



The Interrelationship between Quality Costs and Pricing Decision-Making: An Exploratory Study on a Sample of Industrial Companies

Mohammed Hazim Issmeil Al-Ghazali

Assistant Professor, University Teacher at Mosul University, Presidency of Mosul University, Iraq. ORCID: 0000-0003-2781-8147. E-mail: mhialgazale@uomosl.edu.iq

Abstract

There is a causal relationship between high-quality cost systems and pricing decision makers because pricing decision is in dire need of modern systems that help make rational decisions. The aim of this research is to confirm that quality cost systems affect pricing decisions-making in maintaining the industrial companies. The research results can be utilized by beneficiaries taking into account the effects, obligations and costs involved. This study focused on the importance of the growing interest of companies and individuals interested in quality on the necessity of maintaining the product quality and reaching the high quality of products through strategic decisions-making for the continuity of industrial companies and elimination of future risks. The problem of this study is that quality cost systems are among the most important factors involved in pricing decisions-making of industrial companies. This is attributed to the superiority of foreign companies' interest in high quality production over Arab companies in terms of their interest in product quality in pricing decisions-making within advanced methods used by these companies in maintaining the quality of their products. This study is based on the descriptive approach to form the theoretical base of research by relying on the relevant published books and scientific research. The analytical approach was then adopted through the questionnaire. Among the most important findings is the existence of a positive relationship between quality costs and pricing decisions. Hence, quality costs positively affect the rationalization of pricing decision by providing the necessary data and information about the risk to the organization in increasing the competitive advantage among companies. This competitive increase has led to an increase in seeking more opportunities for companies with quality costs. One of the most important recommendations is to prepare plans to mitigate the competitive risks that have been chosen. The

aim of these plans is to provide the necessary information to make strategic long-term decisions, aiming at protecting the rights and interests of shareholders to economic unity and strategic decisions-making that serve interests.

Keywords: Quality costs; Pricing decision-making; Industrial companies.

Introduction

Decision-making is an essential issue in each industrial, civil or government organization and in various administrative sections. The decision is an inevitable element in all forms and stages of administrative activity. The process of decision-making is closely associated with the high leadership, where leaders and managers play a key role in this process, on the one hand, and the contribution of decisions made to the achievement of organization objectives that are critical in the process of organization sustainability. The decision-making process passes several stages ending with the appropriate decision-making. Also, it is subject to the effects of several internal and external factors and to different degrees. The pricing decision-making is considered one of the most important decisions made by the industrial organization to achieve the main objectives, which may result in tactical or interim decisions related to how these goals are achieved. These decisions include many investments and long-term commitments. More than one management is involved in the decision-making structure. It takes several influential aspects of the entire organization.

Cost systems in general and quality costs in particular play an important and essential role in decision-making because of their assistance in knowing and achieving pricing objectives. As the sources of use increase, the quality costs increased. This increase in cost-use was accompanied by the attention of the managing accountants who searched for ways to protect the organization from loss. The loss occurs due to waste of costs and these costs are among the non-industrial cost items. Decision makers were forced to look for ways to develop the management business method and move away from the experiment and random approach to pricing decision-making.

1. Research Problem

Quality cost systems are among the most important factors involved in pricing decisions of industrial companies. The superiority of foreign companies' interest in high quality production over Arab companies in terms of their interest in product quality in pricing decisions-making within advanced methods used by these companies in maintaining the quality of their products is one of the most important reasons for this study.

2. Research Significance

The significance of this study lies in the growing interest of companies and individuals interested in quality with the necessity of maintaining that high quality of products through strategic decisions-making for the continuity of industrial companies and elimination of future risks.

3. Research Objective

The aim of this research is to confirm that quality costs affect pricing decisions-making in maintaining the industrial companies. The research results can be utilized by beneficiaries taking into account the increasing uses, obligations and costs involved.

4. Research Hypothesis

The research is based on a main hypothesis that there is a statistically significant relationship between quality costs and pricing decisions. A number of sub-hypotheses are derived from this hypothesis:

- a. There is a statistically significant relationship between prevention costs and pricing decisions.
- b. There is a statistically significant relationship between internal failure costs and pricing decisions.
- c. There is a statistically significant relationship between external failure costs and pricing decisions.

