

## The Role of Quality Costs in Achieving the Entrepreneurial Orientation of Organizations: Survey Study in the General Company for Electrical Industries

Hazim Abed AZEEZ  
Department of Public Administration  
Sumer University, Thiqr, Iraq  
[hazimazeez2@gmail.com](mailto:hazimazeez2@gmail.com)

Tarek Kazem SHALAKAH  
Department of Public Administration  
Sumer University, Thiqr, Iraq  
[tareq8120@gmail.com](mailto:tareq8120@gmail.com)

Latfe ALHUSSEINAWI  
Department of Public Administration  
Sumer University, Thiqr, Iraq  
[Latfeej@yahoo.com](mailto:Latfeej@yahoo.com)

### Article's history:

Received 22<sup>nd</sup> of March 2020; Received in revised form 29<sup>th</sup> of April 2020; Accepted 24<sup>th</sup> of May, 2020;  
Published 30<sup>th</sup> of June, 2020. All rights reserved to the Publishing House.

### Suggested citation:

Azeez, H.A., Shalakah, T.K., Alhusseinawi, L. 2020. The Role of Quality Costs in Achieving the Entrepreneurial Orientation of Organizations: Survey Study in the General Company for Electrical Industries. *Journal of Applied Economic Sciences*, Volume XV, Summer 2(68): 310-323. DOI: [https://doi.org/10.14505/jaes.v15.2\(68\).05](https://doi.org/10.14505/jaes.v15.2(68).05).

### Abstract:

The research focused on the variables of quality costs in terms of their dimensions (examination, evaluation, internal failure, external failure) as an independent variable, and the pioneering orientation in its dimensions (creativity, risk taking, proactive) as a dependent variable. The aim of the study is to study the main question in the research problem and it is What is the perception of the General Company for Electrical Industries members of the dimensions of the costs of quality and dimensions of leadership orientation, and the impact of the cost of quality on the leading direction of the organizations, the research achieved its goal through the use of descriptive analytical approach in the study of the problem of research, and to be accompanied by the analysis in both theoretical and applied research, A questionnaire consisting of two sections prepared for this purpose was designed and distributed to a sample of 45 employees of the General Company for Electrical Industries in Baghdad, and for the purpose of achieving the objectives and test hypotheses was used the statistical program of social sciences SPSS and used descriptive statistics (mean and arithmetical, standard deviation, correlation relationship Spearman, Impact of F and Test T). The research reached a number of conclusions, the most important of which are: The Company's interest in testing the internal raw materials in the process of production, dealing with reliable suppliers and paying attention to the good design of the product in order to reduce costs. The set of recommendations including: Focus on activities that add value to the organization and are low-cost, including costs for the development of creative capabilities of personnel and market studies.

**Keywords** quality costs; entrepreneurial orientation; internal and external failure; creativity; risk taking; proactive.

**JEL Classification:** L15; D23; D24.

### Introduction

The cost of quality has increased in the last decades of the 20<sup>th</sup> century and the beginning of the eleventh century due to the rapid and complex changes and successive developments in the business environment. For various reasons including the emergence of a huge number of new products in addition to increasing competitive offers to customers and the opening of markets to each other. To meet these challenges, there must be an awareness of the expectations of the customer and the suitability of these expectations with the characteristics of the products.

This indicates that improving the quality of products to suit the needs of customers can give companies two advantages:

- the first is to reduce the cost of its products;
- the second is to proactively develop strategies that enable it to acquire new opportunities efficiently by examining the external environment.

These features can increase the company's profits and thus be able to compete for price and product quality. It is also possible to say that quality is one of the important pillars of the orientation of leading organizations at present, and that the quality associated with the cost is also an important aspect because it began to increase and grow to constitute a large proportion of sales and then profits of companies and therefore increased the attention of accountants with the quality costs as an inevitable result to achieve the desired results of quality in reducing costs and improve quality and achieve customer satisfaction and increase the share of the company in Market and then progress on competitors. The research department is divided into four sections, the first of which is devoted to the research methodology, the second to the cognitive framework of the research variables and the third to the practical aspect. The fourth is to the conclusions and recommendations.

Definition of quality: In this section, we will discuss in detail the concepts of quality in general from different points of view as presented in the literature of accounting and administrative thought, as follows.

## 1. Literature Review

### 1.1. Quality Concepts and Elements of Quality Costs

Quality is defined by the American Quality Control Association as a set of qualities and characteristics related to the product or service provided according to specifications that meet the needs of customers at the time of purchase or use (Baghaee 2020). Quality is defined as suitability for use and in the form that makes the product or service closer to the customer when used (Chaiwan 2018). Crosby, indicate in his definition of quality, refers to conformity to specifications, and that not conform in specifications do not mean quality. In other words, the manufacture of a product or the provision of a service that does not conform to established standards cannot be considered as quality (Summers 2006) and the quality is the degree of conformity of the product to the specified standards or specifications which customers want so that they can meet their needs and expectations (Khanna *et al.* 2008).

On this basis, quality can be seen from one of the following perspectives:

- *Customer's perspective*: This perspective relates to the value and use of the product in a manner equivalent to the price paid (Bugdol 2020). There are several considerations for the product that can meet the needs and expectations of customers as follows (Samarrai *et al.* 2012);
- *Performance*: The manner in which the functions and the basic operational characteristics of the product perform;
- *Aesthetics*: Gravity means in terms of shape, colour, smell, taste, that is how the product looks from the point of view of the customer,
- *Appearance*: It means the characteristics of tangible product or tangible or visual related by the customer;
- *Service*: Availability of maintenance and repair services for the product when the product has been displayed for problem for a problem when it used as a result of a manufacturing error.

