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Implementation of Quality Management in Healthcare Industry: A Case Study

Engineering

KEYWORDS : Healthcare industry, Quality, Services, Experience of quality, Quality improvement.

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ABSTRACT

In this paper we are analyzing the performance of two healthcare organizations Measurement is central to the concept of hospital quality improvement (QI), if provides a means to define what hospitals actually do. QI emphasizes continuous examination and improvement of work processes by organizational members using basic statistical techniques to analyzing the data. The proposed system is based on the analysis of correlation and regression coefficient by using SPSS software. With the analysis we concluded that all the factors (infrastructure, Personnel quality, personnel clinical care, Administrative procedures, safety indicators) affects the performance of healthcare industry and are correlated significantly to each other. These all factors affects the overall experience of quality preceded by the patients. Comparison of two hospitals which are operates on different levels is done to understand the need of quality improvement for both large and small scale organization.

1. INTRODUCTION

Globalization and instant access to information, products and services keep changing the way of customers' behavior. Current policy changes in the economy and society should be carried out in accordance with the principles of sustainable development and environmental protection [Rusko Miroslav and Karlikova Ruzena, 2011]. Quality management has long been established as an important strategy for achieving competitive advantage [Chakrvorty and Tan,2012]. Performance measurement helps organizations to see which improvements they should do in addition to providing information about the current state of the processes. By comparing the

Performance of two organization we are able to :

- Improve Customer Satisfaction
- Standardize Business Development
- Ensure Industry and Government Compliance
- Develop Career Growth Opportunities

Aim of measuring patient experience is to improve quality and then evaluating their performance, which helps in improving patient experience.

2. LITERATURE BACKGROUND

Most healthcare systems now have a major focus on measuring quality of care and evaluating organizational performance. There are many different Study results will provide policy makers, accrediting bodies, and consumers with more precise information about how different approaches to QI implementation in hospital settings relate to a range of hospital-level quality indicators. Such information would facilitate the development of QI standards and benchmarks that make use of hospital-level quality indicators that are not only widely available, but also potentially amenable to change through the systematic application of QI practices. Evaluation frameworks to choose from, and many tools for gathering appropriate data to use within frameworks, but no single approach works in all contexts and for all purposes. (Institute of Medicine 2000). Successful implementation is critical to the effectiveness of a QI initiative (Blumenthal and Kilo 1998; Shortell, Bennett, and Byck 1998). However, QI implementation is demanding on individuals and organizations. In today's global competitive environment delivering quality service is considered as an essential strategy for success and survival (Parasuraman *et al,* 1985; Reichheld and Sasser, 1990; Zeithaml *et al,* 1990). Even the public sector organizations have come under increasing pressure to deliver quality services (Randall and Senior, 1994) and improve efficiencies (Robinson, 2003). The public sector is under increasing pressure to demonstrate that their services are customer-focused and that continuous performance improvement is being delivered.

Quality of Health Care

High quality healthcare means doing right thing, at right time, in the right way, for the right person and having the best possible results.

In this paper I am using SPSS software to analyse the results obtained from the questionnaire in . the hospitals.

3. METHODOLOGY

SPSS for Social Scientists provides the novice researcher with a step-by-step guide to SPSS easily the most widely used data analysis. In this we study about correlation and regression.

CORRELATION ANALYSIS

Statistical correlation is a statistical technique which tells us if two variables are related. For example, consider the variables family income and family expenditure. It is well known that income and expenditure increase or decrease together. Thus they are related in the sense that change in any one variable is accompanied by change in the other variable. Again price and demand of a commodity are related variables; when price increases demand will tend to decreases and vice versa. If the change in one variable is accompanied by a change in the other, then the variables are said to be correlated. We can therefore say that family income and family expenditure, price and demand are correlated. Relationship Between Variables:

Correlation can tell you something about the relationship between variables. It is used to understand:

- whether the relationship is positive or negative
- the strength of relationship.

Coefficient of Correlation

Statistical correlation is measured by what is called coefficient of correlation (r). Its numerical value ranges from +1.0 to -1.0. It gives us an indication of the strength of relationship. In general, $r > 0$ indicates positive relationship, $r < 0$ indicates negative relationship while $r = 0$ indicates no relationship (or that the variables are independent and not related). Here $r = +1.0$ describes a perfect positive correlation and $r = -1.0$ describes a perfect negative correlation. Closer the coefficients are to +1.0 and -1.0, greater is the strength of the relationship between the variables. As a rule of thumb, the following guidelines on strength of relationship are often useful (though many experts would somewhat disagree on the choice of boundaries).The pearson correlation coefficient value and strength of relationship to the variables involve in the analysis is shown in the Table 1.

