

The Role of Total Quality Management in Improving the Healthcare Services Performance: Empirical Study from Hospitals in Erbil City, KRI

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Abstract— *The current study aims to measure the role of total quality management in enhancing healthcare services performance. The study was carried out at Jamhory hospital in Erbil, moreover, the researcher used a quantitative research method to test the developed research hypotheses. The researcher distributed 370 surveys at different private and public hospitals; however only 356 surveys were filled and received back from the participants, therefore the sample size for the current study is 356 participants, moreover, the response rate is $356/370 \times 100 = 96\%$ response rate. To measure the influence of total quality management in enhancing healthcare performance, the study determined 9 dimensions of total quality management including (Information and analysis, Strategic Planning, Product quality, Patient focus, R&D strategy, Empowerment, Process management, Training and education, Management commitment). The findings revealed that the highest value was between information and analysis as TMP practice with healthcare service performance, on the other hand, the lowest value was among the relationship between patient focus and healthcare service performance.*

Keywords— *Total Quality Management, Healthcare, Hospital, Service, Performance.*

I. INTRODUCTION

In today's world, healthcare systems are of vital interest to hospitals at every level. This holds across all of our societies. In the long run, total quality management will come to be accorded an increasingly significant role and dependence in healthcare systems. As a result of this growing significance, which is also reflected in the growing proportion of national and international resources for both the private and public sectors that are being allocated to hospital management systems, TQM is being gradually implemented in hospitals and other types of healthcare organizations all around the world to cut costs, enhance efficiency, and increase the level of care that is provided to patients (Abbas, 2020). It is a common misconception that the TQM movements were the first to raise concerns about the quality of healthcare. At that time, the implementation of nutrition, sanitation, and infection control initiatives in

war hospitals contributed to a reduction in the death rate from 43 per cent to 10 per cent. These initiatives are the roots of quality assurance initiatives in healthcare (Gunasekaran et al. 2019). TQM has the potential to play a significant role in the competitive strategy employed by hospitals. Therefore, Total Quality Management (TQM), which focuses on increasing the level of customer satisfaction, presents the opportunity for increased market share as well as increased profitability.

TQM has the potential to play a significant role in the competitive strategies developed by hospitals to improve the quality of healthcare delivery systems.

Hospitals that operate in highly competitive markets are more likely to make an effort to separate themselves from their rivals based on providing higher-quality services (Alsyouf et al., 2021). Therefore, TQM is a strategy that

integrates internal quality measures with value analysis and compliance to specifications. This strategy plays a major emphasis on increasing the customer satisfaction index, which provides the opportunity for greater growth. Direct medical services like diagnoses, medications, surgery and treatment are examples of acceptable quality services. Acceptable quality services also include indirect operations like administration and purchasing, the expenses of which are represented in the price that the consumer pays. It may also include total quality of performance, which is directly related to healthcare safety and security, the attitude of nursing staff, and the role of doctors in terms of "time," which includes appointment time, delay time, service time, and timing concerning medical treatment and surgery (Shafiq et al., 2019).

As a consequence of this, throughout the past three decades, a great number of healthcare organizations have adopted the TQM philosophy to improve the overall quality of healthcare (Hamid et al., 2019). The application of sound TQM principles has the advantage of assisting medical facilities in determining first and foremost the needs of patients; secondly, in providing accurate healthcare services; thirdly, in establishing benchmarks for the most effective practices; and finally, in enhancing the operation of general medical procedures. Since Kurdistan's Ministry of Health (MoH) regards the enhancement of healthcare quality as an essential component of the overall procedure of nation-building, the country of Kurdistan, which is classified as a developing nation with a lower middle income, has now arrived at the TQM implementation stage in the provision of healthcare services. TQM is recognized as a worldwide strategic managerial principle in the literature. This has the advantage of resulting in improved overall firm performance, increased customer satisfaction, superior employee focus, and motivation, and decreased operational waste. In addition, TQM is recognized as a worldwide strategic management principle. As a result, total quality management is now recognized as a strategy for improving the efficiency and effectiveness of public healthcare delivery activities all over the world. Numerous medical facilities throughout the world are reverting to the adoption and implementation of efficient TQM concepts to reduce their overall operating expenses and enhance the overall quality of the healthcare services they provide to patients (Aladwan et al., 2021).

