The Impact of Quality Management Dimensions on Healthcare System: A Study of Private Hospitals in Kurdistan Region of Iraq

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Abstract: At the present time, there are many arguments in terms of the quality of health care and its eight dimensions of quality management. Hospitals are organizations operating in the health business and in which all types of illnesses, injuries and any other health problems are treated in order to improve the people health and that's at differentiated cost patterns. The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. The outcome of this study will serve private hospitals in Erbil with further quality improvement of its services. A quantitative method used to analyze this study. 234 participants from six private hospitals were involved in this study. A multiple regression analysis used to analyse the current study, however, the findings revealed that the highest value was for system approach to management; therefore hospitals' management should be able to manager, recognize and identify a system of interconnected and organized process as a system participates to the hospitals efficiency and effectiveness in attaining its hospitals' goals.

Keywords: Quality Management Dimensions, Effectiveness, Private Hospitals

1. Introduction

It is no longer possible to avoid the matter of quality in health care. Hospitals struggle to provide all patients with timely, safe, efficient and effective. Recently, there are many arguments regarding the quality of health care and its principles of quality management practices. In these arguments of quality in health care focused on the relationship between hospitals' effectiveness and principles of quality management. Hospitals are organizations operating in the health business and in which all types of illnesses, injuries and any other health problems are treated in order to improve the people health and that's at differentiated cost patterns. This study investigates the impact of quality management principles on hospitals' effectiveness. Although concepts of quality management principles are truly already decades old, restrictions to recognizing the effect of principles of quality management are still evident in improving organizational effectiveness. Despite quality management had important attention for the last decades and its advantages and positive influence on organizational effectiveness however, numerous questions have remained unanswered. This study participates through

understanding of the very significant theoretical question: "do dimensions of quality management have positive impact on organizational effectiveness? The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. The outcome of this study will serve private hospitals in Erbil with further quality improvement of its services.

2. Literature Review

2.1 Quality Management

Quality management defined according to (Lakhe,R.R. and Mohanty,P.R, 1994) as the implementation of quality management system in order to obtain the supreme satisfaction of its customers with the ability of obtaining the lowest cost to the entire business whereas continuing in improving the process.

Quality management system defined according to (Miller,et al., 2009) as a process of formulizing system which enable management to assign procedures, duties and structure to attain effective quality management (Beshah and Kitaw, 2014). On the other hand, total quality management is a management method which concentrates on long term achievement through increasing the level of customer satisfaction (Becket and Brookes, 2008). In the total quality management method all employees are contributing in enhancing services, products, organizational culture and process within work place (Yaacob, 2010).

2.2 Quality Management in Health Care

Quality is defined by (Ikorok,et al.) As "a matter of decisions with respect to specific properties dimensions or ingredients, characteristics, of a practice called health service. Quality is defined by (Donabedian, 2005) as a consideration of objectives and values of a health system, in terms of patients'' expectation. Quality considers as the degree to which health services for humans and populations increase the possibility of effective health consequences and are reliable with present specialized knowledge. According to (Moonsamy,V. and Singh,S., 2012) defined quality management in the health care system as all actions taken to enhance, promote, protect and establish the quality of health care. Management of health care generally combines medical objectives of patients with the real potentials regarding of resources time and assess the definite practice (Tsai, et al., 2012). Moreover, According to (Chang, 2011), the concept of quality management might lead to create a misperception among health care staff, the hospital management is often linked with the administration of the hospital, and the administration of the hospital is most likely linked by medical doctors with constrains on their specialized practices.

2.3 Quality Management Dimensions

According to (Garvin, 1987), there eight quality dimensions as follow:

1. **Customer focused organization:** hospitals relied on their patients; hence management should be able to recognize their existing and future patients' needs. Moreover, hospitals' management should be able to meet its patients' expectation and requirement.
2. **Leadership:** managers in hospitals should have leadership behaviour; therefore they should be able to set unity of directions and purpose. Leaders should be able to maintain and develop the internal business environment in which individuals could be able to become engaged in attaining organizational goals.
3. **Involvement:** individuals within the entire organization are essence of the business and their engagement motivates and enables their skills and capabilities to be used for hospitals' benefit.
4. **Process approach:** a preferred outcome is attained more efficiently when individuals' capabilities, activities and skills are managed as a business process.
5. **System approach to management:** managing, recognizing, and identifying a system of interconnected and organized process as a system participates to the hospitals' efficiency and effectiveness in attaining its goals.
6. **Continual improvement:** Continual improvement is a process hospitals' performance.
7. **Factual approach to decision making:** Operative decisions are according to the diagnosing the information and data obtained.
8. **Mutually beneficial supplier relationships:** suppliers' of hospitals are dependent and commonly shared benefits association improves the capability of both to develop a value.