Table 1:Pearson Correlation Coefficients Value and Strength of Relationship

Value of r	Strength of relationship
–1 to –0.5 or 1 to 0.5	Strong
–0.5 to –0.3 or 0.3 to 0.5	Moderate
–0.3 to –0.1 or 0.1 to 0.3	Weak
–0.1 to 0.1	Zero or very weak

Correlation is only appropriate for examining the relationship between meaningful quantifiable data (e.g. air pressure, temperature) rather than categorical data such as gender, favorite color etc.The following figure 1 represents the types of correlation.

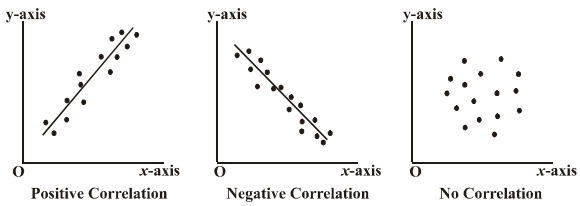

Figure 1: Types of Correlation

The correlation coefficient measures the robustness of the relationship between two variables. Pearson's correlation coefficient is one of the most commonly used correlation coefficient and measures the linear relationship between two variables. The value of the correlation coefficient, denoted as r, ranges from –1 to +1, which gives the strength of the relationship and whether the relationship is negative or positive. When the value of r is greater than zero, it is a positive relationship; when the value is less than zero, it is a negative relationship. A value of zero indicates that there is no relationship between the two variables. If the **correlation coefficient** of two variables is **zero,** it signifies that there is no linear relationship between the variables. However, this is only for a linear relationship; it is possible that the variables have a strong curvilinear relationship. When the value of r is close to zero, generally between –0.1 and +0.1, the variables are said to have no linear relationship or a very weak linear relationship. For example, suppose the prices of coffee and of computers are observed and found to have a correlation of +.0008, this means that there is no correlation or relationship, between the two variables.

A **positive correlation,** when r is greater than 0, signifies that both variables move in the same direction. When r is +1, it signifies that the two variables being compared have a perfect positive relationship; when one variable moves higher or lower, the other variable moves in the same direction with the same magnitude. The closer the value of r is to +1, the stronger the linear relationship. For example, suppose the value of oil prices are directly related to the prices of airplane tickets, with a correlation coefficient of +0.8. The relationship between oil prices and airfares has a very strong positive correlation, since the value is close to +1. So if the price of oil decreases, airfares follow in tandem. If the price of oil increases, so does the prices of airplane tickets.

A **negative correlation,** when r is less than 0, indicates that both variables move in the opposite direction. When r is -1, the relationship is said to be perfectly negative correlated; in short, if one variable increases, the other variable decreases with the same magnitude, and vice versa. For example, suppose a study is conducted to assess the relationship between outside temperature and heating bills. The study concludes that there is a negative correlation between the prices of heating bills and the outdoor temperature. The correlation coefficient is calculated to be -0.96. This strong negative correlation signifies that as the temperature decreases outside, the prices of heating bills increase and vice versa.

REGRESSION ANALYSIS

Regression analysis involves identifying the relationship between a dependent variable and one or more independent variables. A model of the relationship is hypothesized, and estimates of the parameter values are used to develop an estimated regression equation. Various tests are then employed to determine if the model is satisfactory. If the model is deemed satisfactory, the estimated regression equation can be used to predict the value of the dependent variable given values for the independent variables. **Multiple regressions** is an extension of simple linear regression. It is, used when we want to predict the value of a variable based on the value of two or more other variables. The variable we want to predict is called the dependent variable (or sometimes, the outcome, target or criterion variable). The variables we are using to predict the value of the dependent variable are called the independent variables (or sometimes, the predictor, explanatory or regression variables).

