of work in Al Khaleej Commercial Bank, and Table (4) shows the description of the bank in terms of establishment, capital, and number of branches.

Table No. (4): Description of the Khaleej Commercial Bank, research sample

Bank name	Establishment	capital	comments	number of branches
Gulf Commercial Bank	Established in 2000 (23 years ago)	300 billion dinars License	The bank includes 17 branches. Number and date: 115/3/9 on 2/7/2000.	5

Source: Prepared by the researcher.

Second: Quality cost analysis
The cost of prevention in the Credit Bank of Iraq

The bank relied on traditional accounting methods in determining all types of costs, as there is no classification or disclosure of prevention costs in the annual reports published by the bank, but rather they are found among the various expenses that the bank bears for the purpose of reaching the required level of performance.

a) Training costs: They represent travel and delegation expenses for the purpose of the activity, and the costs of training and studies borne by the bank as a result of employees traveling outside the country for the purpose of preparation and training on the new requirements for implementing the banking system applied globally.

b) Technology costs: represented by the expenses of renting computer programs, machinery and equipment, as well as the expenses of furniture and office equipment used in the bank under study, where the costs of machinery, furniture and office equipment are represented by annual depreciation, as the bank follows the straight-line method in calculating depreciation and in the ratios approved in the special depreciation and amortization system. No. (9) of 1994.

C) Information cost: - represents the expenses incurred by the bank as a result of the annual subscription contracted by the bank to the Internet system for the purpose of monitoring and developing the modern communications system via satellites on the one hand, and between it and the outside world on the other hand, as well as the costs (using the Soviet system, using the credit card , use of automated teller machines, use of the internal payments system)

d) Other preventive costs: - It is a group of administrative expenses that the bank bears in order to motivate employees and ensure that they perform their duties to the fullest extent. Therefore, the bank pays the allocated allocations on a regular basis in exchange for carrying out work in order to improve the quality of banking service, which leads to reducing time. Waiting for the customer, as well as accuracy in work and eliminating errors, ultimately leads to an increase in deposits and revenues. As for deferred revenue expenditures, they are expenses that were spent but postponed to the future. The reason for including these expenses on the assets side of the budget is due to the high amount that is spent in the construction phase or Expansion constitutes a burden that may not be imposed on a financial cycle (Lotfi, 2006:242), and one of the important costs is the cost of subscribing to magazines, newspapers, and other periodicals.

Table (5): Prevention costs in the Commercial Bank of Iraq

The cost of prohibition	2016	2017	2018	2019	2020	2021
Training cost	2	11	128	132	84	60
Cost of technology	104	12	108	205	808	371
Cost information	-	-	-	-	4	22
Other preventive costs(*)	5	15	59	101	82	116

Source: Prepared by the researcher based on the annual reports 2016-2021.

Through the above table, the researcher notes the following:
• Training costs decreased in the first years (2016) and (2017), as they constituted the lowest rate among the cost components due to the exceptional circumstances in those years.
• High information costs through participation in the system and the design of advanced banking systems.
• The gradual increase in other prevention costs, especially technology costs, as they were the highest share of other costs

Level of change in prevention costs for the years 2016 to 2021
• Table (6) indicates the rates of change in the level of prevention costs at Khaleej Commercial Bank during the study period and can be explained as follows:
• The costs of the prevention ranged between (38) million dinars as a minimum and (978) million dinars as a maximum.
• Compared to the base year (2016), the rate of change in the cost of prevention during the other years of the study was clear.
• The highest rate of increase in the level of prevention costs reached (413%) compared to the base year in (2021) due to the increased interest in customers and the introduction of technology that helps speed up the banking process.
• The lowest rate of increase was (-66%) compared to the base year, in 2017, due to the exceptional circumstances in that year. As shown in Table No. (6).

