
IMPACT OF TRANSFORMATIONAL FACTOR OF DEMING'S PRINCIPLES IN PAPER INDUSTRIES

Article Particulars

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Abstract

This study attempts to test the relationship between age and category of job to values adopted by individuals and organizations which is one of the principles of Deming's. TQM is a major organizational change that requires a transformation in the Organization's Culture, Values and Beliefs, Processes etc., Data was collected through structured questionnaire method. The respondents in this study were employees of paper industries in Tamil Nadu. The study utilized primary data which is collected through questionnaire. Hypotheses were set and tested using IBM SPSS 21 version for statistical analysis. The result showed there is significant difference among age and category of job with respect to values for successful implementation of Deming's principles.

Keywords: Total Quality Management, Deming's Principles, values of employees and organization, Employees demographic profile.

Introduction

Economic globalization brings both challenges and opportunities for industrial companies. Especially, manufacturing companies are confronted with a challenging and increasingly competitive environment. Therefore, companies should be able to create conditions that support them both in the domestic and international markets. Both adopting and implementing a set of operations management practices was one of many ways to win the competition in the marketplace. There are many forms of best management practices in operations management area i.e., Just in Time Systems, Material Requirement Planning, Six Sigma, Lean Manufacturing, Enterprises Resource Planning, Supply Chain Management and Total Quality Management. One of the best

forms of Operations Management practices is Total Quality Management(TQM).Total Quality Management principles and techniques are now a well accepted part of almost every manager's ''tool kit''. According to Powell (1995),most large firms have adopted TQM in some form or other. This study focuses on difference in attitudes of employees towards values which plays a vital role in transformation of employees to TQM culture. **About Dr. William Edwards Deming**

Dr. William Edwards Deming is known as the father of the Japanese post – war industrial revival and was regarded by many as the leading quality guru in the United States. Japans products were treated as an inferior ones decades back, but today most of the companies have joint Ventures with Japanese companies because they were able to make quality products at cheaper prices. Japanese companies were able to become world leader in manufacturing Automobile parts and electronic products because of the implementation of Deming's principles.

Review of Literature

Banerji et al. (2005), in their study used the questionnaire contained 69 items that addressed Quality Management (QM) practices used by organizations, QM outcomes and organizational information. The target respondents for this study was executives attending management training at a leading Management Institute in India. Regression analysis was used to assess whether interventions associated with quality affected firm's performance as measured by improvements in quality of products and services relative to the industry, profitability compared to the previous year, and productivity relative to competitors. Quality interventions were categorized as participation, training, compensation, quality meetings, measurement, benchmarking and quality strategy. The findings of the study found that certain quality management practices had a significant impact on firm's level performance in terms of quality, profitability and productivity. For instance, compensation and performance appraisal linked to quality were found to be motivating to middle managers; leadership from senior management was seen through their interest in linking profitability to quality; the importance of training and quality related meetings is visible; continuous improvement and benchmarking techniques, are being used as ways of learning to improve quality of services. **Yang (2006)** investigated the relationships between HRM practices and TQM practices, the relationships between HRM practices and quality performance and the effect of HRM practices on the implementation of TQM. The questionnaires were sent to 300 high tech companies located in the Science- Based Industrial Park in the so-called 'Silicone Valley' of Taiwan. There were 62 valid questionnaires in the 64 responses, representing a response rate of 20.66 per cent, which is moderate given a relatively lengthy questionnaire. The results of the study on the effect of various HRM practices on individual TQM practices show that the implementation of HRM has a positive and significant effect on the performance of TQM except the practice of

'employee relations', which has a tiny influence on all TQM practices. The effect of HRM practices on the implementation of TQM show that the greatest influence on the implementation of TQM was the practice of 'training and education', followed by such practices as incentive compensation, employee development, recruiting and selection. In the implementation of many TQM programs – such as the adoption of new quality concepts, the set-up and practice of customer satisfaction systems, the use of Statistical Quality Control (SQC), a change in culture, and Quality Control Circle (QCC) – employee training and education was fundamental. TQM emphasizes employee involvement and teamwork, and this was encouraged by a good incentive system. The effect of implementation of HRM on quality performance depicted that HRM practices can have significant effects on employee satisfaction and customer satisfaction. HRM also positively affects employees' quality awareness and company image – which were also key factors in implementing TQM and attracting customers. The author concluded the study as the practices of 'training and education', 'incentive compensation', and 'employee development' produced the greatest influences on TQM. The HRM practices significantly affected the TQM implementation on 'cultural change and development', 'customer satisfaction management', and 'statistical quality control' to a greater extent than the other TQM practices. The study also analyzed the effects of HRM on TQM on quality performance. Both HRM and TQM significantly affected quality performances. Finally he comments that HRM and TQM combined can improve total quality and organizational performance. **Karuppusami and Gandhinathan (2007)** assessed the status of quality management in Indian industries. The survey based on Visual Basic (VB) software has been developed for collecting responses through e-mail and internet to meet the respondent's convenience of answering and also for a faster response rate. Three hundred e-mails with the survey questionnaire file attached were sent to selected ISO 9001 certified companies in India. A total of 104 responses were received and were analyzed using the SPSS statistical package. The analysis indicates that top management in Indian manufacturers expressed a high commitment to quality management. Managers had strong quality awareness and were willing to take responsibility for quality improvement. Further the study found that Indian manufacturers provide enough on-the-job training in quality management for employees. Most Indian manufacturers have implemented effective quality management programmes and have set clear specifications for their products and services. **Alexandros and Wilkinson (2007)** in their study investigated the hidden agenda of managers' attitudes towards the adoption of TQM. The qualitative research methodology was followed based on semi structured interviews with managers working in Greek public and private organizations. The research findings of the study shows that Greek managers are aware but do not fully understand 'soft' TQM principles and, consequently, do not apply them in their day-to-day work. The 'hard' side of TQM is seen as the key to organizational performance and processes.

