

The Influence of Total Quality Management (Continues Improvement and Training) on the Public and Private Healthcare Institutions Effectiveness in Yemen

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Abstract:

Purpose: This research was developed for the purpose of finding out the impact of total quality management (continuous improvement and training) on the public and private healthcare institutions' effectiveness in Yemen.

Design/ Method/ Approach: The descriptive-analytical approach was used in this study; it is one of the most used methods in the study of social and human phenomena, and because it fits the phenomenon under study. It also examines an existing phenomenon or issue from which information can be answered to answer study questions, without the intervention of the researcher.

Findings: regression test has been used to conduct statistical analysis from the primary data. Several tests have been conducted for the collected data. The main results found that there is a positive and significant relationship between continuous improvement and the healthcare public and private institutions' effectiveness in Yemen. Also, there is a positive and significant relationship between training and the healthcare public and private institutions' effectiveness in Yemen.

Recommendation: In the health sector, it is always necessary to remember that the essence of the service is the human. It should be kept in mind that human life will be harmed when a mistake is made. The lack of statistical data and information sharing increases the likelihood of errors occurring repeatedly. Managers should eliminate fear, communication barriers, and situations that make it difficult for people to do business and make arrangements where the feeling of success is experienced together with continuous improvement.

Keywords:

1. Introduction

All organizations are faced with increasing competitive pressure. The best way to keep up with the rapid change and development in the world is to gain competitiveness by increasing quality. This seems to be possible only with total quality management, which is accepted as a modern management style (Wolf et al., 2014).

In our globalizing world, it has become a necessity beyond the necessity for organizations to satisfy their customers, to have a voice in markets where relentless competition is valid, and to contribute to the economy of the country at an optimal level. In order for organizations to achieve these goals; adopting the philosophy of total quality management and its applications has been inevitable. In order to apply the total quality management philosophy as required and to reach the optimal quality level; Total quality costs must be calculated, collected, analyzed, evaluated, and reported by organizations (Aarno & Engblom, 2014)

Cooperation between various internal and external elements is necessary for institutions and organizations that implement total quality to achieve optimal integrity in the magic triangle of price-timing-quality. For this reason, the quality of communication and collaboration determines how the overall quality and philosophy are implemented and changed in the organization. Open communication and effective cooperation at all levels increase the competitiveness of the organization. This is manifested by the fact that the employees are relevant, motivated and flexible (Caputo et al., 2020)

Health services include services based on continuity in protecting, improving and fulfilling the physical, mental and social health of people in order to improve the welfare and happiness of the society (Churchill, 1979)

The World Health Organization has defined health services as a permanent nationwide organization to achieve the goals that change according to the needs and desires of the society by utilizing different types of healthcare personnel in certain health institutions, thereby ensuring the health care of individuals and society with all kinds of preventive and therapeutic activities. The healthcare institution, where health services are provided, assumes an intermediary role, brings together the customer / patient and the medical team and the doctor, and acts as a preparatory environment for the treatment (Ciechanowski et al., 2020).

In terms of institutional success and competitiveness, it is a phenomenon that needs to be satisfied by service users in terms of plans and arrangements aimed at providing the health needs of the society in which health institutions provide services. The purpose of all organizations is to be effective. The meaning of effectiveness is to achieve the goal at the desired level. In order to achieve the desired level, people and the organization must be sufficient and effective. In order for the organization to be effective, all sub-systems must realize the part of the organization that falls on their own share. Organizational effectiveness is the ability to influence and improve the system elements of the organization to achieve organizational goals at the planned level (Sousa & Rocha, 2019).

The aim of this study is to identify the influence of total quality management (continuous improvement and training) on the public and private healthcare institutions effectiveness in Yemen. The remaining sections of this research are designed as follows: Section 2 defines the literature review towards the study variables; Section 3 focuses on illustrating the model used in the study as well as the hypotheses development; Section 4 shows the methodology used; Section 5 analysis the collected data; Section 6 discusses the findings and compare them with the findings of previous studies; and finally Section 7 represents conclusion which includes future research directions.

2. Literature Review

2.1 The Concept of Total Quality Management

Nowadays, everyone agrees on recognizing the need to improve the quality of products or services to be competitive and stay in business. What is often not agreed is in the way to achieve it. Some think that improvement will come with just a fact of demanding quality in the work performed by each of the members of the organization, that is, they think that it is a matter of imposing discipline on the workers. In reality the concept and vocabulary of quality are elusive. Different people interpret quality in terms that can be measured and translated into operations. In less formal terms, it can say that quality is defined by the customer, it is the judgment that he has about a product or service and generally results in the approval or rejection of the product.

A customer who is satisfied if he is offered everything he expected to find and more. Thus, quality is above all customer satisfaction. Satisfaction is linked to the expectations that the customer has about the product or service. In this sense, quality equals zero defects, quality is getting it right the first time, quality is conformity to some prerequisites, etc. Which in services, obviously, is not always possible. For example, it can remember when it comes to this issue of errors as: mistakes are a critical part of every service. Try as they might, even the best service companies can't avoid the occasional delayed flight. The fact is that in services, often delivered in the presence of clients, mistakes are inevitable. In order to know the concept of quality, xxx tells us that quality can be defined as the set of inherent characteristics of a good or service that satisfy the needs and expectations of customers. However, many authors define quality from different perspectives. In this sense (Kohli & Jaworski, 1990) conceives the quality "education of use", also the definition as "the characteristics of a product or service that provide the ability to meet the needs of customers." (vanLehn, 2011) proposes quality in terms of the ability to guarantee customer satisfaction. (García-Rodríguez et al., 2013) has a more comprehensive vision of quality as it considers the need for the participation of all departments to guarantee the satisfaction of customers' needs and expectations. (Jaakkola & Alexander, 2014) tells us that quality assumes that the product or service must comply with the functions and specifications for which it has been designed and that they must conform to those expressed by its consumers or clients (Raju, 2021).