Table (6) Rates of change in the level of prevention costs for the years (2016-2021)

years	The cost of prohibition	Growth rates %
		Compared to the base year
2016	111	-
2017	**38**	**(66)**
2018	**295**	**166**
2019	**438**	**295**
2020	**978**	**123**
2021	**569**	**413**

Source: Prepared by the researcher based on the annual reports 2016-2021.

Third: Measuring financial performance indicators

Return on Investment (ROI): Table (7) displays data related to rates of return on investment, where the following was concluded:

• The rates of return on investment ranged between (2.4) as a minimum in 2018 and 5.3 as a maximum in the year (2021), where there is a continuous rise in the rate of return on investment.

• Compared to the base year of 2016, the return rates were in a state of continuous fluctuation, and this indicates the good performance of the bank's management in investing its assets and its orientation towards profitable investment opportunities. As for the decrease in the growth rate for the year 2018, it is due to the settlement of cash differences resulting from war damage and shortage and counterfeit differences. Which was not liquidated during the year 2017, and remained suspended until 2018.

Table (7) Return on investment and growth rates in the Credit Bank of Iraq (2016-2021)

year	Net profit	Total assets	% Return on investment	Growth rates%
				Compared to the base year
2016	494	19045	3	–
2017	622	22390	3	–
2018	667	27394	2.4	(20)
2019	5517	213870	2.6	(13)
2020	12157	357423	3.4	13
2021	19167	359329	5.3	77

Table: Prepared by the researcher based on bank reports
When comparing the results of the return on investment with the bank's quality costs, the researcher finds that the quality costs affect the growth of returns with a continuous increase in costs. The higher the quality costs, the greater the return on investment.

Fourth: Analyzing the relationship between quality costs and financial performance indicators

In this section, we presented a comparison between the costs of quality and the financial performance indicators studied, and it was generally found that there is an impact between the costs of quality and some banking performance indicators represented by (the financial axis, the operations axis, the customer axis, and the growth and learning axis). This research aimed to test the impact between the costs of quality and the performance indicators. , with a statement of the total impact of quality costs in those areas, according to the presentation of the following information:

1. Results of testing the correlation between costs (conformity costs, non-conformity costs) (X1, X2) and financial performance variables (Y1, Y2, Y3, Y4).

For the purpose of answering the study questions and verifying the validity of its hypotheses of the existence of a correlation between the independent and dependent variables of the bank sample of the study, the statistical package program (SPSS) was employed, and through it the following statistical methods were used:

• The simple linear correlation coefficient (Pearson correlation) to examine the relationship between the dependent variable and the independent variables

• Stepwise Multiple Regression Analysis to test the extent of the influence of the independent variables on the dependent variable. Statistical significance was tested below 5% significance levels.

a. The relationship of compliance costs X1 to the studied banking performance indicators

The results of analyzing the correlation relationships between the variable (conformity costs) and the financial performance indicators (Y1, Y2, Y3, Y4) shown in Table (8) reveal the existence of correlation relationships that are:

There is a positive (direct) significant correlation below the 5% level between the independent variable (X1) and the dependent variables (Y1, Y2, Y3, Y4).

Table (8) Correlation coefficients between the independent variables and the dependent variables

Independent variable	Dependent variables	Simple link
X1	Y1	.442
	Y2	.346
	Y3	.563
	Y4	.542

The highest correlation has emerged between the conformity cost variable (X1) and the labor productivity index (Y3), and this greatly supports the findings of applied studies that increasing conformity costs by paying attention to workers in terms of training in order to increase banking knowledge and experience and retain old workers. In terms of privileges because they have a great deal of banking experience accumulated over their long years of work in many banks, this leads, as a result, to raising work efficiency by employing the financial resources available to the bank to the maximum degree of operation in investments (loans and financial investments), in turn leading to an increase in the revenues of banking operations and their reflection. In increasing the rate of labor productivity.

B. The relationship of non-conformity costs X2 to the studied banking performance indicators
The results of analyzing the correlation relationships between the variable (cost of non-conformity) and the financial performance indicators (Y1, Y2, Y3, Y4) shown in Table (9) reveal the existence of correlation relationships that are: the presence of a negative (inverse) correlation with a significant significance below the 5% level. Between the independent variable (2X) and the dependent variables (Y1, Y3, Y4), as for the variable Y2, a very weak correlation appeared and can be neglected.

