

# A study on the role of Total Quality Management practices in improving Employee Performance

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## Abstract:

The study has been undertaken to investigate role of Total Quality Management (TQM) practices in improving the employee performance. TQM is the management approach of an organization, centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction, and benefits to all members of the organization and to society. Employee performance refers to how workers behave in the workplace and how well they perform the job duties assigned to them. The research intends to study the role of the elements of Total Quality Management in improving the performance of these employees. Simple random sampling under the probability sampling method was adopted for the study. Primary data collection was done by the researcher from 390 respondents through a structured questionnaire. The data was analyzed using SPSS (Ver 20.0) The research findings help to understand the major elements of Total Quality Management and its influence on the performance of the employees.

**Keywords:** Total Quality Management, Employee Performance

## Introduction:

Total Quality Management has been a field of interest among researchers for a very long period. Numerous researches have been conducted study the dimensions of Total Quality Management and its implementation in manufacturing and service sector. The concept of TQM appeared during 1980s and many organisations due to globalisation and competition started to adopt TQM as an essential management philosophy used for improving quality and productivity, improving organisational performance and efficiency, solving

organisational problems, and achieving competitiveness. Implementing successful TQM practices in an appropriate way provides several benefits for organisations in different contexts such as: improved quality, increased productivity, more efficient and effective use of resources, eliminated defects, reduced scrap and rework, reduced wage and costs of poor quality, fewer complaints, improved employee involvement and commitment, employee motivation and morale, improved communication, increased customer satisfaction and retention, and improved competitive advantage. Even though the concept of TQM has received much attention in previous research, its role in improving employee performance is still under researched. There is therefore a need to examine the role of elements of Total Quality Management in improving employee performance.

## Review of Literature:

**Antony, J., Leung, (2002)** studied Total quality management (TQM) as an integrative management philosophy aimed at continuously improving the performance of products, processes and services to achieve and exceed customer expectations. This paper provides an empirical study on the identification of the critical success factors (CSFs) of TQM implementation in Hong Kong industries. Through a thorough and detailed analysis of the literature, 11 success factors with 72 elements were identified to develop a questionnaire. These items were empirically tested by data collected from 32 companies in Hong Kong. A factor analysis was carried out that identified seven CSFs with 38 elements of the implementation of TQM. These factors were shown to be reliable and

valid and offer new insights into the understanding of TQM success factors in Hong Kong industries.

**Taylor, W. A. and G. H. Wright; (2006)** The paper analyses seven dimensions of measurement relating to customer satisfaction, employee satisfaction, process performance, impact of TQM on costs, impact of TQM on sales, self-assessment, and benchmarking. The authors calculate a measurement-intensity score for each firm, based on how many of these seven parameters were being measured, and show that increased measurement intensity is strongly associated with perceived TQM success. Finally, using multivariate discriminant analysis, the authors identify eight variables that explain the level of TQM success with a classification accuracy of almost 90%. It is concluded that to attain the highest levels of TQM success, firms need to engage in the measurement practices of self-assessment and benchmarking, but the data suggest that an appropriate measurement framework needs to be in place beforehand.

**Tawfik Mady, M. (2009)** The purpose of this exploratory study is to survey quality management practices in two industrial sectors in the state of Kuwait. It aims to provide reliable and valid constructs for measuring quality management practices and to test the effect of type of industry and plant size on the implementation level. The results revealed four reliable and valid constructs: customer focus, total quality management (TQM) human practices, process quality resource, and quality measurements. While type of industry showed no significant effect on the level of implementation of the four quality management constructs, plant size was a determinant factor of the implementation of customer focus and process quality practices.

**Azam, M., Rahman, (2012)** Conducted a study to identify and critically analyze healthcare establishment (HCE) quality parameters described in the literature. It aims to propose an integrated quality model that includes technical quality and associated supportive quality parameters to achieve optimum patient satisfaction. The article provides insights into contemporary HCE quality parameters by critically analyzing relevant literature. It also evolves and proposes an integrated HCE-quality model. This article adds a new perspective to understanding quality parameters and suggests an integrated quality model

that has practical value for maintaining HCE service quality to benefit many stakeholders.

**Talib, F., Z. Rehman and M. N. Qureshi; (2013)** The purpose of this paper is to investigate the relationship between total quality management (TQM) practices and quality performance in Indian service companies. The findings revealed that TQM practices were found to be partially correlated with quality performance of the Indian service companies. It was also found that quality culture was perceived as the dominant TQM practice in quality performance. The other practices such as quality systems, training and education, teamwork, and benchmarking showed a positive relationship with quality performance.