2.4 Conceptual Framework

The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. The researcher used eight dimensions of quality management as independent factor and effectiveness as dependent factor as shown in figure (1):

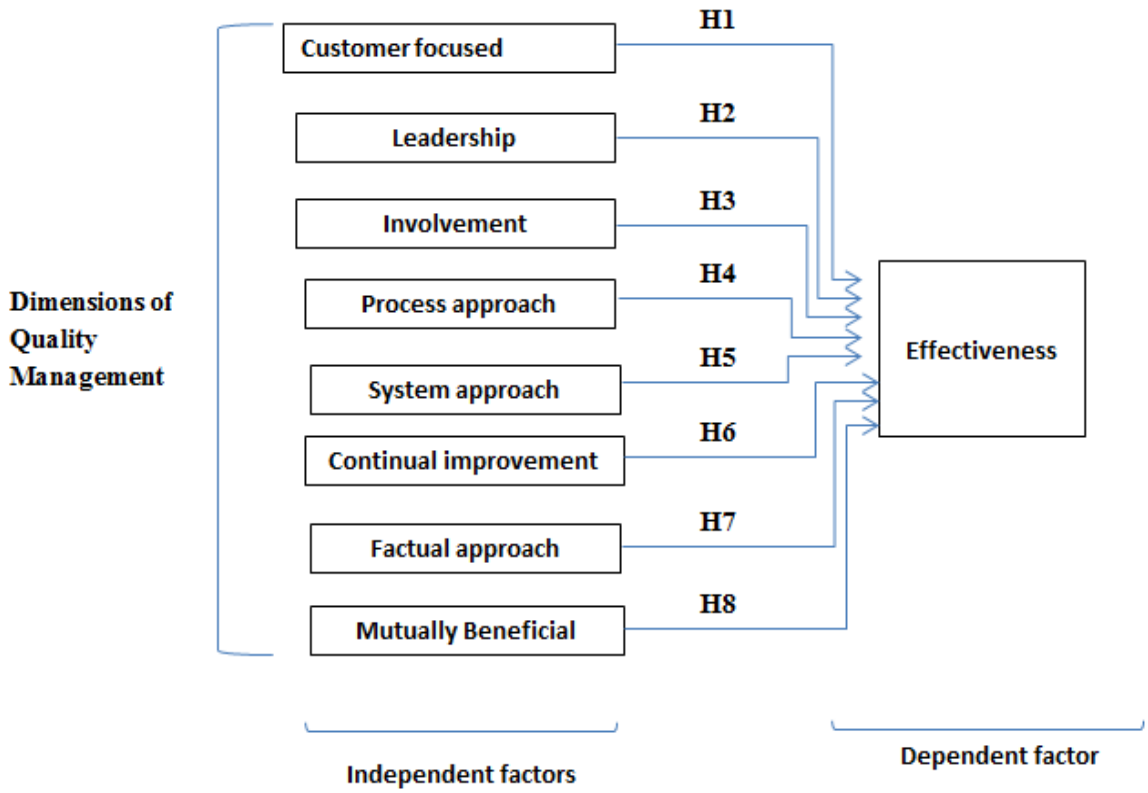

Figure (1), Research model

3. Methodology

The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. The purposes of methodology are to explain research methodology, clarify the procedures that used in this research, define the measurements used in planning the instrument, explain data collection, and to provide a clear clarification of the statistical method used in order to analyse data. A quantitative method used in order to analyse data gathered by the researcher. This section is divided into four sections, the first section consists of research design, the second sections consists of the duration of the study, the third section consists of the sample size and population and the fourth section consists of instruments for measuring items.