(Alrifai & Raju, 2019) tells us that when it talks about quality, it is thinking about the quality of a certain product. Today it works with the concept of total quality, which implies taking the concept of total quality to all areas of the company. The conceptualization and measurement of the quality of a service is a difficult subject to understand, as a consequence of the intangibility of services, and the problems associated with their simultaneous production and reception. (Chetty & Phung, 2018) define "service quality as a function of the discrepancy between consumers' expectations about the service they are going to receive and their perceptions about the service actually provided by the company"; while for (Vorobyova & Raju, 2017), service quality is "the result of integrating total quality in three types of dimensions: technical quality, functional quality, and corporate image; that condition the perception that a subject has of an object, be it a product or a service (Ross et al., 2016).

According to Quality is inherent to the human species, that is, it has existed since man has existed on earth. It originated with the caveman who looked for something in food that would remove hunger, in his defense weapons and in the shelter to get heat, conditions that allowed him to survive the times and the environments that surrounded him. With the passage of time, human beings have improved the quality of the response to their basic needs, such as food and security, for which they have appropriated practices aimed at the continuous improvement of their weapons, their cultivation methods, developing their own technology, first to work the stone and then the metals, and other developments until reaching the Middle Ages, in which the artisans were the ones who were in

charge of managing the production and consumer goods. For, there is a veritable flood of redundant definitions on the concept of quality, which contribute little to clarify its current meaning (Raju & Phung, 2020)

(Kirm & Benson, 2018) acknowledge that the normalization of terms is still in the initiation stage. To add more smoke to the theme, some authors, for example (Raju & Phung, 2019b), consider quality is not definable, as it is an absolutely personal property that can only be recognized through experience. Confusion increases when reading a writer, equidistant positions are found according to which there would not be a more correct definition than the others, enjoying each concept of advantages and disadvantages as considered by its ease of measurement, its value for the client or its usefulness. for the address. It is true that the different definitions have been built as responses to changes in business problems, supporting different guidelines for quality management. It is no less true that the authors themselves have evolved, offering different definitions of quality as they developed their thinking better. There are various classifications of conceptual approaches to quality. Based on these classifications, as well as from the review of works such as (Mueller & Schmidt, 2020), the definitions can be condensed into six concepts offered in the following table. It is common to distinguish three concepts that constitute an unavoidable reference and are contributed by the leading quality gurus: Shewhart / Crosby, Deming / Taguchi and Feigenbaum / Juran / Ishikawa. Each of the experts has tried to develop their own concept, although they can be grouped by their common points, in addition two other particular concepts are isolated. The first one is quality as excellence, as it is the only definition that understands quality in terms of the absolute superiority of the product (Bryman, 2012)

The other is total quality, because it condenses a comprehensive definition of the previous partial conceptualizations. To these must be added the concept of quality of service, usually adopted in the marketing area. According to the different conceptual perspectives of quality can be organized into two categories, objective quality and subjective quality. Objective quality derives from the comparison between a standard and a performance referred to quantitatively measurable quality characteristics with engineering or technological methods. On the other hand, subjective quality is based on people's perception and value judgments, and is qualitatively measurable by studying customer satisfaction. Objective quality is implicit in quality concepts as specification or product-based excellence, and quality as fitness for use. Subjective quality follows from the definition of quality as satisfaction of customer expectations. According to the concepts of quality and quality management have evolved considerably over the last seventy years. In this way there are various concepts, proposed by the most important authors in quality, among which are W. Edwards Deming, Joseph M. Juran, Kaosuro Ishikawa, Philip B. Crosby, Armand V. Feigenbaum, which to date are still in force of organization management theory, some are described below. The author Edwards Deming, criticized the traditional ways of managing and evaluating workers, for which he proposed more humanistic ideas and based on the knowledge of natural variation than in any process (Mishra et al., 2014)

Deming's main contributions are: fourteen principles to transform management in the organization and the Deming cycle, the stages of which are: planning: establishing objectives and processes to obtain results; do: implement the processes; verify: monitor and measure processes and products against policies, objectives and requirements for the product, and report on the results; act: take actions to continually improve process performance. Deming's fourteen principles indicate how an organization must be managed to ensure its success by means of quality, they serve to evaluate or self-evaluate the performance of the management of any organization. These principles are: create constancy of objectives, adopt the new philosophy, eliminate dependence on mass inspection, end the practice of awarding a contract only for its price, constantly improve the production and service system, institute training and reform, institute leadership, eradicate fear, tear down barriers between staff areas, eliminate slogans, exhortations and 4 goals, eliminate numerical quotas, eliminate barriers to dignity manufacturing, institute an healthcare and retraining program, act to achieve transformation (Arkin, 2008)

Continuous Improvement: It is a concept that refers to processes, employees, to provide a rapid and numerous rapid development in process, time and technology and a decrease in costs in order to increase customer satisfaction and to affect their competitiveness in a certain period of time (Raju, 2021). Process development is the process of plan-apply control and correction, known as the Deming cycle, where the Japanese are called "Kaizen" and based on the efforts of man to make each day better beforehand (Raju, 2018)

Training: Training and development is an essential condition for quality-oriented management. The aim is to protect and develop human resources. While education is difficult to measure exactly what its return is; It has become a very important concept in terms of quality-oriented management since it has not adopted operational objectives and is an important competitive weapon of a sufficient and qualified workforce (Chetty & Phung, 2018). Training to be given during the "Total Quality Management" process in businesses will also affect the productivity of those businesses. The effect of education on productivity is that education directly affects productivity by increasing the quality of the workforce, indirectly affects productivity by enabling technical

development, and rational use of inputs by influencing managers' behaviors. During the education process, individuals are expected to show behaviors such as respect for humanity, learning to cooperate with others, gaining critical thinking ability, gaining national resources, protecting national resources, monitoring developments in the world and their impact on the country. Acquiring these behaviors will contribute to providing a more moderate working environment in the organization, resolving conflicts more easily and creatively, and to establish a good communication among employees (Hasford et al., 2018)

2.2 The Concept of Healthcare Effectiveness

The health sector or sanitation is the set of goods and services aimed at preserving and protecting people's health. The health sector belongs to both the primary, secondary and tertiary or service sectors. Through alternative medicine, people use traditional or non-industrial remedies. In agriculture, people use some medicinal plants extracted directly from nature. As well as the coca leaf, which is used in Andean cultures as an analgesic.