**Vermeulen, A, Pretorius (2017)** This paper debates, by means of research conducted, that what generally is understood as “total systems thinking” as a basic “concept” towards Total quality management and supply chain capability is much broader than what is normally accepted in industry. The “concept” includes every process and sub-processes. Each of these factors have its own set of defined objectives, involving workflow, cut across departmental boundaries and require the input of resources from several departments within an organisation. Current research in both manufacturing and service industries in South Africa revealed that TQM and supply chain strategy have an influence on organisational performance measures and plays an important role in the performance and success of an organisation. The results of this study have a methodological significance and provided valuable information in the development of a measurement framework assisting identifying gaps between what is prioritised versus occurrence in terms of TQM and supply chain strategy. Furthermore, the results obtained from the study suggest a range of possible solutions which may assist organizations to obtain the desired TQM and supply chain performance level.

**Dedy, Aimie (2017)** The objective of this study was to analyse the relationship between TQM practices, process innovation and employee performance. In this study, six critical success factors of TQM have been identified namely customer focus, leadership, training, teamwork, communication, and top management. Results of the study support the proposed hypotheses that there is significant relationship between TQM

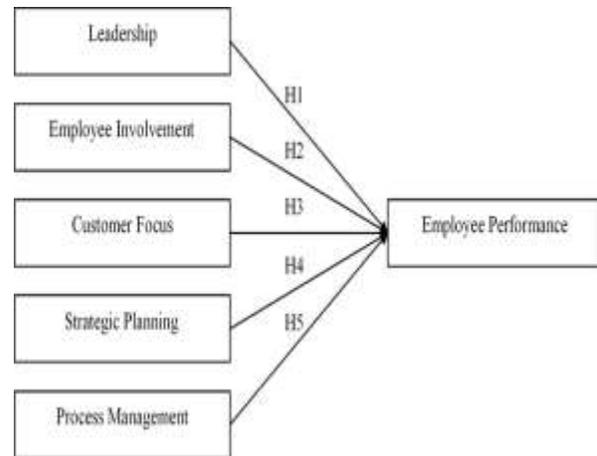
practices, process innovation and employee performance.

**Alsarayreh, Aktham (2019)** The aim of this study is to identify (TQM) implementation, and its effect on employee job performance level concerned with the assessment of demographic information, support senior management of the work procedures, expectations and needs and wishes of customers, expectations and needs and wishes of employees, continuous improvement, work procedures and engaging staff in decision-making. The conclusion of the study shows that the senior management support was in Average level, but the senior management adopts a strategic plan to achieve quality in all areas of the company in high level, Customers' needs and expectations was in High Level, and the result shows that one of the priorities of the company's employees is to satisfy the needs and desires of the customers.

**I. Othman (2019)** The purpose of this research is to identify, rank and analyze the factors affecting TQM implementation in a construction company so that industrial practitioners avoid poor quality products. In conclusion this research able to give a series of recommendation and a clear quality management which can be followed by the industry practitioners to ensure that Total Quality Management can be implemented.

### Conceptual Framework

The conceptual framework of the study is explained in the below diagram. In line with the research objectives and the hypothesis the researcher has set the below conceptual framework. The researcher intends to investigate the elements of Total Quality Management Namely Leadership, Employee Involvement, Customer Focus, Strategic Planning, Process Management and Employee Performance. The research framework has been depicted in the below diagram.



### Elements of Total Quality Management:

TQM is the management approach of an organization, centred on quality, based on the participation of all its members and aiming at long term success through customer satisfaction, and benefits to all members of the organization and to society. TQM is the control of all transformation processes of an organization to best satisfy customer needs in the most economical manner. TQM is an approach to improving the effectiveness and flexibility of business as a whole. It is essentially a way of organizing and involving the whole organisation, every department, every activity, every single at every level.

Employee performance refers to how workers behave in the workplace and how well they perform the job duties you've obligated to them. company typically sets performance targets for individual employees and the company as a whole in hopes that your business offers good value to customers, minimizes waste and operates efficiently. For an individual employee, performance may refer to work effectiveness, quality and efficiency at the task level. Individual performance affects team and organizational performance. If employees who can't keep up or who perform subpar work, this means that other workers may have to pick up the slack or that you have to have work redone. When employee performance is poor, then it may not be able to satisfy your customers and thus see negative impacts on your profits, company reputation and sales.

