



## X-RAYING HOSPITALS USING TOOLS OF ISO 9000

**Sanarya Alaa** 

Ishik University, Sulaimani, Kurdistan Region of Iraq

sanarya.alaa@gmail.com

**Cemil Top**

Ishik University, Kurdistan Region of Iraq

cemil.top@ishik.edu.iq

### Abstract

*The aim of this research was to x-ray hospitals quality management systems implementations via using the parameter of ISO 9000. To do this, we have used the survey questionnaire of Singh (2008)'s survey questionnaire that contains eight parameters of ISO 9000 quality management systems. The questionnaire has been conducted to the private and public hospital managers and employees such as doctors, nurses, secretaries...etc. The obtained data has been evaluated by descriptive statistics and independent samples t test in order to rank the public and private hospitals. The results show that although private hospitals were performing better than the public ones, still they have many weaknesses to improve. The results reveal that the public hospitals perform poor in quality management systems criteria than private hospitals. Besides, public hospitals are below even the averages of the evaluations. Although the private hospitals are relatively better, they have to improve their quality further.*

*Keywords: ISO 9000, Quality Management Systems, Hospital Management, Total Quality Management, Health Management, Benchmarking*

### INTRODUCTION

International Standards Organization (ISO) quality management systems are incorporated data system for dealing with all parts of a healing centre's tasks, for example, medical, monetary, and regulatory and consistence. Quality management systems in hospitals incorporates

electronic wellbeing records, business insight and income cycle administration. Clinics (hospitals) and human services offices upgrade the nature of medicinal services administrations, decrease working expenses, and improve income cycle by utilizing this doctor's facility administration system. So, in any organization quality management systems are significantly important.

Quality management systems are business logic with canthers around customer loyalty and depends on an understanding that a solid attention on employees is important to accomplish effectiveness inside an association. Quality management systems are arranged to make quality mindfulness over an association, and it considers both the association's procedures and the workers as basic perspective in an association quality change limit. Quality management systems improve the quality of organization.

Organizational capability in every firm can be improved by accomplishing shared objectives (Demir and Guven, 2017). Since external and internal customer's desires drive organization's procedures, by meeting and surpassing these desires, organizations can achieve their objectives and moreover get a focused. Total quality management emphasizes: the duty of the quality control staff to recognize and take care of all quality-related issues, guarantee to quality that goes past inside organization issues to providers (suppliers) and customers, system where solid supervisors are the main leaders and a procedure where for the most part analysts get included.

The number of private hospitals is increasing day by day in Kurdistan Region of Iraq. Moreover, they are in a competition with the public hospitals. From this point of view, the hospitals need to be managed correctly and accurately in order to reduce costs, increase profits, employee performances, and customer satisfaction. Thus, ISO 9000 standards play important role to measure how well the quality management systems are implemented in those organizations.

The aim of this research is to x-ray hospitals quality management systems implementations via using the parameter of ISO 9000. To do this, we adopted the survey questionnaire of Singh (2008)'s empirical study. The questionnaire contains eight parameters of ISO 9000 quality management systems. The questionnaire has been administered to the private and public hospital managers and employees such as doctors, nurses, secretaries...etc. The obtained data has been evaluated by descriptive statistics and independent samples t test in order to rank the public and private hospitals. The results show that although private hospitals were performing better than the public ones, still they have many weaknesses to improve.

## LITERATURE REVIEW

In every service sector, service quality became one of the most important tools to increase a market share. Moreover, service quality can be defined as the measurement of fulfilling the demands, needs, and expectations of the customers of concerning service (Aydinli and Demir, 2015; Budur, Rashid, Poturak, 2018; Demir, 2017). In this century, market competitiveness has increased, and loyalty of a customer became a hard decision among many companies competing on the same market (Demir, Talaat, and Aydinli 2015). Companies believe that they can increase their market share if they satisfy their customer fully and understand what they need and want (Demir, Eray, and Erguvan, 2015). At this point, company needs to know what affects the customer satisfaction from the most to the least and what make them be loyal to that company (Demir and Eray, 2015). Moreover, finance also is an important factor for a company and the company surely wants to increase the value of their product which means the willingness to pay more for any product (Demir and Aydinli, 2016). In order to answer those questions company should make a market research and ask to the customers about some factors those may have impact on the satisfaction, loyalty, and willingness to pay (Demir and Mukhlis, 2017).