5. Research Method

This study is based on the descriptive approach to form the theoretical base of research by relying on the relevant published books and scientific research. The analytical approach was then adopted through the questionnaire.

6. Research Scope

Iraqi industrial companies represent the spatial limits of research. The data surveyed for 2018 represents temporal limits. The collection of data and information were adopted in data analysis according to SPSS software for statistical analysis.

7. Research Contents

Section one: the concept of quality costs

1. Justifications and reasons for interest in quality costs
2. Quality costs and its elements

Section two: meaning of pricing decisions

1. The concept, importance and advantages of pricing decisions
2. The importance of pricing decisions
3. Characteristics of pricing decisions

Section three: The role of quality cost systems in pricing decision-making

1. Analysis of the stages of the pricing decision-making process
2. Determination of pricing objectives for quality costs
3. Generation and selection of pricing alternatives for quality costs systems

Data analysis

1. The Concept of Quality Costs

The term quality costs has been mentioned in the dictionary of those interested in the quality of products and referred to using different ways. It is referred to as the costs that occur in order to respond to regulatory standards; or they are the ones obtained in order to reduce waste or reduce the release of unnecessary materials. In addition, it refers to all other costs associated with the practices of organization that are intended to reduce the effects of quality and costs resulting from the lack of interest¹.

1-1. Justifications and Reasons for Interest in Quality Costs

Interest in quality costs has increased significantly. Costs in UK have been estimated at £14 billion, of which £8 billion for business. In USA, quality costs have been estimated at about \$752 billion in 1991, as quality costs at Amoco Yorktown, an oil refinery, reached 22 percent of operating costs in 1995 considered to be a very high rate. Accordingly, quality costs are multiple and varied according to the nature of the activities of each industrial company².

Determining the right cost of product would in turn contribute to rationalize pricing decisions and ultimately improve profits. The next section deals with the elements of quality costs.

1-2. Quality Costs and its Elements

Managing accountants have different viewpoints on the classification of quality costs through identifying the nature and elements of quality costs to give a comprehensive and clear illustration of them. These elements must be clarified adequately to be classified across comprehensive collections, as follows:

1-3. Materials Costs of Product Output

This collection covers the costs of purchasing materials that eventually turn into product outputs (products, occasional products, packaging). These materials have probable effects when the organization, for example, leaves the product containing toxic materials after it is disposed of by landfilling at its expiration.³

1 US EPA , (1996) : Incorporating Environmental cost and Consideration into decision making. Washington,p:6.

2 Heller, M., Shields, D., & Boloff (1995): "Environmental Accounting- Case Study" Amoco Yorktown Refinery in green Ledges: Washington Dc, World Resource Institute, p.7.

3 International Guidance workbook, IFAC workbook, (2005): Environmental Management Accounting , p:39.

1-4. Materials Costs of Non-Product Output

Although product outputs usually comprise the largest amount of material outputs in manufacturing processes, non-product outputs can form a large and costly proportion in addition to being important in terms of quality. Therefore, all the entered materials leave the company as product and non-product outputs.⁴

1-5. Control Costs

This collection consists of the following costs:⁵ handling, processing, repair and compensation, depletion of equipment of control of waste and emission, operating materials, fees, taxes, vacations, fines, insurance, any obligatory costs related to control of waste and emissions.

1-6. Research and Development Costs

This collection consists of the costs of research and development activities, such as probable research for primary materials, development of efficient energy products, and testing designs of new equipment with high-efficient usage.⁶

2. Meaning of Pricing Decisions

The pricing decision occupies an important position in any organization and its material, financial and human resources. This explains the high management's interest in this type of decisions. Pricing decision occupies a position in the decisions structure in the organization similar to the task of leader and his role among the members of the organization. The decision is considered strategic as long as other decisions are derived from it. The concept of each decision has to be defined in general, and then the concept of pricing decision has to be defined. The choice of an alternative from one or more alternatives is to achieve a particular objective. There are those who believe that the decision is a choice oriented towards an approach with a specific purpose. Decisions differ in being strategic or non-strategic by difference in their nature and comprehensiveness in terms of influencing functions of the organization.