In the pharmaceutical industry, people take drugs for the treatment or prevention of disease. This industry also includes the production of pills, capsules, solutions for injection, ovules, and suppositories; all economic goods that report high levels of economic profit. Medicinal plants also intervene in this industry for the preparation of other galenic forms such as tablets, creams, ointments, elixirs, and syrups. In the health care industry, through health services companies (hospitals, clinics, health centers, clinical laboratories, etc.) and through their administrative and health personnel, the health sector produces services to meet people's needs for prevention, diagnosis, treatment, and recovery. These, being clients of health companies (patients), in addition to having, in their capacity as persons, human rights including health, also have, in their capacity as clients, consumer rights that demand quality in both medical and administrative care. In this sector, health professionals such as doctors and pharmacists provide medical prescription services and specifically the prescription of drugs (Snidal, 1985). The latter, inclusive, in mental health. It is through this service that the pharmaceutical industry can function. In this sector, there are also insurance companies, health providers, and social security, which satisfy the need for tranquility in the face of risks to the health of the patient/client (Wallerstein, 1990).

The charitable organization Doctors Without Borders, which runs the main center for treating people infected with Coronavirus in southern Yemen, said recently that the center recorded no less than 68 deaths in about two weeks, which is more than twice the outcome announced by the Yemeni authorities so far. A spokesperson for the government committee on coping with the Corona virus was not available in Aden, the main city and port in the south of the country (Gates & Deniz, 2019).

War-ravaged Yemen, whose population suffers from malnutrition and has levels of immunity among the worst in the world, is divided between the Saudi-backed government that is based in Aden and its opponents in the north, the Houthi group (Denes & Tămaş-Gavrea, 2020).

The government announced in Aden since April 10 that it had monitored 180 cases of HIV and 30 deaths in the areas it controlled, while the Houthis, who control most of the major urban centers in the country, announced the detection of only four injuries and that no deaths were recorded in the capital, Sanaa. Médecins Sans Frontières said that the center for the treatment of those infected with Covid-19 infection caused by the virus in Aden, which serves the entire south of the country, received 173 patients between April 30 and May 17, at least 68 of them died, indicating "a wider disaster" A band unfolds in the city (Raju, 2021)

"What we are seeing in our treatment center is just the tip of the iceberg in terms of the number of people who have become infected and are dying in (Aden)," Caroline Sejan, director of operations for MSF in Yemen said in a statement. "People come to us and it is too late to save them, and we know that many others do not come at all, they just die in their homes." Sources said that the two parties do not reveal the total number of cases. A government official in Aden acknowledged that the authorities were having difficulties monitoring cases. The Houthis have denied the government's accusations that they are covering up the spread of the disease. In its statement, Doctors Without Borders said that the lack of ability to perform the tests made it difficult to determine the exact numbers, but that the patients who died "were clearly infected with symptoms of Covid-19".

The statement added that endemic diseases such as malaria and dengue fever "never result in such a large number of deaths during this short time" in Yemen. According to (Hammer, 2016), the accreditation of quality and the follow-up of homogeneous criteria in its evaluation are two of the challenges that Yemeni hospitals face. The accreditation of healthcare quality is based on Law 28740, promulgated on May 19, two thousand and six, Law of the National System of Evaluation, Accreditation and Certification of Healthcare Quality whose Regulation that has been published on July 10 two thousand seven. The regulation aims to regulate the operation of the National System of Evaluation, Accreditation and Certification of Healthcare Quality, in accordance with the provisions of Law 28740, whose purpose is to guarantee healthcare quality in the country, through of global actions that involve all the natural and legal persons that have direct or indirect connection with the Yemeni Healthcare System. The

establishes the organization of the council for the evaluation, accreditation and certification of the quality of hospital healthcare (Hair, 2006).

The objectives of the Health Board of Directors are: a) Promote the development of evaluation, accreditation and certification processes of the quality of hospital healthcare. b) Contribute to achieving optimal levels of quality in the processes, services and results of hospital healthcare. According to the Ministry of Health, through the Directorate of Evaluation and Accreditation, developed the model for the accreditation of hospital professional careers through a comparative study of different national models and international, with the participation of an ad-hoc technical committee, as well as the collaboration of specialists from different hospitals. The model includes three dimensions, new factors, 16 criteria, 84 indicators and 125 management indicators (Malik, Shahab Alam et al., 2010).

Applies the systemic and process model, considering the cycle: "plan-do-verify-act". It is designed to become a model that contributes to improving the quality of hospital institutions, and at the same time serves for better control than the processes that the Ministry of Health has established for evaluation for accreditation purposes. Following the participatory methodology, 96 standards were developed for the accreditation of Administration careers, which were approved by the Ministry of Health board on April 16, 2012. Healthcare accreditation in our country is to promote development, since it is in the era knowledge and intellectual capital as a strategic factor for competitiveness. Compliance with quality standards will allow us to start building a Yemen that bases its strength on the empire of knowledge. The first challenge is to accept this premise so as not to continue questioning ourselves permanently about the reason for our repeated failures as a nation. In any case, it already have an instrument to begin a valid response to achieve development (Graham, 1992)

2.3 Underpinning Theories

Classical views with Total Quality Management differ in organizational structure and functioning (Abbas, 2020). One of the most important differences between Total Quality Management (Kaynak & Hartley, 2008) and other approaches is the role of managers. In TQM, managers value the thoughts of the employees and include their employees in the decision making process (Lu et al., 2020) In TQM, managers are mostly (without controlling) in the form of coaching-consultancy.

