



## Organizational Change and its Relationship to the Application of the Principles of TQM: A Field Study in the Yemeni Governmental Universities

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**Abstract:** This study aims at identifying the organizational change and its relationship to the application of the principles of TQM. To achieve the objectives of the study, the researcher designs and develops a questionnaire that includes four variables related to organizational change, in addition to seven variables of TQM principles. The questionnaire has randomly been distributed among a study population sample who reaches 570 members from leading academic and administrative backgrounds in different Yemeni governmental universities. The study comes up with the following conclusions:

The study shows that there is no equivalence between the sizes and the types of each university, taking into consideration their dates of establishment, their different specializations and the academic programs they provide. There is also an imbalance in the number of the academic staff of which the universities suffer a shortage and the surplus in the number of the administrative and technical staff in the same universities, especially when comparing the number of colleges and centers each university has.

The study detects that the reality of organizational change in general in the Yemeni governmental universities is average in rate. The study comes out with the results that

the level of interest in applying the principles of TQM of the Yemeni governmental universities in general is somewhat average and below the satisfactory average.

**Keywords:** Organizational change, Total Quality Management (TQM) principles.

**Introduction:**

Contemporary organizations face a major challenge, which is reflected in the complexity and instability of sustainability amidst dynamic environmental variables. The most intense competition is not only at the local level, but also at the global level. Organizational change is an urgent necessity for organizations to ensure their survival. Change has become the basis and the base in this life, and stability has become a process limited period of time waiting for another process of change, and the process of change is now inevitable and necessary because of the rapid changes in the external environment and considering the change Organizers are an urgent need for the organization to adopt by adopting modern approaches as the principles of TQM.

In this study, the study was based on variables: organizational change as an independent variable. This variable (organizational structure, organizational culture, resources) (Emphasis on customer, focus on processes and results together, error prevention, human resources resource mobilization, fact-based decision making, continuous improvement, feedback) The researcher seeks to clarify the relationship between organizational change in the application of the principles of TQM and also to provide new ideas to the Yemeni governmental universities on how to adopt the appropriate areas for change, thus contributing to the elimination of administrative inflation in its administrative and academic cadres. Its human cadres in accordance with the criteria of scientific qualification and experiences through which it can survive and continue in light of the environmental changes and the large competition by private universities locally and regionally.

**Problem of study:**

The problem of studying in the case of the stalemate that affected the institutions of higher education and its administration was determined by the political, social and economic reality. Governmental universities were established in 1996 and the following were not followed. The principles and principles necessary to establish them were not taken into account with the message to be presented to society. Is to absorb the increasing numbers of high school graduates in the mid-nineties, was a solution in the eyes of the government at the time the establishment of universities in a number of provinces to relieve the pressure on the universities of Sana'a and Aden, in the sense that it was a quick decision was not studied carefully, Scientific or physical.

The main question: What is the relation of organizational change to the application of TQM principles?

The following questions are derived from it:

1. What are the areas of organizational change implemented by the Yemeni governmental universities?
2. What is the level of application of the principles of TQM in the Yemeni governmental universities?
3. What is the relationship between organizational change and the application of the principles of TQM in the Yemeni governmental universities?

**Objectives of Study: Objectives of Study**

The main objective of this study is to study the relationship between organizational change and the application of the principles of TQM

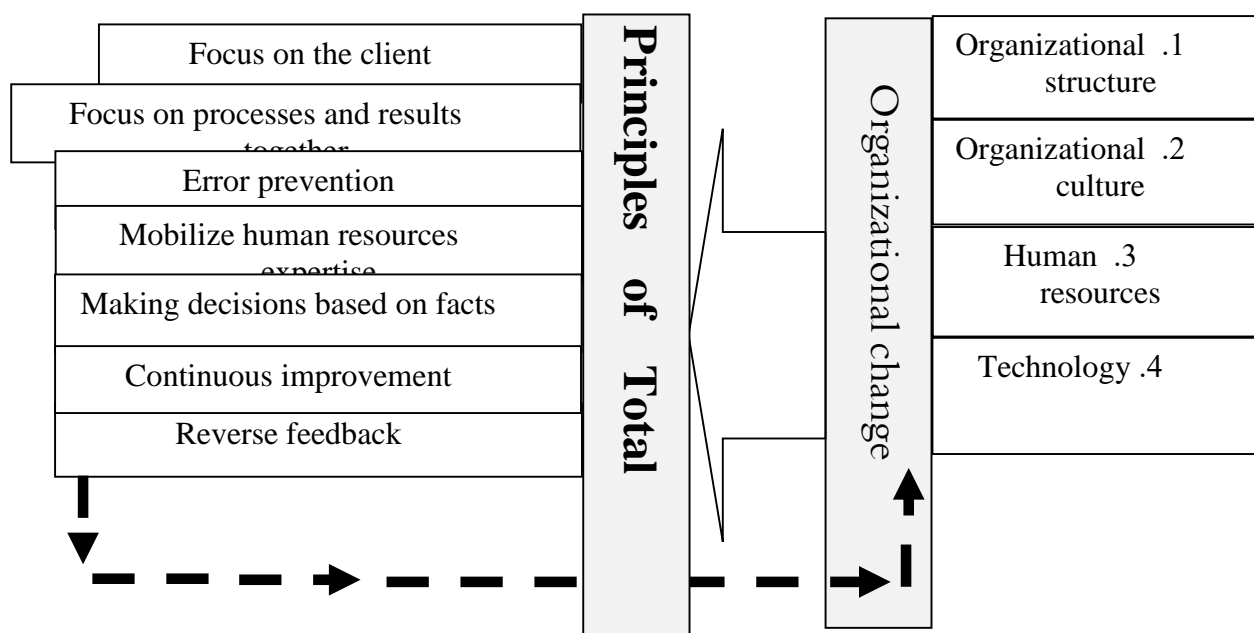
This sub-goal has the following sub-objectives:

1. Identify the areas of organizational change in Yemeni public universities and the level of variation between universities in their application.
2. Knowledge of the level of application of the principles of TQM in the Yemeni governmental universities and measuring the differences between them in application.
3. Determine the type of relationship between organizational change and the application of the principles of TQM in Yemeni public universities.

