

Study on Production Process and Quality Standards Assurance at Mypol Pvt. Ltd., Mysore

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Abstract:

This paper empirically examines an employee awareness of quality and the quality assurance at workplace in the manufacturing of Rubber Products at Mysore Polymers & Rubber Products Pvt. Ltd, Mysore (MYPOL). Quality Standard assurance is necessary to perform actions by enriching skills throughout the business stages which helps in fixing a problem in a heuristic manner. Considering the importance of quality system and certain challenges, quality has become a key concern to every industry. The goal is to analyze the effect of quality understanding of employees at workplace for avoiding defects in the product. The survey was conducted through a questionnaire method by distributing it to the employers of MYPOL to collect the data. Chi-square test and ANOVA analysis is done based on 50 respondents to analyze the data and draw the conclusions. The study includes various literature reviews to decide the right component to improve Rubber products quality.

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I. INTRODUCTION

Quality is a main factor in manufacturing life cycle of a product. Quality is an important aspect in the manufacturing process of a product that satisfies the customer requirements. Awareness of Quality is a method to support quality actions by highlighting the quality in all stages of business, which helps to resolve complicate discus. Awareness of Quality is a combined concept of quality system. This indicates that you are educated group on the required quality characteristics, where it required to carry out their tasks, which help them to lead the actual value and standards. Quality is essential to the effectiveness competitive to all industries to serve their customers to the extent expected by their customers. Process, Raw material, final inspection, and customer are the main considered areas of control program in quality. Improving quality awareness inside the company initiated with management. Workers may not aware that the company standards in quality might get to know how quality impacts the business financial base line. When personnel of the organizations

understand the company standards and value of the quality they respond positively and plays a better role in producing high quality products as per the requirement of the customer and helps to improve in the quality. Providing training to both managerial and non-managerial employees is essential to give knowledge about the quality of the product and working conditions that brings in understand the quality requirement and standards in every employee.

The Mypol quality policy is "Prosper by Quality" that is to build confidence as a vendor via total workers commitment in quality by providing integrity high standards in all aspects of a production. Mypol is an ISO 9001:2008 certified company; they focus mainly on the quality of the product and customer satisfaction. They perform an operation according to their customer satisfaction

II. LITERATURE REVIEW

1) Hayati, Novitasari (2017) studied on "An analysis of tourist service quality toward customer satisfaction". They found by analyzing the quality

of Services of Tourism and to provide facilities to the tourist by reviewing their feedback. According to him the satisfaction of all legitimate products and the need for service, customer requirements and expectations, at acceptable prices, in accordance with quality factors underlying such as safety and protection, purity, availability, transportation, legitimacy, tourism management activities

2) Saravana, Murali (2019) studied on “Brand awareness and preferences towards Qualcomm Snapdragon in mobile among consumers” and Concluded that the company should focus on unique things to resolve the quality of graphics and heating problems, etc. The researchers focused on brand awareness consumer awareness and preferences and product quality.

3) AlifFianto (2018) conducted a study on “Antecedents’ of customer satisfaction for a small-medium product in Indonesia”. They analyzed the product quality of the small-medium enterprise and revealed the effect of product quality perceived price and advertisement towards customer satisfaction in some cities of Indonesia.

4) Sambasivan, Vennilaashree (2018) did a investigation on title “A study on quality and production recital of Coir Industry” They studied how coir industry carries out quality improvement program every year to induce the employees in concluded that with the help of international standards increasing the export quality need to conduct the export comparing for coir industry.

5) Hasan Alawi (2017) studied “Application of quality control program for asphaltic concrete mixtures in Makah Plants” and he studied the concept of the quality control program to asphaltic concrete mixes plant in Makah area to improve the quality of materials and process used in the construction of highway project

6) Bergman, Bengt (2003) researched on “Quality from customer need to customer satisfaction” They mentioned the concept of quality improvement tools in the production process which

deals with the contentment of external and internal customers.

7) Zang, Yang, Weizhuo (2017) conducted a study on “The quality management of manufacturing process based on manufacturing execution system” and concluded that product manufacturing process quality control implementation by providing complete production to the data integration of manufacturing execution system will be a numerous trust and release enterprises to improve quality and establish an image with high quality.

8) Yuen, Chan (2010) studied on “Effect of retail service quality & product quality on customer loyalty”. They focused to test the impact of quality of the retail service and product quality on buyer loyalty, satisfaction where the quality of retail service is correlated with client’s loyalty and focused to store and staff level of retail relationship.

9) Colledani, Tolio (2006) conducted a study on “Impact of quality control on production system performance”. They studied the impact on quality of the product and considered measures to reach the quality requirements, impact the productivity performance of study and found the relations among logistics and quality control systems.