Table (9) Correlation coefficients between the independent variables and the dependent variables

Independent variable	Dependent variables	Simple link
X1	Y1	-0,393
	Y2	0,0336
	Y3	-0,429
	Y4	-0,194

The highest inverse correlation relationship appeared between the cost of non-conformity variable (X2) and the labor productivity index (Y3). This greatly supports the findings of applied studies that increasing the costs of non-conformity leads to a decrease in labor productivity. Such an approach finds its negative repercussions. In reducing the rates of return on investment in general and the rate of incentive bonuses granted, this is consistent with the study's hypothesis that there is a relationship between the costs of non-conformity and financial performance indicators.

2. The impact of quality costs on financial performance indicators
Analyzing the results of simple linear regression of quality costs in each financial performance indicator.

In this paragraph, the impact of quality costs (conformity, non-conformity costs) on each of the financial performance indicators will be discussed by presenting the coefficient of determination (R^2), for all types of quality costs (conformity costs, non-conformity costs) in the studied banking performance indicators (return). on investment, growth in deposits, labor productivity rate, incentive bonuses), and then comparing the calculated (F) value with its tabulated value, for the purpose of arriving at results that support or reject the acceptance of the hypotheses proposed in this aspect.

A - The impact of compliance costs (prevention, evaluation) on each financial performance indicator

Table (10) Regression coefficients between the independent variables and the dependent variables

Independent variable	Dependent variables	Coefficient of determination R^2	Constant term α	Marginal slope β	Calculated F value
X1	Y1	0.161	2.712	7.354	0.769
	Y2	0.887	03457	0.942	31.376
	Y3	0.639	4.378	0.800	7.088
	Y4	0.904	0.904	0.665	37.454

Tabulated F value with significance level (0.05) and degree of freedom 1/4 = 6.25

By observing Table (10), the coefficient of determination (R^2) of the conformity costs in the dependent variable, the return on investment (Y1), was (0.161%). This means that the conformity costs had an influence of (0.161) on the return on investment, which is a weak and significant effect. Statistically significant, the calculated F value reached (0.769) compared to (6.25) for the tabulated one. When the calculated is less than the scheduled, this indicates that the compliance costs do not affect the return on investment. Thus, the hypothesis that states (there is a significant effect between the costs of conformity and the return on investment) can be rejected.

• As for the conformity costs and their impact on the growth of deposits, the value of the coefficient of determination reached (0.887) R^2 for the conformity costs in the dependent variable (Y2). This means that the conformity costs affected by (0.887) the growth of deposits, which is a high impact, and the value of the calculated F) was (31.376) compared to (6.25) for the tabulated one. When the calculated is greater than the scheduled, this indicates that matching costs affect the growth of deposits. Thus, the hypothesis can be accepted that says (there is a significant effect between matching costs and deposit growth).

• About the effect of conformity costs on the labor productivity rate, the value of the coefficient of determination was (0.639) R^2 for the conformity costs in the dependent variable (Y3). This means that conformity costs affected by (0.639) the labor productivity rate, and the rest is due to other factors that were not Included in the model, the calculated value of F reached (7.088) compared to (6.25) for the tabulated one. When the calculated is greater than the scheduled, this indicates that compliance costs affect labor productivity rates. Thus, the hypothesis can be accepted which states (there is a significant effect between conformity costs and labor productivity rates).

• As for the effect of conformity costs on the dependent variable, incentive rewards, the value of the coefficient of determination reached (0.904) R^2 for conformity costs in the dependent variable (Y4). This means that conformity costs affected by (0.904) the growth of incentive rewards, and the rest is due to other factors that were not Included in the model, the calculated value of F reached (37.454) compared to (6.25) for the tabulated one. When the calculated one is greater than the scheduled one, this indicates that matching costs affect the growth of incentive rewards. Thus, the hypothesis can be accepted which states (there is a moral effect between conformity costs and incentive rewards).