In 1979, another ISO specialized board was affirmed: ISO/TC 176 was set up to create International Standards for quality administration and quality assurance. At first, 20-part nations chose to wind up dynamic members (P-individuals) in crafted by this new advisory group, and another 14 nations picked to pursue the work as eyewitnesses (Eicher, 1997).

Today, the quantity of nations taking part in ISO/TC 176 is 55, with 19 spectators. The new council set to work and, in 1986, had finished its first guidelines. Distributed in the early piece of 1987, these measures were known as the ISO 9000 series. The ISO 9000 models quickly came to appreciate the most far reaching acknowledgment by industry, the fastest reception by the global principles network, and the best offers of any ISO standard in presence (Mehra et al., 2001).

The ISO 9000 principles have been specifically received as national benchmarks by somewhere in the range of 90 ISO individuals, including the majority of the European Union (EU) and European Free Trade Area (EFTA) nations, Japan and the United States.

Creators underlined the significance of the components of client reliability and consumer loyalty in the territory of customer focus. Focusing on the requirement for utilizing quality management systems to upgrade client focus, these creators expressed that organizations must move their concentration toward consumer loyalty (Mehra and Ranganathan, 2008).

Consequently, one can comprehend that quality management systems by definition is a customer situated theory, and customer focus is relied upon to involve a prevalent place later on

of quality management systems writing. These contentions discover bolster from different researchers. For example, Chien et al. (2002) state that for a firm endeavouring to actualize quality management systems, consumer loyalty is a vital goal to accomplish. They contend that the dimension of consumer loyalty accomplished is firmly identified with an organization's quality management systems practices, and it influences an organization's execution.

In a later report on quality administration, Kaynak (2003) recommended further research is vital on the connection among quality management systems and client\customer relations/fulfilment. Subsequently, it is conceivable that client centred associations require reactant specialists like quality management systems to improve customer focus and their execution.

As another parameter of quality management systems, leadership has a very important role. Further, As characterized by Yukl (1989, p. 5), leadership incorporates impact forms including the assurance of a gathering's or association's goals, propelling task-oriented conduct to achieve these targets, and affecting gathering support also, culture. The requirement for such procedures is generally clear with respect to the above-mentioned quality management systems topics. leadership might be required to move the accentuation to quality-arranged objectives and process enhancement, instead of a strict adherence to money related targets also, numerical quantities (Waldman, 1993; Budur, 2018).

Leadership situated toward representative/gathering acknowledgment and motivational conduct can help keep representatives roused toward quality. In addition, leadership can help make an "all out quality culture" (Linkow, 1989). Various articles and books of quality management systems have tended to the association among administration and quality management systems (Juran, 1989).

A strong quality management system must empower employees and let them improve the cycle that they are responsible from. Further, Employees of a registered organization must be fully trained for the work they perform, 'know' their roles and goals, are aware of how the quality policies of the organization affect their jobs, have role in formulating organizational and work plans, have their development and motivation promoted, and continuously improve their work output (Singh, 2008).

Most of the quality management systems require to have a set of steady processes in organizations. This is a methodology for changing over contributions to yields. It is the path in which every one of the assets of an association are utilized in a dependable, repeatable and steady approach to accomplish its objectives. Mail station Counters Ltd, for example, characterize a process as: "A related arrangement of activities, coordinated to the accomplishment of an objective, that changes a lot of data sources into wanted yields, by

including esteem". Basically, there are four key highlights to any procedure (Bulletpoint, 1996). (Zairi, 1997). (1) unsurprising and determinable sources of input. (2) a straight, legitimate succession or stream. (3) a lot of plainly quantifiable undertakings or exercises. (4) an anticipated and wanted result or result. Licensed quality affirmation frameworks, for example, EN ISO 9000 are basic and maybe insufficient without anyone else in giving a culture dependent on process the management. Quality frameworks are generally recognized as a beginning stage and a key component for the usage of all out quality administration.

Another determinant that shows an organization being managed appropriately is the sound communication systems. Aspects of communication that are important elements of ISO 9000 are; that data/documents on quality are readily available, timely, reliable and valid, the quality manual covers all the requirements for quality and is updated when processes change, obsolete documents do not cause confusion with new versions because they are 'properly' dealt with; and it is possible to identify inspection status of raw and in-process materials and quality related details of finished products (Singh, 2008).