3. The Concept, Importance and Advantages of Pricing Decisions

Pricing decision is one of the most important decisions desired by the state or organization to achieve the main objectives, and may result in tactical or interim decisions on how to achieve these objectives. These decisions include many investments and long-term obligations. More than one administration is involved in the structure of decision-making, taking several influential aspects of the entire organization. The supreme leadership of the state or organization participate in its making.

4 Schaltegger, S., Müller, K. & Hinrichsen, H., (1996): *Corporate Environmental Accounting*. Chichester, UK: John Wiley & Sons.

5 International Guidance workbook, IFAC workbook, (2005): *Environmental Management Accounting*, p: 44-45.

6 International Guidance workbook, IFAC workbook, (2005): *Environmental Management Accounting*, p: 48.

4. The Importance of Pricing Decisions

The importance of pricing decisions lies in focusing on looking ahead to the long-term future of the organization and the various impacts affecting its status and reputation in the face of intense competition among organizations. Pricing decisions are usually located within the scope of high management and its formations. So, they are important decisions of the organization and because of their importance they must be closely related to each other to unite and guide the organization through a consistent model reflecting the organization strategy⁷.

Pricing decisions acquire a considerable importance because they are associated with activity seeking to discover new objectives or amend current objectives. Pricing decision has a great importance because it determines the future vision of organization. The ability of organization to continue its activities depends on its good management of its pricing decisions and ensuring their full implementation to achieve its objectives. Pricing decisions entirely affect the regulatory unit as it relates to the organization integration or the determination of its size or competitive position or the products or services provided by it⁸.

5. Characteristics of Pricing Decisions

Pricing decision plays a major role in achieving the pricing objectives of management, which pricing decision makers seek to achieve at different levels of near-, mid- and long-term. These decisions are made according to the objectives set by the organization, forming in turn the theoretical framework for them. Pricing decisions are characterized by a range of characteristics as follows⁹:

1. The decision-making process is realistic to reach the reasonable limit, not the maximum.
2. The decision process is influenced by the human factors resulting from the behaviors of the individual who makes the decision or people who make it.
3. The decision-making process is general because it covers most organizations of different specializations and includes all management positions in the organizations.
4. The decision-making process is influenced by the internal and external quality factors surrounding it. It is continuous, i.e., it goes through from one stage to another continuously.
5. It is a process consisting of a set of successive steps.

The Role of Quality Cost Systems in Pricing Decision-Making

The relationship of pricing decision to the study of quality costs systems is an important topic because of the fundamental effective impact of this relationship on the work of industrial

7 Sa'ad, Khalid Salman. (2010): "The Role of Accounting Monitoring in Pricing Decision-Making", College of Management and Economics, University of Baghdad, Master Thesis, Iraq, p. 94.

8 Ibid, p. 99.

9 Al-Douri, A'araf Abdul Al-Ghaffar. (2004): Information Management and Its Role in Pricing Decision-Making, op cit., p 44-46.

organizations, which is reflected on the economies of the countries as they are specialized in future and the time dimension. The ability of organization to continue depends on its good management of its pricing decisions and ensuring their full implementation to achieve its desired objectives because among the main characteristics of the world today is the rapid and continuous change in technology and production methods.¹⁰

1. Analysis of the Stages of the Pricing Decision-Making Process

Quality protection decisions do not stem from financial terminology, but they stem from the requirements of states regulations and laws. Recently, the need for quality information by both industrial organizations and investors has increased to make more rational decisions as such information affects decisions at long- and mid-term. Administrative decisions cannot be rationalized without disclosing accounting information and quality damages caused by industrial facilities. In addition, it is necessary to provide security and legal protection for this disclosure, and to identify appropriate standards and methods for measurement and disclosure processes.¹¹

2. Determination of Pricing Objectives for Quality Costs

Determining the appropriate entry for product protection often leads to results that must be taken into account when making administrative decisions. Such decisions may include a choice of capital expenditures as well as the adoption of decisions related to product formation and determination of appropriate prices. This is done by exploring the real costs of operations and the cost of products including quality costs.¹² The role of quality costs in rationalizing administrative decisions is reflected in the following:¹³

- a. Rationalizing existing decisions in the organization, such as improving the quality of existing products.
- b. Making new decisions that are more rational than existing ones like closing an existing production line, or opening a new one.
- c. Investing part of the organization funds in purchasing direct materials, or new machines for long- or mid-term investment.
- d. Spending part of the organization funds in the areas of research and development related to the industrial aspect that benefits the organization through the savings and developments generated by such research.