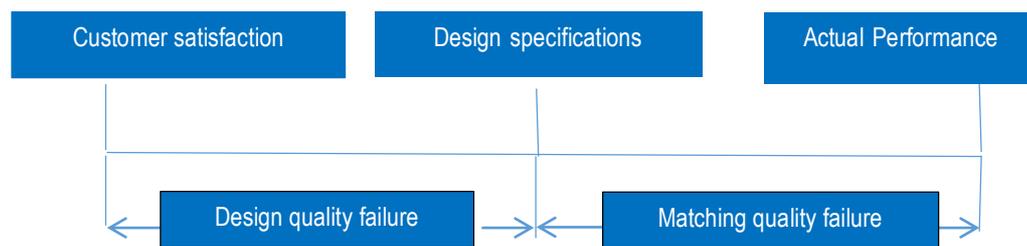
### 1.2. Economic Unity Perspective or Product

This perspective relates to conformity with specific specifications. Quality is classified from the factory's point of view to the following (Bugdol 2020):

- *Quality of the design*: The quality is planned from production of product it's means put of the specification at production location and related to Product specifications and market-based decisions of the specifications required for use, and the difference in quality design is result to, the difference in the prescribed specifications and this quality is the responsibility of the engineering departments.
- *Quality of conformity*: The quality here means that the product conforms to the engineering characteristics of the industry, that is, the degree of conformity of the product to the specified specifications, and the difference in quality here is due to the operational process, therefore, the products are not conforming specifications require repair and re - operation or prepare failed products cannot be repaired Is an important influence on the reputation of economic unity, and the quality here is the responsibility of those Who are responsible for the production process.

Actual performance (quality of service) quality is meant here product performance response and the packing case and guarantees post - marketing maintenance periods and shipping methods and delivery of products to customers. The following figure will show whether the actual performance does not meet the level of customer satisfaction due to a failure in the quality of design and conformity. The following figure shows the failure of the quality of design and conformity and its relation to customer satisfaction.

Figure 1. The failure of Quality of design and the Conformity with customer satisfaction



Source: Horngren, Charles, Datar, and Rajan (2015)

### 1.3. The Concept of Quality Costs and Their Components

Before turning to the concept of quality costs we should shed light on the concept of cost as stated in the literature of accounting thought, Cost is resources being sacrificed or lost to achieve a particular goal. Cost (such as the cost of work or advertising) is usually measured by the amount of cash payable for goods and services. There are two types of costs, the actual cost It is the cost actually incurred, such as (Historical or historical cost), and cost balancing, which is an expected or forecasted cost (Horngren *et al.* 2015). After subtracting the concept of quality costs by leader of the quality Goran in 1951 in his book, quality control, it emerged after numerous writings and increased attention being include elements of cost and quality, which are among the part of the success of the four main factors (cost, quality, time, innovation) for any unit economic and which directly affect the viability of the unit and its ability to compete and grow in the environment in which it operates.

Moreover, the cost of quality is clearly linked to the level of quality and its impact on the size of the units produced and their reflection on sales and then on the level of profitability. There may be variation in cost components of quality and between economic units and others. But mainly aims to achieve the quality level and work to reduce the cost of defective and it often added to the cost of production (Najm 2003). Many large companies have been able to reduce their quality costs from 30% to 40% of their sales revenue when the quality of their products has improved as a result of the adoption of quality programs that implemented annually (Heizer and Render 2001). It is noteworthy that most economic units spend about 20% -30% of total production costs on quality that related to prevention and evaluation activities and internal and external failures in order to manufacture products and provide quality services that required to customers and meet their needs and expectations (Alle *et al.* 2019). Quality costs were defined as the costs incurred by the economic unit to prevent from production defects and to repair defects when it discovered. (Chaiwan 2018) It was also known as "all costs spent by the unit to ensure the high quality of products or services" (Summers 2006). Horkren defined it as the cost incurred by the economic unit to prevent the manufacture of low-quality products or the costs that the result of such products (Horngren *et al.* 2015). Quality costs are classified into four main categories in the following order:

1. *Preventive prevention costs*: Quality costs are defined as those costs that are spent in order to reduce the internal and external failure of products (Jackson and Sawyers 2001). It is also known as the costs spent to prevent the manufacture of non-conforming products (Horngren *et al.* 2015). Prevention costs consist of a set of elements which can be classified in the following order (Baghaee 2020, Horngren *et al.* 2015):
  - *Planning and design*: The costs of developing and improving quality management systems to maintain the quality levels achieved.
  - *Product design*: The cost of product design is to suit the needs of customers and a method meet with their needs and expectations.
  - *Process engineering*: These costs are intended to make the production processes conform to quality standards that Pre-defined of it.
  - *Quality training*: These costs relate to the development and implementation of Staff training programs of quality.
  - *Information costs*: It is the costs of obtaining and maintaining quality data and information, as well as processes aimed at developing and analysing quality reports.
  - *Preventive maintenance*: This component aims to maintain machinery and equipment in order to improve production processes and increase the quality of its products.