**The study model and its variables**

Independent variable

The dependent variable

**Hypothesis of Study**

The following hypotheses were tested:

First hypothesis: H0 There is a statistically significant correlation at (0.05) between organizational change (organizational structure, organizational culture, human resources, technology) and the application of the principles of TQM in Yemeni public universities.

The following sub-assumptions are derived:

1. H0: There is a statistical significance relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and customer focus as one of the principles of TQM.
2. H0: There is a statistical effect relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and the emphasis on processes and results together as one of the principles of TQM.
3. H0: There is a statistical significance relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and error prevention as one of the principles of TQM.
4. H0: There is a statistical significance relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and the mobilization of HR expertise as one of the principles of TQM.
5. H0: There is a significant statistical effect relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and decision-making based on fact as one of the principles of TQM.
6. H0: There is a statistical significance relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and continuous improvement as one of the principles of TQM.
7. H0: There is a significant statistical effect relationship at (0.05) between organizational change (organizational culture, organizational structure, human resources, technology) and feedback as one of the principles of TQM.

The premise of the second major differences:

1. There are no statistically significant differences at the level of (0.05) in the opinions of the sample members on the reality of organizational change in public universities according to the

following characteristics: (size, type, age, number of colleges and centers, number of academic staff.

2. H0 There are no statistically significant differences in the level of (0.05) in the opinions of the sample members on the reality of the application of the principles of TQM in public universities according to the following characteristics: (size, type, age, number of colleges and centers, number of academic staff, Administrative and technical).

### Limitations of the study:

Each scientific study has certain limits. The limits of this study are as follows:

Spatial Boundaries: This study was conducted in eight Yemeni universities,

Human Boundaries:

The study includes the academic, administrative and technical leadership in the Yemeni governmental universities (the presidency of the university, colleges, scientific centers and institutes, and its affiliated facilities).

**Table 1: Previous studies**

The study	<b>(Salmi, Saadawi, 2015) (Algeria)</b>
Study Title	TQM as an input to change and organizational development in higher education
Purpose of the study	To identify the most important principles, principles and concepts of the introduction of TQM in higher education and explain the importance of change as a skill and a modern concept that is indispensable in dealing with the challenges of different times.
Study Society	All professors of the National High School of Statistics and Applied Economics in Algeria
The most important results	The implementation of TQM in educational organizations contributes significantly to the success of these organizations and to achieving their objectives. It also contributes to the satisfaction of the needs of students, parents, society and faculty members, as well as improving teaching methods and means of assessment, and requires a series of transformations and fundamental changes to the systems TQM, including the areas of change (strategy, organizational structure, systems, technology, organizational culture, human resources), where the organization can focus on developing areas to interact with each other within the framework of a change strategy Rh overall quality successfully.
Similarities and differences	The two studies were similar in dealing with organizational change in all its fields. This study dealt with TQM as a concept, whereas the current study considers it as principles and differ in that the present study examines the relationship between the two variables.
The study	<b>(Obeidi, 2013) (Iraq)</b>
Study Title	TQM: Change and organizational development for the success of the organization
Purpose of the study	To recognize the role of TQM as an expansive change system that aims at introducing the successes of the organization by analyzing the forces controlling the organization and its role and the role of the conditions supporting the process of organizational change in it through the vision of leadership towards the future.
Study Society	Higher National School of Statistics and Applied Economics in Iraq
The most important results	The change from the bottom is appropriate for those at lower levels who want to apply TQM and better start TQM and then continue, and leaders must maintain their normal work, due to the significant impact on improving performance.
Similarities and differences	The two studies were similar in their focus on organizational change and TQM in some variables and differed in the medium variable. This study focused

	on improving performance to study the relationship between the two variables.
The study	<b>(Shahin, 2004)</b> (Saudi Arabia)
Study Title	TQM and its systems in the success of change in the organization and producer
Purpose of the study	To identify the most important modern administrative concepts by presenting a comprehensive concept of the concepts and basics of TQM, and identify the most important systems, with the relationship between this concept and the systems supporting it. Keeping pace with the business environment locally and globally.
Study Society	Descriptive study
The most important results	The study recommended maximizing the role of leadership in institutions and the participation of their employees in decision-making at all levels and levels, while encouraging transparency and openness in the system, and clearly introducing it at the level of departments and departments, and promoting and developing mutually beneficial relations with suppliers and customers and treating them as partners in work and production.
Similarities and differences	The two studies were similar in their approach to organizational change and total quality management, focusing on the relationship between them and differed in the field of application. This study focused on the industrial sector.
The study	<b>(Ayish, 2008)</b> (Palestine)
Study Title	The impact of TQM application on organizational change
Purpose of the study	Identify the impact of applying Islamic banks operating in the Gaza Strip to the concept of TQM and the levels of this application, as well as the nature of the relationship between elements of TQM and the degree of organizational change of these banks.
Study Society	Islamic banks operating in the Gaza Strip
The most important results	The study concluded that Islamic banks have adopted and still have the concept of TQM in all its components. However, the application levels of these elements are different. The highest level of application of the customer focus has been associated with the lowest level of application focusing on the technological management needs of the competition. Total quality dimensions in terms of their impact on change.
Similarities and differences	The two studies were similar in their focus on the relationship between independent and dependent variables, and differed in the focus of this study on the concepts of TQM to achieve the desired change without focusing on the principles.
The study	<b>(Faisal, 2010)</b> (Sudan)
Study Title	The role of the application of Total Quality Management to change in service organizations
Purpose of the study	This study aimed at identifying the steps that can be followed and the role that TQM plays in changing service institutions.
Study Society	Employees of Sudanese Customs
The most important results	The application of TQM to the Sudanese customs environment leads to increased satisfaction of environmental personnel, enables them to meet WCO requirements, and gives priority to customer needs. And the application of TQM to develop organizational efficiency and employee satisfaction, to improve customer service and gain satisfaction, gain competitive advantage, attention to total quality and the dissemination of a culture of total quality.
Similarities and differences	The two studies were similar in their emphasis on the relationship between organizational change in the application of TQM. The study differed in its lack of focus on the principles but rather on the concept.
The study	<b>(Nos and Moustakis, 2014)</b> (Greece)
Study Title	Total Quality Management and Change Management in Public Organizations
Purpose of the study	Highlight the special role of TQM and change management in the public sector by integrating all concepts and discussing them with factors, which constitute