3. Generation and Selection of Pricing Alternatives for Quality Costs Systems

10 Othman, Sa'eed Abdul Aziz. (2000): Studies on projects feasibility between theory and practice, university house, Alexandria, p. 14.

11 Al-Marzouki, Maha Abbas. (2004): Study and Analysis of Quality Costs and Their Importance in Rationalizing Administrative Decisions, King Abdulaziz University, College of Economics and Management, Saudi Arabia, p. 84.

12 David shields, Beth bluff, Miriam Heller, (2008): Environmental Cost Accounting For Chemical and Oil Companies: Benchmarking Study, University of Huston, p.5

13 Al-Marzouki, Maha Abbas. (2004): Op cit., p. 84.

Phase of alternative generation represents an active trend to the problem position in the way of objective test by knowing its energy and ability to respond, shift and impact of this alternative. Decision-making unit is assigned to search for possible solutions and evaluate each alternative. This phase involves two basic steps, they are¹⁴:

First step: it requires experts' search for the existing problem. In this case, several alternatives will emerge. The side effects and sources of each alternative are investigated and known by precognition, research methods, employing scientific theories, personal motivations, values and similar academic cases, moral system existing in the society under study and attention to the existing problem¹⁵.

Second step: it includes evaluating these pricing alternatives after exposing them to a set of scientific and practical tests to demonstrate the advantages and disadvantages of each alternative, and the extent of its contribution to solving the problem in question. There is a relationship between alternatives and pricing flexibility and adaptability of organization. The notion of generating alternatives adopted by the organization means that the organization has pricing flexibility. The value of pricing decisions of the organization increases due to two things: first, the rapidity with which the organization can use its options; second, the low cost of using these options, which include the basic requirements for the generation of pricing alternatives (creativity, flexibility and timing).¹⁶

Data Analysis

This section enhances the theoretical aspects by an applied study through which it is possible to identify the extent of the interrelationship between quality costs systems and rationalization of pricing decisions obtained to reach a set of results by collecting data related to the applied study and then analyze them using a statistical software. After reviewing the concept and forms of quality cost systems and the stages of pricing decisions, the study attempts to find the interrelationship through data obtained from Soft Drinks Company in Baghdad and analysis of results using the statistical analysis software (SPSS) in order to reveal the interrelationship between quality costs systems and rationalization of pricing decisions. Then, the results with the most important recommendations will be presented as well.

1. Measurement of Variables

This study adopted the analytical quantitative approach, which is defined as "the attempt to gain access to the precise and detailed knowledge of the elements of the existing problem or phenomenon to reach a better and more accurate understanding or develop its own future policies

14 Bassiouni, Abdul Ghani. (1999): The administrative jurisdiction on management business, al-Ma'arif institution, Alexandria, Egypt, p. 297.

15 Hayjan, Abdul Rahman Ahmed. (2009): The role of public policy analysis in solving our contemporary problems. Riyadh, Management Journal, Issue 55, p. 118.

16 Ijam, Ibrahim Mohammed Hassan. (2007): Information Technology and Knowledge Management and Their Impact on Pricing Option. PhD Thesis, College of Management and Economics, al-Mustansiriyah University, p. 105.

and procedures. It is used when there is a prior knowledge of aspects and dimensions of a certain phenomenon.

1-1. Test of Research Validity

1-1-1. Validity and Reliability Using Statistical Analysis

Alpha coefficient for internal reliability of data: it provides a good estimate in most situations. This method depends on the consistency of each quality cost to another one. To extract reliability according to this method, all the cost cards about (100) cards were used, then Alpha equation was used. The reliability coefficient reached (0.921), which is internally consistent because this equation reflects the consistency of the items internally according to Table 1.