Regression model. In simple linear regression, the model used to describe the relationship between a single dependent variable y and a single independent variable x is $y = a_0 + a_1x + k$. a_0 and a_1 are referred to as the model parameters, and is a probabilistic error term that accounts for the variability in y that cannot be explained by the linear relationship with x. If the error term were not present, the model would be deterministic; in that case, knowledge of the value of x would be sufficient to determine the value of y.

4. PROFILE OF ORGANIZATION

About ABC Organization

ABC Hospital is a state-of-the-art multispecialty Orthopedic hospital located in Vadodara(Baroda), the cultural capital of the state of Gujarat, India. It started as a small establishment in 1999 and over the years, with the broad vision . It has flourished into a full-fledged orthopedic hospital focusing on Bone and Joint problems, with facilities to provide high quality and world-class treatment.

The ABC Hospital has established itself as a prime centre for medical or health tourism in India. They have patients coming form U.K. U.S.A., Kenya, Tanzania, Uganda, Zambia, Australia, New Zealand, Panama Canal, Mauritius, Fiji Islands and the Middle East countries. These patients include foreigners and not just Non Resident Indians. Due to outstanding quality of work provided by the Centre, patients from far away places choose to travel to Baroda Thirty five percent of our patients come from abroad. They find the culture to be very lovable and also the cost of hotel accommodation is low. Baroda is a very easy city to move around unlike large metropolitan cities like Bombay. Delhi, Chennai, Ahmadabad, etc. It is not just the lower cost by a perception of reasonable cost for a very high level of medical expertise. They receive patients who are covered by international insurance companies like BUPA. Their health coverage is in hundreds of thousands of sterling pounds.

- **ABC's Mission** "ABC Hospital" herby pledge to provide highest quality of humane care with the finest technical and quality health care practices to our patients.
- **ABC's Vision** - They dedicate them self to attain good health for all which includes Mental, Physical, Social & Spiritual well being.
- They shall strive to be a premier healthcare platform, catering to the needs of the patients in specialized areas, not only in our country but also globally.
- Team work is an integral component of their growth. They shall make this their strength, their pillar of success.
- They shall continually evaluate the needs of their patients and add new services and technologies to cater to those needs.
- They shall continue conducting regular educational programs

for health professionals as well as for the common public.
- Programs of clinical research shall be an integral part of the hospital's protocol.

FACILITIES IN THE HOSPITAL
- X-ray Image Intensifier C-Arm Machine and X-ray radio imaging facility
- Ambulance Services
- Laboratory Investigations
- Pharmacy Services
- Ambulatory Devices & Orthopaedic Supports
- Corporate Empanelment

The list of Corporates with whom they are empanelled:
- ONGC
- ESIC
- IOCL
- GAIL
- L&T
- Indian Railways

About XYZ Organization Infrastructure
- 80 bed Multi Specialty Hospital
- Surgical ICU
- Medical ICU
- Paediatric ICU
- Burn ICU
- Dialysis Unit
- Pathology
- Radiology
- Accident & Emergency
- Ambulance
- Pharmacy
- Three Operation theatre

XYZ 's Mission
Its their Mission to Ensure Healthy and Happy living to People From All Walks of Life.

- Health and Happiness

They at XYZ Hospital not only focus on health of the patient, but also aim at Happiness to the family. It is the approach which makes us different.
- Modern Contemporary

Their services match globalization and in turn provide best patient care.
- Fastest Growing Chain

They are Fastest growing group of hospitals of Gujarat.
- State of the Art Infrastructure

They have the most advanced and functional infrastructure focused to achieve quality care.
- More than 500 beds they are located in Vadodara, Bharuch and Surat, comprising of more than 500 beds.
- Biggest Hi-tech Operation theatre

Operation Theatres are well equipped with all latest equipment. Laminar Air Flow, Class 100 Air, PU Coat, and Epoxy coated floor makes the atmosphere infection free.

Services
- Radiology
- Digital X-Ray
- Multislice CT scan
- SONOGRAPHY
- Cardiac Care (Angiography, Angioplasty, Bypass Surgery)
- Critical Care
- Pathology
- Pharmacy
- ICU on Wheels
- Trauma, Accident and Emergency
- OBS and Gynecological Emergencies
- Industrial Emergencies

Empanelments Government
- ESIC
- ONGC (Baroda & Ankleshwar) GIPCL
- GAIL
- Steel Authority of India Limited

5. DATA ANALYSIS AND DISCUSSION OF RESULTS FROM ABC HOSPITAL
Neither regression nor correlation analyses can be interpreted as establishing cause-and-effect relationships. They can indicate only how or to what extent variables are associated with each other. The correlation coefficient measures only the degree of linear association between two variables. Any conclusions about a cause-and-effect relationship must be based on the judgment of the analyst.

