

BARRIERS IN IMPLEMENTATION OF QUALITY IN INDIAN HEALTHCARE INDUSTRY***Dr. Anil Khurana******Sh. Satbir Singh****ABSTRACT**

Quality has become part and parcel for success and growth of any organization. Taking from manufacturing to service industry, all industry is adopting the TQM in their business mission and vision plan. Looking at the success of the organization introducing quality, healthcare industry is not behind in the race. They have also started implementing these principles but they find different barriers. The present paper is an attempt to identify those barriers in implementation of quality in Indian healthcare industry.

Keywords: TQM, Total Quality Management, Healthcare

INTRODUCTION

Over the past two decades, total quality management (TQM) has become most widely used and is considered as the buzz word in the management practices. Due to the large success of TQM in manufacturing companies, service organisations have started to follow in their footsteps and consider the application of TQM. Healthcare industry is no more untouchable to adoption of TQM principles in the business strategies. Treating patients as customers, patient satisfaction and increasing competition and several other business issues paved the way for implementation of TQM in this industry as well (Hart, M., 1996).

REVIEW OF LITERATURE

Kuei et al., (1997) found Firms culture; Mann and Kehoe (1995) stated management style; Fok et al.,(2000) established employees related factors are the key barriers to TQM. Kanji (1996) observed that management failure to lead among twelve barriers is the primary obstacle for TQM. Matta et al., (1996) found cultural change, failure to involve employees, absence of partnership with suppliers and customers are the major obstacles.

According to Kotter (1995), lack of vision, inadequate coalition with partners, lack of institutionalising quality and short term approach hinders TQM implementation. Ngai and Cheng (1997) attributed barriers related to employees, culture, infrastructure, managerial focus, communication and internal harmony. Sebastianely and Tamimi (2009) established that the obstacles related to TQM transformation is attributed to weak leadership, poor planning, lack of HRM, lack of customer focus and insufficient infrastructure for quality.

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(2006) studied implementation of TQM in Iran, and established that poor management control, lack of will to culture change, lack of team work, inadequate response to internal and external customers, and poor organizations response to environment are the major barriers to TQM. Jun et al., (2004) found high employee turnover, lack of training and resistance to change are the major barriers to TQM implementation. Bhat and Rajshekhar (2009) in a study in India, found that resistance to change and absence of benchmarking of best practices are most important barriers. In a study of British and Australian quality managers, Burchar et al., (2010) observed that inadequate communication, commitment and organizational inertia and insufficient resources are the major barriers to TQM.

RESEARCH METHODOLOGY

Objective of the Study: The prime objective of the study to identify the barriers in implementation of quality in healthcare industry in India.

Hypothesis: H_a : There is a significant difference in the barriers of quality of healthcare in different types of hospitals in India.

Research Design: The present study is exploratory cum descriptive study.

Sample Design: In total, there were be 400 respondents chosen from government, corporate and private hospitals. Sample included Hospital Administrators, Doctors, Paramedical staff and Pharmacists. Only those hospitals were considered for the study who were having minimum 50 bedded indoor patient department facilities.

Time of study: The duration of this study was conducted from Oct. 2011 to June 2012.

Research Tool: Well-structured questionnaire having 15 statements related to barriers of quality in Indian healthcare industry was used for the study (see annexure-1). Respondents were asked to answer on Likert 5 point scale ranging from strongly disagree to strongly agree keeping entire hospital in to consideration. MS-Excel and SPSS software to analyze the data.

DATA ANALYSIS & INTERPRETATION

Primary data was collected from 400 respondents based on four demographic variables. The distribution of the sample can be seen in tables 1, 2, 3, 4 and 5, which explains the characteristics of the sample. The data gathered was analysed with the help of statistical tools like mean, standard deviation, Factor analysis to find out the barriers of quality in healthcare industry in India. Wherever the significant difference were found, the mean scores were compared to see the responses of the various categories. Further Post hoc test analyses were performed.