	organizational change.
Study Society	Department of Engineering and Technology, University of Crete, Greece
The most important results	Emphasizing the importance of technology and TQM, both individuals and organizations must rush to this philosophy, in order to change, mature and develop processes and cultures towards change from individuals and organizations by changing behavior and relationships among employees in the organization and transforming their organizational culture into a culture of quality.
Similarities and differences	The two studies were similar in their emphasis on organizational change in their different areas of TQM implementation, and differed in identifying the areas to be affected by change,

### Organizational change: An overview

Since the foundations of human beings the first organization and organizations are constantly changing and did not remain static, because the environments in which the organizations are living changes are continuing, which requires these organizations change in response to environmental changes, and these various environmental variables of political, economic, social, cultural and technical change is constantly and the result of interaction Between the organization and its environment, the organization will not remain static but constantly changing. The organization is undergoing changes due to internal factors. The degree of change varies from organization to organization. The extent of change in its environment and its ability to respond to this change, on the other hand, (Harem, 2006: 363), and the change in its simplest form means moving from our present situation to a more efficient and effective future situation, and therefore the change is the one that we are living in. The process in which we learn and discover things continuously. To reach and overcome the hoped-for situation (Robinson, 2011).

### The concept of change

There are different concepts of change and vary according to the views of researchers, some know the change in terms of the reasons for change, and the other knows from the perspective of the results of change, then the concept of change is still not clear, there is the nature of change in terms of content and form, and there are relations of change in terms of interdependence and interrelated, Reciprocal and causal relationships, in terms of direction, influence and impact, and there is the possibility of change in terms of flexibility that accept change. (Al said / 2000/9)

### The concept of organizational change

Organizations are social entities consisting of a group of sub-entities if they are studied according to the theory of the organization. Organizations operate in a larger system, representing social and environmental systems. Any change in one of these systems affects all other systems, although these effects are uneven. (Carnall and Vsilver, 2000). The administrative approach whereby the organization is transformed from its present state to another is more efficient than its future development,

Is a change every shift from one case to another? As for the change in the area of the organization, ie the administrative side it means moving from the current situation to a more efficient and effective future situation and this in order to interact with the environment in order to maintain and develop the competitive position and as a result of the importance attached by the individual Within the organization of this phenomenon, the concept of organizational change has been exposed to a large number of writers and researchers, so as to define the concept and meaning of it, and give it definitions according to each philosophy (Al-Omyan, 2005: 61).

Organizational change is a natural phenomenon based on deliberate administrative processes, which results in some degree of development in one or more elements. It can be seen as a series of stages

through which the transition from the current situation to the new situation and from the organizational approach of the organization, Sub-systems interact with each other, and as they exist in an external system that in turn consists of other subsystems (economic, political, social ...), any change in these systems is necessarily reflected in the change of organization (**Wilson, 2001: 22**).

### Definition of organizational change

There are many different and varied concepts of organizational change. The researchers focused on the technology used in defining change. Some of them focused on the organization, organizational environment and organizational behavior. Some of them focused on strategies, plans, procedures and rules of work to adapt and improve performance (**Dudin, 2015: 7**).

Organizational change refers generally to the overall approach, which concerns the whole organization, and its main sub-systems. The focus is on large-scale changes. Researchers have identified it from several perspectives, some of which are reviewed in the following table:

Table 2: Definition of organizational change according to the views of a number of writers and researchers

	Researcher Name	the definition
1.	(Allen et al., 2007)	A targeted and targeted change that seeks to adapt to the environment in order to transform itself into a more problem-solving regulatory situation and to change the way it operates.
2.	(Andrews et al., 2008)	A process that seeks to increase organizational effectiveness by unifying individuals' needs for growth and development with organizational goals using knowledge and methods of behavioral science.
3.	(Armenakis and Harris, 2002)	A deliberate, deliberate, purposeful and conscious change that seeks to achieve internal and external environmental adaptation to ensure a transition to another regulatory situation
4.	(Beckhard, 2002)	A planned effort, encompassing the whole organization and managed from the top, in order to increase the effectiveness of regulation, through improvements and deliberate interventions in organizational processes, using behavioral theory.
5.	(Beer et al., 2009)	Modification of the Organization's experience in the environment, technology, organizational structure, administrative activities or decision-making processes is designed to assist in the achievement of organizational objectives.
6.	(Bell and French, 2001)	A sophisticated strategy aimed at changing organizational beliefs, attitudes and values, organizational structures to suit new needs and able to cope with the challenges posed by dramatic changes in the social, cultural and economic environment.
7.	(Bennis and Schein, 2000)	A change in the status quo is occurring constantly and may be a change in the internal or external environment and in many cases external change causes internal change.
8.	(Bhaskar et al., 2003)	A collaborative voluntary work between an expert on change and the organization concerned working together to solve the problem or to plan the work of the

		organization and to achieve a better situation by using or applying appropriate knowledge.
9.	(Bloodgood and Morrow Jr, 2003)	Helping to harmonize the organizational environment, operations, strategy and individuals with culture and develop organizational and creative solutions is the means to develop the Organization's ability to innovate.
10.	(Certo et al., 2006)	A set of actions taken by an organization to increase its effectiveness.