- *Quality assurance*: Quality planning and controlling the quality to ensure that the standards and quantifications are properly applied.
2. Evaluation costs (examination): Which relate to the assessment of the status of materials, products and services (Chaiwan 2018) It is also known as costs which spent on To discover products that do not conform to specifications (Horngren *et al.* 2015) Assessment costs consist of a set of elements which can be classified in the following order (Baghaee 2020, Horngren *et al.* 2015):
    - *Testing and examination*: These are the costs associated with the activities of the examination of raw materials, production under operation and the complete product.
    - *Maintenance and calibration of inspection devices*: These are the costs related to the maintenance of the devices and equipment used to ensure the validity to do inspections process, and to ensure that it is suitable for testing and examination quality standards.
    - *Testing and examination reports*: These are details that Special of defective units that are submitted in the form of reports to High management for appropriate decisions.
  3. Internal failure costs: The costs spend by the economic unit on its defective products before shipping to customers (Horngren *et al.* 2015). They are also known as "costs associated with service failure before they are submitted to customers" (Summers 2006). Prevention costs consist of a set of elements, which can be, classified it according to the following order (Baghaee 2020, Horngren *et al.* 2015):
    - *Scrap*: The costs associated with finished materials and products, and half manufactured, which are defective, and cannot be fixed.
    - *Recycling (operation)*: The costs related to the repair of non-conforming products and the characteristics quality that required.
    - *Reconsideration*: The costs involved in re-examining products that are repaired;
    - *Internal failure analysis*: The costs related to the analysis of causes of failure and then to identify these reasons for treating them and avoiding them in the future.
    - *Maintenance of faults*: The costs related to the repair and control of production equipment and the removal of material that cause defective appearance in products.
  4. External failure: Costs that arise after the delivery of products or defective services to customers (Heizer and Render 2001) Or the costs spend by the economic unit on defective products after shipment to customers (Horngren *et al.* 2015). The costs of external failure consist of a set of elements, which can be classified, in the following order (Jackson *et al.* 2009, Horngren *et al.* 2015).
    - *Guarantee*: The costs related to the maintenance and repair of products sold to customers and returned to the economic unit for processing them during the warranty period.
    - *Customer complaints*: It costs that result from complaints by customers to decrease the level of quality.
    - *Sales returns*: Defective or non-standard products are returned by customers for the purpose of replace them with other good products.
    - *Loss of sales*: Costs incurred as a result of loss of market share due to the provision of products of poor quality and in the form of the customer's dissatisfaction with the failure of the service or product to meet its needs and expectations.

The concept of entrepreneurial orientation as the strategy that motivates the organization to adopt the initiative and the desire to enter the new markets in order to obtain clear technological progress and create wealth that enables it to grow and progress, entrepreneurial orientation strategies (innovation, risk, proactive) today are one of the most important drivers that drive organizations to enter new markets or offer new and unique products. This is one of the most important reasons and justifications for organizations to adopt the entrepreneurial orientation approach (Lumpkin and Dess 1996) The entrepreneurial orientation approach has taken pioneering activities through a pioneering perspective. When the organization the organization adopts, leadership orientation, it focuses simultaneously to fiend opportunities in its external environment and on its ability to exploit these opportunities through its leadership activities. So the pioneering approach is to guide the organization to integrate its activities and achieve opportunities, and to advance success in the competitive environment (Naciri 2015, Dess *et al.* 2007) In terms of efforts by individuals, or difference, or the efforts of the organization to find new opportunities or exceptional solutions to existing problems, and it is, the degree of innovation in the cognitive pattern of the individual, the way in which individuals handle from it information and in the light of which they make decisions and deal with problems. It is representing the leading orientation of policies and practices that form the basis of the organization's leading activities and decisions. It can also be seen as a process of strategic decision-making

strategy which decision-makers in the organization with objectively to determining the organization's basis objective, and maintaining its vision and creating a competitive advantage.

#### 1.4. The Importance of Entrepreneurial Orientation

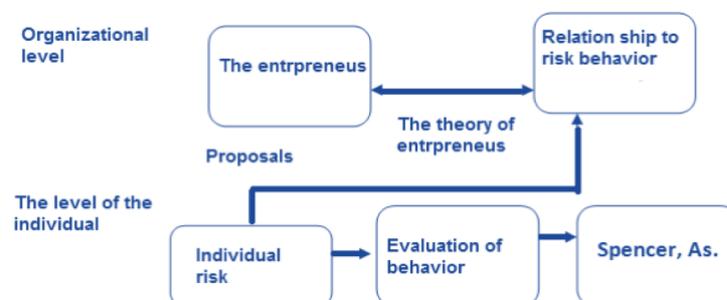
Studies and research in the field of strategic management indicate that the leadership approach is a key element in achieving organizational success and helps to achieve superior performance. Organizations that adopt the concept of leadership approach are performing much better than other organizations that operate in the same. In this field, the organization is able and from this orientation to employ changes in its products as appropriate with the new variables and mechanisms of markets and monitoring new opportunities and benefit from them before other organizations. Therefore, the leading approach enhances the organization's ability and ability to proactively capture environmental opportunities and achieve better performance. Superiority over competitors (Gathungu *et al.* 2014). He added (Zainol and Daud 2011). The leading approach is one of the most important strategies that help organizations to achieve growth based on a strategy that targets and satisfies the needs and desires of customers. The leading approach helps the organization to establish new business that includes new risk and helps to transform the organization to become a leader through change in the field of performance standards (Fox 2005).

##### Dimensions Leadership Orientation

*Invention.* The success of organizations today depends on several requirements, one of them is be creative and educated organizations. Therefore, scientific efforts in the field of innovation need wise management in which efforts are invested individually, collectively and organizationally, on one side and creating an environment conducive to the work through which innovative ideas are developed into distinct products and services and unique and methods characterized by creativity, innovation and originality on the other side (Awang *et al.* 2010). Some believe that creativity shows fundamental abilities in the organization's strategy In the twenty-first century, The capacity that enables the organization to find something new depends on the use of intangible knowledge assets creativity arises from the generation of new knowledge by relying on prevailing knowledge, it may require from the organization to produce better products or services to meet its declining sales, especially when the pace of change in its environment increases, as innovation becomes a necessary cost for doing business, and permanence the organization's survival in the forefront (Baldarelli 2020).