Total Quality Management is a collaborative system with its stakeholders (customers, employees, vendors, etc.). In this system, the opinions of each stakeholder are received and evaluated (Raju, 2018). The purpose of TQM is customer satisfaction and cooperation instead of conflict. It focuses on managing the entire organization for quality product / service. Its main elements are: employee participation, benchmarking, customer orientation, continuous improvement.

According to critics, total quality management means nothing more than "the rebirth of Taylorism and sanctification of scientific management". According to them, total quality management gives life to Taylorist principles with new discourses and concepts. In this sense, although total quality management seems to support the participation and greater initiative of the employees, it is actually a management philosophy and ideology that tries to create uniformity in every field from the production system to the corporate culture (Raju, 2021).

Contrary to this view, a group of researchers, including Deming and Ishikawa, TQM as the antithesis of Taylorism and traditional management. Ishikawa claims that Taylorism, an approach in which business and technical standards were determined by management, may have been valid 50 years ago, but it has expired in today's conditions. The most important reason for this is that employees are not allowed to use their potentials. According to Martin, TQM has achieved a success that could not be achieved before: It combines the "human and group focus" of "human relations approach" with the "analytical and smarter" method of scientific management (Raju & Phung, 2020).

While traditional management predicts technological and leap forward innovations, TQM is based on continuous and minor improvements. Management scientists place little emphasis on customer satisfaction and focus. They look at the organization from top to bottom (from the management point of view), from inside to outside (through the eyes of the employee), but rarely evaluate from the outside (in terms of customers). However, TQM considers customer orientation and satisfaction as the most important goal of an organization (Raju, 2018).

One of the main issues of management theory and TQM is performance management and rewarding employees. Management theory and practices concentrate on the individual and envisages that individuals' performances are measured periodically, rewarded or punished accordingly. On the other hand, according to TQM, organizations are completed as systems consisting of a series of interrelated processes. Performance problems arise largely from system-related factors beyond the control of employees. Management's task should be continuous improvement of business processes. Because the performance of individuals remains within the limits

determined by the system. The aim should be to develop and replace the system. However, performance evaluation assumes that the performance of the employees is due to their behavior. As a result, they want employees to be punished or rewarded. In contrast, TQM finds it both unnecessary and wrong. The reason is the fact that ninety percent of performance differences arise from the system. Therefore, it recommends that the performance evaluation be removed or restructured according to the TQM principles (Dutta et al., 2020).

According to (Raju & Phung, 2019a), total quality management makes great use of management theories. Management theory should also develop the research field and perspective by making use of TQM practices and efforts. According to the results of (Phung, Raju, & Kalimuthu, 2019) research on management theories and total quality, the following can be said: The viewpoint of total quality management in management of top management leadership and human resources practices largely overlaps. In addition, in some areas, TQM is insufficient in practice and should benefit from management theory and research. These issues are; In uncertain and political environments, relying solely on formal information and data can lead to some problems, by carefully examining the weaknesses and strengths of the organization, not just the client's wishes and expectations of strategy development. The necessity of development is the need to bring more situational analysis instead of universal application claims. And total quality management brings new suggestions and expansions to management science in many areas such as the importance of quality in competition, the effects of individual and system factors on corporate performance, and how to develop a (Taleb & Raju, 2020).

2.3 Conceptual Framework

(Raju & Phung, 2019b) elaborate a Procedure for the design and implementation of the Safety Quality Management System in a pasta company. To achieve this objective, techniques and tools such as the survey were used. With this study, the procedure was developed and applied, which allowed creating the company's continuous improvement team, defining the quality-safety policy and the objectives to comply with it, preparing the process map and the quality manual- safety. In addition, corrective and preventive actions were taken to achieve the efficiency of the processes and eliminate the non-conformities detected. (Raju, 2021) argued that fiscal decentralization has the potential to reduce income differentials between regions, although this effect may be hampered by the existence of governance problems associated with authorities at the subnational level. Our empirical evidence based on a sample of departments (regions) in Uruguay, during the period 1990-2010, provides some support for this idea. The results obtained indicate that fiscal decentralization promotes regional convergence, and that this effect is enhanced in frameworks that exhibit a higher quality of government management.

(Raju, 2018) stated that the quality management applied in organizations generates better products and services, reduction of costs, more satisfied customers and employees, and better financial performance that in turn leads to competitive advantages. However, in many cases the efforts made are in vain because organizations do not have a mature organizational culture that guides them to maintain continuous improvements, meet customer needs, reduce duplication of efforts, or redesign processes, teamwork and close relationships with suppliers. Knowledge management understood as activities related to the creation, storage, transfer and application of knowledge in organizations emerges as a possible solution to the difficulties acquired by the application of quality management. This article shows the difficulties and opportunities generated by quality management and how these can be circumvented and taken advantage of by the implementation of knowledge management strategies (Chetty & Phung, 2018).

(Raju & Phung, 2019b) argue that Promotional marketing has emerged as the second largest marketing investment, mainly because companies more often tend to outsource responsibility for the operational aspects of marketing. The contracting companies increasingly demand the guarantee of security and certainty in the provision of services, so the quality of this has become a determining factor in the choice of a promotion agency. This technical document seeks to share a case study related to a sales promotion company that faces a high rate of customer attrition with its consequent contraction in sales, but which is contradictorily immersed in a market that has a sustained growth of 15 percent in recent years. The problem was approached from the perspective of quality of service and customer satisfaction through the application of Seroquel surveys to some of the company's customers. These surveys allowed: identifying the relevant quality dimensions in the service, detecting the areas of opportunity between the expected service and the actual service, and the development of an action plan that was later systematized and implemented.