Table 1. Reliability statistics

	No. of Items	Cronbach's Alpha
Total	33	0.921
Quality Costs	20	0.963
Pricing Decision	13	0.801

Table 2 shows a correlation between internal dimensions and research variables by significance of all data used in the study. The significance level was (0.000), indicating a direct and reliable correlation between dimensions and variables. The relationship is significant, i.e., the correlation results from internal coherence and agreement among dimensions and not by chance. Thus, the structural validity of study is achieved.

Table 2. Internal validity of research dimensions

No.	Dimensions	Correlation Coefficient	Significance Level	Accepted/Refused
Quality Cost				
1	Cost of prevention	0.812 ^{**}	.000	Accepted
2	Cost of internal failure	0.722 ^{**}	.000	Accepted
3	Cost of external failure	0.817 ^{**}	.000	Accepted
	Pricing decision	0.732 ^{**}	.000	Accepted

Source: The researcher based on the results of SPSS.

1-1-2. Research Reliability

The reliability is based on finding Cronbach Alpha coefficient to ensure the adequacy of questionnaire to the target community. Based on results, research instrument is reliable as Alpha coefficient of quality costs was (0.963) and pricing decision (0.80). The value of Alpha for the study as a whole was (0.84). This is considered a positive result reflecting the reliability of data prepared for this study.

1-2. Correlation between Research Variables

To determine the importance of variables, the coefficient of correlation between variables was found based on the opinions of the target sample, as follows. The correlation between variables: it revealed the degree of correlation between research variables by presenting a clear depiction that shows the relationship level as clarified in Table 3.

Table 3. The correlation between research variables

Variables	Quality Cost	Pricing Decision
Quality Cost	1	0.811 ^{**}
Pricing Decision	0.731 ^{**}	1

Source: the researcher based on the results of SPSS.

1-2-1. Test of the Independence of Independent Variables

The correlation analysis was made through Pearson Correlation Coefficient to determine the level of correlation between the dimensions of independent variable and the independence of independent variable, as shown in Table 4.

Table 4. The correlation among dimensions of independent variable

Dimensions	Cost of Prevention	Cost of Internal Failure	Cost of External Failure
Cost of Prevention	1	0.501 ^{**}	0.433 ^{**}
Cost of Internal Failure	0.501 ^{**}	1	0.567 ^{**}
Cost of External Failure	0.433 ^{**}	0.567 ^{**}	1

Source: The researcher based on the results of SPSS.

Results shown in Table 4 clarify the independence of independent variable from the dependent one. Therefore, the effect factor for each dimension on the dependent variable can be found as there is no problem of multiple linear correlation. The coefficient of correlation between the internal dimensions of independent variable ranges between (0.433^{**}-0.567^{**}).

1-3. The Significance of Research Variables in the Company under Study

The arithmetic mean, standard deviation and difference coefficient were found to demonstrate the importance of variables and their perception in the target field based on the answers of the sample as shown below.

Table 5. Arithmetic mean, standard deviation and difference coefficient of research variables

	No.	Items	Arithmetic Mean	Standard Deviation	Difference Coefficient	Sequence
Research Variables	1	Cost of Prevention	3.84	0.86	22.398	1
	2	Cost of Internal Failure	3.82	0.97	25.392	4
	3	Cost of External Failure	3.81	0.96	25.196	3
		Quality Costs	4.02	0.84	20.895	1
		Pricing Decision	3.23	0.90	27.863	1

Source: The researcher based on the results of SPSS.

Table 5 shows that there is interrelationship between quality costs and pricing decision. Pricing decision changes by the change in quality costs; the higher the quality costs, the higher the price at the same moment. In addition, there was no dispersion of data. This indicates that the distribution is in the right direction and the results are reliable. The difference coefficient for each item of the study variables was examined. The highest coefficient of difference was approximately 26 percent. This indicates that 74 percent of data is oriented towards the other variable in the same direction and that the data are compatible with each other.

1-4. Test of Research Hypotheses

Hypotheses are tested to confirm their validity by showing the correlation and impact between research variables (quality cost and pricing decision), as shown below.