B - The impact of the costs of non-compliance (internal failure, internal failure) on each financial performance indicator

Table (11) shows the value of the coefficient of determination for the variable represented by the cost of non-conformity (the cost of internal failure, the cost of external failure) and each of the banking performance indicators studied in order to reach an accurate judgment regarding the rejection or acceptance of the sub-hypotheses.

Table (11) Regression coefficients between the independent variables and the dependent variables

Independent variable	Dependent variables	Coefficient of determination R^2	Constant term α	Marginal slope β	Calculated F value
x2	Y1	0.119	2.822	0346	0.542
	Y2	0.872	22799	0.934	27.165
	Y3	0.569	1.952	0.754	5.28
	Y4	0.869	21.810	0.932	26.45

Tabulated F value with significance level (0.05) and degree of freedom 1/4 = 6.25

• It appears from the table that the coefficient of determination (R^2) for the cost of non-conformity in the return on investment (Y1) reached (0.119) in the return on investment. The calculated (F) value was (0.542), while the tabulated (F) value was (6.25). Since the calculated F is less than the tabulated, this means that there is no effect of the costs of non-conformity on the rate of return on investment, as increasing or decreasing costs does not affect the return on equity, and this could represent a rejection of the sub-hypothesis that states (the costs of non-conformity It affects the return on investment.

• The value of the coefficient of determination (R^2) for the cost of non-conformity in growth in deposits (Y2) was (0.872), which means that it had a percentage of (0.872) impact on the growth of deposits. The calculated F was (27.165), while the value of the tabulated F was (6.25), which means that there is an impact of the costs of non-conformity on the growth of deposits, as increasing or decreasing costs affects deposits, and this could represent an acceptance of the sub-hypothesis that (the costs of non-conformity affect in growth in returns).

• About the coefficient of determination (R^2) for the costs of non-conformity in labor productivity (Y3), it amounted to 0.569. This means that the costs of conformity affected by (0.56) the labor productivity, and the rest is due to other factors not included in the model, and the value of (F) The calculated result was (5.28) compared to (6.25) for the tabulated one. When the calculated is less than the scheduled, this indicates that compliance costs do not affect the growth of labor productivity. Thus, the hypothesis that states (there is a significant effect between conformity costs and labor productivity) can be rejected.

• As for the effect of the costs of non-conformity on the dependent variable of incentive rewards, the value of the coefficient of determination reached (0.869) R^2 for the costs of non-conformity in the dependent variable (Y4). This means that the costs of non-conformity affected by (0.869) the growth of incentive rewards, and the rest is due to other factors were not included in the model, and the calculated F value was (26.45) compared to (6.25) for the tabulated one. When the calculated one is greater than the scheduled one, this indicates that the costs of non-conformity affect the growth of incentive rewards. Thus, the hypothesis can be accepted which states (there is a significant effect between the costs of non-conformity and the incentive rewards).

3. The effect of combined quality costs (conformity costs, non-conformity costs) on each financial performance indicator.

• This paragraph will address the testing of the independent variables of quality costs (conformity costs, non-conformity costs), and the variables dependent on the studied banker's

performance (return on investment, growth in deposits, labor productivity, incentive rewards), for the purpose of testing hypotheses, where the results were as shown in Table (12)

Table No. (12): Values of multiple regression coefficients for combined quality costs and their impact on performance indicators

Independent variable	Dependent variables	Corrected coefficient of determination R²	Fixed limit &	Marginal slope1β	Marginal slope 2β	Calculated F value
x2,X1	Y1	-.181	2.525	5.287	-4.062	0.617
	Y2	0.812	33848	196.481	15.780	11.781
	Y3	0.509	6.834	8.682	-5.343	3.596
	Y4	0.845	31.934	0.956	-0.260	14.655

The tabulated F value has a significance level of (0.05) and a degree of freedom of $2/3 = 9.01$
Table (12) shows that the value of the determination coefficients for the quality costs combined in the return on investment was:

• It reached (-0.181), this means that the relatively low value of the corrected coefficient of determination indicates that the model does not express the linear relationship well. As for the calculated F value (0.617), which is less than its tabulated value of (9.01), and when the calculated value is less than This indicates that quality costs do not affect the return on investment. Thus, the hypothesis that says (there is a significant effect between quality costs and return on investment) can be rejected.