*The adoption of risk.* Alderman (2011) suggests that risk represents a framework for orientation leadership which means the organization's desire to adopt the adventure without knowing the potential results, which may include investment in new technology or entry into new markets that unknown as well as the financial risks that the organization may face (Al-Hadrawi and Al-Kalabi 2013). Risk adoption is often associated with the fast strategies decision-making of an organization that helps improve its performance. Therefore, organizations that cannot adopt the concept of risk, they will not be in line with new creations as well as be slow response to the new changes in comparison with other organizations, and this causes its poor performance (Dess *et al.* 2007). Fox (2005) shows that there are no specific limits of risk behaviour between organizations and leaderships for new projects. Whenever the risk was less the person leading to being a normal person is, whenever the risk increases, he will become a leader. The adoption of risk is to be relevant to decision-making and it is based on the principle of adventure. As illustrated by the for Figure 2.

Figure 2. The general framework of the pilot risk mod evaluation of behaviour



Proactive is represent by a strategy that emphasizes looking ahead, and constantly searching for new opportunities and experimentation with a quick response to the ongoing environmental transformations, and the tendency to practice activities that affect the environment.

It also includes focusing on the future by finding ideas and anticipating problems and trying to prevent them or reduce them. To maintain on adaptation and perseverance through the implementation of new operations or the launching of new products (Fox 2005). It also indicates the proactive to readiness of the organization and its ability to expect demand in the future as this is one of the most important features of the leading organizations, which include the desire of senior management to be the organization is always the first in response to the needs of customers and their wishes according to what is better and new. Leading organizations aspires to be able to respond quickly to maximize market use by competing organizations and not wait for others to achieve the tasks. Therefore, these organizations tend to bear the risk of entering new markets in uncertain circumstances (Alderman 2011).

## **2. Methodology**

### **2.1. Purpose of Materials and Methods**

The fast changes and developments in the contemporary business environment have led to the up growth of a huge number of new products in addition to increasing the competitive offers to customers and the opening of markets to each other, which should the economic units to meet these challenges to adopt new tools and methods in order to achieve its objectives and maintain its customers And then stay and continue in a way that supports its competitive position. On this basis, the problem can be shaped by the following questions:

- How far do the sample understand the dimensions of the cost of quality (examination, evaluation, internal failure, external failure) and the dimensions of the leading approach (creativity, proactive, risk taking)
- How well the cost of quality effects on the cost of the direction leadership of organizations.

The importance of the research stems from the importance of quality costs which come in response to the needs and desires of customers and the ability of economic units to manufacture products and provide services with the best quality and the least cost, and the importance of the leading approach, which is one of the most important modern administrative approaches, which is based on three main elements are creativity, proactive, and the adoption of risks. As the connection between the two concepts can be reflected in the increase in the value of products and services of economic units and in a way that reflects on its competitive position and then on its continuation and survival, as result there are two main, hypotheses of research:

H1: There is a significant statistical correlation between the costs of quality and leadership orientation, with the following hypotheses divided:

- There is a statistically significant correlation relationship for the examination, in orientation and leadership dimensions;
- There is a statistically significant correlation relationship for evaluation in and leadership dimensions;
- There is a statistically significant correlation relationship to the internal failure in the leading trend in its dimensions;
- There is a statistically significant correlation relationship to the external failure in the leading trend in its dimensions.

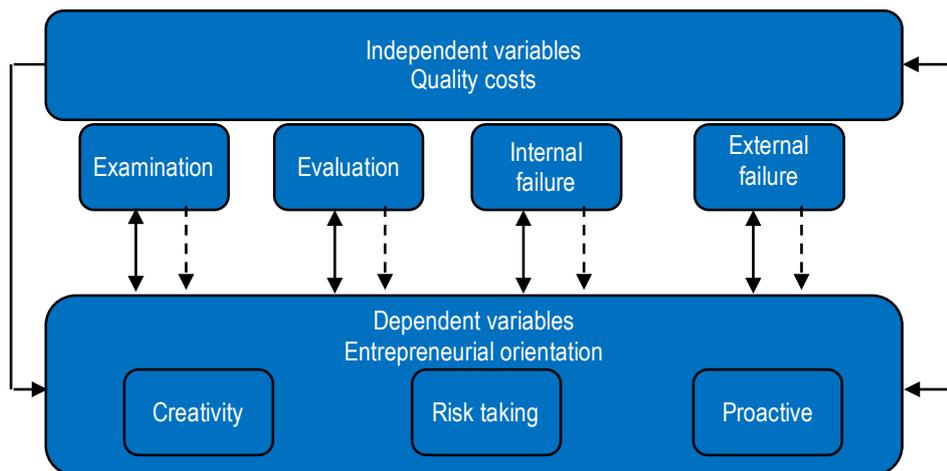
H2: There is a significant effect relationship between the costs of quality and leading orientation and the following hypotheses are divided:

- There is a significant effect of the test in the pilot approach;
- There is a significant effect of evaluation in the pilot approach;
- There is a significant effect of internal failure in the leading trend;
- There is a significant effect of external failure in the leading trend.

## **3. Research Framework**

The study provides comprehension and understanding on the effect of the dimensions of the cost of quality (examination, evaluation, internal failure, external failure) and the relationship between corporate governance and earnings management. Thus, the entrepreneurial orientation (creativity, risk taking proactive, conceptual model of this study as presented in Figure 3) will be used as a guide for testing the study hypothesis.

Figure 3. Research framework



- The first axis: presenting the results and analysing them in light of the answers of the sample.

#### Presenting the Reality of Quality Costs

Four sub-dimensions (examination, evaluation, internal failure and external failure) measure this variable. Table 1 shows the computational variables and standard deviations that reflect the view of the sampled sample for this variable, as shown in the Table 3.63 higher than the standard mean of 3 and the general standard deviation 0.684, which indicates the company's interest in quality costs. Here is a diagnosis of the reality of the sub-variables:

1. *Examination*: Table 1 shows a general mean of the sub-variable (examination), which reached 3.71, which is higher than the satisfactory mean of 3 and with a high standard deviation 0.634, which explains that the company's members are keen to conduct the tests for raw materials and testing products with a view to connecting to a high quality product.