In the modern world, hospitals of every level are very interested in various healthcare delivery methods. This is the case in every one of our cultures. Total quality management will, with time, grow to be granted an increasingly substantial function and dependency within healthcare systems. It is a widespread misunderstanding that the TQM movements were the pioneers in bringing

attention to issues about the quality of medical treatment. These activities serve as the foundation for quality assurance efforts in the healthcare industry. TQM may end up being an important component of the strategic plan that hospitals use to compete (Ahmed et al., 2021). Therefore, Total Quality Management (TQM), which centres on improving the level of customer satisfaction, provides the chance for greater market share as well as higher profitability. This is because TQM is focused on increasing the level of customer satisfaction.

TQM has the potential to play a big part in the competitive strategies that hospitals undertake to enhance the quality of healthcare delivery systems. This potential exists because TQM is capable of playing such a role. It is more probable that hospitals that operate in highly competitive marketplaces would attempt to differentiate themselves from their competitors by delivering services of better quality to stand out in their respective markets. TQM is a strategy that blends internal quality measurements with value analysis and conformance to specifications (Alsawafi et al. 2021). As a result, TQM is also known as "quality management." This approach places a significant focus on elevating the customer satisfaction index, which creates the possibility for increased expansion. The provision of direct medical services such as diagnostics, prescriptions, surgical procedures, and treatments are all instances of services of acceptable quality. Services of an acceptable grade also comprise indirect activities such as administration and buying, the costs of which are reflected in the price that the user pays for the service (Sfreddo et al., 2021).

As a direct result of this, throughout the last three decades, a significant number of healthcare organizations have implemented the TQM concept to enhance the standard of healthcare as a whole. The implementation of trustworthy TQM principles has the advantage of assisting medical facilities in determining first and foremost the needs of patients, secondly, in providing accurate healthcare services, thirdly, in establishing benchmarks for the most effective practices, and finally, in improving the operation of general medical procedures. Because the Ministry of Health in Kurdistan (MoH) views the improvement of healthcare quality as an essential component of the overall process of nation-building, the country of Kurdistan, which is categorized as a developing nation with a lower middle income, has now arrived at the stage of TQM implementation in the provision of healthcare services. This is the case even though Kurdistan is a nation that is still in the process of building itself up.

In the literature, Total Quality Management (TQM) is referred to be a globally acknowledged strategic management philosophy (Sá et al., 2022). This has the

benefit of resulting in enhanced overall firm performance, higher customer satisfaction, superior staff attention and motivation, and lower operational waste. It also has the potential to boost employee concentration and motivation. In addition, TQM is widely acknowledged as a concept of strategic management all over the globe. As a direct consequence of this, comprehensive quality management is now widely acknowledged as a method for enhancing the efficacy and efficiency of operations related to the delivery of public healthcare in every region of the globe. A growing number of healthcare institutions all around the globe are resorting to the adoption and implementation of effective TQM ideas to lower their overall operating expenditures and improve the overall quality of the healthcare services they provide to their patients (Abu-Rumman et al., 2021).

II. LITERATURE REVIEW

Total Quality Management

The application of TQM has been the subject of a significant amount of research all across the world. Following an analysis of the existing relevant TQM literature, it was discovered that many researchers adopted various TQM definitions and frameworks based on their comprehension of TQM as well as the aims of the research that they were conducting. As a direct result of this, there is less agreement on what TQM is and what aspects make it up (Tortorella et al. 2021). As Moore and Brown point out, TQM can be understood in a variety of ways, but it is interesting to note that no single interpretation can adequately convey the full picture. TQM is said to be the embodiment of many concepts and ideas that are relevant to the quality area in a variety of circumstances.

According to Mullins' definition, TQM is a way of life for an organization that is devoted to the complete and ongoing satisfaction of its customers through the contribution and involvement of its people. A quality-centred, customer-focused, fact-based, team-driven, senior management-led approach to fulfilling an organization's strategic imperative through continuous process improvement is how Godfrey describes it as well. The term "total quality management" (TQM) was coined by Ramori et al. (2021), who described it as "a collection of strategies and processes used to decrease or eliminate variance from a production process or service delivery system to increase efficiency, reliability, and quality." Another definition of TQM that may be found in the Certified Manager of Quality/Organizational Excellence Handbook is that it is a management technique to achieve long-term success through the satisfaction of customers. The Chartered Quality Institute also defines TQM as a philosophy for managing an organization in a way that enables it to meet the needs and expectations of

stakeholders efficiently and effectively without compromising ethical values. This definition can be found in the TQM section of the CQI website. According to the definition provided by the Department of Defense of the United States, TQM is "a strategy for constantly improving performance at every level and in all areas of responsibility." From the several definitions shown above, it is clear that the concept of Total Quality Management (TQM) focuses on the ongoing improvement of quality concerns through the involvement of all parties involved, ultimately leading to satisfied customers and improved overall company performance (Fonseca et al., 2021).