Based on the above, the following definition, which corresponds to the subject matter of the study, can be defined as organizational change, which is "the tangible and objective change of direction and adaptation of the environment between the organization and the organization, to shift from one regulatory situation to another, more efficient one, using appropriate knowledge or methods, Both organizational and organizational culture, human resources and technology, resulting from material and intellectual innovations, with the aim of achieving long-term and short-term objectives and promoting the change to be achieved within a specified period of time.

### Total Quality Management

TQM is one of the most prominent intellectual and philosophical concepts that has attracted wide attention by specialists, researchers, administrators and academics who are particularly concerned with the development and improvement of production and service performance in various organizations. The Japanese administration played a decisive role in this area, especially in the early 1980s and late 1990s. Through the acquisition of high quality goods while reducing costs. Quality is the responsibility of all employees in the organization and is of interest to all organizations of all kinds. The fruits of the many associated with the improvement and development of productivity and increase market share and improve quality and price suitability and reduce costs, and governmental organizations seek to achieve greater goals and deeper than that, which means the quality of all products and services in the community and not only government (**Hammoud, 2010: 71**).

#### TQM concept

**Slack et al. (2013)** tackled the concept of Total Quality Management (TQM) as a business philosophy that demonstrates how to enter quality management. It is a way of thinking and managing processes, including:

1. Meet the needs and expectations of beneficiaries.
2. Coverage (participation) of all parts of the Organization.
3. Identify all costs (costs) associated with quality, especially failure costs.
4. Get the right things from the first time.
5. Develop systems and procedures that support quality and improvement
6. Development is an ongoing process of improvement.

The concept of TQM is one of the most prominent intellectual and philosophical concepts that has attracted wide attention by specialists, researchers, administrators and academics. It is a modern management philosophy based on a number of administrative concepts that are based on the combination of administrative means and innovative efforts on the one hand, In order to raise the level of performance, improvement and continuous development on the other hand (**Khatib, 2008: 83**)

The researcher believes that the concept of TQM emphasizes that customer satisfaction is an essential element in total quality management, and broadening the participation base for all levels of management in the organization to achieve the highest levels of performance. TQM is a continuous process that does not stop and does not end, Work within the organization and the participation of all and at all levels to achieve the objectives of the organization, and that services are one of the most important things that focus on the concept of total quality, work correctly and from the first time, and finally not to accept the current situation, but always work and look towards the best L and continuously.



### Definition of Total Quality Management

There are many definitions of TQM as a result of continuous use and application, but there is a common denominator that combines them is to explore the needs and desires and expectations of customers and compatibility with them through continuous research and development at the level of the organization as a whole (Najjar, 2002: 92).

TQM can be seen as a cultural revolution because of the way in which management is thinking about working continuously to improve quality, focus on teamwork, encourage individual participation in goal setting and decision making, and although there are many attempts to define TQM and identify What are the requirements and principles of the basis, yet there is no specific definition and comprehensive, and hence the various definitions that have been formed overall TQM framework and concept and philosophy distinct in the modern administrative thought can be summed a number of definitions through the following table: (Dah 2012: 68).

Table 3: Definition of total quality management according to the opinions of some writers and researchers

Researcher Name	The Definition
(Arora, 2001)	The system is based on continuous development processes for everything that the organization does in parallel to the development of quality, a system that cares about the satisfaction of both internal and external customer.
(Baidoun, 2003)	A comprehensive philosophy, principles and tools designed to carry out continuous improvements in the organization using quantitative methods to meet customer needs now and in the future.
(Bounds et al., 2001)	An administrative system that focuses on individuals and aims to continuously increase customer satisfaction.
(Brocka and Brocka, 2003)	A way to continuously improve performance at all levels and functional areas of the organization through optimal use of available human and material resources.
(Baharat, 2001)	Exceeding performance to delight consumers by working managers and employees with each other in order to provide consumers with quality of value by doing the right job right the first time.
(Cole, 2009)	An administrative system that includes integrated philosophies, statistical tools and administrative processes to achieve objectives and raise the level of customer and employee satisfaction.
(Crosby, 2005)	A protective system for the organization represents a methodology that prevents problems by promoting effective behaviors and optimizing control methods that prevent problems.
(Daft, 2006)	A change in the thinking system for both managers and employees, and extensive participation at the organizational level in quality control, staff training, involvement and empowerment.
(Dean Jr and Bowen, 2001)	Is the body and the overall characteristics of the product (service or commodity) which reflects the ability of this product to meet the needs of explicit or implicit customers.
(Dale et al., 2007)	An administrative approach that focuses on quality and depends on the contribution of everyone to long-term success by satisfying the customer and achieving benefits for all members of the organization and society.

Therefore, the researcher defines total quality management as a distinctive management philosophy adopted by the organization for the purpose of achieving excellence and excellence in work through the process of integration and all activities and processes within and outside the organization under a long-term strategic vision, seeking from this integration to satisfy the needs and desires of the client through Link product design processes (product or service) to these needs and desires and even work to exceed the future expectations of the customer through the processes of continuous improvement.

### **Principles of Total Quality Management**

Scholars and writers in the field of management do not agree on a certain number of principles, while these principles, although valid for the industrial field, are not very different in commercial and other fields. They also require applications that are compatible with the environment, including cadres and their resources. And the challenges they face. Focusing on common principles, which represent the main principles of TQM, is one of the most common principles among researchers, although they come under different headings, pillars, elements, fundamentals. It is possible Define the basic principles of total quality management as indicated by the relevant scientific literature as follows: (Imran et al., 2010).