We have done all the calculation with the help of SPSS software and the results obtain are as follows. We analyses the correlation and regression for six parameters on which study is based. By using SPSS software we conclude correlation and regression analysis for the results of two healthcare organization. On the basis of these results we concluded some points which are explained in correlation Table 2.

Table 2: Pearson Correlation Coefficient of ABC Organization

Variables	AVG INFRA	AVG PQ	AVG PCC	AVG AP	AVG SI	AVG OEQ	AVG SR
AVGINFRA	1						
AVGPQ	0.543**	1					
AVGPCC	0.501**	0.684**	1				
AVGAP	0.526**	0.586**	0.636**	1			
AVGSI	0.153	0.267	0.197	0.208	1		
AVGOEQ	0.310	0.428**	0.370*	0.324*	0.027	1	
AVGSR	0.419**	0.421**	0.323*	0.278	0.398*	0.301	1

Note: ** Correlation is significant at .01 level (2-tailed).

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

From the above correlation table we concluded that-

- The correlation coefficient between average infrastructure and average personnel quality is 0.543 that means as infrastructure facilities increases the personnel quality level will also increases significantly. And practically it is possible because if infrastructure will be good the customer satisfy with the facilities , thus quality of service will improve when all employees work for good service and they also happy ,thus work done will be more efficiently.
- The coefficient of correlation between average infrastructure and personnel clinical care is 0.501 that means when infrastructure facilities increases then personnel clinical care will also increases or when infra structure facilities decreases personnel clinical care will also decreases. like- if infrastructure is good then patient have stability to reach the room and doctor's have also comfort ability to reach the designated time at proper place. According to weather the electrical instruments are working properly it also helps in creating a good environment. Which helps to keep calm everyone's mind and helps in increase in efficiency and effectiveness of the organization.
- The coefficient of correlation between average infrastructure and average administration procedure also indicates significant correlation coefficient which is 0.526. It means both effects each other respectively, if one increases other increases other also increases or one decreases other will also decreases. If infrastructure facilities good then administrative procedure will done easily and appropriate time. Which helps in

customer (patient) care for family members to help him and help him to cure quickly as early as he get well soon , thus increases our organization efficiency.

- The correlation coefficient of correlation between average infrastructure and social responsibility is 0.419. Here social responsibility deals with quality of care at the time of discharge and effect on society. Infrastructure helps in creating pleasant atmosphere even in hard situation and physically it helps much more and keeps mental coolness , keep away from anxiety. Infrastructure includes all the facilities by physical means like building comfort ability, electricity & water availability etc. which helps everyone to do work more effectively.
- The correlation coefficient between personnel clinical care and personnel quality is 0.684. Which indicates if personnel clinical care increases that means it helps in improving personnel quality. If doctor is available at designated time then it helps to take the information about the laboratory tests for patient. This helps to collect the reports at the appropriate time, patient will get treatment at the most possible time. Similarly if reception staff is active for 24 hours it helps in clinical examination without any delay and keep the patient happy that helps him to live life happily.
- The coefficient of correlation between average personnel quality and average administrative procedures is 0.586 which is also significant i.e. both effects each other same nature. If one increases other also increases if one decrease their will also decreases. If personnel quality is related with registration process , staff behavior ,pathology labs in the hospital and administrative procedure deals with admission of patient , attendant facilities and bill payments etc. If personnel quality improves then it also make the work easy for administrative staff.
- The coefficient of correlation between personnel quality and overall experience in quality is 0.428. Which means if personnel quality improves it also improves the overall experience in quality care. Like if registration is done at appropriate time then service experience will also good, because registration will helps in other process - admission, laboratory tests etc.
- The Pearson coefficient of correlation between average personnel clinical care and average administration procedure is 0.636 which is significant. If one decreased other will decrease or if increases other will increase. If personnel clinical care given correctly then the burden of administration will become less. If patient is satisfied with doctor's availability, his treatment and staff is polite then administrative procedure become easy. These all helps in increase the effectiveness of the organization.
- The coefficient of correlation between average personnel quality and average social responsibility is 0.421 which says that personnel quality also influences the social responsibility for patient mind significantly.

