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Managing Quality for the Success of Organisations & Businesses in Globalised Environment

Dr. R. Satya Raju, Ph.D
Former Principal,
College of Arts and Commerce,
Andhra University,
Visakhapatnam.

T. Sowdamini, MBA
Assistant Professor,
Department of Management Studies,
Pydah College of Engineering and Technology,
Visakhapatnam.

Managing quality is the key factor for the success of several organizations in the globalised environment. All organizations have been trying to improve quality to have competitive advantage. Quality initiatives began to develop in the early 1930s. Walter Shewhart made a significant contribution to the philosophy of quality improvement with his book "Economic Control of Quality of Manufactured Products". Shewhart with a stroke of a pen developed the control chart, which relied on probability and statistical theory to define common-cause and special-cause variation of manufactured products. Shewhart's work provided the statistical basis for many quality improvement initiatives of the 20th century. This article seeks to examine the issues relating to the concept of Six Sigma, brief review of literature, profile of LG polymers, need, objectives, methodology and observations of the study. At the end some suggestions are given for effective implementation and sustainability of Six Sigma.

The Concept of Six Sigma:

Six Sigma is valuable because it creates an environment for improving productivity and efficiency in a business environment of continuous improvement. It gives everyone an opportunity to make improvements to traditional processes. It creates a disciplined, knowledge-based approach designed to enhance customer satisfaction and build a customer culture that embraces innovative approaches to technology and business development. Overall, it is a highly structured strategy for acquiring, assessing and applying customer expectations with manageable solutions for the purposes of product, system or enterprise innovation and design. The key objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduc tion through the application of various Six Sigma methodologies including the key processes like DMAIC and DMADV. The other objectives of Six Sigma methodology are, to increase customer satisfaction, to enhance competitiveness, to change organizational culture, to make advancements toward formal quality award application, to develop organizational competencies and to improve organizational performance.

Profile of LG Polymers:

The company was incorporated in 1961 as "Hindustan polymers" for manufacturing styrene monomer, polystyrene and its co-polymers at Visakhapatnam, merged with Mc Dowell & Co., Ltd.,. of UB group in 1978. LG chemical considered India as an important market and in its aggressive global growth plan identified Hindustan polymers as a suitable company for entering Indian market through 100 per cent takeover by LG Chem. (South Korea), Hindustan Polymers was renamed as LG Polymers India Private Limited (LGPI) in July 1997. In the year 1997, LG Chem.., Korean multinational took over the company from McDowell & Co ltd. The objective is high productivity with low manpower. Under McDowell the company produced the raw material, styrene on its own which led to the losses. But as it was taken over by Korean Company; the raw material was imported from Korea and Saudi Arabia at a comparatively low cost. By reducing the man power and also the cost of production slowly the company came out of losses and started increasing profits and ultimately the company reached a profitable stage.For the first time they made a profit of 28 Crores. Later due to market and cut throat competition, they faced losses. Further, to meet customer satisfaction, LG Started improving the quality instead of increasing the price to meet the market compensation.

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At present they face stiff competition from Supreme Industries, Pushpa Polymers and BASF. In 1961 – Initially the company started and incorporated as Shri Ram Mills Group, 1962 – The Company was again incorporated as "Hindustan Polymers", 1964 – The Company had collaborated with "BX Plastic Ltd. London" to produce Polystyrene, 1967 – Alcohol production plant was started.

Need for the Study:

Six Sigma as a powerful business strategy which has been well recognised as an imperative for achieving and sustaining operational and service excellence. While the original focus of Six Sigma was on manufacturing, today it has been widely accepted in both service and transactional processes. It is also a measure of quality that strives for near elimination of defects using the application of statistical methods. In Six Sigma, a defect is defined as any process output that does not meet customer specifications, or that could lead to creating an output that does not meet customer specifications. One key innovation of Six Sigma involves the "professionalizing" of quality management functions. Six Sigma utilises the concept of statistical thinking and encourages the application of well-proven statistical tools and techniques for defect reduction through process variability reduction methods. Prior to Six Sigma, quality management in practice was largely relegated to the production floor and to statisticians in a separate quality department.For global competitiveness, Indian industries have been striving to achieve overall operational excellence in their businesses. To respond to the fast changing economic conditions and customer needs, various industrial engineering and quality management strategies such as ISO 9000, TQM, KAIZEN, Just in Time (JIT) manufacturing, Enterprises Resources Planning (ERP), Lean Management, Business Process Reengineering (BPR) have been developed. A new paradigm in this area of manufacturing strategies is Six Sigma.As per the literature review the Six Sigma practices in various organisations are very limited. LG polymers India Pvt. Ltd. is committed to customer satisfaction. To foster the same LG Started improving the quality instead of increasing the price to meet the market competition by using one of the quality initiatives like Six Sigma. So far there has been no study conducted on Six sigma in LG Polymers, Visakhapatnam.

Objectives:

The following are the objectives of the study:

- To examine the Six Sigma tools and techniques.
- To study the project implementation and advantages of Six Sigma.
- To analyse the perceptions of employees in implementation process of Six Sigma.

Methodology:

The study is based on primary and secondary sources of data. The population consists of 300 employees of LG polymers in Visakhapatnam. Primary data has been collected from 150 employees based on simple random sampling technique. While preparing the sample design, the nature of the work of the employees and position in the departments where they are working is considered as the basis. They are namely Mangers, Assistant Managers, Engineers, Officers and Chemists from the departments of Commercial (QAD, QI&S, F&A, EDP, M&I, IR&HR and Safety), Engineering (engineering, Innovative and process engineering) and Production (GPPS, HIPS, EPS).

The questionnaire has been originally administered with a small sample of 30 respondents for the pilot study. Later the questionnaire has been finalized and date collected from 150 employees. The major sources of secondary data are books, journals reports and records available at various libraries and websites.An attempt has been made to analyze and understand the perceptions of the sample respondents about Six sigma Practices in LGPI. The tabulations and the results for analysis were done with the help of SPSS (Statistical Package for Social Sciences) version 16, MINITAB version-15 and Microsoft Excel-2007 for Statistical measurements such as simple percentages, mean values.

Observations:

- The age group of 31-40 years of employees working at LGPI have well knowledge and awareness on the six sigma practices followed, when compared to other age-groups.

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• Majority of the respondents belong to the engineering profession have well awareness in the implementation of Six Sigma followed by the Assistant Managers, Managers and Chemists.

• About 96 per cent of the respondents are from engineering department, 91 per cent from commercial department, 90 per cent from production department have responded that, if they had to do the overall given assignment at any point of time they are in a situation to handle it, which indicates a positive sign for LG Polymers.

• About 77 per cent respondents of commercial department have prior experience with training, 52 per cent from engineering, and 100 per cent from production department has an idea and experience with training and further it is depicted that 73 per cent have opined that they have prior experience with training and remaining 27 per cent have no prior experience with training.

• A vast majority of respondents from production department have revealed that through the implementation of six sigma practices they can improve job satisfaction levels of the employees at LG Polymers, whereas the other departments have multiple opinions regarding this.

• The overall opinion of the respondents reveals that the average project length after the initial training can be less than 3 months where 57 per cent of the respondents agreed to it with respect to commercial, engineering and production departments.

• Most of the respondents i.e., 56 per cent who belong to commercial, engineering and production departments have supported the statement that a well structured performance improvement program can be sorted out within a year.

• About 60 per cent of the respondents opined that through VOC (voice of the customer) method the quality management and process improvement methods can be employed in terms of results which can be generated at LG Polymers.

Conclusion:

The following suggestions are expected to improve the quality environment further. The company has to develop well designed training programmes and also provide continuous training to the employees for better execution of the projects.The management has to create awareness among the employees regarding the Six Sigma practices. The Six Sigma implementation helps for increase in job satisfaction among the employees in the organization, some monetary benefits to be provided to them.

The organization has to engage consultants for better results wherever recovered. Timely reviews on Six Sigma projects in relation to performance improvement of the organization is essential. The management of LG polymers has to undertake proper measures to complete the projects on time which will not only give better results and also improves the quality standards of the organization.

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