3.1 Design of the Study

The researcher used questionnaire in order to be able to analyse the current study. The questionnaire was divided into two sections, the first section consisted of demographic questions; starting with respondent's age, gender, level of education, years of experience and

status. The second part of questionnaire consisted of eight independent factors and one dependent factor. In terms of independent factors; first independent factor was customer focused organization which consisted of five questions; second independent factor was leadership which consisted of five questions, third independent factor was involvement which consisted of five questions, fourth independent factor was process approach which consisted of five questions, fifth independent factor was system approach to management which consisted of five questions, sixth independent factor was continual improvement which consisted of five questions, seventh independent factor was factual approach to decision making which consisted of five questions, and last independent factor was mutually beneficial supplier relationships which consisted of six questions.

3.2 Duration of the Study

The researcher distributed questionnaires in hard copies in six private hospitals in Erbil. The researcher started gathering data from November 25, 2014 till January 3rd, 2015.

3.3 Sampling Size and Target Population

The aim of sample design is to clearly determine set of objective; the sampling technique was random sampling method, where all employees in six private hospitals had equal chances of being selected for the sample. The population of this study was approximately 480 participants from six private hospitals and the sample size of this study was 234 participants.

3.4 Instrument for Measuring (Scales)

The questionnaire structured in the form of multiple choice questions. The participants were asked to mark each item on five point likert scales.

3.5 Data Analysis and Results

The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. As it mentioned previously total of 234 respondents were involved in completing the survey. The current study deals with eight dimensions of the quality management as independent factors (Customer focused organization, Leadership, Involvement, Process approach, System approach to management, Continual improvement, Factual approach to decision making, Mutually and beneficial supplier relationships) on the other hand private hospitals'' effectiveness as dependent factor.

The following tables show the statistical results of this study using SPSS version 20 program:

Demographic analysis

Table (1), Demographic analysis

Items		**Frequency**	**Percent**
Age	20-29	28	12
	30-39	92	39.3
	40-49	76	32.5
	50-59	34	14.5
	60 and above	4	1.7
Gender	Male	190	81.2
	Female	44	18.8
Education	Bachelor	147	62.8
	Master	49	20.9
	PhD	38	16.2
Experience	< a Year	3	1.3
	1-2	69	20.5
	3-4	64	27.4
	5-6	42	17.9
	7-8	18	7.7
	9-10	17	7.3
	11 +	21	9
Status	Single	84	35.9
	Married	150	64.1

Table (1), shows the demographic analysis for participants involved in this study. As seen in the above table the frequency and percentage of participants' age involved in this study. 12% of participants were 20-29 years old, 39.3% of participants were 30-39 years old, 32.5% of participants were 40-49 years old, 14.5% of participants were 50-59 years old and 1.7% of participants were 60 years old and above. In regard of participants' age involved in this study; 81.2% of participants were male and 18.8% of participants were female. In regard of participants' level of education; 62.8% of participants had obtained bachelor honour, 20.9% of participants had obtained master degree and 16.2% of participants had obtained PhD degree. In regard of participants' years of experience in the hospitals; 1.3% of participants had experience less than a year, 20.5% of participants had 1-2 years of experience, 27.4% of participants had 3-4 years of experience, 17.9% of participants had 5-6 years of experience, 7.7% of participants had 7-8 years of experience, 7.3% of participants had 9-10 years of experience and 9% of participants had 11 years and above of experience. Finally, in terms of participants' marital status; 35.9% of participants were single and 64.1% of participants were married.

Table (2), Reliability analysis

Factor	Cronbach's Alpha	N of Items
Customer focused organization	.801	5
Leadership	.625	5
Involvement	.830	5
Process approach	.941	5
System approach to management	.949	5
Continual improvement	.980	5
Factual approach to decision making	.963	5
Mutually beneficial supplier relationship	.659	3
Effectiveness	.890	7

As seen in table (2), the findings of reliability test for all variables in this study. In terms of customer focused organization variable the Cronbach's Alpha for five items was .801 (.801>.6) this indicates that items used for customer focused organization were reliable. The Cronbach's Alpha for leadership variable by measuring five items was .625 (.625>.7) this indicates all items used for leadership factor were reliable. The Cronbach's Alpha for involvement variable by measuring five items was .830 (.830>.7) this indicates all items used for involvement factor were reliable. The Cronbach's Alpha for process approach variable by measuring five items was .941 (.941>.7) this indicates all items used for process approach factor were reliable. The Cronbach's Alpha for system approach variable by measuring five items was .949 (.949>.7) this indicates all items used for system approach factor were reliable. The Cronbach's Alpha for continual improvement variable by measuring five items was .980 (.980>.7) this indicates all items used for continual improvement factor were reliable. The Cronbach's Alpha for factual approach to decision making variable by measuring five items was .963 (.963>.7) this indicates all items used for factual approach to decision making factor were reliable. The Cronbach's Alpha for mutually beneficial supplier relationship variable by measuring three items was .659 (.659>.7) this indicates all items used for mutually beneficial supplier relationship factor were reliable and the Cronbach's Alpha for effectiveness variable by measuring three items was .890 (.890>.7) this indicates all items used for effectiveness factor were reliable.