Table 1: Type of Hospitals

| Type of Hospitals | Number |
|---------------------|------------|
| Government Hospital | 34 |
| Corporate Hospital | 33 |
| Private Hospital | 33 |
| Total | 100 |

Source: Field survey

Table 2: Demographic Characteristics of Sample - I

| Gender | Type of Hospital | | | Total |
|--------|---------------------|--------------------|------------------|-------|
| | Government Hospital | Corporate Hospital | Private Hospital | |
| Male | 87 | 90 | 83 | 260 |
| Female | 50 | 43 | 47 | 140 |
| Total | 137 | 133 | 130 | 400 |

Source: Field survey

Table 3: Demographic Characteristics of Sample - II

| Profession | Type of Hospital | | | Total |
|-------------------|---------------------|--------------------|------------------|-------|
| | Government Hospital | Corporate Hospital | Private Hospital | |
| Administrator | 24 | 24 | 22 | 70 |
| Doctors | 39 | 42 | 36 | 117 |
| Paramedical Staff | 60 | 53 | 57 | 170 |
| Pharmacist | 14 | 14 | 15 | 43 |
| Total | 137 | 133 | 130 | 400 |

Source: Field survey

Table 4: Demographic Characteristics of Sample - III

| Age | Type of Hospital | | | Total |
|-------------|---------------------|--------------------|------------------|-------|
| | Government Hospital | Corporate Hospital | Private Hospital | |
| 25-35 Years | 21 | 18 | 18 | 57 |
| 35-45 Years | 43 | 41 | 52 | 136 |
| 45-50 Years | 49 | 38 | 40 | 127 |
| Above 50 | 24 | 36 | 20 | 80 |
| Total | 137 | 133 | 130 | 400 |

Source: Field survey

Table 5: Demographic Characteristics of Sample - IV

| Experience | Type of Hospital | | | Total |
|--------------------|---------------------|--------------------|------------------|-------|
| | Government Hospital | Corporate Hospital | Private Hospital | |
| 0-3 Years | 13 | 12 | 15 | 40 |
| 3-5 Years | 41 | 37 | 32 | 110 |
| 5-10 Years | 67 | 64 | 58 | 189 |
| More than 10 Years | 16 | 20 | 25 | 61 |
| Total | 137 | 133 | 130 | 400 |

Source: Field survey

Annexure-1 gives a general view point of sample respondents towards 15 statements regarding factors influencing the quality of healthcare in India with the help of on a 5 point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree).

The range of mean values was found 3.21 to 3.88. The Cronbach's alpha value was found as 0.787 on all 15 statements. To test the appropriateness of factor analysis technique the correlation between the variables is checked and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy statistic is also used for the same. The approximate chi square statistic value is 1538.879 with 105 degree of freedom, which is significant at 0.05 level. The value of KMO statistic (.843) is also large (>0.5).

Table 6: Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 4.395 | 29.302 | 29.302 | 4.395 | 29.302 | 29.302 |
| 2 | 1.806 | 12.042 | 41.343 | 1.806 | 12.042 | 41.343 |
| 3 | 1.450 | 9.669 | 51.012 | 1.450 | 9.669 | 51.012 |

Source: Extraction Method: Principal Component Analysis.

In the table 6, it can be seen that first three factors account for 51.012 per cent of the variance from the cumulative percentage of variance, contributed by first component is 29.302 followed by second (12.042 per cent) and third (9.669 per cent) of total variance.

Table 7: Rotated Component Matrix

| Statements | Component | | |
|------------|-----------|------|------|
| | 1 | 2 | 3 |
| 1 | | .784 | |
| 2 | .670 | | |
| 3 | | | .820 |
| 4 | .726 | | |
| 5 | .645 | | |
| 6 | .670 | | |
| 7 | | .722 | |
| 8 | .692 | | |
| 9 | | .614 | |
| 10 | .694 | | |
| 11 | | | .799 |
| 12 | | | |
| 13 | | .558 | |
| 14 | .786 | | |
| 15 | .702 | | |

Source: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Table 7 namely rotated component matrix is useful for interpreting the factors. The rotation is made by the most commonly used method i.e. varimax procedure. This is an orthogonal method of rotation that minimizes the number of variables with the high loadings on a factor, thereby enhancing the interpretability of the factors. After the number of extracted factors is decided, the next task is to interpret and name the factors which are shown in table 8.

Table 8: Principal component results regarding Barriers of Quality in Healthcare

| Factors | Description | Loadings | Eigen values | % of Variance |
|---------------------------------|--|----------|--------------|---------------|
| F1 | Strategic Barrier | | 4.395 | 29.302 |
| | Unjustified TQM programme | .670 | | |
| | Unrealistic expectations | .726 | | |
| | Lack of long-term view | .645 | | |
| | Difficulties in changing organisational culture | .670 | | |
| | Mind set barriers | .692 | | |
| | Lack of innovation | .694 | | |
| | Placing a poor priority on quality improvement | .786 | | |
| | Poor coordination | .702 | | |
| F2 | HR & Procedural Barrier | | 1.806 | 12.042 |
| | Bureaucracy and paperwork | .784 | | |
| | High employee turnover | .722 | | |
| | Employee shortage and increased work load | .614 | | |
| | Lack of evaluation and self-assessment | .558 | | |
| F3 | Structural Barrier | | 1.450 | 9.669 |
| | Lack of physical resources | .820 | | |
| | Lack of financial support and cost of implementation | .799 | | |
| Total Variance Explained | | | | 51.012 |