#### **Customer Focus**

TQM is the driving force for organizations to win the competitive edge. TQM is the customer at the forefront of its concerns as it represents the important and influential factor in the survival and sustainability of organizations. The TQM philosophy of customer counting is the most important element in the life of organizations. Introduction of its interests and from it all stages begin internally or externally (Khatib, 2008: 58).

Customer-centric focus is the application of TQM. The Malcolm International Award (25%) of the evaluation marks for this award is based on the organization's interest in its customers and how they achieve their desires. The long-term success of the organization is linked to its efforts to maintain its customers Their ability to respond quickly to their ever-changing needs and desires, as well as offering products that satisfy or exceed their expectations (Arora, 2001).

#### **Focus on processes and results together**

The quality of operations is no longer limited to results, but extends to processes and design to produce results without error, with attention to work methods, performance and output control, understanding flow of operations to prevent bottlenecks and finding solutions to problems in improving the quality of products or services. Results without errors (Ghazi, 2005: 37).

The desired result is achieved more efficiently when resources and related activities are managed as a process. This is achieved by identifying the activities needed to achieve the desired result, measuring the inputs and outputs of the process, identifying the focal points of key activities among the work of the organization, and assessing the risks, consequences and potential impacts of operations on customers, suppliers and other beneficiaries. Process, clearly define the responsibilities and powers of management of key activities, identify internal and external customers, suppliers and other beneficiaries of the process, and in the design of operations take into account steps, activities, sequence, T control, training needs, devices, methods, information, materials and other resources in order to achieve the desired result (Cole, 2009)

#### **Error Prevention**

TQM applies the slogan (prevention is better than cure) by focusing on addressing the problems related to the causes of deviations. The Zero Defects principle comes in line with the application of pre-occurring error prevention called by Crosby. This is achieved by activating the role of the working group and the groups of continuous improvement by creating opportunities for participation and the working environment that encourages the expression of opinion without fear or hesitation. This is achieved through continuous monitoring, measuring the quality of the products during the production process, A favorable opportunity For the development and improvement, this is necessary to try to detect them before they escalate (Evans and Dean; J W., 2003).

This principle is the basis of Crosby's overall quality. Quality is achieved by preventing error, not by making an assessment. The concept of preventing error depends on understanding the process that is needed to prevent the error. The key to preventing the error is to look at the process and identify Opportunities for error, and these opportunities can be monitored, each product or service depends on many components to reduce the causes of problems (Moussawi, 2003: 92).

#### **Mobilize human resources expertise**

(Daft, 2006) means to mobilize human resources expertise, the way they feel important and to make effective use of their potential, to show them responsibility, to achieve their personal respect, to clarify expectations, to participate substantively and informally.

The inclusion of workers and their integration enables them to participate in managerial decision-making and the appropriate improvement of their levels in the organization. The proper implementation of the integration of workers contributes to changing the relationship between the individuals and the organizations they work for. They are real business partners to make organizations successful, especially in organizations where the supplier Human being is very important for knowledge work and advanced technology (Zakuan et al., 2009).

#### **Making decisions based on facts**

The reliance on facts leads to successful decisions. This reveals the difference between effective management and ineffective management. It is only a reflection of the difference between the ability of the former to make the right decision and the inability of the second to take it. It is clear to the decision maker about the circumstances surrounding it, and thus helps him to take it in the light of these facts. The computerized information system generally helps decision makers and task forces to perform their tasks well and effectively solve work problems. Decisions are made in a TQM environment, it is periodically analyzed to avoid errors and to control deviations in performance, that is to say, objective decisions to rely on facts. This requires moving from the way decisions were made in a traditional management environment to the management's wishes and desires and the values, principles, Total quality in which decisions are taken according to information and data periodically, and these data are collected and analyzed in the TQM environment in a way that limits the errors and defects of the objectivity (Zoubi, 2001: 194).

#### **Continuous improvement**

Continuous improvements are a set of processes that reduce or limit activities that do not add value to the production of goods and services, as well as the continuous pursuit of customer requirements. The essence of continuous improvement work is to reduce differences and to avoid So it is necessary to work hand in hand with the information systems of the organization, as the involvement of the information systems manager in continuous improvement processes is important for the success of TQM objectives (Al-Sarawi, 2014: 79).

TQM programs are based on continuous improvement and improvement, based on the principle that development and improvement never ends, no matter how efficient and efficient the performance is. In Japan, there is a close relationship between the concept of improvement and the concept of quality, which is an important message in TQM. Improvements can be achieved through: (Ben Aichawi, 2013: 75).

#### **Reverse feedback**

The information obtained by the organization from its customers relates to the level of satisfaction with the product or service provided to them, and the satisfaction of their demands and expectations, and thus is a means of revealing through which the evaluation of the organization to put it with their customers, and is an effective way that uses the results in the continuous improvements in goods and services and satisfaction staff (Atwi, 2004: 58).

This latter principle allows previous principles to bear fruit, in this area communications play a pivotal role because any product of any kind cannot be designed without human inputs. Therefore, one of the major responsibilities of senior management is not only their responsibility for the management of funds, production and timetables for implementation, etc. Human resource management is the biggest challenge, and therefore the success of feedback and the sincere desire of senior management to help their subordinates to upgrade are among the most important factors in increasing the chances of success and creativity in the Organization (Stevenson et al., 2007).

#### **Study methodology: its society and its sample**

##### **Study Methodology**

The present study relied on the analytical descriptive approach, where the researcher collected the data on the problem of the study, then analyzed the data, and linked the variables of the study. This analytical descriptive method is appropriate for the nature of the subject of the study, because it not only describes the data, but also the analysis and interpretation of these data to reach results that can contribute to the achievement of the desired goals.

##### **Study Society**

The study society consists of all the academic and administrative leaders in the Ten Yemeni

Universities, colleges, centers and scientific institutes, in addition to its various facilities, about (11603) academic, administrative and technical.