Table (3), Correlation analysis

Correlation analysis		Effectiveness
customer focused	Pearson Correlation	.859**
	Sig. (2-tailed)	.000
	N	234
leadership	Pearson Correlation	.674**
	Sig. (2-tailed)	.000
	N	234
involvement	Pearson Correlation	.845**
	Sig. (2-tailed)	.000
	N	234
process approach	Pearson Correlation	.941**
	Sig. (2-tailed)	.000
	N	234
system approach	Pearson Correlation	.949**
	Sig. (2-tailed)	.000
	N	234
continual improvement	Pearson Correlation	.700**
	Sig. (2-tailed)	.000
	N	234
factual approach	Pearson Correlation	.702**
	Sig. (2-tailed)	.000
	N	234
Mutually beneficial	Pearson Correlation	.173**
	Sig. (2-tailed)	.008
	N	234

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

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations test provides the values of the identified correlation tests; as seen in table (3) the correlations between independent factors and dependent factor. The correlation between customer focused organization and hospital's effectiveness, the R value =.859** which is <0.01 means that there is strong correlation between customer focused organization and hospital's effectives. The correlation between leadership dimension and hospital's effectiveness, the R value =.674** which is <0.01 means that there is a correlation between leadership dimension of

quality management and hospital's effectives. The correlation between involvement dimension and hospital's effectiveness, the R value =.845** which is <0.01 means that there is a strong correlation between involvement dimension of quality management and hospital's effectiveness.

The correlation between process approach dimension and hospital's effectiveness, the R value =.941** which is <0.01 means that there is a strong correlation between process approach dimension of quality management and hospital's effectives. The correlation between system approach dimension and hospital's effectiveness, the R value = .949** which is <0.01 means that there is a strong correlation between system approach dimension of quality management and hospital's effectives. The correlation between continual improvement dimension and hospital's effectiveness, the R value =.700** which is <0.01 means that there is a strong correlation between continual improvement dimension of quality management and hospital's effectiveness. The correlation between factual approach dimension and hospital's effectiveness, the R value =.702** is <0.01 means that there is a strong correlation between factual approach dimension of quality management and hospital's effectiveness and the correlation between Mutually beneficial dimension and hospital's effectiveness, the R value =.173**is <0.01 means that there is a weak correlation between Mutually beneficial dimension of quality management and hospital's effectiveness

Table (4), Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.983[a]	.967	.965	.139
a. Predictors: (Constant), system approach, mutually beneficial, continual improvement, leadership, involvement, customer focus, process approach, factual approach				

In this study eight dimensions of quality management were measured as independent variables (system approach, mutually beneficial, continual improvement, leadership, involvement, customer focus, process approach, factual approach) and hospitals' effectiveness as dependent. As seen in the table (4) the value of R square = .967 this indicates that 97% of total variance has been explained.

Table (5), Analysis of variance

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126.334	8	15.792	815.540	.000[b]
	Residual	4.357	225	.019		
	Total	130.690	233			
a. Dependent Variable: effectiveness						
b. Predictors: (Constant), system approach, mutually beneficial, continual improvement, leadership, involvement, customer focus, process approach, factual approach						

As seen in table (5) the value of F for eight dimensions of quality management (system approach, mutually beneficial, continual improvement, leadership, involvement, customer focus, process approach, factual approach) = 815.540, accordingly the value of F is >1 which means there is a significant relation between eight dimensions of quality management as independent variables and hospitals' effectiveness as dependent variable.