COMPARATIVE ANALYSIS: BARRIERS OF QUALITY OF HEALTHCARE INDUSTRY (DIFFERENT TYPES OF HOSPITALS)

The various statements were subjected to One way ANOVA. When there are more than two categories to compare, we can apply One way ANOVA (Malhotra 2009). One of the assumptions for one way ANOVA is that there must be equality of variance among the various categories under consideration. Levene's test is a measure for the homogeneity of variance among the various categories. Sig values less than 0.05 indicates that the variance among the various categories is not the same. In this case an adjustment to F-test is used which was given by Welch and Brown-forsythe. So in the following tables when Sig value of Levene's test is less than 0.05, Welch and Brown's Sig values are considered else the usual ANOVA Sig values are taken. Wherever the significant difference were found, the mean scores were compared to see the responses of the various categories. Further Post hoc analyses were performed.

Table 9: Test of Homogeneity of Variance for different types of hospitals

| Factors | Levene Statistic | df1 | df2 | Sig. |
|-------------------------|------------------|-----|-----|------|
| Strategic Barrier | 4.138 | 2 | 397 | .017 |
| HR & Procedural Barrier | 9.014 | 2 | 397 | .000 |
| Structural Barrier | 1.323 | 2 | 397 | .267 |

Table 10: Analysis of Variance (Group: Different types of hospitals)

| Factors | | Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------|----------------|----------------|-----|-------------|--------|------|
| Strategic Barrier | Between Groups | 19.345 | 2 | 9.672 | 10.114 | .000 |
| | Within Groups | 379.655 | 397 | .956 | | |
| | Total | 399.000 | 399 | | | |
| HR & Procedural Barrier | Between Groups | 55.572 | 2 | 27.786 | 32.120 | .000 |
| | Within Groups | 343.428 | 397 | .865 | | |
| | Total | 399.000 | 399 | | | |
| Structural Barrier | Between Groups | 1.571 | 2 | .785 | .785 | .457 |
| | Within Groups | 397.429 | 397 | 1.001 | | |
| | Total | 399.000 | 399 | | | |

Table 11: Robust Tests of Equality of Means

| Factors | | Statistic* | df1 | df2 | Sig. |
|-------------------------|----------------|------------|-----|---------|------|
| Strategic Barrier | Welch | 10.620 | 2 | 194.325 | .000 |
| | Brown-Forsythe | 9.710 | 2 | 290.400 | .000 |
| HR & Procedural Barrier | Welch | 27.271 | 2 | 192.484 | .000 |
| | Brown-Forsythe | 30.876 | 2 | 291.680 | .000 |
| Structural Barrier | Welch | .789 | 2 | 199.100 | .456 |
| | Brown-Forsythe | .761 | 2 | 288.728 | .468 |

*. Asymptotically F distributed.

From the table 9, it is clear that in case of first two variables i.e. Strategic Barrier, HR & Procedural Barrier, since the value of Levene statistics significance is less than 0.5, therefore, in these cases, Welch and Brown-forsythe test was conducted. These test results are shown in table 11. The value of significance in case of Welch and Brown-forsythe test was found to be 0.000 which is less than .05, thus proving that alternate hypothesis is accepted that there is a significant difference in the barriers of quality of healthcare in different types of hospitals in India on these two barriers.

In order to know how, the different types of hospital differs on these two variable i.e. Strategic Barrier, HR & Procedural Barrier, the Post hoc Analysis was done with the help of Tukey's honest significance test.

While in case of third variable i.e. Structural Barrier, the value of Levene statistics significance is 0.267 which is more than 0.05, therefore, ANOVA was conducted and its value was also found to be 0.457 (table 10) which is greater than 0.05, proving that alternate hypothesis is rejected for this variables.