### **Study sample and how it was chosen**

The sample of the study consisted of (570) respondents from the academic and administrative leadership in Yemeni governmental universities in eight public universities (Sana'a, Taiz, Hodeidah, Dhamar, Ibb, Al-Baidah, Hajjah and Imran), excluding the Aden and Hadramout Universities due to the circumstances in the country, Random class sample, at the university level in general.

### **Characteristics of the study sample**

1. In terms of the size of the university, it is clear that most of the universities are large in size. The number of responses was 254, or 49.5% of the sample. The majority of Yemeni universities were established more than 20 years ago. (27.9%) of the total responses of sample members, which were established more than fifteen years ago, while the number of responses to small universities was (116) (22.6%) of the total responses of sample members, which are newly established universities.
2. In terms of the year of incorporation, the majority of the responses of the respondents who referred to the year of establishment in 1996 amounted to (271) answers and (52.8%). This indicates that most governmental universities were established in 1996 and beyond, While the number of responses of the sample to the universities established before the year 1996 was 126 and 24.6%, indicating that the universities established before 1996 are the established universities that were established to cover the needs of higher education with its specialties, colleges and branches. While the number of responses of sample members to universities established after 1996 was about (116), and (22.6%), which is the university Newly emerging data.
3. The highest percentage of respondents' responses to the number of colleges and centers in these universities was for the category (10 to less than 15). The number of responses to (209) answers, and (40.7%). In the year 1996, which is located in the major cities, and the group (15 and above), the number of responses of respondents (188) answer, or (36.6%), which includes the universities established before the year (1996) And the universities in the category (less than 10), the number of responses of respondents (116), and by (22.6%) and this result to the newly established universities.
4. In terms of the number of academic staff, it is found that the public universities in the category (500 to less than 1000) are the majority, where the responses of the sample (271) answer, representing the largest percentage (52.8%) and this indicates that these Universities have a shortage of academic cadres compared to the number of colleges and centers that were opened. The number of responses to the sample in the category (1000 and above) was about (126) answers, (24.6%), which were established before 1996, The number of responses of respondents to the category (less than 500) was (116) answers, and (22.6). This indicates that the Yemeni governmental universities suffer from In the academic cadres compared to the number of colleges and centers opened by these universities compared to the number of students registered, instead of opening multiple programs for postgraduate studies.
5. As for the number of administrative and technical staff, the public universities in the category (from 500 to less than 1000) have the highest percentage among universities. The responses of the sample (271) represent the largest percentage (52.8). This indicates that these The number of responses to sample members in the category (1000 and above) is about (126) answers, which is (24.6%). ), Which were established before the year (1996), while the number of responses of respondents to the category (less than 500) about (116) (22.6). This indicates that administrative and technical cadres in the Yemeni public universities are equal in number to the academic cadres compared to the actual need.

The researcher finds that there is no balance between the size and type of public universities if there is a comparison between the date of establishment of these universities and the academic disciplines and programs that exist in them, as well as the existence of imbalance between the number of academic staff through the shortage suffered by those universities, and surplus in the number of administrative and technical staff Which is needed by public universities, (where the administrative and technical assistant at least three members of the faculty, ie the percentage of need (1-3), if compared to the number of colleges, centers and other programs), with the number of students



affiliated to those universities, Need to apply The relevant regulations and systems to achieve this balance, and to eliminate the imbalances experienced by the pursuit of a comprehensive change in all aspects.

### Study procedures

#### Procedural steps

The researcher took the following procedural steps:

- The study community has identified the academic and administrative leadership of the Yemeni governmental universities, colleges, centers and scientific institutes and its affiliated facilities.
- Design and development of the study tool, which is a questionnaire, formed in its initial form of (92) divided into four parts.
- The study tool was presented in its preliminary form to a number of academic arbitrators, who are related to the subject of the study, in order to determine their veracity.
- An exploratory study was conducted on a pilot sample of leaders in some universities to test the stability of a tool and used the Kronbach Alpha laboratory. The tool was distributed to the sample of the study at the Yemeni governmental universities and was asked to answer each of the paragraphs of the tool using the five-dimensional Likert scale. The percentage of retrieved responses reached about 90% of the total distributed questionnaires.
- The values of the arithmetical averages below have been adopted to judge the degree of organizational change, as well as the level of application of TQM principles, through agility, as follows:

The actual arithmetic values of the available options for the respondents were found to answer the questionnaire according to the five-dimensional Likert scale, which was used to measure the variables of the study by converting the distances between these options to (4) levels so that the distance from (1-2) The distance from (2-3) the level (2), the distance from (3-4) the level (3), the distance from (4-5) the level (4) and the distribution of the range of grades (1-5 = 4) Approval shows that the length of each level is equal

The researcher adopted the following criterion in the classification of the mathematical averages of the responses of the sample members, as follows:

Table: The mean average and the classification of the arithmetical averages of the responses of the sample members

First Level	Second Level	The Third Level	Fourth Level	Level Five
Very weak degree	Poor degree	Medium degree	High degree	Very high degree
From 1 - 1.8	From 1.8 to less than 2.60	From 2.60 to less than 3.40	From 3.40 to below 4.20	From 4.20 to less than 5

### Statistical Processing

In order to answer the study questions and test hypotheses, a number of descriptive and analytical statistical methods were used, based on the Statistical Package for Social Science (SPSS) program as follows:

1. Frequency and percentages to describe the characteristics of the study sample.
2. The mathematical averages and standard deviations to know the level of the variables of the study.
3. Cronbach's Alpha coefficient to calculate the stability of the scale used.
4. One simple test (T) to find the differences between the mean and the arithmetic averages.
5. Stepwise regression analysis to show the effect of the independent variable in the variable, the variable in the dependent variable, and the independent variable in the dependent variable.
6. Simple Linear Regression Model to test hypotheses and test the relationship of influence between study variables.



7. Analysis of the variance to test the differences in the responses of the study sample towards the variables of the study, and oral test to demonstrate the differences.
8. Arranging references by EndNote6 in the text and bibliography.