The results show that the implementation of the quality system reduced the churn of the clients; Furthermore, it was discovered that the quality dimensions of Seroquel affect customer satisfaction in different proportions. (Mohd Adnan & Valliappan, 2019) analyzes the role of satisfaction in the formation of customer loyalty. Identify the most relevant antecedents of satisfaction and determine their influence on loyalty through satisfaction, performance and confirmation judgments. Distinguish between attitudinal loyalty, positive or negative intentions,

and behavioral loyalty, or effective purchase. Study a sample of shoppers in clothing and food retail establishments using the mediator effect methodology. The results of the regressions show that satisfaction is a mediator between the effects of performance and on positive intentions, as well as behavioral loyalty. No relationship was found between satisfaction and negative intentions.

(Rana & Raju, 2019a) identify the dimensions that determine the satisfaction of the clients of the banking entities located within the University. A survey was designed and applied to measure customer satisfaction. Based on the Factors Analysis, five dimensions were identified: Technical Quality, Functional Quality, Expectations, Perceived Value and Trust; which explain more than 68% of the total variance. According to the statistical tests performed (significant at 5%), the survey model is reliable and valid for measuring satisfaction in the case under study. Candelas, (Vorobyova & Raju, 2017) measure the satisfaction of students in a Mexican Higher Education Institution using an instrument for measuring customer satisfaction at the SEU university level. It constitutes an exploratory study supported by a bibliographic review on the subject. Through a non-probabilistic sampling, 163 data were collected in the Industrial Engineering career, from which, after demonstrating the sample adequacy (Determinant of the correlation matrix = 1.01E-10 and the KMO statistic was 0.909), performed a Factor Analysis. Using a Varimax rotation, 6 dimensions were identified that were called: Academic Aspects, Administrative Aspects, Complementary Aspects, Academic Offer, Environment and Empathy, which explain 67.576% of the total variance. The statistical tests performed (significant at 5%), the reliability analysis, show the validity and reliability of the SEU scale used.

(Cho & Jung, 2014) determine the quality of the service in the external internal medicine offices of a general hospital according to the satisfaction perceived by the users. The methodology that was applied is the descriptive and cross-sectional study. In which 248 patients from the Internal Medicine offices of the Arzobispo Loayza National Hospital in Lima were surveyed, selected through systematic random sampling. The Servqual questionnaire was used, modifying that it measures the level of user satisfaction through the difference between expectations and perceptions. 66.94% of the patients were found, which were female; 85.48% between 20 and 64 years; 84.68% with secondary or higher education and without health insurance coverage, we found a total of 44.36% satisfaction and broad satisfaction. Sex, age group and level of education were associated with global satisfaction; satisfaction in the tangible dimension was found associated with the age group, satisfaction in the reliability dimension was associated with the age group, level of education, time of arrival, area of residence and social status; satisfaction in the quick response dimension was associated with the area of residence; satisfaction in the security dimension. With the age group and area of residence; and, satisfaction in the empathy dimension was associated with the age group and level of instruction, which the objective was concluded: "The female patients had higher levels of global dissatisfaction and in the safety dimension than the males. The age of 18 and 20 years was a factor associated with higher levels of global dissatisfaction and with the tangible dimensions, reliability, security and empathy.

Age over 65 years was a factor associated with global satisfaction and in the tangible dimensions. Secondary or higher education was a factor associated with global dissatisfaction and in the empathy dimension. (Rhoades & Corwin, 1990) determine the relationship between the organizational climate and job satisfaction of the health personnel of the Daniel Alcides Carrión de Huancayo hospital. For this research, a total sample of 12 doctors, 30 nurses and 36 nursing technicians who worked in this health establishment was used, as well as the application of the instruments that were: Likert-type questionnaire to evaluate the organizational climate that was applied to study groups. And the second a job satisfaction questionnaire. The validity and reliability of these instruments were duly demonstrated, and the data were processed with SPSS version 15.0. From which we conclude that the results show that the organizational climate in hospitalization services is not very favorable for the health worker, which determines that their job satisfaction is poorly satisfied and dissatisfied.

3. Research Model and Hypotheses

(Raju & Phung, 2020) design a general proposal based on the American model of service quality, on the Zener model and on the theory of expectations, to improve the quality of the urban public transport service of "Sol y Mar" SRL. The research is descriptive, analytical and with a proposal, the sample was defined by 8,410 families from the Pimentel District, 01 managers, 41 workers (drivers and collectors); the technique of interview and survey; For the processing and analysis of use the methods of the logical, inductive, deductive, descriptive and analytical framework. Arriving to determine that the company requires a managerial proposal to improve the quality of the service, position itself in the market and increase its profitability, reaching the conclusions: It has been proven that the company "Sol and Mar Pimentel" SRL, in its years of operation, he never worries about running trainings, workshops or seminars for his staff, this because the manager is an empirical person. The company "Sol y Mar Pimentel" S.R.L, does not have an adequate environment and physical facilities, where the

user feels safe and comfortable, which allows him to perceive if the service he will receive will be good, all this generates dissatisfaction to the user.

(Raju, 2021) It is an improvement proposal for the current administration of the company, that if it is put on the brand it will significantly improve the current management, whose general objective is: Propose and design an improvement Plan for customer service to the client for the company Epsel SA of the city of Chiclayo Based on the theory of total quality, to achieve customer satisfaction and increase profitability, 2008, the research is Descriptive-Explanatory, it allowed to analyze the facts observed in reality to measure them independently; and thus describe what is investigated; and in turn allows answering the causes of why the phenomenon or event occurs and the conditions in which it occurs. I reach the following conclusions, according to the diagnosis made which has evaluated the characteristics that represent customer service; is very affected in the company EPSEL S.A. since users perceive and feel that the company's attention is classified as bad; causing a dissatisfaction in them. The water and sewer service are perceived in relation to the care as extremely bad. Clients state that they are not properly cared for by company personnel; as well as communicating that their complaints are not properly addressed and heard; among other multiple complaints that have been described in the first instrument applied.