The Importance of TQM in Healthcare Systems

The quality of health services encompasses a diverse range of dimensions, each of which is critical to consider. In the context of medical care, the providers of these services—doctors, hospitals, nursing homes, clinics, and the like are considered the sellers because they offer these services for sale at predetermined costs (Marimon et al., 2021). The customer or patient who purchases these health services at the prices that have been determined is known as the buyer. It may also include the quality of performance that is directly associated and closely tied to healthcare, such as the food, housing, safety, and security of the workplace, as well as the attitude of the employee and other aspects that arise in connection with hospitals and nursing homes. Therefore, the time it takes to make an appointment, the time it takes for services, and the timing concerning medical treatment and surgery are all factors to consider (Mosadeghrad, 2021).

- The quality of the organization's leadership and management
- The calibre of its medical staff
- The standard of medical care provided in hospitals

Information and Analysis

The quality of the non-clinical aspects of care, primarily amenities and access to care, over which administrative leaders have the most control, is the primary focus of administrative leaders who are responsible for the operations of hospitals, clinics, and other healthcare delivery organizations (Mitropoulos, 2021). This is the primary concern of administrative leaders. It is, therefore, possible for the perspective of administrators on quality to differ from that of physicians and patients about issues of efficiency, cost-effectiveness, and equity. Efficiency and cost-effectiveness are of primary concern when it comes to the equitable distribution of resources. This is because administrators are responsible for ensuring that resources are spent where they will be able to have the greatest positive impact (Raut et al. 2021).

R&D Strategy

In general, increasing investments in research and development within the healthcare sector contribute to improvements within sectors associated with health services. The strengthening of healthcare providers and organizations, as well as the healthcare system as a whole, technology, not only increases the quality of health care but also drives related industry growth and innovation (Javaid et al., 2021). Not only does business contribute to an overall improvement in the health of the general population, but it also drives national industries. To bring the healthcare industry back to life, it's not enough to just improve the quality of care growth in both economic competitiveness and output. The demand for skilled labour will contribute to the maintenance of a robust economy (Alsyouf et al., 2021). It will not only improve the overall health of the population, but it will also contribute to increased national competitiveness. Students are encouraged to pursue tertiary education to get higher degrees in this highly competitive atmosphere. The economy is rapidly expanding. The demand for competent labour will give rise to a competitive atmosphere that is both healthy and productive, and improve their level of education as well as their competence in a variety of technological fields (Iqbal et al., 2021). This will eventually result in a learner who wishes to further their education enrolling in post-secondary programs to get higher degrees, acquire more training, and a new generation of researchers and a technologically proficient workforce will build the foundation for a piece of new knowledge and experience in a variety of technological fields. This will usher in a fresh crop of academics and researchers, as well as a sustainable future built on research and development that will drive innovation. Improved conditions will also be enjoyed by the general populace.

A workforce with a high level of technical expertise will be established, which will lay the foundation for a sustainable future based on R&D-led innovation (Chen et al., 2021). As a result of the development and implementation of cutting-edge medical technologies, people have an enhanced quality of life. In the course of this procedure, there is innovation. As a result of the technological advancements, regular people will also see an improvement in their quality of life. This will increase both the quality and quantity of not only the people working in research but also the advancements in medical technology that have been made available. Both qualitative and quantitative analysis will be performed during this procedure. Individuals who are capable of dealing with and making the most of advanced technologies; individuals who are capable of making the most people who work in research, but also the people who can interact with and contribute to the study being done (Rojas-Lema et al., 2021). Those who are in the business of

producing health-related goods and who make the most of modern technologies to their advantage (Ammar et al., 2021).