Quality starts from the supplier. The job of the supplier comprises an urgent relationship in the esteem creation chain in QMS. The ISO 9001 standard characterizes this relationship under Clause "Buying". In managing suppliers, the standard is centred around the control of the acquired things and the dependability and capacity of the suppliers in connection to the prerequisites of the clients\customers (Demir and Guven, 2017).

Finally, there are six main parameters that must be measured periodically if the quality management system is functioning appropriately. Those are;

- 1- Planned Management
- 2- Focus on Customers
- 3- Employee Empowerment
- 4- Reliable Suppliers
- 5- Sound Communication System
- 6- Steady Processes

In case, those six parameters are performed well, there will be some significantly important outputs that will tend to;

- 1- Consistently Quality Outputs
- 2- Customer Satisfaction
- 3- Satisfying Business Performance

In this study, we have considered only first six statement whether the public and private hospitals implement them appropriately or not.

## METHODOLOGY

The aim of this research was to elaborate how well the parameters of ISO 9000 quality management systems have been implemented at public and private hospitals. To do this, we have conducted a survey questionnaire that contained six dimensions which have been explained in the previous section. Secondly, we have conducted the questionnaire to the 68 managers, doctors, nurses, secretaries, and other employees of the public and private hospitals. The obtained data has been evaluated by conducting the descriptive statistics and independent samples t test in order to compare the public and private hospitals.

We have sampled the population based on the convenience random sampling. We have visited every hospital, those are included in this study, and asked questions one by one to the doctors, nurses, secretaries, and doctors' assistants from the lower level of the organization while managers and vice presidents from the top management level of the hospitals. Although there must have been more number of data in the study, we had a lot of struggles collecting data from such busy population like doctors, nurses...etc. Hence, only 68 of data has been gathered from the hospitals. The answers have been entered into the IBM SPSS 23 in order to propose further analysis.

## ANALYSIS AND FINDINGS

The planning management is the first factor, starting with the Azmar hospital we applied the survey to 12 people and the mean was 3.57 that shows to us that the Azmar hospital is above the average by 0.07 points which needs to keep going through it with making some new plans for them to not loss control the management.

The Pregnant hospital after applying the survey on 10 people we got 3.36 the mean which is under the average, this hospital needs to make a new strategy to them hospital. The Royal hospital has got 3.67 as a mean from the survey that we apply it to 12 people, which means they are in the safety side but to stay like this it needs to have new ideas about them planning management. The Shar hospital's mean was 2.5 which is the lowest mean for these six hospitals, they need strong hard strategies for the hospital for the next year otherwise they will fail very soon. The Shorash hospital has got 2.75 in the mean which is also very low number, and they need to have good management planning for them next year.

Finally, the west eye hospital which has got the highest number in the mean which is 4.18. So, they need to stay like this and as average it is very good. Table 1 shows the further details.

The Azmar hospital we applied the survey to 12 people and the mean was 4.00 that shows to us that the Azmar hospital is in a very good situation with the customers and they are

really reaching the main goal of the organization which is making the customer satisfied. The Pregnant hospital after applying the survey on 11 people we got 3.39, this hospital needs to have some good offers and good strategy to gain more customers.

Table 1 Comparing hospitals how well the management planning

		<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Planned Management</b>	Azmar Hospital	12	3.5792	.27258
	Pregnant Hospital	10	3.3600	.93714
	Royal Hospital	12	3.6708	.94591
	Shar Hospital	12	2.5208	.64999
	Shorsh Hospital	9	2.7556	1.04297
	West Eye Hospital	12	4.1833	.42841
	Total	67	3.3709	.91728

The Royal hospital has got 4.00 as a mean from the survey that we apply it to 12 people, which means they are in a very good way just like the Azmar hospital. The Shar hospital's mean was 2.4 which is the lowest mean for these six hospitals, they need strong hard strategies for the hospital for the next year. The Shorsh hospital has got 2.9 in the mean which is also very low number, and they need to learn how to make customers satisfied or how to deal with them in way to gain them

Finally, the west eye hospital which has got in the mean 3.80, that shows to us even if the planning management is to high that does not mean that the hospital is smart enough to gain them customers. Table 2 shows the further details.