Another of the objectives achieved has been the development of a proposal for an improvement plan for customer service for the company EPSEL S.A; which is focused on modernization; which aims to transform the company EPSEL S.A; in an entity with capacities to guarantee the human right to water and promote regional development with social equity. This proposal should be achieved from the development of the current municipal provider entity model, eliminating all the distortions that affect its performance and that correspond to those that limit efficiency, autonomy, income, the focus on users, the formation of a government structure. specialized and stable, and capacity development. The proposed proposal contains various external agents that interact with EPSEL.S.A and affect performance, so that they share a single regulation model appropriate to their objectives, the modernization proposal and the regional reality. This means starting the decentralization of sanitation regulation and public regulation, transferring the competences of the Ministry of Housing, Construction and Sanitation and the Ministry of Economy and Finance.

(Benavides-Velasco et al., 2014) developed an investigation entitled: "Strategy of the 5 s "to improve the quality of customer service in the San Antonio EIRL tap - Primavera d Chiclayo, 2008". determine to what extent the application of the 5 "S" strategy in the Spring Service Station of Grifo San Antonio EIRL. In improving the quality of customer service, the methodological design responds to a prospective, descriptive and longitudinal research, the research sample was made up of 16 employees of the San Antonio tap, as well as 100 customers at which a survey was applied to them, likewise a training was carried out on the strategy of the 5 "S" in which workers participated. The administrator of the company, which was able to conclude that Regarding the efficiency conditions offered by the Primavera del Grifo San Antonio Service Station, it was found that before the application of the strategy, the user considered that it was deficient in 50% and After applying the strategy, this percentage dropped to 5%. Hence, this paper hypothesizes the following:

H1: There is a positive and significant relationship between continues improvement and the public and private healthcare institutions effectiveness in Yemen.

H2: There is a positive and significant relationship between training and the public and private healthcare institutions effectiveness in Yemen.

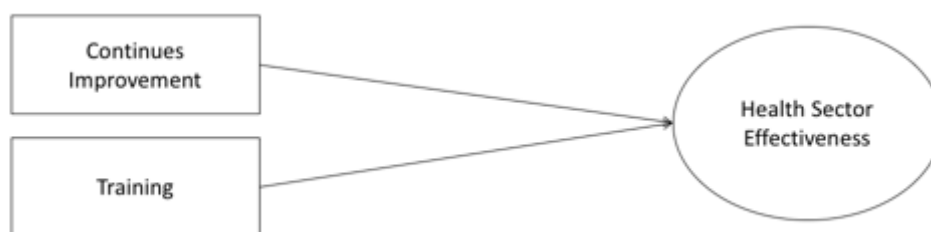


Fig. 1. Research conceptual model.

4. Methodology

This research has used primary data sources, which are data were collected up to. Meet the research objectives of that particular area, using primary data the researcher will be able to choose to collect the data as needed and in accordance with the objectives. Including technical analysis but there are disadvantages that waste time and

money and may not be of good quality if errors occur in data collection in the field. Due to the internal conflict in Yemen since 2011, the data collection will be conducted in the capital city Sana'a and commercial city Aden.

The online questionnaire technique will be used to collect the data from the target population. The online instrument provided by the Google survey will be used, then the generated link will be posted through social media, specifically, that present these healthcare institutions.

The population of a study refers to the total number of individuals or organizations that are needed to be covered in the study, while the sample of a study is a small group that represents the population. For the current research, the population of the study is all the employees, doctors, and nurses working in the Yemeni healthcare sector. According to the national center of information (Chang et al., 2017) the total number of employees within Yemeni healthcare is 31,783 employees, work in 4,217 healthcare institutions over the country. The sample of the study will be 379 based on the optimal sample size table of (Krejcie and Morgan, 1970), these sample comprises employees, doctors, and nurses from different healthcare providers, institutions, and hospitals in two main cities in Yemen that Sana'a the capital city and Aden the commercial city. Limiting the distribution of questionnaires within these two cities attributes to: first; the internal conflict within the country, which difficulties the transfer crosses the country. Second, the main medical institutions located in these two cities.

5.Data Analysis and Results

5.1 Response Rates

The best way to track the effectiveness of a questionnaire is to look at the analysis report to understand the trend. If the researcher finds that a questionnaire is compared to other surveys and there are more people filling in, then he/she must understand its specialties and the future questionnaire (Raju, 2021). The same approach is used in the survey to achieve the same results; the researcher can refer to the increase in the response rate of the questionnaire.

The following table 1 clarifies the response rate of the sample. For the purpose of reduction, the unusable questionnaire, and improving the responding rate, 500 questionnaires were distributed to the sample. From the distributed questionnaires, 411 were returned and collected, 379 questionnaires were the net returned and usable questionnaires with a percentage of 75.8%, as 32 questionnaires are neglected due to incomplete information.

Table 1: Response Rates

Response Rate	
Questionnaires Distributed	500
Returned	411
Unusable Questionnaires	32
Returned and Usable	379
Not Returned	89
Response Rate	82.2%
Usable Response Rate	75.8%

5.2 Multicollinearity

Multicollinearity (or collinearity) is a true miracle in different direct recurrence analyses where the (at least two) free or indicator factors are exceptionally linked or interrelated. The presence of multiple collinearities abuses one of the central assumptions of different direct recurrence analyses and is therefore risky; the expected recurrence coefficients are no longer robust.