The paragraph 1 has been achieved, higher mean its value was 3.90 which is higher than the value of the satisfactory mean 3 and by standard deviation 0.531. This indicates the company's keenness to provide a high quality product through good planning and design, one of the first steps is then work on reducing costs, as for paragraph 2 has achieved the lowest level of response, with a mean value of 3.37 which is higher than the satisfactory mean of 3 and a standard deviation of 0.652. This confirms the importance of preparing and preparing the requirements of the production process in advance to ensure the quality of the product.

Table 1. Arithmetic mean and standard deviation of the explanatory variable (quality costs) and sub-variable (examination)

Series	Paragraphs	Arithmetic mean	Standard deviation
1	Planning and designing the product to achieve the quality of the first time and then reduce the cost of quality to a minimum	3.90	0.531
2	Ready and prepared production processes in advance time to ensures smooth flow of production with high quality and on time	3.37	0.652
3	Contracting with accredited suppliers contributes to implement the quality of inputs and then reducing costs	3.86	0.721
Total after examination		3.71	0.634
Total quality costs		3.63	0.684

2. *The audit*: Table 2 shows that this dimension achieved a general mathematical average of 3.48, which is higher than the premise mean of 3 and by a standard deviation 0.577, while on the level of questions has achieved in paragraph 6 mathematical mean 3.71, which is higher than the value of the premise mean of 3, and by a standard deviation 0.576, indicating the lack of dispersion of the sample answers and agreement of the company's keenness on the continuous review of the production process To promote strengths points and handling the errors. As for paragraph 5, it achieved the lowest level of response, with a mean value of 3.27, which is higher than the premise mean 3 and a standard deviation of 0.717. This indicates that the company's interest in introducing employees to training courses with new skills and abilities was not high level.

Table 2. Arithmetic mean and standard deviation of sub-variable (evaluation)

Series	Paragraphs	Arithmetic mean	Standard deviation
4	The company is keen to develop Special equipment for production lines to reduce Lost and waste in raw materials.	3.48	0.438
5	The company evaluates quality training courses aims to provide employees with the necessary skills to reduce the defect resulting from lack of experience.	3.27	0.717
6	The company is keen to review the requirements of the production process and prepare them to achieve production efficiency	3.71	0.576
Total Rating		3.48	0.577

3. *Internal Failure:* Table 3 shows that this dimension achieved an overall computational average of 3.87, which is higher than the satisfactory mean of 3 and with a standard deviation of capacity 0.675. This indicates that the company carried out a series of procedures to avoid internal failure. On the the level of questions has been achieved by paragraph 7 the highest mean 4.05, Which is higher than the value of the maximum satisfactory mean of 3 and the standard deviation 0.710, which confirms the study of the company for reasons that cause the bad of its product, paragraph 8 has achieved the lowest arithmetic mean, valued at 3.77 and higher than the he satisfactory mean of 3.

Table 3. Arithmetic mean and standard deviation of sub-variable (internal failure)

Series	Paragraphs	Arithmetic mean	Standard deviation
7	The company is studying the reasons that lead to be Producing poor quality products	4.05	0.710
8	The company is keen to ensure that its products conform to specifications and do not damage the environment	3.77	0.667
9	The company is treating the losses that results from planning, design, and poor operations.	3.81	0.649
Total internal failure		3.87	0.675

4. *External Failure:* Table 4 shows that this dimension achieved a general arithmetic mean of 3.47, which is higher than the satisfactory mean of 3 and with a standard deviation of 0.853. On the question level, the paragraph 10 achieved an arithmetic mean of 3.83, which is higher than the value of the satisfactory mean of 3 and by standard deviation 1.019. This indicates the company's interest in providing guarantees to its customers to treat errors that may accompany their products during a given period or replace them to enhance consumer confidence in the company's products. Paragraph 12 achieved the lowest level of response, with a mean value of 3.17 and a standard deviation of 0.981, which indicates the company's keenness to provide high quality products to avoid the costs related to compensation.

Table 4. Arithmetic mean and standard deviation of the sub-variable (external failure)

Series	Paragraphs	Arithmetic mean	Standard deviation
10	The Company shall grant a warranty period for the purpose of repairing faults, replacing the idle products or refunding the value of the returned products during the warranty period	3.83	1.019
11	Satisfying customers to avoid obligations arising from quality defects and associated costs of legal responsibility.	3.42	0.560
12	Reduce the costs of compensation and repair services by providing quality products that meet the needs and desires of customers.	3.17	0.981
Total internal failure		3.47	0.853

*Second:* The reality shows entrepreneurial orientation

Table 5 shows a general arithmetic mean of this variable at 3.43, which is higher than the standard mean of 3, and the general standard deviation 0.640. This indicates the company's interest in adopting the leading orientation dimensions. Here is a diagnosis of the reality of the sub-variables:

*Creativity:* Overall, the creativity achieved in the arithmetic mean of 3.55, which is higher than the mean 3 and a standard deviation 0.680, indicating the existence of signs of creativity in the company investigated through the efforts of the company seeks to adopt creativity in its work.

The highest mean of the paragraph 13 with a mean 4.16 that is higher than satisfactory mean of 3 and a standard deviation 0.732, indicating that creativity has a major role and successful in the company and to achieve leadership appropriately, The lowest value came from the paragraph 15, with a mean 2.95, less than the satisfactory mean of 3 and a standard deviation 0.831 indicating that there is a need to promote a clear approach in creating competition among employees to create creative ideas, especially among those with creative abilities.