## Conclusions

The aim of this study is to study the relationship between organizational change in its four fields in the application of the principles of TQM in the Yemeni governmental universities from the point of view of academic and administrative leaders. The conclusions of the field study,

1. The study showed that there is no balance between the size and type of public universities when comparing the date of establishment of these universities with the specializations and academic programs in which they are located.
2. The results of the study revealed that there is an imbalance between the number of academic staff through the shortage experienced by these universities, and the surplus in the number of administrative and technical staff needed by public universities. (The administrative or technical staff helps at least three faculty members, (1-3) by comparing it with the number of colleges, centers and other programs, with the number of students affiliated with these universities.
3. The results of the study showed that the differences between the mean mean and the arithmetic averages of the axes of organizational change, all of which are lower than the average mean for the study, indicating that the organizational change in the Yemeni governmental universities is less than the satisfactory average among the organizational change variables of Yemeni governmental universities.
4. The results of the study indicated that there is a small level of interest by the universities of the study society to adopt the principles of TQM in general and that there is weakness in the implementation process due to the lack of training courses for the implementation of comprehensive quality programs in the Yemeni governmental universities.
5. The study showed a statistically significant relationship at the level of (0.05) between the dimensions of organizational change (organizational structure, organizational culture, human resources, technology) and the implementation of the principles of TQM in Yemeni governmental universities.
6. The study showed that there are no significant differences in the responses of the sample members in the Yemeni governmental universities towards organizational change. This result indicates that the null hypothesis is accepted that there are no statistically significant differences at the level of significance (0.05)

## Recommendations

In the light of the above conclusions, the research sought to formulate a number of recommendations aimed at promoting organizational change in the Yemeni governmental universities and the society of the study, in order to enable them to implement the principles of TQM,

1. Emphasize the necessity of interest of some Yemeni governmental universities that were established before the year (1996) with specific specialties in their academic programs, especially these universities are not newly established, the date of its establishment has exceeded 30 years.
2. The importance of higher management in the Yemeni public universities should be more concerned with their human resources and the application of the relevant regulations and systems to achieve balance and eliminate the imbalances experienced by them through seeking comprehensive change in all aspects and seeking to rehabilitate their academic and administrative cadres, In the exploitation of qualified human resources in universities, and maximize the revenues generated from them.
3. The need to modernize and change organizational structures and transform them from vertical

to horizontal flexible structures that allow participation. The need to give organizational culture greater attention. The current and current culture is a hierarchical culture. The desired culture in the future will be the culture of the group and the need for change in human resources through the adoption of training programs And the development of internal staff, whether in the academic or administrative, and provide the requirements of technology and modern technologies because of its importance in raising the level of performance of academic staff and administrators alike and increase their motivation to work, keeping pace with developments in the world Especially the higher education sector.

4. The importance of applying the vocabulary of the component of building quality awareness in the Yemeni governmental universities better through the establishment of specialized units and departments to manage the total quality, and to strengthen the concepts and principles of TQM, and try to consolidate them greatly in the academic, administrative and technical cadres.

## References

- Al-Ghazi, Fahd Bin Abdullah, (2005), The Possibility of Implementing Total Quality Management in Riyadh Traffic Department, Master Thesis, Naif University for Security Sciences, Riyadh.
- Allen, J., N. L. Jimmieson, P. Bordia and B. E. Irmer (2007). 'Uncertainty during organizational change: Managing perceptions through communication' *Journal of change management* 7(2): 187-210.
- Al-Moussawi, Noman (2003), Development of a Tool for Measuring Total Quality Management in Institutions of Higher Education, *Educational Journal*, p. 67, Amman.
- Al-Obeidi, Raed Abdul Khaleq, (2013), Total Quality Management: Change and Organizational Development for the Organization's Success, published research, *Dijla Magazine*, No. 17, Iraq.
- Al-Sarawi, Ahmed, (2014), Total Quality Management Applications in Institutions, Dar Al Kuttub Al-Alami for Publishing and Distribution, Cairo.
- Al-Tai, Al-Sabawi, (2012) The Sequential Impact of Total Quality Management and Organizational Change in Achieving Competitive Advantage: A Study on Al-Hadba College in Nineveh, Iraq.
- Alwan, Hassan Jabr, (2011), Role of Quality Workshops in Organizational Change, An Empirical Study in Cement Al Seda Lab, *Journal of the Faculty of Management and Economics* Issue 4, Iraq.
- Al-Zu'bi, Dalal Mohammed, (2001), The Importance of Administrative Skills for Managers and Heads of Administrative Departments in Jordanian Universities from their Point of View, *Damascus University Journal of Educational Sciences*, Vol 17, No.3, Dar Al-Baath Press, Damascus.
- Andrews, J., H. Cameron and M. Harris (2008). 'All change? Managers' experience of organizational change in theory and practice' *Journal of organizational change management* 21(3): 300-314.
- Armenakis, A. A. and S. G. Harris (2002). 'Crafting a change message to create transformational readiness' *Journal of organizational change management* 15(2): 169-183.
- Arora, S. (2001). Applying ISO 9000 quality management systems, International Trade Centre UNCTAD/WTO.
- Atwi, Radia, (2004), Total Quality Management as an Approach to Strategic Cost Management - Studying its applicability in a sample of major Algerian industrial enterprises, *Journal of Strategy and Development*, Volume 8, Number 1, Algeria.
- Ayesh, Shadi. (2008), Impact of TQM on Organizational Change, Applied Study on Islamic Banks Operating in the Gaza Strip, Unpublished Master Thesis, Islamic University, Gaza, Palestine.
- Baharat, w. (2001). Total quality: Excellence through organization-wide transformation, AH Wheeler Publishing Company Limited.
- Baidoun, S. (2003). 'An empirical study of critical factors of TQM in Palestinian organizations' *Logistics information management* 16(2): 156-171.
- Beckhard, R. (2002). 'Organization development: Strategies and models.'
- Beer, M., R. A. Eisenstat and B. Spector (2009). 'Why change programs don't produce change.'
- Bell, C. and W. L. French (2001). 'Organization development: Behavioral Science Interventions for Organization Improvement. 6' Auflage: Prentice Hall, New Jersey, S 100.
- Bennis, W. G. and E. H. Schein (2000). Personal and organizational change through group methods:

The laboratory approach, Wiley.