Table 12: Post hoc Analysis (Tukey HSD Test) – Multiple comparison

| Dependent Variable | (I) Type of Hospital | (J) Type of Hospital | Mean Difference (I-J) | Std. Error | Sig. |
|-------------------------|----------------------|----------------------|-----------------------|------------|-------|
| Strategic Barrier | Government Hospital | Corporate Hospital | -0.037 | 0.138 | 0.961 |
| | | Private Hospital | 0.428 | 0.110 | 0.000 |
| | Corporate Hospital | Government Hospital | 0.037 | 0.138 | 0.961 |
| | | Private Hospital | 0.465 | 0.132 | 0.001 |
| | Private Hospital | Government Hospital | -0.428 | 0.110 | 0.000 |
| | | Corporate Hospital | -0.465 | 0.132 | 0.001 |
| HR & Procedural Barrier | Government Hospital | Corporate Hospital | -0.834 | 0.131 | 0.000 |
| | | Private Hospital | -0.753 | 0.104 | 0.000 |
| | Corporate Hospital | Government Hospital | 0.834 | 0.131 | 0.000 |
| | | Private Hospital | 0.081 | 0.126 | 0.796 |
| | Private Hospital | Government Hospital | 0.753 | 0.104 | 0.000 |

| | | | | | |
|--------------------|---------------------|---------------------|--------|-------|-------|
| | | Corporate Hospital | -0.081 | 0.126 | 0.796 |
| Structural Barrier | Government Hospital | Corporate Hospital | 0.017 | 0.141 | 0.992 |
| | | Private Hospital | -0.119 | 0.112 | 0.540 |
| | Corporate Hospital | Government Hospital | -0.017 | 0.141 | 0.992 |
| | | Private Hospital | -0.136 | 0.136 | 0.573 |
| | Private Hospital | Government Hospital | 0.119 | 0.112 | 0.540 |
| | | Corporate Hospital | 0.136 | 0.136 | 0.573 |

* The mean difference is significant at the 0.05 level.*

In table no 12, the detailed examination of Post hoc analysis has been conducted with the help of Tukey HSD test. Strategic Barrier, HR & Procedural Barrier, Structural Barrier were taken as dependent variables and type of hospitals were taken as independent variable. If significant value is more than 0.05, alternate hypothesis is rejected and if value significant value is less than 0.05, alternate hypothesis is accepted. In this case, the significance value of Tukey HSD test confirms that for last dependent variable i.e. Structural Barrier alternate hypothesis is rejected. While for first two dependent factor Strategic Barrier, HR & Procedural Barrier, it is partially rejected and partially accepted. If we make comparison among the groups of different types of hospitals, we make the following inferences from the table 9, 11 and 12 on the basis of significance value:

Table 13: Hypothesis Results - I

| Barriers of Quality in Healthcare Industry in India | Hypothesis Result |
|---|-------------------|
| Structural Barrier | Rejected |

Table 14: Hypothesis Results - II

| Barriers of Quality in Healthcare Industry in India | Hypothesis Result | Independent variable | |
|---|--------------------|--|--|
| Strategic Barrier | Partially Accepted | Government Hospitals - Private Hospitals | Corporate Hospitals - Private Hospitals |
| HR & Procedural Barrier | Partially Accepted | Government Hospitals - Corporate Hospitals | Government Hospitals - Private Hospitals |

CONCLUSION

The current Study was able to identify the barriers of quality on Indian healthcare industry. These barriers are Strategic Barrier, HR & Procedural Barrier and Structural Barrier. In order to compete with the global standards, government should be liberal in providing more funds to this industry to provide better healthcare services. Health administrators should work on removal of these barriers to improve the quality of healthcare industry in India as Healthy person will work for the nation and then nation can progress.

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ANNEXURE - 1

Barriers of Quality in Healthcare Industry

Please provide your opinion on the following statements related to barriers of quality in healthcare in your hospital on five point scale. Options are 1 to 5 where 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree. (Please ✓ the relevant option)

| SNo. | Statement | 1 | 2 | 3 | 4 | 5 |
|------|--|---|---|---|---|---|
| 1 | Bureaucracy and paperwork | | | | | |
| 2 | Unjustified TQM programme | | | | | |
| 3 | Lack of physical resources | | | | | |
| 4 | Unrealistic expectations | | | | | |
| 5 | Lack of long-term view | | | | | |
| 6 | Difficulties in changing organisational culture | | | | | |
| 7 | High employee turnover | | | | | |
| 8 | Mind set barriers | | | | | |
| 9 | Employee shortage and increased work load | | | | | |
| 10 | Lack of innovation | | | | | |
| 11 | Lack of financial support and cost of implementation | | | | | |
| 12 | Time shortage | | | | | |
| 13 | Lack of evaluation and self-assessment | | | | | |
| 14 | Placing a poor priority on quality improvement | | | | | |
| 15 | Poor coordination | | | | | |