Table 6. Test of research hypotheses

Quality Costs	Pricing Decision								
	Beta coefficient t (B)	T-Test	Sig	Beta coefficient (B)	T-Test	Sig	Beta coefficient (B)	T-Test	Sig
Cost of Prevention	0.66	4.42	0.00	-	-	-	-	-	-
Cost of Internal Failure	-	-	-	0.87	5.22	0.00	-	-	-
Cost of External Failure							0.81	5.27	0.00
Correlation Coefficient (R)	0.84			0.67			0.88		
Determination Coefficient (R ²)	0.70			0.56			0.77		
Constant Term Coefficient (a)	1.12			1.17			1.03		
ANOVA									
F	Sig	55.03	0.000	64.11	0.000	53.11	0.000		

Source: The researcher based on the results of SPSS.

1. Based on results shown in Table 6, there is a relationship and impact between cost of prevention and pricing decision. Cost of prevention is an important part of the variation in pricing decision by the value of determination coefficient ($R^2=0.70$). Therefore, cost of prevention explains about (70%) of the change in pricing decision. The regression factor was ($\beta=0.66$), which means that cost of prevention is increased by one unit accompanied by an increase of (66%) in pricing decision. This is considered a significant impact according to the value of ($t=4.42$), indicating significance as being greater than (2). Hence, the first hypothesis is achieved.
2. Based on results shown in Table 6, there is a relationship and impact between cost of internal failure and pricing decision. Cost of internal failure is an important part of the variation in pricing decision by the value of determination coefficient ($R^2=0.56$). Therefore, cost of internal failure explains about (56%) of the change in pricing decision.

The regression factor was ($\beta=0.87$), which means that cost of internal failure is increased by one unit accompanied by an increase of (87%) in pricing decision. This is considered a significant impact according to the value of ($t=5.22$), indicating significance as being greater than (2). Hence, the second hypothesis is achieved.

- Based on results shown in Table 6, there is a relationship and impact between cost of external failure and pricing decision. Cost of external failure is an important part of the variation in pricing decision by the value of determination coefficient ($R^2=0.77$). Therefore, cost of external failure explains about (77%) of the change in pricing decision. The regression factor was ($\beta=0.81$), which means that cost of external failure is increased by one unit accompanied by an increase of (81%) in pricing decision. This is considered a significant impact according to the value of ($t=5.27$), indicating significance as being greater than (2). Hence, the third hypothesis is achieved.

The constant term coefficient shows that there is interrelationship between quality costs and pricing decision as the constant term coefficient (a) was more than zero in all tests. To prove the main hypothesis and to confirm that the quality costs represents an intermediate variable, the path analysis and illustration of direct and indirect impact were employed as shown below:

Table 7. Results of hypothesis test

Variables	Pricing Decision		
	Beta coefficient (B)	T-Test	Sig
Quality Cost	0.43	1.09	0.001
Correlation Coefficient (R)	0.887		
Determination Coefficient (R^2)	0.786		
Constant Term Coefficient (a)	1.322		
F	Sig	71.11	0.000

Source: The researcher based on the results of SPSS.

The results of path analysis show that the introduction of quality cost in the proposed model with keeping cost requirements as an independent variable leads to positive results represented by the increase in determination coefficient (R^2) to reach (0.786). In other words, about (87%) of the change in pricing decision is explained by quality cost. This increase is due to the introduction of quality cost. All the results in Table 7 show the significance of research model entirely. To ensure quality cost between independent and dependent variable, the direct and indirect impact were defined to show the nature of the independent variable's direct impact on the dependent variable and the indirect impact on the dependent variable as shown in Table 8.

Table 8. Results of direct and indirect impact between research variables

Independent Variable	Cost of Prevention		Cost of Internal Failure		Cost of External Failure	
Dependent Variable	Pricing Decision					
	Impact	Sig	Impact	Sig	Impact	Sig
Direct Impact	0.133	0.00	0.165	0.06	0.199	0.00

Indirect Impact	0.298	0.00	0.269	0.00	0.199	0.00
Total Impact	0.431	0.00	0.434	0.00	0.398	0.00
Ratio of Indirect Impact	0.96		0.62		0.50	

Source: The researcher based on the results of SPSS.