Patient Focus

The consumer is the ultimate arbiter of product quality. From the point of view of total quality management (TQM), every strategic choice that a healthcare institution makes is "consumer-driven." Companies focused on the customer measure the aspects that contribute to the customer's pleasure. Many aspects of a customer's whole purchase, ownership, and experience, including the services they receive, contribute to the customer's sense of value and happiness. Also contributing considerably to the company's idea of quality is the reduction of errors and defects, as well as the elimination of the factors that lead to customer discontent (Rahman & Al-Borie, 2021). In addition, tools such as customer opinion surveys and focus groups can help understand the requirements and values of customers. Customer attention extends beyond the customer to include internal relationships; however, society is an important customer for businesses. It is important to do things related to business ethics, the health and safety of patients, the environment, and the sharing of quality standards across healthcare systems and communities (Hanaysha & Alzoubi, 2022).

Strategic Planning

The process of strategic planning needs to be able to foresee some changes, including the expectations of customers; newly emerging opportunities; the development of advanced diagnostic technologies; an evolving patient care system; and societal expectations. A strong focus on the future and a commitment to building long-term relationships with important consumers, employees, doctors, nurses, suppliers, and members of the public and private communities are required to achieve leadership positions in quality healthcare service and healthcare delivery (Qayyum et al., 2021). The senior leaders serve as role models by encouraging leadership throughout the organization and reaffirming the organization's core values through their roles in planning, reviewing the healthcare quality performance, and making sure that staff members are working toward quality achievement (Shou et al., 2021).

Training and Education

The administration of every system and process should include ongoing efforts toward improvement. To attain the best possible level of performance, one must have a strategy that is clearly outlined and expertly implemented for ongoing learning and progress. Learning is the process of adapting to new circumstances, which can result in new objectives or methods. Improvements and continued education should be ingrained in the way that an

organization does business. If you want to keep getting better, you need to plan, carry out, and come up with new ideas regularly (Singh et al., 2021).

Empowerment

The expertise, abilities, and drive of an organization's workforce are becoming an increasingly important factor in determining the success of a healthcare institution. In the management of healthcare facilities, both individuals and departments are responsible for their work. Participating people in TQ work together in self-directed work teams, steering committees, and quality circles, among other types of team structures. The department wants to improve the efficiency of the system by getting people from different departments and roles to work together (Kaur et al., 2021).

Process management

Deming and Juran observed that the vast majority of quality issues are related to procedures, whereas only a small number are the result of individual employees' actions. It entails planning and administration of the actions necessary to attain a high level of performance in a process, as well as the identification of opportunities for enhancing the quality and increasing customer satisfaction (Camilleri, 2021).

Product/ Services Quality

The measures that are essential to provide appropriate confidence that a patient's services or safety will satisfy a particular need for quality are referred to as quality assurance and can be planned out or carried out systematically. This department is responsible for activities such as quality planning and control, continuous improvement, internal auditing, and reliability testing. In addition to that, it encompasses quality guidance and expertise, the training of staff members in quality, the study of customer diagnoses, treatment records, medical claim information, and patient liability cases (Mousa & Othman, 2020). Management is accountable for defining, documenting, and providing support for the quality policy and quality manual, as well as performance, reliability, and safety. A quality manual is required to be documented as part of a quality manual system, which is defined as an assembly of components to implement quality management. These components include the organization's structure, responsibilities, procedures, and resources (Mannion & Davies, 2018).

Management Commitment

People in management positions don't appear to care about the formation of relationships between the management level and the members of the organization. These relationships are the means through which a manager may exert some positive effect on the conduct of the company's members (Ramli, 2018). The characteristics of the

leadership style in the organization are reflected in the characteristics of the strategic process, which includes the formulation, implementation, and monitoring of strategies in the business. For a company to be able to adapt to changing conditions and prevail in the face of new problems, managers need to take the initiative to make the necessary organizational adjustments and put those changes into effect (Bastas & Liyanage, 2019). On the other hand, businesses and their employees fight against these kinds of changes in a variety of ways.

The majority of managers have a habit of taking into consideration several factors, such as the company profile, the orientation of top management, the goals and objectives, the internal and external variables, and other factors that appear to be key in determining whether or not strategies will be successful in the organization. However, issues about human factors are not taken into consideration. This includes learning how to manage people and building relationships between managers and people at lower levels of the organization. This is done to persuade and motivate people in the organization, whose help is needed to develop the strategy successfully (Bastas & Liyanage, 2019).