Table 5. The arithmetic mean and the standard deviation of the explanatory variable (the entrepreneurial orientation) and the sub-variable (creativity)

Series	Paragraphs	Arithmetic mean	Standard deviation
13	Creativity plays an important role in the success of our company through the implementation of Pioneer investment projects an appropriately.	4.16	0.732
14	The organization does not have an administrative side that sponsors creative work and qualifies creators.	3.92	0.542
15	The management of the company encourages competition and creates a constructive conflict between employees who have creative abilities.	2.95	0.831
Total creativity		3.55	0.680
Total entrepreneurial orientation		3.43	0.640

### Risk

Table 6 shows that after the risk, a total arithmetic mean of 3.34, higher than the satisfactory mean of 3, and a standard deviation 0.593 have been achieved, indicating that the company has an approach to adopting risk in executing its projects. And the highest value in the dimension risk come after the paragraph 17 with a mean 3.99, which is higher than the satisfactory mean of 3 and a standard deviation 0.642, indicating that some of the projects carried out by the company and do not succeed and does not reflect negatively on its pioneering approach This gives it a strong motivation to be prepared for any project even if it does not succeed, it will not frustrate it.

The lowest value of paragraph 18 and with arithmetic mean of 2.73, which is less than the satisfactory mean of 3 and a standard deviation of 0.608 Indicates the lack of dispersion of the answers of the research sample and their agreement that the company does not follow the trial method of and the error on its procedure a and its executive operations, which is unacceptable as the company follows the scientific methods and techniques in the management of its projects.

Table 6. Duplicates, their percentages, the mean, and the standard deviation of the sub-variables (Risk).

Series	Paragraphs	Arithmetic mean	Standard deviation
16	Do not hesitate to run the company in implementing some new projects that carry a high level of risk'	3.23	0.412
17	The lack of success of some projects does not reflect negatively on the company's leadership.	3.99	0.642
18	The management of the company follows the method of attempt and error on its Process and executive procedures in most cases.	2.73	0.608
Total risk		3.34	0.593

### Proactive

Table 7 shows that dimension proactive that achieved a total mean 3.41 and a standard deviation 0.648 which indicates that the company has a proactive thought in dealing with various environmental variables. The results shown in Table 20 show that the highest value represented by paragraph 19 is a mean 3.86, higher than the satisfactory mean of 3 and a standard deviation 0.598. Which indicates the lack of dispersion of the answers of the research sample and their agreement that the company often working on introducing new technology to develop its leading performance. The lowest value is represented by paragraph 21 with a mean 3.49, which is higher than the satisfactory mean of 3 and a standard deviation 0.504. This shows that proactive thinking avoids the company for getting into several problems.

Table 7. Duplicates, their percentages, the mean, and the standard deviation of the sub-variables (Proactive).

Series	Paragraphs	Arithmetic mean	Standard deviation
19	The company pioneered the introduction of new technology to develop its pioneering performance.	3.86	0.598
20	The company's management always expects future environmental changes before they occur.	3.56	0.883
21	The proactive approach of the company in facing the expected problems reduced the size of these problems	3.49	0.504
Total Proactive		3.41	0.648

The assumptions underlying the study.

### 3.1. Test the hypothesis of correlation

To validate the search hypothesis for link relationships between the dimensions of assigning quality and the exclusion of leadership and testing, the main hypothesis first that says (there is a significant correlation between the cost of quality and the entrepreneurial orientation, and its subsidiary assumptions, using a simple linear correlation coefficient (Spearman). The Table 8 shows the correlations assumed by the first main hypothesis, the value of the correlation coefficient between quality costs and the Entrepreneurial orientation was  $.792^{**}$ . The value of  $t$  calculated 5.642 which is larger than its maximum scale value of 2.01, with a level of significance 0.05, this confirms the existence of a significant positive correlation relationship between quality costs and entrepreneurial orientation

Table 8. Spearman values and T values calculated between the dimensions of the cost of quality and the dimensions of the leading orientation

Total leading orientation Y		Y3 Proactive		Y2 Risk		Y1 Creativity ...		Leading orientation Cost of quality	
r	T	R	t	r	t	R	t		
r = .792** t = 5.642	.649**	4.411	.723**	5.732	.516**	3.37	.633**	4.202	Examination X1
	.697**	6.122	.718**	5.885	.528**	6.107	.571**	8.001	Evaluation X2
	.804**	5.945	.801**	6.421	.925**	7.991	.864**	6.609	Internal failure X3
	.701**	5.763	.547**	6.711	.831**	5.015	.578**	4.136	
	.792**	5.642	.492**	6.132	.748**	7.065	.473**	6.123	External failure X4
The value of $t$ with the significance level (0.05) = 2.01								Correlation relationship with a significant level( 0.05)	

As for the sub-assumptions, Table 8 shows the correlation matrix between the sub-variables and the following:

- The first sub-hypothesis (there is a significant correlation between the examination and the leading orientation of its dimensions (creativity, risk, proactive). As shown in the above table, there is a significant positive correlation between post-examination and Entrepreneurial orientation dimensions, with correlation coefficient  $.633^{**}$ ,  $.166^{**}$ ,  $.723^{**}$  respectively, the calculated value of  $t$ : 4.202, 3.37 and 5.732, respectively, is greater than the scale value of 2.01 at the level of significance 0.05. Thus accepting the first sub-hypothesis.
- The second sub-hypothesis (there is a significant correlation between the evaluation and the leading direction by its dimensions (creativity, risk, proactive). Table 8 shows a significant correlation relationship with correlation coefficient  $.571^{**}$ ,  $.528^{**}$ ,  $.718^{**}$ , respectively. The calculated value of  $t$ : 8.001, 6.107, 5.885, respectively, is greater than the scale value of 2.01 at the level of significance 0.05. Thus accepting the second sub-hypothesis.
- The third sub-hypothesis that says there is a significant positive correlation between internal failure and the dimensions of the Creativity, Risk, Proactive. Table 8 shows a significant positive correlation between the internal failure and the dimensions of Leading orientation, the coefficient of correlation is  $.864^{**}$ ,  $.925^{**}$ ,  $.801^{**}$ , respectively. The calculated value of  $t$ : 6.609, 7.991 and 6.421, respectively, is greater than the numerical value of 2.01 at the level of significance 0.05. Thus accepting the third sub-hypothesis.
- Sub-Hypothesis 4 there is a significant correlation between external failure and the entrepreneurial orientation in its dimensions (creativity, risk, proactive). Table 8 there was a significant correlation