**Leadership** - It is the degree of acceptance of quality responsibility by top management, and participation in quality improvement efforts and monitoring this

application. Including, identifying culture for quality, commitment for quality improvement, guiding and affecting the company in setting quality strategy direction and sustaining effective leadership through the organization. They set policy, plan strategy and launch tactics for staff to execute.

**Employee Involvement** - Involvement of employees in quality enhancement activities such as: teamwork, employee suggestions, and employee commitment. employee involvement and teamwork can foster employee motivation and success through the opportunities to learn and to practice new skills. The increasing of workforce's knowledge, skills and motivation will lead the company's success. Indicators of total employee involvement are used in this research which are employee participation and empowerment, and the use of self-managed teams.

**Customer Focus** - The degree of an organization toward serving its clients' needs and expectations. By determining the customer's needs, as well as to receive feedback on the extent to which those needs are being met., and through involving the customer in the product design and development process, and focusing in achieving greater customer satisfaction. In measuring customer satisfaction, service quality is the most important thing which is the key for the organizational survival. Customer focus is one of four TQM elements that has a significant contribution to both the financial and operational performance. Indicators of customer focus in this research include organizational customer orientation, customer relationship practices, and customer satisfaction.

**Strategic Planning** - A systematic approach to defining long-term business goals, including goals to improve quality and plans to achieve them. It includes Analysis of external and internal environmental, strategy development, strategy deployment, and evaluation and control. The competitive advantages drive the organization with TQM implementation can achieve world-leading quality over time horizon. This term consists of several elements among others, vision, mission, broad objectives, and activities conducted in order to achieve broad objectives in which needed leadership for quality that is the top management responsibility. Strategic management is an approach to specify the organization objectives, to develop organization's policies, to determine plan in

attaining the objectives, and to manage resources for policies and plans implementation. The strategy should be harmonized with environment and should have capability to adjust the strategy so that it can compete and survive in the competitive business environment.

**Process Management** - Process management and management of activities is all about organizing, coordinating and management. It is one of the basic and daily activities of managers but also all other staff. The effective and efficient process's design, management and improvement that fully satisfy, and generate increasing value for, customers and other stakeholders. The basic procedural framework in an organization is the production process, which passes horizontally across the organization. Process management is closely related to process optimization. Process management methods focus on the correct setting of processes in a particular area or within the entire organization and on process innovation.

#### **Objectives of the Study:**

The research has been carried out with the primary objective of examining the relationship between the elements of TQM and employee performance.

#### **Research Design:**

Descriptive research design was used for the study. Primary data was collected using a well-structured questionnaire having 34 items with a five-point Likert's Scale. (1-Strongly Agree to 5-Strongly Disagree). The first section of the questionnaire has been designed to capture the demographic details of the respondent viz., Name, Age, Marital Status, Occupation, Department, Years of Experience, Educational Qualification and Salary. The second part of the questionnaire has been designed to capture the details regarding the variables used in the study viz., Leadership (6 items), Employee Involvement (6 items), Customer Focus (6 items), Strategic Planning (6 items) and Process Management (5 items). The third part of the Questionnaire is used to collect the details regarding employee performance (5 items). A total of 104 usable and complete questionnaires were collected. The information collected was tabulated and analyzed using SPSS 20.0.

**Results and Discussions**

**Table 1: Demographic Profile of the Respondents**

Demographic Profile	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Age	Less than 20	105	26.9	26.9	26.9
	21-30Yrs	135	34.6	34.6	61.5
	31-40Yrs	99	25.4	25.4	86.9
	41-50Yrs	12	3.1	3.1	90.0
	Above 50Yrs	39	10.0	10.0	100.0
Experience	Below 3Yrs	187	47.9	47.9	47.9
	3-5Yrs	119	30.5	30.5	78.5
	5-7Yrs	63	16.2	16.2	94.6
	7-10Yrs	21	5.4	5.4	100.0
Occupation	Foreman and Below	315	80.8	80.8	80.8
	Jr. Engineer	55	14.1	14.1	94.9
	Sr. Engineer	20	5.1	5.1	100.0
Salary	Below20000	112	28.7	28.7	28.7
	20001-30000	157	40.3	40.3	69.0
	30001-40000	50	12.8	12.8	81.8
	40001-50000	71	18.2	18.2	100.0
Education Qualification	HSLC/ITI	159	40.8	40.8	40.8
	Diploma	81	20.8	20.8	61.5
	Under graduation	99	25.4	25.4	86.9
	Postgraduation	51	13.1	13.1	100.0

The demographic profile of the respondents is mentioned in the above table (Table 1). From the table it's inferred that majority of the respondents 135 (34.6%) are in the age category 21 - 30 years, 105 (26.9%) of the respondents are in the age category of below 20 years, 99 (25.4%) of the respondents are in the age category 31-40 years, 12 (3.1%) of the respondents are in the age category 41- 50 years, 39(10.0%) of the respondents are in category of above 50 years of age.