Healthcare Services Performance

Researchers of the highest calibre in the field of quality assurance, such as Deming, Juran, and Crosby, support the idea that complete quality implementation is positively correlated with organizational performance. When quality is improved, productivity goes up significantly, whereas a decline in quality results in a loss of a company's edge in the market. In addition, if the primary focus of the company is on producing high-quality goods, then the company's profits can be increased by an amount that is equal to five to ten per cent of its annual revenue. According to the findings of the researchers, there are a large number of firms that have been successful after implementing quality improvement efforts (Abdelaziz et al., 2018).

Through a reduction in errors, a decrease in the cost of maintaining high quality, the elimination of customer complaints, and a reduction in overheads and costs associated with material handling, businesses have been able to save a significant amount of money. Both the subjective and objective aspects of an organization's performance can be taken into consideration when evaluating its overall effectiveness. When measuring the success of a company, researchers have the option of referring to either subjective or objective performance measurements. The paper presents advice for decision-makers concerning instruments for measuring the performance of businesses in terms of both financial and operational metrics. A select group of quality management criteria is responsible for determining the dimensions of

performance measurement. The principles of TQM have been shown to have a favourable correlation with the performance of organizations. If an organization's Total Quality Management is done right, it means that the organization's overall performance will get better (Kazancoglu et al., 2018).

Conceptual Research Model

As shown in Fig. 1, the conceptual research model included ten constructs, in this research the TQM practices within healthcare considered nine constructs, namely information and analysis, strategic planning, product quality, patient focus, R&D strategy, empowerment, process management, training and education, management commitment, and healthcare services performance.