between the correlation coefficients 578, \*\*.831, \*\*.547 \*\*, respectively. The calculated value of t 4.136, 5.015, 6.711, respectively, is greater than the scale value of 2.01 at the level of significance 0.05. Thus accepting the fourth sub-hypothesis.

### 3.2. Test the hypotheses of influence

To test the second main hypothesis that was raised in the research methodology, which states (the existence of a significant effect between the cost of quality in the lead orientation and its dimensions), from which the following sub-assumptions are derived:

- There is a significant moral examination in the direction leading effect;
- There is a significant moral evaluation in the direction leading impact;
- There is significant internal moral failure in the direction leading effect;
- There is a significant moral failure of the external orientation leading effect.

The analysis was done using Simple Regression Analysis. In this article, as it comes explain the hypothesis of the second hypothesis and its sub-hypotheses:

This hypothesis was tested using a simple regression analysis. A relational relationship was created between the actual value of the variable (the Entrepreneurial orientation), which gave the Y symbol and the main explanatory variable (quality costs) and its symbol X. Table 9 shows the variance analysis showing the significance of the model according to the test of f and it was calculated at 33.288, which is greater than the tabular value of 4.07 with a significant level 0.05 and with confidence limits 95%. This proves that the quality costs have a clear influence on the Entrepreneurial orientation. This confirms that the regression curve is good for describing the relationship between the two variables, as a value is indicated R2 which is a descriptive measure that explains the usefulness of the regression equation in the estimation of values and represents the percentage of errors in the use of the regression equation. The value of R2 586 It shows that amounts to 0.586. Of the variance in (leading orientation) It shows that the variance of 586 of the variance in the (Entrepreneurial orientation) is the variance explained by the (quality costs) that entered the model and what is estimated 414 is a variance explained by random factors that did not enter the regression model. As indicates at Table 9 the significance of 0.000 in the outputs of the statistical program, which is an indication of the impact of the cost of quality on the leading approach. Thus, the second main hypothesis of the research is achieved (there is a significant effect between work pressures and quality of service). To confirm this result, we clarify the sub-hypotheses

Table 9. Analysis of the impact of the dimensions of the costs of quality orientation in leadership

Variable resolution	The decision	The level of significance (p)	The calculated value (F)	Coefficient of determination (R <sup>2</sup> )	Variable and interpretive dimensions
Leading trend (Y)	significance (impact)	.000	33.288	.586	Quality costs (x)
	significance (impact)	.000	29.543	.584	Examination (X)
	significance (impact)	.000	21.091	.492	Evaluation( X2)
	significance (impact)	.000	30.187	.472	Internal failure (X4)
	Significance (impact)	.000	19.163	.504	External failure X4
	N = 45			The value of (F) of the table with the level of significance (0.05) = 4.07	

The sub-hypotheses were tested using (Simple Regression Analysis), where a relational relationship was created between the value of the responder variable (the entrepreneurial orientation) It was given the Y symbol and explanatory sub-variables (examination, evaluation, internal failure, external failure) and symbols (X1, X2, X3 and X4), respectively.

Table 9 shows the value of f calculated for explanatory sub-variables, respectively 29.543, 21.091, 30.187, 19.163 which is greater than their tabular value 4.07 at a significance level 0.05, which confirms the effect of these explanatory sub-dimensions. In the transponder variable, indicating that the regression curve is good for describing the relationship between these variables. The value of the R2 is shown in Table 9 which has a value of X1 examination was 584. This means that the value of 5.84 of the variance in the (entrepreneurial orientation) is explained by the sub explanatory variable, X1 examination which entered the model, and what the value was 166

is a variance explained by other factors that did not enter the regression model. The value of the selection factor also indicates R2 which has a value of X2 evaluation 492. This means that the amount 492 of the variance in leading orientation is explained by the explanatory variable X2. Evaluation which entered the model and what amount 508 is a variance explained by other factors.

The value of the determination factor is shown R2, which has a value of X3 (internal failure) 472, means that the value of 472 of the variance in the (leading trend) is explained by the explanatory variable X3. Enter the model, and that and that amounted to 528 is the difference explained by other factors, and the value of the identification factor R2 of the variable X4 (external failure) 504. That means what amount of 504 of the variance in the entrepreneurial orientation is a difference explained by the explanatory variable X4 (external failure) which entered the model, and that the amount of 496 is a variance explained by other factors did not enter the regression model as shown in Table 9. The results of the statistical system showed a significant 0.000 for all dimensions this confirms the effect of the explanatory variables sub (examination, evaluation, internal failure, external failure) in the response variable (leading trend). Based on the above tests, it is possible to say that the subsidiary assumptions have been achieved (examination, evaluation, internal failure, external failure) in the response variable (entrepreneurial orientation). Based on the above tests, it is possible to say that the subsidiary assumptions have been achieved.