Regarding the awareness of TQM managers from both sectors had negative responses in the 'soft' side of TQM. In managers' minds 'soft' TQM principles are of little importance, and 'hard' TQM is seen as being critical for both sectors of employment although familiarity and use of TQM techniques and tools is lower in the public sector. In conclusion, there is a strong belief shared among managers working in both sectors of employment that TQM may have some potential to succeed, but this only relates to the 'hard', technocratic side. In contrast, 'soft' principles and ideas are not seen as overcoming a well-established autocratic and power-oriented business culture. **Kumar and Shankar (2007)** assessed how the Indian culture compares with the cultural requirement of TQM and what aspects of Indian culture need to be modulated so as to lead to successful TQM implementation. By analyzing various literatures the authors found that there are two cultural requirements for successful TQM implementation: one is collectivistic culture and another is empowering and participative style of management. However, collectivistic society tends to be more hierarchical, i.e. high on power distance that does not support empowering and participative style of management and thus is not conducive for TQM implementation. Therefore, the author explains how these two apparently contradictory cultural requirements of TQM can be dealt with in the context of Indian culture.

Objectives of the Study

To study the demographic profile of the respondents and its influence towards values for successful implementation of Deming's principles.

Methodology

For this study, the researcher used a well-structured questionnaire to collect the data from the respondents. The questionnaire includes two parts, like demographic profile of the respondents and questions related to values for successful implementation of deming's principles. The researcher used ANOVA analysis to identify the difference among demographic profile of respondents with respect to values for successful implementation of deming's principles. IBM SPSS 21 version was used for statistical purpose.

Results and Discussions

Difference among Age with Respect to Values for Successful Implementation of Deming's Principles

In this study, values for successful implementation of Deming's principles consist of two factors that measure individual values and organizational values. Age is classified into three, less than 30 years, 31-40 years and 41-50years. One way ANOVA is used to test the difference among age with respect to values for successful implementation of

Deming's principles. The table below shows the Mean, Standard Deviation and One way ANOVA results.

H₀: There is no significant difference among age with respect to values for successful implementation of Deming's principles.

Table 1 Difference among Age with Respect to Values for Successful Implementation of Deming's Principles

Values for successful implementation of Deming's principles	Less than 30 years		31-40 years		41-50 years		F value	P value
	Mean	SD	Mean	SD	Mean	SD		
Individual Values	4.77	0.448	4.53	0.501	4.65	0.486	16.905	0.000**
Organizational Values	4.66	0.475	4.52	0.569	4.74	0.445	5.841	0.003**

Note : 1. ** denotes significant at 1% level.

2. * denotes significant at 5% level.

Since P value is less than 0.01, null hypothesis is rejected at 1% level with regard to the dimension of individual values and organizational values. Hence there is significant difference between age with regard to the dimension of individual values and organizational values.

Difference among Category of Job with Respect to Values for Successful Implementation of Deming's Principles

In this study, values for successful implementation of Deming's principles consist of two factors that measure individual values and organizational values. Category of job is classified into three, junior level manager, middle level manager and senior manager. One way ANOVA is used to test the difference among category of job with respect to values for successful implementation of Deming's principles. The table below shows the Mean, Standard Deviation and One way ANOVA results.

H₀: There is no significant difference among category of job with respect to values for successful implementation of Deming's principles.

Table 2 Difference among Category of Job with Respect to Values for Successful Implementation of Deming's Principles

Values for successful implementation of Deming's principles	Junior Level Manager		Middle Level Manager		Senior Manager		F value	P value
	Mean	SD	Mean	SD	Mean	SD		
Individual Values	4.82	0.384	4.55	0.545	4.52	0.502	25.595	0.000**
Organizational Values	4.67	0.471	4.57	0.542	4.54	0.553	3.416	0.034*

Note : 1. ** denotes significant at 1% level.

2. * denotes significant at 5% level.

Since P value is less than 0.01, null hypothesis is rejected at 1% level with regard to the dimension of individual values. Hence there is significant difference between category of job with regard to the dimension of individual values. Since P value is less than 0.05, null hypothesis is rejected at 5% level with regard to the dimension of

organizational values. Hence there is significant difference between category of job with regard to the dimension of organizational values

Conclusion

Organization requires a transformation in its culture, values, beliefs, processes etc., for the successful implementation of Deming's principles. Since, the result showed significant difference regarding age and category of job to values of employees and organization, the organizations of paper industry should concentrate on employees attitudinal change towards values to accomplish transformation from its present culture to TQM culture.

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