According to (Jalilvand et al., 2018) deducting a high correlation between the independent variables of the model, will affect the model predicting for the regression test. Multicollinearity exists when the independent variables are correlated. According to the suggestion of XXXX VIF value higher than 4.0 considers a multicollinearity case. The following table 2 shows that all the VIF values are within the acceptable range, as the VIF ranged between 1.379 and 2.146. (Bouranta et al., 2019) indicated that tolerance value near to the zero would refer to a multicollinearity case. Table 2 shows that all the tolerance values are far away from the zero value, which were ranged between 0.466 and 0.725.

Table 2: Test for Multicollinearity on Assessment of Tolerance and VIF Values

Constructs	Tolerance	VIF
Continues improvement	0.466	2.146
Training	0.725	1.379

5.3 Normality Test

Normality tests are used to determine whether a data set is well modeled by a normal distribution or not, to calculate how likely it is that a basic random variable is to be normally distributed. In the statistical testing process, normal testing is considered a prerequisite in maintaining a normal data distribution is the basic assumption in parametric testing. It can be done in two ways, either graphically and numerically. The main focus of the researcher is to see and explain the normal data used in this research. The researcher also uses QQ Normal plot to see the normality of the data.

The accepted range for the normality based on Skewness and Kurtosis tests. The range of Skewness between -3 and +3 to be accepted, while the Kurtosis range should be between -5 and +5 (Scherer & Palazzo, 2011) The following table 4.3 shows the result of the normality test for the construct, it found that all the constructs normality within the accepted range, with Skewness range between -0.652 and -0.022, as well as the Kurtosis range was between -1.246 and 1.247.

Table 3: Results of Skewness and Kurtosis for Normality Test

Constructs	Skewness	Kurtosis Statistic
Continues improvement	-0.442	-0.460
Training	-0.652	1.247
Healthcare industry effectiveness	-0.022	-1.246

5.4 Convergent Validity

Convergent validity, a limit that is used regularly in the social sciences, brain research, and other behavioral sciences, alludes to how much two proportions of constructions that should hypothetically be connected are related to the truth. Convergent validity, along with discriminant validity, is a developing validity subtype. Convergent validity can be established if two comparative constructions establish relationships with each other, while discriminant validity applies to two disparate developments that are comfortably separated. Convergent validity proves that the constructs that are expected to be related in fact are.

(Bouranta et al., 2019)constructed the Multiple Methods and Portraits Matrix to assess the construct validity of a group of measures in a study. The methodology focuses on the importance of using both discriminant and convergent approval procedures when evaluating new evidence. In general, to develop validity, it is necessary to show both convergence and discrimination.

For the current research, the value used to test the convergent validity is the average variance extracted (AVE). When the value of AVE is greater than 0.5 then the variable shows good construct validity. The following table 4 shows that the variables (continuous improvement, training, and organizational effectiveness,) have got an acceptable AVE value, which was ranged between 0.632 and 0.698.

Table 4: Convergent Validity

Constructs	Average Variance Extracted (AVE) (> 0.5)
Continues improvement	0.670
Training	0.632

Healthcare industry effectiveness

0.698

5.5 Descriptive Analysis

Descriptive statistics draws descriptive results from the obtained observation values. It is used to summarize, organize and reduce a large number of observations. “What, how much, average, relationship in the data? It is used to answer questions like “. Descriptive statistics are the best way to summarize data and interpret research results. In other words, descriptive statistics provide the process of statistically compiling, collecting, summarizing, and analyzing data.

The main difference of descriptive statistics from inferential statistics is that the goal of descriptive statistics is to summarize the data set in the form of numerical values, counting or ranking values by expressing quantitative or graphical representations; that is, it is not the goal of obtaining the necessary information for predictive or hypothesis testing about the statistical population that is considered to represent the data/observations such as inferential statistics.

In this context, maybe hundreds of descriptive statistical methods can be counted, but it is useful to specify the most commonly used and frequently encountered descriptive statistical analysis.

The aim of the descriptive statistics is to find out the mean and standard deviation of the study’s variables. According to table 5 the mean statistics for the variables (continues improvement, training, and health industry effectiveness) were 3.522, 4.065, and 2.977 respectively. These results means that respondents are in average agreement with the items stated for each variable in the questionnaire. Therefore, the respondents confirm the role of the independent variables on the dependent variable. Furthermore, the standard deviation for the same variables were 0.930, 0.695, and 1.039.

Table 5: Descriptive Statistics for Study Variables

Constructs	N	Minimum	Maximum	Mean	Std. Deviation
CI	367	1.00	5.00	3.522	0.930
T	367	1.00	5.00	4.065	0.695
HIE	367	1.00	5.00	2.977	1.039

Key: CI: continues improvement;T: training; HIE: health industry effectiveness

Direct Effect Analysis (Hypotheses Testing)

This section presents the result of hypotheses testing for direct effect. The results are presented in table 6, followed by some conclusions:

- There is a positive and significant relationship between continues improvement and the public and private healthcare institutions effectiveness in Yemen with Std Beta = 0.170 and a p-value = 0.000.
- There is a positive and significant relationship between training and the public and private healthcare institutions effectiveness in Yemen with Std Beta = 0.102 and a p-value = 0.000.

Table 6: Summary of the path analysis – the direct effect

Hypothesis	Relationship	Std Beta	Std Error	t-value	P-value	Decision
H1	CI ->HIE	0.170	0.027	6.287	0.000	Supported
H2	T ->HIE	0.102	0.021	4.879	0.000	Supported

Key: CI: continues improvement; T: training; HIE: health industry effectiveness

6. Discussion and implications

This part is going to discuss the found results according to the finding of the previous studies.

6.1 Continues improvement and Healthcare industry effectiveness

This study has applied the direct effect test and it found that the continuous improvement influences the organizational effectiveness in the healthcare industry in Yemen positively and significantly with $\beta = 0.170$, $t = 6.287$, and $p = 0.000$.