Table 2 Comparing hospitals' customer focuses

<b>Costumer Focused</b>	<b>Azmar Hospital</b>	<b>12</b>	<b>4.0000</b>	<b>.36181</b>
	Pregnant Hospital	11	3.3909	.82274
	Royal Hospital	12	4.0000	.93420
	Shar Hospital	12	2.4583	.45218
	Shorsh Hospital	9	2.9111	.31798
	West Eye Hospital	12	3.8056	.65533
	Total	68	3.4510	.85362



The Azmar hospital we applied the survey to 12 people and the mean was 4.00 that shows to us that the Azmar hospital keeps in touch with the development with them employees and they are trying to increase their skills to the best way. The Pregnant hospital got 3.80 the mean, which is above the average, but still needs this hospital to have new strategy to raise their level of performance. The Royal hospital has got 3.83 as a mean from the survey that we apply it to 12 people, which is very near the pregnant hospital. The Shar hospital's mean was 2.6 which is also the lowest mean for these six hospitals, they need strong hard strategies for the hospital for the next year. The Shorsh hospital has got 2.8 in the mean which is very near to the Shar hospital also very low number and they need to learn how to develop themselves.

Finally, the west eye hospital which has got in the mean 3.9 not bad number, but they have to get some new knowledge to reach high level of empowered employment. Table 3 shows the further details.

Table 3 Comparing hospitals' employee empowerments

<b>Employee Empowerment</b>	<b>Azmar Hospital</b>	<b>12</b>	<b>4.0000</b>	<b>.46057</b>
	Pregnant Hospital	11	3.8030	.82266
	Royal Hospital	12	3.8333	.54588
	Shar Hospital	12	2.6528	.53870
	Shorsh Hospital	9	2.8519	.54291
	West Eye Hospital	12	3.9167	.70173
	Total	68	3.5343	.80192

The Azmar hospital we applied the survey to 12 people and the mean was 3.61 for the reliable suppliers that shows to us that the hospital in the safety side. The Pregnant hospital got 3.36 the mean which is less than the average. The Royal hospital has got 3.61 as a mean from the survey that we apply it to 12 people, which is very near to the average.

The Shar hospital's mean was 2.6 which is very low number, they need strong hard strategies for the hospital for the next year. The Shorsh hospital has got the lowest mean in the reliable suppliers which is 2.5. Finally, the west eye hospital which has got in the mean 3.8 which is the highest hospital in the reliable suppliers. The Table 4 shows the further details.



Table 4 Comparing the suppliers of hospitals

	<b>Azmar Hospital</b>	<b>12</b>	<b>3.6167</b>	<b>.43029</b>
	Pregnant Hospital	11	3.3636	.92442
	Royal Hospital	12	3.6167	.69522
<b>Reliable Suppliers</b>	Shar Hospital	12	2.6250	.52202
	Shorsh Hospital	9	2.5333	.64807
	West Eye Hospital	12	3.8667	.69457
	Total	68	3.3015	.81611

Table 5 Comparing the communication systems of the hospitals

	<b>Azmar Hospital</b>	<b>12</b>	<b>3.4360</b>	<b>.71191</b>
	Pregnant Hospital	11	3.2078	.88107
	Royal Hospital	12	3.9583	.55986
<b>Sound Communication</b>	Shar Hospital	12	2.7361	.59228
	Shorsh Hospital	9	2.3472	.97383
	West Eye Hospital	10	3.8175	.68242
	Total	66	3.2750	.89924

Given in the Table 5 above, Azmar hospital mean of sound communication system was 3.43 that shows to us that the Azmar hospital is below the average and that is not sound good for having leak in the relation between the employees. The Pregnant hospital after applying the survey on 11 people we got 3.2 this hospital also below the average and needs to change them way in dealing among each other.

The Royal hospital has got 3.95 as a mean from the survey that we apply it to 12 people, which means they have good language between employees, and they are the highest mean. The Shar hospital's mean was 2.7 which is mean they are again lowest mean for these six hospitals; they need to have strong communication otherwise it may make a lot of problems in the future. The Shorsh hospital has got 2.8 in the mean which is also very low number, and the employees need to learn how to connect among each other.

Finally, the west eye hospital which has got in the mean 3.8, it's a low mean and it's under the average so it needs more plans to fix them situation.