As far as the salary is concerned, its inferred that majority of the respondents 157 (40.3%) of the respondents are in the salary range of Rs. 20001 – Rs.30000, 112 (28.7%) of the respondents are in the income category of below Rs. 20000, 50 (12.8%) of

the respondents are in the category of Rs. 40001- Rs. 50000.

In regards to the experience of the respondent's majority of the respondents 187 (47.9%) are less than 3 years of work experience, 119 (30.5%) are between 3 – 5 years, 63 (16.2%) are in 5 – 7 years, 21 (5.4%) are in the category of 7 – 10 years of work experience. In terms of occupation majority of the respondents 315 (80.8%) are in the category of Foreman and Below, 55 (14.1%) are in the category of Junior Managers, 20 (5.1%) are in the category of Senior Managers.

In terms of educational qualification majority of the respondents 159 (40.8%) have completed HSLC / ITI, 81 (20.8%) of the respondents have finished diploma, 99 (25.4%) of the respondents have completed their

under graduation, 51 (13.1%) have completed their post-graduation.

The items used in the questionnaire were analysed through factor analysis to recover out the relevant factors that specify the degree of employee performance. (Table2) Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity was carried out. KMO measure of sampling adequacy value was estimated to be 0.701 for the overall sample. The Bartlett's test of sphericity shows that the correlation among the variables is statistically significant (p=0.000). The

KMO and Bartlett's test results revealed the data to be fit for factor analysis.

Principal Component Analysis and Varimax rotation method was used and from the study. Table 3 shows the communalities of the loaded items and the amount of variance accounted by each of the items in the study which is between 58.7 and 83.5. The Principal Component Analysis (Table 4) showed that the 9 factors extracted account for 74.55 percent variation in the overall sample.

**Table 2: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.701
	Approx. Chi-Square	9845.252
Bartlett's Test of Sphericity	df	561
	Sig.	.000

Additionally, the test of reliability was conducted to test the reliability of the factors extracted. The Cronbach's Alpha coefficient (Table 5) for internal consistency was calculated to test the reliability. The Alpha coefficient achieved was 0.869 thus concluding that the factors were highly reliable in predicting the level of customer satisfaction. The reliability coefficient values of the factors are represented in the table 5.

**Table 3: Communalities**

	Initial	Extraction
Leadership motivates employees to continuously improve the quality of products/service	1.000	.802
Leadership makes employees aware of the importance of customer satisfaction	1.000	.733
Leaders engage the workforce	1.000	.599
Leadership encourage ethical behaviour in the organisation	1.000	.743
Leadership encourages the participation of suppliers in tackling quality issues	1.000	.736
Leaders allocate resources (e.g. Time budget) for quality improvement initiatives	1.000	.791
Employees are encouraged to participate in achieving the organisation's quality goals	1.000	.631
Employees are empowered to inspect their own work	1.000	.684
Employees are recognised for superior quality improvement initiatives	1.000	.752
Employee Suggestions are evaluated and implemented	1.000	.758
Employees are adequately rewarded for the performance of the work they do	1.000	.667
Sufficient resources are available for employees' work skills development and training	1.000	.693
Customer relationships are improved through customer feedback on product/service quality	1.000	.732
Customer relationships are evaluated through customer feedback on product/service quality	1.000	.686