These results fit the results of the previous studies, where continuous improvement of the overall performance of the organization should be a permanent objective of the organization. g) Fact-based approach to decision making (Raju, 2021): Effective decisions are based on the analysis of data and information. h) Mutually beneficial supplier relationships: An organization and its suppliers are interdependent, and a mutually beneficial relationship increases the ability of both to create value (Gunaratne, 2005).

Investigative interest is strengthened in particular in highly complex healthcare institutions, which receive a large number of patients with serious pathologies on a daily basis, whose care requires interdisciplinary medical management and the performance of sophisticated diagnostic and / or therapeutic procedures, many in many highly invasive and risky occasions that demand an expensive scientific technical endowment; and, in this complex scenario, nursing has the duty to offer and deliver quality care and intervene in the treatment and rehabilitation of care subjects who present highly variable and increasing degrees of self-care deficiency (Hornborg, 2020); Furthermore, in these same settings, due to their infrastructure and endowment, and because of their interdisciplinary, they usually constitute training practice scenarios for health care professionals and technicians. So, in this complex health care scenario, the nursing unit -coordination or direction- is required to lead the planning and quality management of the care delivered, without neglecting the training practices and activities, which implies the convenient articulation of management quality of care with teaching, assistance and administration (Gunaratne, 2005). Jaime Varo was chosen, because this author, supported by the concepts of recognized authorities on the subject of quality management in industrial companies, such as Juran and Deming, manages to extrapolate concepts and guidelines of these recognized authors to the field of companies aimed at healthcare. In his work published in 1994, he proposes a rigorous model of strategic quality management in health services and builds a proposal or model of hospital management. In its model, it proposes quality management based on planning, control and improvement, emphasizing the existence of a prior organizational structure that allows these activities and their processes to be carried out (Al-Bulushi, 2020).

6.2 Training and Healthcare industry effectiveness

This study has applied the direct effect test and it found that the training influences the organizational effectiveness in the healthcare industry in Yemen positively and significantly with $\beta = 0.102$, $t = 4.879$, and $p = 0.000$.

These results fit the results of the previous studies, where according to (Kebah et al., 2019), nursing is responsible for the operational planning of daily care according to the needs of the internal client. On the other hand, it must be taken into account that the strategic planning of institutional quality requires that each missionary service plan the quality of its attention and must be framed in the guidelines established by the company, articulated with the institutional quality planning. From the practice and professional practice of nursing in IPS in the third and fourth level provider institutions where there is a Nursing Department, it has been shown that this unit is responsible for articulating the strategic planning of institutional quality with the care operations; and in which there is no nursing department, the responsibility falls on the nursing coordination. In this sense, it is necessary to take into account that the IPS work with a strategic planning approach and with a process management approach in which quality is a characteristic that permeates the different management levels (Phung, Raju, & Latiff, 2019). There is also an Annual Operational Plan (POA), consequently, a projection of this plan is required in the Nursing unit in such a way that the action plan is adjusted to the needs of the people who demand health services where Nursing Care is offered 24 hours a day (Bhaumik et al., 2019)

The Action Plan must be permeated by the Quality Management of Nursing Care. Hence, the director of the Nursing department or Nursing Coordinator assumes this Quality Management so that the practice of Nursing professionals is qualified and there is satisfaction in addition to the internal client in the external client. It should be recognized that each nursing professional should assume self-control of their own daily work, as is stated in the Mandatory Health Quality Assurance System in which the audit levels are raised and the first is self-control. Assuming that this happens, in any case, weekly or biweekly measurements are required, which must be carried out by the coordination, in such a way that it allows articulating from the tactical level, the strategic planning of institutional quality with the operations that each professional performs the unit, implementing the improvement. Professionals and quality in health care (Rana & Raju, 2019b)

7. Conclusion

This research was developed for the purpose of finding out the impact of total quality management (continuous improvement and training) on the public and private healthcare institutions' effectiveness in Yemen. The main problem of this research was that Yemen is a developing country that its health sector suffers a lot lately, so this study aims to find out if total quality management can improve the healthcare effectiveness in Yemen. This research has developed a comprehensive literature review for the regarding the research topic. This literature review contained theoretical framework that included the underpinning theories and the related theories, as well as conceptual framework. This research has proposed a model to be tested in the study, the model contained two independent variables (continuous improvement and training) and one dependent variable (public and private healthcare institutions' effectiveness in Yemen). Two hypotheses were developed to analyse the proposed model.

The descriptive-analytical approach was used in this study; it is one of the most used methods in the study of social and human phenomena, and because it fits the phenomenon under study. It also examines an existing phenomenon or issue from which information can be answered to answer study questions, without the intervention of the researcher.

This research has used primary data sources, which are data were collected up to. Meet the research objectives of that particular area, using primary data the researcher will be able to choose to collect the data as needed and in accordance with the objectives. Including technical analysis but there are disadvantages that waste time and money and may not be of good quality if errors occur in data collection in the field. Due to the internal conflict in Yemen since 2011, the data collection will be conducted in the capital city Sana'a and commercial city Aden (Raju, 2021). The online questionnaire technique will be used to collect the data from the target population. The online instrument provided by the Google survey will be used, then the generated link will be posted through social media, specifically, that present these healthcare institutions.

SPSS has been used to conduct statistical analysis from the primary data. Several tests have been conducted for the collected data. The main results found that there is a positive and significant relationship between continuous improvement and the public and private healthcare institutions effectiveness in Yemen (Adalety et al., 2018) Also, there is a positive and significant relationship between training and the public and private healthcare institutions' effectiveness in Yemen.

In the health sector, it is always necessary to remember that the essence of the service is the human. It should be kept in mind that human life will be harmed when a mistake is made. The lack of statistical data and information sharing increases the likelihood of errors occurring repeatedly. Managers should eliminate fear, communication barriers, and situations that make it difficult for people to do business and make arrangements where the feeling of success is experienced together with continuous improvement.

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