Table (6), Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.074	.065		1.139	.256
	Customer focus	-.008	.032	-.008	-.266	.790
	Leadership	-.015	.016	-.017	-.967	.334
	Involvement	.024	.024	.026	.974	.331
	Continual improvement	.223	.060	.386	3.719	.000

	Factual approach	-.057	.062	-.096	-.919	.359
	Mutually beneficial	.031	.008	.049	3.949	.000
	Process approach	-.095	.100	-.094	-.950	.343
	System approach	.880	.100	.885	8.788	.000
a. Dependent Variable: effectiveness						

As seen in table (6), the results of multiple regression analysis for this study. The findings of this study were as follow; in terms of the first dimension of quality management, customer focused organization has not predicted hospital's effectiveness (The value of B= -.008, since -.008>.001, therefore the first research hypothesis was rejected which customer focused organization will not have positive impact on hospitals' effectiveness. In terms of the second dimension of the quality management, leader has not predicted hospital's effectiveness (The value of B= -.015, since -.015>.001, therefore the second research hypothesis was rejected which leader will not have positive impact on hospitals' effectiveness. In terms of the third dimension of the quality management, involvement has predicted hospital's effectiveness (The value of B= .024, since .024<.001, therefore the third research hypothesis was supported which involvement will have positive impact on organizational effectiveness. In terms of the fourth dimension of the quality management, continual improvement has predicted hospital's effectiveness (The value of B= .223, since .223<.001, therefore the fourth research hypothesis was supported which continual improvement will have positive impact on hospital's effectiveness. In terms of the fifth dimension of the quality management, factual approach has not predicted hospital's effectiveness (The value of B= -.057, since -.057>.001, therefore the fifth research hypothesis was rejected which factual approach will not have positive impact on hospital's effectiveness. In terms of the sixth dimension of the quality management, mutually beneficial has predicted hospital's effectiveness (The value of B= .031, since .031<.001, therefore the sixth research hypothesis was supported which mutually beneficial will have positive impact on hospital's effectiveness. In terms of the seventh dimension of the quality management, process approach has not predicted hospital's effectiveness (The value of B= -.095, since -.095>.001, therefore the seventh research hypothesis was rejected which process approach will not have positive impact on hospital's effectiveness and the last dimension of the quality management, system approach has significantly predicted hospital's effectiveness (The value of B= .880, since .880<.001, therefore the eighth research hypothesis was supported which system approach will have positive impact on hospital's effectiveness.

4. Discussion and Conclusions

The main purpose of this study is to analyze the quality management dimensions and its impact on private hospitals' effectiveness in Erbil to find out the main reasons of the quality problems in health care systems in private hospitals. Hospitals provide quality of services to patients. The main goal of hospitals is to save humans life by managing illness practices. As mentioned previously, the researcher developed eight research hypotheses. The findings of this study revealed that the highest value was for system approach to management. The first research hypothesis was rejected which customer focused organization will not have positive impact on hospitals' effectiveness. In regards of leader as a second dimension of quality, the findings revealed that leaders will not have positive impact on hospital's effectiveness accordingly the second research hypothesis was rejected. Regarding of the third dimension of the quality management, the findings revealed that involvement has predicted hospital's effectiveness, however the researcher came to conclude that involvement as quality management dimension will have positive impact on hospital's effectiveness, and accordingly the fourth hypothesis was supported. In terms of continual improvement as a fourth dimension of the quality management the findings revealed that continual improvement will have positive impact on hospital's effectiveness therefore the fourth research hypothesis was supported. In terms of factual approach as a fifth dimension of the quality management the findings revealed that factual approach will have not positive impact on hospital's effectiveness therefore the fifth research hypothesis was rejected. Regarding of the sixth dimension of the quality management, the findings revealed that mutually beneficial has predicted hospital's effectiveness, however the researcher came to conclude that mutually beneficial as quality management dimension will have positive impact on hospital's effectiveness, and accordingly the sixth hypothesis was supported. Regarding of the seventh dimension of the quality management, the findings revealed that process approach has not predicted hospital's effectiveness, however the researcher came to conclude process approach as quality management dimension will have not positive impact on hospital's effectiveness, and accordingly the seventh hypothesis was rejected. Finally the last finding of this study revealed that system approach has significantly predicted hospital's effectiveness (The value of B= .880, since .880<.001, therefore the eighth research hypothesis was supported which system approach will have positive impact on hospital's effectiveness. Accordingly the findings of this study showed that the highest value was for system approach to management, therefore hospitals' management should be able to manager, recognize and identify a system of interconnected and organized process as a system participates to the hospitals efficiency and effectiveness in attaining its hospitals' goals.

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