Results shown in Table 8 clarify the direct and indirect impact of the dimensions of quality costs in pricing decision. It is clear that the quality cost has a total interrelationship to pricing decision. This is applied to dimensions independently; while the relationship mediates among disclosure, transparency and quality of higher education entirety. This is applied to the dimension of justice as well. Based on the above and for the significance of direct and indirect impact, quality cost represents an independent variable that can be invested in improvement to reach a rational pricing decision. This is done through reducing the costs to make quality meaningful so that quality costs are acceptable and do not result in the loss of institutions aiming to improve their entity. The figure below shows the direct and indirect impact and the ratio of indirect impact to research variables:

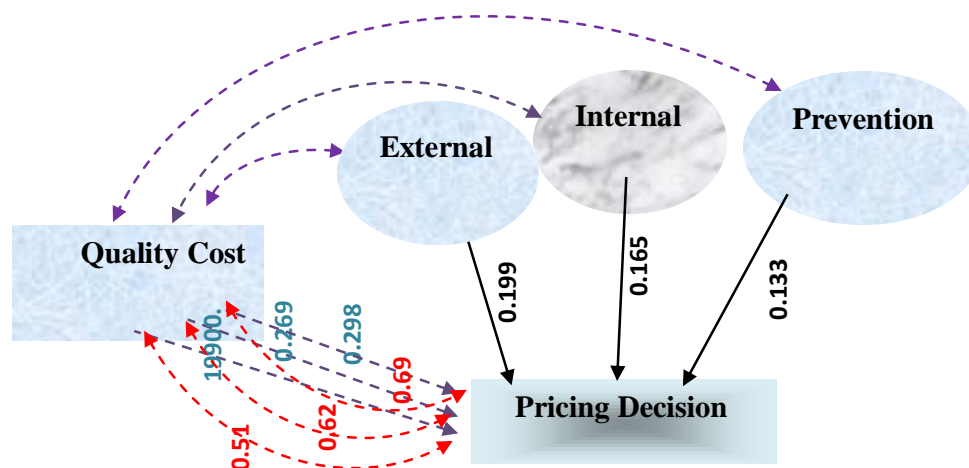


Figure 1. Direct and partial impact of cost quality dimensions on pricing decision

Source: the researcher.

Results and Recommendations

Results

1. Employees of organizations agree that quality cost systems play an active role in rationalizing pricing decisions.
2. Employees of organizations agree that pricing decisions play an important role in the sustainability of industrial facilities through quality cost systems.
3. There is a positive interrelationship between quality cost systems and pricing decisions where quality cost systems positively affect the rationalization of pricing decision through

providing the necessary data and information about the risk to the organization, easy to deal with the risk and minimize its effects.

4. Reducing quality risks is effective in reducing administrative and financial corruption in these industrial companies, which will lead to credibility in accounting disclosure of financial reports.
5. Disclosure of quality costs limits creative accounting practices through manipulation by following improper and unstandardized accounting methods and procedures that extend to accounting information contained in financial reports.
6. The quality cost systems and quality accounting information they provide are one of the most important elements of fair information-based decision-making.

Recommendations

1. The need to teach the subject of quality cost systems through college curricula for various disciplines, such as accounting, economics, management and law to educate the community about the importance of quality costs that should be considered.
2. A supervisory body should be responsible for monitoring the level of industrial companies compliance with quality management evaluation rules and forming committees to monitor the application process.
3. Develop plans to mitigate the quality risks that have been chosen. The aim of these plans is to provide the necessary information to make long-term strategic pricing decisions.
4. Protecting the rights and interests of shareholders to economic unity and making strategic decisions that serve interests.
5. Appoint members of the Quality Review Committee of qualified individuals from outside the company like university professors and auditors in audit offices that do not audit the company's account.