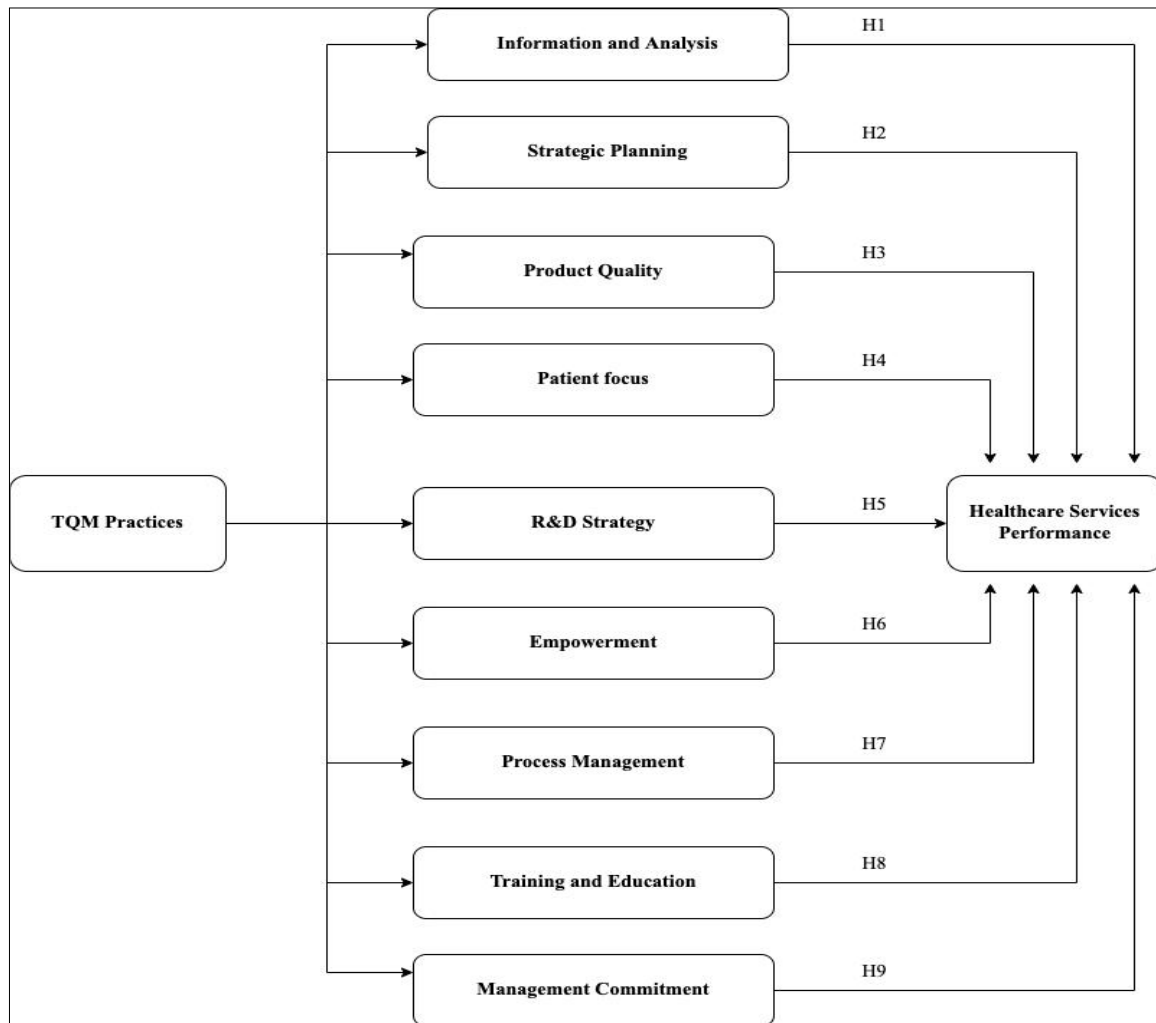


Fig.1: Research Model

Research Hypotheses

H1: Information and analysis as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H2: Strategic Planning as a TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H3: Product quality as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H4: Patient focus as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H5: R&D strategy as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H6: Empowerment as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H7: Process management as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H8: Training and education as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

H9: Management commitment as TQM practice will have a significant and positive influence on performance improvement in healthcare services.

III. RESEARCH METHODOLOGY

The researcher used a quantitative research method to test the developed research hypotheses. According to the Kurdistan Region Statistics Office (Ministry of Planning/Kurdistan Regional Government), there are more than 133 private and public hospitals in the Kurdistan region, including more than 50 private and public hospitals in Erbil, more than 58 private and public hospitals in Sulaimaniah, more than 22 private and public hospitals in Duhok, and 3 private and public hospitals in Halabja as shown in below table:

Table 1: Number of Hospitals (Public and Private)

Locations	Number of Hospitals
Kurdistan Region	133
Erbil City	50
Sulaimaniah	58
Duhok	22
Halabja	3

Furthermore, according to Kurdistan Region Statistics Office, each hospital has approximately 200 employees in general, this number varies based on the size of the hospital. Therefore, the population for the current study is 200 employees * 50 hospitals = 10,000 employees. Moreover, based on sample size calculation, the sample size for the current study is 370 employees with a confidence level of 95% that the real value is within $\pm 5\%$ of the measured/surveyed value. The researcher distributed 370 surveys at different private and public hospitals; however only 356 surveys were filled and received back from the participants, therefore the sample size for the current study is 356 participants, moreover, the response rate is $356/370 \times 100 = 96\%$ response rate. To measure the influence of total quality management in enhancing healthcare performance, the study determined 9 dimensions of total quality management including (Information and analysis, Strategic Planning, Product quality, Patient focus, R&D strategy, Empowerment,

Process management, Training and education, Management commitment).

IV. RESULTS

Reliability Analysis

The researcher implemented reliability analysis to the values of Cronbach's Alpha for information and analysis as an independent factor, found to be $.829 > .6$ this indicates that the items used to measure the information and analysis factor were reliable, and the values of Cronbach's Alpha for strategic planning as an independent factor, found to be $.770 > .6$ this indicates that the items used to measure strategic planning factor were reliable for the current study, the values of Cronbach's Alpha for product quality as an independent factor, found to be $.741 > .6$ this indicates that the items used to measure product quality factor were reliable for the current study.

Table 2: Reliability Analysis

Constructs	Item N.	Cronbach's Alpha
Information and analysis	7	.829
Strategic planning	7	.770
Product quality	7	.741
Patient focus	7	.726
R&D strategy	7	.727
Empowerment	7	.751
Process management	7	.855
Training and education	7	.835
Management commitment	7	.780
Healthcare performance	10	.773

The values of Cronbach's Alpha for equal opportunity as an independent factor were found to be $.726 > .6$ this indicates that the items used to measure the equal opportunity factor were reliable for the current study, and the values of Cronbach's Alpha for R&D strategy as an independent factor, found to be $.727 > .6$ this indicates that the items used to measure R&D strategy factor were reliable for the current study. The values of Cronbach's Alpha for Empowerment as an independent factor were found to be $.751 > .6$ this indicates that the items used to measure the empowerment factor were reliable.