Regression - The output obtained from regression Tables 3,4,5 by SPSS software is as follows:

Table 3: Variables Entered / Removed[b]

Model	Variables Entered	Variables Removed	Method
1	AVGSR, AVGAP, AVGSI, AVGINFRA, AVGPCC, AVGPQ[a]		Enter

Note: a. All requested variables entered.

b. Dependent variables: AVGOEQ

Table 4: R^2 value of ABC Organization

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.484[a]	.234	0.095	0.36917

Note: a. Predictors: (Constant), AVGSR, AVGAP, AVGSI, AVGINFRA, AVGPCC, AVGPQ

b. Dependent variable: AVGOEQ

Table 5: Coefficients[a] of Regression of ABC Organization

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	2.015	1.465	
	AVGINFRA	0.035	0.336	0.21
	AVGPQ	0.384	0.331	0.267
	AVGPCC	0.141	0.319	0.101
	AVGAP	0.087	0.258	0.71
	AVGSI	–0.194	0.207	–0.158
	AVGSR	0.150	0.145	0.190

Note: a. Dependent Variable: AVGOEQ

The tables 4 and 5 concluded that -

We have six independent variable average infrastructure, average personnel quality, average personnel clinical care, average administrative procedure, average safety indicators, average social responsibility and one dependent variable overall experience of quality. Then our regression analysis equation is obtained by using table 5-

OEQ = 2.015 + 0.21AVG INFRA +0.267AVG PQ +0.101AVGPCC +0.71AVG AP + (–0.158AVGSI) +0.190AVGSR

That means the dependent variable is affected by infrastructure21%, by personnel quality26.7%, by personnel clinical care10.1%,by administrative procedures71%, by social responsibility 19% and 2.015 is as constant. That means customers (patients) are influenced by administrative procedures and personnel quality. Which influences them directly to the service quality with care.

The regression analysis gives information about R^2 value which indicates dependency of variables to the model. In our case R^2 value is .234 which means that 23.4% of the variance in the observed values of the dependent variable overall experience in quality (OEQ) is explained by the model and 76.6% of those differences remains unexplained in the error term. Some of the error is random and no model will explain it. Some variance will always remain in the error term. As long as it is random, it is of no concern.

ANALYSIS OF XYZ HOSPITAL FROM RESULT OBTAINED BY SPSS SOFTWARE

Results of Organization XYZ

Pearson Correlation obtained from Organization XYZ is in following Table 6:

Table 6: Correlation Coeff. of XYZ Organization

Variables	AVG INFRA	AVG PQ	AVG PCC	AVG AP	AVG SI	AVG OEQ	AVG SR
AVGIN-FRA	1						
AVGPQ	0.494**	1					
AVGPCC	0.526**	0.547**	1				
AVGAP	0.660**	0.453**	0.433**	1			
AVGSI	0.501**	0.342**	0.435**	0.395*	1		
AVGOEQ	–0.045	–0.1	0.082	–0.212	–0.072	1	
AVGSR	–0.028	–0.028	–0.070	–0.011	–0.077	0.259	1

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

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

Analysis of significant correlation coefficient of XYZ Organization shown in table 6:

- The correlation coefficient of average infrastructure and average personnel quality is 0.543 i.e. the increment or decrement depends on each other. The personnel quality deals especially with convenience by human nature , politeness , sympathy etc. It deals with reception staff, registration process their behavior and services which directly influenced by the infrastructure facilities so that effect the patient mind as well as employees mind. The infrastructure and personnel quality are correlated because if infrastructure facilities are good then personnel quality will improve.
- The correlation coefficient of average infrastructure and average personnel clinical care is 0.501 which is significantly. Personnel clinical care directly deals with the cleanliness and hygiene because for a patient this is very important to maintained these factors for early recovery from disease which can be done by improving infrastructure with facilities.
- The correlation coefficient of average infrastructure and average administrative procedure is 0.526. That means infrastructure will improve then administrative procedures will also improve. Practically we also seen that if there is availability of sitting and water facilities available then administrative procedures can be done fast. That will save the time and treatment can be start.
- The correlation coefficient of average infrastructure and average social responsibility is 0.419 significantly. It includes safety precaution with patient care and his health .They are also correlated with each other. Infrastructure plays important role in patient safety.
- The correlation coefficient of average personnel quality and average personnel clinical care is 0.684significantly. Personnel quality deals with admission to treatment while personnel clinical care deals after admission .Both are interrelated to each other because if patient not satisfy with the personnel quality then chances of satisfaction from clinical treatment decreases.
- The correlation coefficient of average personnel quality and average administrative procedure is 0.586 significantly. Human behavior influences the administration because the politeness, sympathy and helping nature are the most important quality for human which can effect patient mind.
- The correlation coefficient of average personnel quality and average overall experience in quality is 0.428 which is significant. Both the factors relates the procedure of quality from the admission to discharge that include confirmation of appointment to discharge receipt.
- The correlation coefficient of average personnel quality and average social responsibility is 0.421 significantly. Here personnel quality deals with the comfort ability of the patient like: reception staff availability, behavior of employees, documentation required at the time of treatment which effects the patient's mind so it relates the health safety of the patient.
- The correlation coefficient of average personnel clinical care and average administrative procedure is 0.636 which is significant. Process of clinical care and administrative procedure are interrelated by one point that includes in the questionnaire i.e. admission at appropriate time that means if admission is done as early as possible then treatment get started. So the patient get well soon.

REGRESSION ANALYSIS OF ORGANISATION XYZ

Regression analysis of organization XYZ is shown in the Tables 7,8,9-

Table 7: Variables Entered / Removed[b] XYZ Organisation

Model	Variables Entered	Variables Removed	Method
1	AVGSR, AVGAP, AVGSI, AVGPC, AVGPQ, AVGINFRA[a]		Enter

Note: a. All requested variables entered.

b. Dependent variables: AVGOEQ

Table 8: R^2 value of Organisation XYZ

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.448[a]	.201	.036	.44151

Note: a. Predictors: (Constant), AVGSR, AVGAP, AVGSI, AVGINFRA, AVGPCC, AVGPQ

b. Dependent variable: AVGOEQ

Table 9: Coefficients[a] of Regression XYZ Organisation

Model		Unstandardized Coefficients		Standardized Coefficeints
		B	Std. Error	Beta
1	(Constant)	2.587	2.376	
	AVGINFRA	.206	.334	.153
	AVGPQ	–.509	.431	–.260
	AVGPCC	.462	.312	.324
	AVGAP	–.627	.456	–.311
	AVGSI	–.064	.241	–.052
	AVGSR	.891	.471	.330

Note: a. Dependent Variable: OEQ

The following equation represents the regression coefficients with the assumed variables mentioned in Table 9-

OEQ=2.587+(0.153 AVGINFRA)+(–0.260AVGPQ) + (0.324AVGPCC) + (–0.311AVGAP)

+ (–0.052 AVGSI) +(0.330AVGSR)

Here R value is .201 that means 20.1% of the variance observed values of the dependent variable is explained by the model. The remaining percentage can be in the form of error or measure by the other model.

6. CONCLUSIONS

Thus we concluded that both organization work effectively but the infrastructure factor affects the efficiency of XYZ organization. ABC and XYZ Organizations have competition for improvement in the quality. We thought if infrastructure and facilities will increase then the organization growth improves rapidly. In this paper we focused all the facilities in the hospital by measuring patient experience so that it helps in quality improvement. The paper examined the impact of these initiatives on the quality of care and patient experiences. Hospital leadership training programme contributes to improve care quality. By personnel observation and by conversation with the hospital employees it is found that there is proper evaluation of performance of employees is done and meetings and conferences are done for developing the qualities in the employees for the progress of organization.

7. LIMITATIONS

The number of respondents are less thus this is a big limitation and for collecting the more data it will take long time from a hospital. Due to vast differences in scale of operations in these two hospitals more effective way could be apply, Data Envelopment Analysis that will help to measuring the effectiveness of the hospitals respectively.

8. FUTURE SCOPE

By analyzing the data the effectiveness of each organization can be measured with the help of this data the analysis of various factors can be done which affects the efficiency and effectiveness of the organization. So further examination can be done with the help of other factors which influences the overall performance of the hospital. Also comparative study can be done using data envelopment analysis (DEA) which may help in the progress of hospital in present competitive scenario.

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