## Conclusion

- The results of the research showed the company's keenness to pay attention to the costs of quality (inspection, evaluation, internal failure, external failure) and reduce it to strengthen the leading direction;
- The results showed the company's interest in testing that required to the internal raw materials in the production process, dealing with reliable suppliers and paying attention to the good design of the product in order to reduce costs;
- The company is working on the development of special equipment for the process production and the development of human cadres for reduced the special costs of waste of resources and lack of experience;
- The company's interest towards the concept of entrepreneurship (pioneering) through its own creative cultural ideas that encourages adventure and delving into the unknown to deal with new opportunities, and the ability to extrapolate environmental variables and find appropriate solutions to them proactively;
- The results showed the need for the company to create a spirit of competition among working individuals in order to motivate them to show their creative ideas and innovative;
- The results showed that all correlation and effect relationships are positive with significant statistical indicative for quality costs and entrepreneurial orientation variables.

## References

- [1] Alderman, D. 2011. *Entrepreneurial orientation of Eastern white pine primary producers and secondary manufacturers: A regional phenomenon*, Proceedings of the 17<sup>th</sup> Central Hardwood Forest Conference.
- [2] Al-Hadrawi, H.K., and Al-Kalabi, A.N. 2013. The role of leadership in customer's consciousness of quality of service. *Qadisiyah Journal of Administrative and Economic Sciences*, 15.
- [3] Alle, K.D, Badertscher, B.A., Yohn, T.L. 2019. *Private versus public corporate ownership: Implications for future changes in profitability*. Kelley School of Business Research Paper No. 2014-16, 50 pp. DOI: <http://dx.doi.org/10.2139/ssrn.2375916>
- [4] Awang, A., Zanily, A., Asghar, A.R., and Khairul, S. 2010. Entrepreneurial orientation among Bumiputera Small and Medium Agro-Based Enterprises (BSMAEs) in West Malaysia: Policy Implication in Malaysia. *International Journal of Business and Management*, 5.
- [5] Baghaee, H.R., and Gharehpetian, G.B. 2020. Chapter twenty new trends in operation, management. *Advances in Renewable Energies and Power Quality*, 354.
- [6] Baldarelli, M.G. 2020. *Company case study 9: Virtues circles and innovation in corporate governance of EoC enterprises - the case of the first business park in Brazil*. In *Intrinsic CSR and Competition*, Palgrave Macmillan, Cham, 261-271 pp.
- [7] Bugdol, M. 2020. The problem of fear in TQM—causes, consequences and reduction methods—a literature review. *The TQM Journal*. Available at: <https://www.emerald.com/insight/content/doi/10.1108/TQM-02-2019-0047/full/html>

- [8] Chaiwan, C., and Tippayawong, K.Y. 2018. *Connectivity of medium airports in Thailand*. Proceedings of the International Conference on Industrial Engineering and Operations Management. March 6-8, 2018. Bandung, Indonesia.
- [9] Dess, G., Lumpkin, G.T., Eisner, A.B. 2007. *Strategic management*. McGraw Hill Higher Education, Boston. ISBN: 978-0071105989, 984 pp.
- [10] Fox, M.J. 2005. *Organizational entrepreneurship and the organizational performance linkage in University Extension*. The Degree doctor of philosophy, the Ohio State University.
- [11] Gathungu, J., Aiko, D., and Machuki, V. 2014. Entrepreneurial orientation, networking, external environment and firm performance: A critical literature review. *European Scientific Journal*, 10(7): 335-357.
- [12] Heizer, J., and Render, B. 2001. *Operations Management*, 16th Ed. Prentice-Hall. INC. ISBN-10: 013018604X, ISBN-13: 978-0130186041, 916 pp.
- [13] Horngren, C.T., Datar, S.M., and Rajan, M.V. 2015. *Cost Accounting a Managerial Emphasis*. 15<sup>th</sup> Edition Pearson Education, USA. Available at: <https://pdfs.semanticscholar.org/11ae/25507bc0d7bb99d2a16c91180118ef9d528a.pdf>
- [14] Jackson, S., Sawyers, R. 2001. *Managerial Accounting a Focus on Decision Making*, 1<sup>st</sup> Edition, Harcourt College Publishers, Inc. ISBN: 978-0030210921, 486 pp.
- [15] Jackson, S.R., Sawyers, R.B., and Jenkins, J.G. 2009. *Managerial Accounting: A Focus on Ethical Decision Making*, 5<sup>th</sup> Edition, South-Western Cengage Learning, USA. ISBN: 978-1439036242.
- [16] Khanna, V.K., Vart, P., Shahay, B.S., and Shanker, R. 2008. *TQM: Planning, Design & Implementation*, New Age International Publishers, New Delhi.
- [17] Lumpkin, G.T., and Dess, G.G. 1996. Clarifying the entrepreneurial orientation construct and linking it to performance. *Journal of Academy of Management Review*, 21(1): 135-172.
- [18] Naciri, T.K. 2015. *Strategic leadership practices in the context of leadership: Field research in the petroleum projects company*. Unpublished Master Thesis, Faculty of Management and Economics, Baghdad University, 68 pp.
- [19] Najm. 2003. *The role of accounting information in the application of total quality management: A field study in the general company for vegetable oil industry*. Master of Science in Accounting, Faculty of Management and Economics, Mustansiriyah University.
- [20] Samarrai, M.J.S., Muhannad, M.T., and Zamali, A.A.H.H. 2012. *The costs of quality and techniques Chalfwip contemporary*. Library and Documents, Baghdad.
- [21] Summers, D.C.S. 2006. *Quality*. 4<sup>th</sup> Edition Pearson Prentice Hall. ISBN: 978-0131189317.
- [22] Zainol, F., and Daud, W. 2011. Indigenous ("Bumiputera") Malay entrepreneurs in Malaysia: Government supports, entrepreneurial orientation and firm's performances. *Journal of International Business and Management*, 2(1): 86-99. Available at: <http://www.cscanada.net/index.php/ibm/article/view/j.ibm.1923842820110201.020/1329>