- Bhaskar, A. U., K. T. Bhal and C. V. Ratnam (2003). 'Ethical issues in change management: an empirical study' *Journal of human values* 9(1): 19-27.
- Bin Aishawi, Ahmed, (2013), *Total Quality Management theoretical and applied foundations in commodity and service institutions*, Dar Al-Hamed Publishing and Distribution, Amman, Jordan.
- Bloodgood, J. M. and J. Morrow Jr (2003). 'Strategic organizational change: exploring the roles of environmental structure, internal conscious awareness and knowledge' *Journal of management studies* 40(7): 1761-1782.
- Bounds, G. M., G. H. Dobbins and O. S. Fowler (2001). *Management: A total quality perspective*, South-Western Publishing Company.
- Buhnik, Huda, Osmania, Osman (2014), *Total Quality Management as an Approach to Organizational Change*, International Forum on Change Management in a Changing World, University of Tebessa, Algeria.
- Carnall, L. and M. Vsilver (2000). *Operations management*, McGraw-Hill/Irwin Boston.
- Certo, S. T., M. L. Arthaud-Day, C. M. Dalton and D. R. Dalton (2006). 'A changing of the guard: Executive and director turnover following corporate financial restatements' *Academy of management journal* 49(6): 1119-1136.
- Cole, K. (2009). 'TQM as a management system consisting of values, techniques and tools' *The TQM magazine* 12(4): 238-244.
- Crosby, P. B. (2005). 'Crosby's 14 steps to improvement' *Quality progress* 38(12): 60-64.
- Daft, R. (2006). *Organization theory and design*, Cengage learning.
- Dale, B. G., T. Van der Wiele and J. Van Iwaarden (2007). *Managing quality*, John Wiley & Sons.
- Dean Jr, J. W. and D. E. Bowen (2001). 'Management theory and total quality: improving research and practice through theory development' *Academy of management review* 19(3): 392-418.
- Dervitsiotis, K. N. (2010). 'The challenge of managing organizational change: Exploring the relationship of re-engineering, developing learning organizations and total quality management' *Total Quality Management* 9(1): 109-122.
- Doudin, Ahmed Youssef, (2015) *Change Management and Organizational Development*, Dar Al Yazuri Publishing and Distribution, Amman, Jordan.
- Evans, J. R. and U. Dean; J W. (2003). 'Total quality management Organization and Strategy' *INFOR* 40(4): 364.
- Faisal, Basheer Mousa, (2010), *The Role of Implementing Total Quality Management for Change in Service Institutions*, Sudanese Customs Authority, published paper, Sudan.
- Fathallah, Khalisa, (2012), *Total Quality Management as an Introduction to Change and Organizational Development in Higher Education Case Study of the National Higher School of Statistics and Applied Economics*, Master Thesis, University of Algiers, Algeria
- Hamoud, Khudair Kazem, (2010), *Total Quality Management*, 4th Edition, Dar Al Masirah for Publishing and Distribution, Amman, Jordan.
- Hareem, Hussein Mahmoud, (2006), *Organization Design - Organizational Structure and Procedures*, 7, Dar Hamed Publishing and Distribution, Amman.
- Hitt, M. A. (2000). 'The new frontier: Transformation of management for the new millennium' *Organizational Dynamics* 28(3): 7-17.
- Imran, U. K., A. Usoro, G. Majewski and M. Kuofie (2010). 'An Organisational Culture Model for Comparative Studies: A Conceptual View' *International Journal of Global Business* 3(1).
- Khatib, Samir Kamel, (2008), *Total Quality Management and ISO portal Maaser*, Dar al-Mortada, 1, Baghdad.
- Mahfouz Ahmed, (2012), *Total Quality Management: Concepts and Applications*, Dar Wael Publishing and Distribution, 6th Edition, Amman, Jordan.
- Mr. Osman Farouk, (2000), *The Forces of Management of Change in the 21st Century*, Dar Al-Wafaa for Printing and Publishing, 1, Mansoura, Egypt.
- nos, K. and V. Moustakis (2014). 'Total quality management and change management in public organizations' *Sinteza 2014-Impact of the Internet on Business Activities in Serbia and Worldwide*: 38-42.
- Robinson, K. (2011). *Out of our minds: Learning to be creative Technological*, John Wiley & Sons.
- Salmi, Rasheed, Saadawi, Moussa, (2015), *Total Quality Management as an Approach to Change and*

- Organizational Development in Higher Education, Case Study of the National Higher School of Statistics and Applied Economics, Journal of Economics, June 2017, University of Algiers.
- Shaheen, Ali, (2004), Total Quality Management and Systems in the Success of the Organization and the Product ", electronic version of King Faisal University Scientific Journal, Saudi Arabia, vol. 5, no. 1.
- Stevenson, W. J., M. Hojati and J. Cao (2007). Operations management, McGraw-Hill/Irwin Boston.
- Wilson, David S. (2001), Strategy for Change: Concepts and Debates of Management in Change Management, Tarhith Syed Amara, Dar Al Fagr Publishing and Distribution, 3, Cairo.
- Zakuan, N., S. Yusof and A. Shaharoun (2009). The link between total quality management and organizational performance in Malaysian Automotive Industry: The mediating role of ISO/TS16949 efforts. Industrial Engineering and Engineering Management, 2009. IEEM 2009. IEEE International Conference on, IEEE.