• As for the effect of quality costs on the dependent variable, growth in deposits, the value of the corrected coefficient of determination reached (0.812) R², and this indicates that the model expresses the linear relationship well. The calculated F value was (11.781) compared to (9.01) for the tabulated one. When the calculated is greater than the scheduled, this indicates that quality costs affect the growth of deposits. Thus, the hypothesis can be accepted that says (there is a significant effect between quality costs and growth in deposits).

• With regard to the effect of quality costs (conformity and non-conformity) on the labor productivity rate, the value of the corrected coefficient of determination reached (0.509) R². This means that the relatively low value of the corrected coefficient of determination indicates that the model does not express the linear relationship well. And the value of (F) The calculated amount was (3.596) compared to (9.01) for the tabulated one. When the calculated is less than the scheduled, this indicates that quality costs do not affect the labor productivity rate. Thus, the hypothesis that says (there is a significant effect between quality costs and labor productivity) can be rejected.

• As for the effect of quality costs on the dependent variable, incentive rewards, the value of the corrected coefficient of determination reached (0.845) R², and this indicates that the model expresses the linear relationship well. The calculated F value was (14.655) compared to (9.01) for the tabulated one. When the calculated is greater than the tabulated, this indicates that quality costs affect incentive rewards, and thus the hypothesis can be accepted that says (there is a moral effect between quality costs and incentive rewards).

Results

First: Conclusions

1. Quality costs have the greatest impact on the dependent variable represented by customer satisfaction and the variable employee satisfaction in the first place, followed by growth and learning, and then the financial axis.

2. The increase or decrease in quality control costs affects the decrease or increase in failure costs (internal, external).

3. The studied bank lacks records of quality costs due to its reliance on traditional accounting methods in determining costs.

4. Compliance costs during the studied period were not stable compared to the base year, but in general they tended to gradually increase during the study period.

5. Non-conformity costs constituted the largest portion of the bank's quality costs, especially (internal failure costs) of the total costs.

6. The bank relied on the evaluation method (by paying attention to the evaluation costs) more than its reliance on the prevention costs, as the evaluation costs exceeded the prevention costs during the years of study.

7. Lack of specialized staff in the field of quality to benefit from their services in analyzing quality costs.

8. The bank suffers from weak foundations and spending standards for quality costs in proportion to the importance of each activity.

9. There is agreement between the actual percentages of compliance costs (prevention, evaluation), non-compliance costs (internal failure, external failure) out of the total costs in the studied bank and the standard or common percentages for those costs.

Second: Recommendations

1. Holding seminars with the aim of spreading the culture of quality and making it known that the correct policy in this field is to pay attention to the costs of conformity (the costs of prevention and the costs of evaluation) because they are the basis that enhances the application of quality standards as well as eliminating or reducing the costs of non-conformity (the costs of internal and external failure).

2. Paying attention to identifying and calculating quality costs, noting data related to quality costs, collecting them, analyzing them, identifying their high locations and causes, and working to reduce them for the purpose of improving banking performance by reducing errors and increasing productivity.

3. Preparing annual or quarterly reports on quality costs spent and comparing them with the level of performance by adopting balanced card indicators that concern customers, operations and workers, as well as financial performance indicators.

4. Intensifying efforts in the field of training, especially training related to quality and its costs, and ensuring that training achieves organizational goals efficiently and effectively.

5. Formulate foundations or establish fixed standards for spending in the field of tunnels in proportion to the importance of each activity.

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