Customer satisfaction is the core of the organisation	1.000	.767
Customers' Future expectations are thoroughly analysed through market studies	1.000	.789
Customers are supplied with information and details on the range of products/services provided by the organization	1.000	.587
Customer satisfaction is the core of the organisation	1.000	.663
Action plans are measured for efficiency and effectiveness	1.000	.835
Action plans produce desired results	1.000	.798
Strategic and operational plans are developed and implemented with a focus on quality	1.000	.691
Strategic and operational plans clearly set out objectives for managers and employees	1.000	.839
Strategic and operational plans are developed and implemented with a focus on customer satisfaction	1.000	.818
Strategic planning addresses the organisation's strengths, weaknesses, opportunities and threats.	1.000	.681
There is a degree of innovation in work processes to meet customer requirements	1.000	.780
There is a degree of innovation in work processes to meet key requirements of the organization	1.000	.648
Improvement in work processes leads to better performance through improved products and services	1.000	.805
The organisation designs, implements, manages and improves its work processes to deliver customer satisfaction	1.000	.765
The daily operations are designed to satisfy the requirements of the organization	1.000	.812
Increased Job Performance	1.000	.818
Reduced Absenteeism	1.000	.785
Increased Morale	1.000	.830
Reduced Employee Turnover	1.000	.822
Better Work Environment	1.000	.809

Extraction Method: Principal Component Analysis.

**Table 4: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.991	20.563	20.563	6.991	20.563	20.563	4.022	11.829	11.829
2	4.672	13.741	34.303	4.672	13.741	34.303	3.792	11.154	22.982
3	3.296	9.695	43.999	3.296	9.695	43.999	3.676	10.811	33.793
4	2.496	7.340	51.338	2.496	7.340	51.338	3.507	10.313	44.106
5	2.143	6.304	57.643	2.143	6.304	57.643	2.713	7.979	52.085
6	1.715	5.043	62.686	1.715	5.043	62.686	2.602	7.654	59.739
7	1.501	4.416	67.102	1.501	4.416	67.102	1.752	5.152	64.891
8	1.460	4.295	71.398	1.460	4.295	71.398	1.645	4.837	69.729

9	1.074	3.159	74.557	1.074	3.159	74.557	1.641	4.828	74.557
10	.993	2.920	77.477						
11	.917	2.697	80.174						
12	.790	2.325	82.499						
13	.718	2.113	84.612						
14	.606	1.784	86.396						
15	.551	1.619	88.015						
16	.459	1.351	89.366						
17	.405	1.192	90.558						
18	.400	1.175	91.733						
19	.345	1.014	92.747						
20	.311	.914	93.661						
21	.258	.757	94.419						
22	.242	.713	95.132						
23	.214	.629	95.760						
24	.194	.572	96.332						
25	.188	.552	96.884						
26	.157	.461	97.344						
27	.153	.451	97.795						
28	.146	.430	98.225						
29	.136	.399	98.624						
30	.124	.364	98.988						
31	.113	.334	99.321						
32	.087	.256	99.578						
33	.085	.251	99.829						
34	.058	.171	100.000						

Extraction Method: Principal Component Analysis.

**Table 5: Reliability Statistics**

Cronbach's Alpha	N of Items
.869	34

Table 6: Correlations

		Leadership	Employee Involvement	customer focus	strategi planning	process management	employee performance
Leadership	Pearson Correlation	1	.370**	.197**	.036	.000	.109
	Sig. (2-tailed)		.000	.000	.481	.993	.032
	N	390	390	390	390	390	390
Employee involvement	Pearson Correlation	.370**	1	.412**	.277**	.118	.372**
	Sig. (2-tailed)	.000		.000	.000	.020	.000
	N	390	390	390	390	390	390
customer focus	Pearson Correlation	.197**	.412**	1	.429**	.324**	.339**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	390	390	390	390	390	390
strategi planning	Pearson Correlation	.036	.277**	.429**	1	.424**	.450**
	Sig. (2-tailed)	.481	.000	.000		.000	.000
	N	390	390	390	390	390	390
process management	Pearson Correlation	.000	.118	.324**	.424**	1	.477**
	Sig. (2-tailed)	.993	.020	.000	.000		.000
	N	390	390	390	390	390	390
employee performance	Pearson Correlation	.109	.372**	.339**	.450**	.477**	1
	Sig. (2-tailed)	.032	.000	.000	.000	.000	
	N	390	390	390	390	390	390

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

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

In order to study the correlation between the elements of Total Quality Management and the Employee Performance Correlation analysis was performed and the results are shown in the table 6. It can be inferred that all the elements of TQM are showing a statistically significant correlation with employee performance and hence it can be concluded from the test results that there is a stronger relationship between the variables and the outcome is employee performance.

### Conclusion:

The research was carried out with the purpose of determining the elements of Total Quality Management and its influence on the employee's performance among manufacturing organisations in Chennai. The study revealed that there is a very significant influence of these elements on the performance of the employee. The study revealed that 9 factors account for 74.55 percent of the variation in the overall sample.

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