Table 6 Comparing the processes of the hospitals

	<b>Azmar Hospital</b>	<b>12</b>	<b>3.5952</b>	<b>.37960</b>
	Pregnant Hospital	11	3.7359	.65131
	Royal Hospital	12	3.6071	.65642
<b>Steady Process</b>	Shar Hospital	12	2.8056	.55920
	Shorsh Hospital	9	2.5952	.99232
	West Eye Hospital	10	3.7952	.77796
	Total	66	3.3712	.79538

Table 6 shows that the last factor is steady process, the Azmar hospital we applied the survey to 12 people and the mean was 3.5 it's just the same of the average but to have good feedback it needs to make them level up. The Pregnant hospital after applying the survey on 10 people we got 3.73 the mean which is above the average. The Royal hospital has got 3.60 as a mean from the survey that we apply it to 12 people, which means they are in the safety side but to stay like this it needs to develop themselves. The Shar hospital's mean was 2.80 this mean is too low for a hospital they need to start with new strategies that level them up. The Shorsh hospital has got 2.59 is the lowest mean and they need to work on them too much.

Finally, the west eye hospital which has got the highest number in the mean which is 3.79. Despite, they need further improvements in that.

Table 7 Comparing the public and private hospitals' quality management systems

<b>Hospital</b>		<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Planned Management</b>	Public	21	2.6214	.82562	.18016
	Private	46	3.7130	.74116	.10928
<b>Costumer Focused</b>	Public	21	2.6524	.45345	.09895
	Private	47	3.8078	.74208	.10824
<b>Employee Empowerment</b>	Public	21	2.7381	.53638	.11705
	Private	47	3.8901	.62677	.09142
<b>Reliable Suppliers</b>	Public	21	2.5857	.56572	.12345
	Private	47	3.6213	.70184	.10237
<b>Sound Communication</b>	Public	21	2.5694	.78177	.17060
	Private	45	3.6043	.75385	.11238
<b>Steady Process</b>	Public	21	2.7154	.75976	.16579
	Private	45	3.6772	.60922	.09082
<b>Customer Satisfaction</b>	Public	21	3.7786	.04564	.00996
	Private	47	3.9251	.21855	.03188

Given in the Table 7, we see that the planning management's mean for the public sector is 2.6 but for the private sector is 3.7, then we understand that after taking the consecration of the average as 3.5 then the private hospitals in the planning management is better. For the customer focused also we get the same result which is the private sector is better than the public because the public hospitals got 2.6 in the mean and the private got 3.8.

The mean of employee in the public sector is 2.73 while the mean of the private sector is 3.89 which shows the same comment which is the private is much better than the public sector. 2.58 is the mean of the public sector for the reliable suppliers' factor and this is less than the private sector's mean which is 3.6.

The sound communication system got 2.5 for the public sector and the private sector got 3.6 which is nearly the same result of reliable suppliers. The steady process for the public sector mean is 2.7 but the private sector is 3.6 which exactly same of reliable suppliers and sound communication system. Finally, the customer satisfaction which is one of the most important factor that any organization must focus on, this factor has shown to us deferent results which is the public factor has got mean 3.7 which is not bad but also the private sector has got 3.9 as it means.

## CONCLUSIONS

The aim of this research was evaluating the quality management system of the public and private hospitals to do that we have collected 68 data from both private and public hospital in Sulaimani. Further we have analysed the data based on Singh 2008. And finally, we have proposed descriptive statistics analysis to see the quality management systems of each hospital in detail and proposing independent samples t-test we have evaluated the customer satisfaction of public and private hospitals.

We have found that the SHAR hospital and SHORSH hospital have got the lowest numbers in the quality management systems parameters which there are not even reaching the average. But the WEST EYE hospital has got totally the highest numbers for each factor (planning management, customer focused, empowered employment, reliable suppliers, sound communication system and the steady process).and for the T-test table we found out that all the private hospitals have got good position for the factors generally but the public hospitals have got very low numbers.

SHAR hospital is really modern and with good building but unfortunately, they are very weak in the total quality management. So they need to have strong plan and strategy for the next year. As well as SHORASH hospital, both hospitals need to develop themselves in making good communication between them employees and having god meetings with them top

managers so they can fix and solve them problems that may with them jobs. Also in each organization its very necessary to level up the knowledge of the employees by having courses and updates for the information, etc. the other hospitals are in the safety side but also keeping themselves in update is important to not decrease them level.

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