References

- Abdulsahib, G. M., & Khalaf, O. I. (2018). Comparison and evaluation of cloud processing models in cloud-based networks. *International Journal of Simulation--Systems, Science & Technology*, 19(5).
- Ahmed Hayjan, A. R. (1987). The role of public policy analysis in solving our contemporary problems. *Riyadh, Management Journal*, 55, 118.
- Al-Douri, A. A. A. (2004). Information management and its role in pricing decision-making.
- Bassiouni, Abdul Ghani (1999), "The administrative jurisdiction on management business, al-Ma'arif institution", Alexandria, Egypt.
- Boseman, C., & Phatak, Arvind, (1999). *Strategic Management) Text cases2 ndED*, NewYork, Johnwily& sons.

- Faris Jameel Hussein As-Sufi et al. (2012). The importance of costs and disclosure in rationalizing administrative decisions in Industrial Public Shareholding Companies listed on Amman Stock Exchange. *Journal of Baghdad College of Economics*, 29.
- Heller, M., Shields, D., & Beloff, B. (1995). Environmental accounting- case study. Amoco Yorktown Refinery in Green. Ledgees: Washington DC, World Resource Institute.
- Ibrahim Mohammed Hassan Ijam., (2007), "Information Technology and Knowledge Management and Their Impact on Pricing Option". PhD Thesis, College of Management and Economics, al-Mustansiriyah University.
- International Guidance workbook (2005), IFAC workbook , Environmental Management Accounting
- Karampoor, A., & Ebrahimi, A. (2018). Investigating the Mediating Role of Knowledge Sharing in the Relationship between Intellectual Capital and Organizational Innovation (A Case Study of Iranian Software Companies). *Journal of Information Technology Management* 10(1), 185-208.
- Khalaf, O. I., & Sabbar, B. M. (2019). An overview on wireless sensor networks and finding optimal location of nodes. *Periodicals of Engineering and Natural Sciences*, 7(3), 1096-1101.
- Lellis M. Thivagar, Abdulsattar Abdullah Hamad, S. G. Ahmed, (2020). Conforming dynamics in the metric spaces. *Journal of Information Science and Engineering*, 36(3).
- Maha Abbas Al-Marzouki, (2004). Study and analysis of quality costs and their importance in rationalizing administrative decisions. King Abdulaziz University, College of Economics and Management, Saudi Arabia.
- Norton, R- L. (1966). Information Management the Dynamic of MIS. NY.
- Othman, Sa'eed Abdul Aziz (2000). Studies on projects feasibility between theory and practice. University house, Alexandria.
- Salman Sa'ad, K. (2010). *The role of accounting monitoring in pricing decision-making*. College of Management and Economics, University of Baghdad, Master Thesis, Iraq.
- Schaltegger, S., Müller, K., & Hinrichsen, H. (1996). *Corporate environmental accounting*. Chichester, UK: John Wiley & Sons
- Shields, D., Beloff, B., & Heller, M. (2008). Environmental cost accounting for chemical and oil companies: Benchmarking study. University of Huston.
- Strobel (2005). Flow Cost Accounting. Augsburg, Germany: Institute for Management Accounting. In (IFA) international guidelines on environmental management Accounting (EMA). Retrieved August 10, 2019, from http://www.emawebsite.org/documents/emaric_347.pdf
- Thivagar, M. L., & Hamad, A. A. (2019). Topological geometry analysis for Complex dynamic systems based on adaptive control method. *Periodicals of Engineering and Natural Sciences* 7(3), 1345-1353.
- Victoria EPA (2003). What is Environmental management accounting. General publishing, July 14, 2003. Retrieved August 10, 2019, from <http://epa.vic.gov.uk>

US EPA (1996). Incorporating environmental cost and Consideration into decision making. Washington.

US EPA (1995). An introduction to environmental accounting as a business management tool Key Concept and terms. Washington.

Yoram Wind, C. C. (2005). *Properties of critical management decision-making*. Arab Science House, Edition 1, Beirut.

Zargar, S. M., & Shahriari, Z. (2018). A model for the acceptance of cloud computing technology using dematel technique and system dynamics approach. *Journal of Information Technology Management, 10*(1), 93-116.

Bibliographic information of this paper for citing:

Hazim Issmeil Al-Ghazali, Mohammed (2019). The interrelationship between quality costs and pricing decision-making: An exploratory study on a sample of industrial companies. *Journal of Information Technology Management, 11*(3), 46-61.