The values of Cronbach's Alpha for Process management as an independent factor were shown to be $.855 > .6$ this

indicates that the items used to measure the process management factor was reliable. The values of Cronbach's Alpha for Training and education as an independent factor were found to be $.835 > .6$ this indicates that the items used to measure the Training and education factor was reliable. The values of Cronbach's Alpha for Management commitment as an independent factor were found to be $.780 > .6$ this indicates that the items used to measure the Management commitment factor were reliable for the current study, and the values of Cronbach's Alpha for Healthcare performance as a dependent factor, found to be $.773 > .6$ this indicates that the items used to measure Healthcare performance factor were reliable for the current study. However, the results revealed that all items used to measure the relationship between nine independent factors and dependent factors were reliable for the current research.

Correlation Analysis

The researcher attempted to find the correlation between nine independent variables and a dependent variable,

therefore the correlation analysis was implemented. It was found that the value of Pearson correlation for information and analysis = $.521^{**} > .01$ therefore there is a positive and significant correlation between information and analysis and Healthcare performance, in terms of the strength it was found to be a moderate correlation. The value of Pearson correlation for strategic planning = $.630^{**} > .01$, therefore, there is a positive and significant correlation between strategic planning and Healthcare performance, in terms of the strength it was found to be a strong correlation, the value of Pearson correlation for product quality = $.414^{**} > .01$, therefore, there is a positive and significant correlation between product quality and healthcare performance, in terms of the strength it was found to be a weak correlation, the value of Pearson correlation for patient focus = $.354^{**} > .01$, consequently, there is a positive and significant correlation between patient focus and Healthcare performance, in terms of the strength it was found to be a weak correlation.

Table 3: Correlation Analysis

	Pearson Correlation	I&A	SP	PQ	PF	E	PM	T&E	MC	HSP
		1								
	Sig. (2-tailed)									
I&A	Pearson Correlation	.399**	1							
	Sig. (2-tailed)	.000								
SP	Pearson Correlation	.576**	.470**	1						
	Sig. (2-tailed)	.000	.000							
PQ	Pearson Correlation	.347**	.389**	.365**	1					
	Sig. (2-tailed)	.000	.000	.000						
PF	Pearson Correlation	.632**	.696**	.615**	.611**	1				
	Sig. (2-tailed)	.000	.000	.000	.000					
E	Pearson Correlation	.434**	.556**	.419**	.793**	.673**	1			
	Sig. (2-tailed)	.000	.000	.000	.000	.000				
PM	Pearson Correlation	.561**	.753**	.547**	.634**	.772**	.730**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000			
T&E	Pearson Correlation	.757**	.672**	.548**	.179**	.492**	.299**	.565**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	
MC	Pearson Correlation	.778**	.455**	.571**	.244**	.504**	.308**	.437**	.644**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000
HSP	Pearson Correlation	.521**	.630**	.414**	.354**	.662**	.443**	.601**	.533**	.522
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000

** . Correlation is significant at the 0.01 level (2-tailed).

N= 356

The value of Pearson correlation for R&D strategy = $662^{**} > .01$, therefore, there is a positive and significant correlation between R&D strategy and Healthcare performance, in terms of strength it was found to be a strong correlation. The value of Pearson correlation for empowerment = $.443^{**} > .01$ therefore there is a positive and significant correlation between empowerment and Healthcare performance, in terms of the strength it was found to be a weak correlation, the value of Pearson correlation for process management = $.601^{**} > .01$, thus, there is a positive and significant correlation between process management and healthcare performance, in terms

of the strength it was found to be a strong correlation, the value of Pearson correlation for training and education = $.533^{**} > .01$, thus, there is a positive and significant correlation between training and education and healthcare performance, in terms of the strength it was found to be a moderate correlation.

The value of Pearson correlation for management commitment = $.522^{**} > .01$, hence, there is a positive and significant correlation between management commitment and Healthcare performance, in terms of strength it was found to be a moderate correlation.

Table 4: Model Summary

Model	Model Summary			
	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.736a	.542	.538	.33447

a. Predictors: (Constant), Information and analysis, Strategic Planning, Product quality, Patient focus, R&D strategy, Empowerment, Process management, Training and education, Management commitment

It was found that the value of R square = .542 this indicates that 54% of the variables have been explained.

Table 5: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.814	9	14.424	128.933	.000b
	Residual	109.745	981	.112		
	Total	239.559	990			

a. Dependent Variable: Healthcare Performance
 b. Predictors: (Constant), Information and analysis, Strategic Planning, Product quality, Patient focus, R&D strategy, Empowerment, Process management, Training and education, Management commitment

It was found the value $F = 128.933$ and since the value is greater than $.001$, this indicates there is a positive association between variables used to test research hypotheses.

The researcher utilized multiple regression analysis to find the most effective and suitable factors for increasing the level of healthcare performance in Kurdistan. It was found

that the value of B for information and analysis = $.448 > .001$ and P-value = $.000$, this indicated that there is a positive relationship between information and analysis and Healthcare performance, accordingly, the first research hypothesis was supported, and the value of B for strategic planning = $.584 > .001$ and p-value = $.000$, this indicated that there is a positive relationship between strategic planning and Healthcare performance.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.687	.104		6.617	.000
	Information & Analysis	.448	.023	.521	19.213	.000
	Strategic Planning	.584	.023	.630	25.509	.000

Product Quality	.414	.029	.414	14.336	.000
Patient Focus	.269	.023	.354	11.925	.000
R&D Strategy	.671	.024	.662	27.796	.000
Empowerment	.389	.025	.443	15.566	.000
Process Management	.571	.024	.601	23.659	.000
Training & Education	.446	.022	.533	19.831	.000
Planning					
Management Commitment	.497	.026	.522	19.274	.000
a. Dependent Variable: Healthcare Performance					

The second research hypothesis was supported, the value of B for product quality = .414 >.001 and P-value = .000, this indicated that there is positive relationship between product quality and Healthcare performance, accordingly the third research hypothesis was supported, the value of B for patient focus = .269 >.001 and p-value = .000, this indicated that there is positive relationship between patient focus and healthcare performance, accordingly the fourth research hypothesis was supported, the value of B for R&D strategy = .671 >.001 and p-value = .000, this indicated that there is positive relationship between R&D strategy and healthcare performance, accordingly the fifth research hypothesis was supported, the value of B for empowerment = .389 >.001 and p-value = .000, this indicated that there is positive relationship between empowerment and Healthcare performance, accordingly the sixth research hypothesis was supported, the value of B for process management = .571 >.001 and P-value = .000, this indicated that there is positive relationship between process management and healthcare performance.

Based on the results the seventh research hypothesis was supported, the value of B for training and education = .446 >.001 this indicated that there is a positive relationship between training and education and healthcare performance, accordingly the eighth research hypothesis was supported, and the value of B for management commitment = .497 >.001 and p-value = .000, this indicated that there is a positive relationship between management commitment and healthcare performance, accordingly the ninth research hypothesis was supported.

V. Conclusion

In conclusion, the study presented here has provided conclusive evidence to support the hypothesis that quality practices exert a considerable impact on the organizational effectiveness of hospitals. This research contributes to the private healthcare sector in Kurdistan by providing empirical studies that can act as a reference for future

studies. The findings revealed that the highest value was between information and analysis as TMP practice with healthcare service performance, on the other hand, the lowest value was between the relationship between patient focus and healthcare service performance. Even though there has been a limitation in the form of a lower participation rate from public hospitals in this survey, this research is still important. In addition, the shift away from poor quality practices and toward good quality practices, as well as the increase in organization performance, contributes significantly not only to the academic literature related to health-care quality but also to the methodological part, particularly in terms of making use of structural equation modelling analysis (Li et al., 2020). Therefore, it is recommended that further study broaden the scope of the investigation in terms of geography and include a greater number of hospitals, particularly public-sector ones. There is a considerable and favourable association between quality management techniques and the performance of an organization. Because the hospitals were hesitant to disclose the actual financials with us, we asked the hospital owners what they thought their objective and subjective performance was over the past three years. It's possible that the absolute performance measurements of public hospitals are available, which would boost the overall quality of the findings (Rehman et al., 2022).

The literature and the perspectives of several different authors have been discussed, and our point of contention is that the most important success variables affecting TQM are leadership, communication, and employee involvement. Strong executives who are interested in implementing TQM can steer their organizations through challenging periods and contribute to the overall improvement of their organizations' performance. In addition, communication between the highest levels of management and the lowest levels of employees is an essential component of the TQM implementation process. In addition, employee involvement is another important aspect of TQM's success (Khan et al. 2020). Employees are the foundation of a business, and

implementation can only take place at the ground level. In the future, researchers can try to determine whether or not there is a connection between TQM and performance in a variety of regions and then compare the results to one another.

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