10) Colledani (2011) studied on “Joint design of quality & production control in multi-stage Asynchronous manufacturing system” and mentioned about the quality and production control parameters in integrated methodology in the latest JIT production system in multi-stage Asynchronous manufacturing-lines

III. OBJECTIVES OF THE STUDY

- To access the quality improvement development program and clients satisfaction.
- To evaluate the internal quality conscious of Mypol employees working conditions.

IV. RESEARCH METHODOLOGY

Research method is a plan and technique of varied strategies used for collection of data and analysing the new information for conducting a research. An individual plans before starting a research. This study of course of action of an investigator is known as research plan. Methodology includes sampling design, research plan and speculations for data research and analysis

V. DATA ANALYSIS AND INTERPRETATION

Method of Data Collection:

Primary Data

The primary data are directly collected from the respondents for the first time is primary information. The information's are fresh and unique data. The primary information's are collected from MYPOL factory employers by using well-structured questionnaire.

Secondary Data

Secondary data are indirectly collected from someone else. Secondary information is collected by company websites, research scholars, journals and text literature and publication research

Tools for Analysis

Data has been collected through structured questionnaire by distributing to the employers of MYPOL for the purpose of collecting the information. These data are analyzed by applying SPSS 16.0. Used statistical tools are Chi-square test and ANOVA. Sample size of the study includes 50 respondents of MYPOL employers in the city of Mysore

a. Chi-Square Test

% of Managerial Personnel who Undergone Quality Improvement Training			
	Observed N	Expected N	Residual
25 – 50	19	25.0	-6.0
50 – 75	31	25.0	6.0
Total	50		

% of Non-Managerial Personnel who undergone Quality Improvement Training			
	Observed N	Expected N	Residual
25 – 50	17	25.0	-8.0
50 – 75	33	25.0	8.0
Total	50		

Test Statistics		
	% of Managerial Personnel who undergone Training	% of non-Managerial Personnel who undergone Training
ChiSquare	2.880 ^a	5.120 ^a
Df	1	1
Asymp. Sig.	.090	.024

0 cells (0.0%) estimated frequencies have < 5.

Minimum expected value of Cell Frequency is 25.0.

Null hypothesis (H0): Non-Managerial workers have more impact on the improvement of quality in training.

Alternative hypothesis (Ha): Managerial workers have less impact on the improvement of quality in training.

From above table, percentage of managerial personnel who undergone quality improvement training, the calculated value of chi-square test is 2.880 and percentage of Non-Managerial personnel who undergone quality improvement training, the calculated chi-square test is 5.120. The critical value in the appendix is 3.84 for significance level of 10% and degree of freedom is 1. As the estimated value less than the table value will get accept the null hypothesis, and will get reject the alternative hypothesis. Therefore, it is decided that The Company trains non-managerial personnel more than managerial personnel to provide awareness on quality of the product.

b. F-Test

Descriptive								
Organization's Perception of Quality								
	N	Average	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Lowest	Highest
					Lower Bound	Upper Bound		
elimination of defects	36	3.42	1.296	.216	2.98	3.86	2	5
a tool to increase profits	10	5.00	.000	.000	5.00	5.00	5	5
a competitive advantage	4	5.00	.000	.000	5.00	5.00	5	5
Sum	50	3.86	1.309	.185	3.49	4.23	2	5

ANOVA					
organization's Perception of Quality					
	Total of Squares	df	Average Square	F	Sig.
Among Groups	25.270	2	12.635	10.108	.000
In Groups	58.750	47	1.250		
Sum	84.020	49			

Null hypothesis (H0): no significant effect on the quality perception between quality product and

employees quality awareness

Alternative hypothesis (Ha): positive and significantly affecton the quality perception between quality product and employees quality awareness

According to the analysis of variance the factors that are considered are profit and competitive advantage with the confidence level of 95% and 5% significance level.As shown in the SPSS table, the degree of freedom is 2, the sum of square value is 25.27 and the value of mean square is 12.63, therefore the F value being 10.108 falls far below the F critical value which is 3.18 is for 47 degree of freedom within groups and 2 degree of freedom between groups. Since 10.108 falls far behind 3.18, will exclude null hypothesis, and will establish substitute hypothesis

VI. CONCLUSIONS

Quality awareness is an essential factor of every company as it influences the client satisfaction and the quality of the product. So, making understanding of importance of quality and bringing awareness in every employees of the company is essential that helps to maintain the standards.

MYPOL is the India's leading manufacturer of Butyl automotive inner tubes and the company maintains its quality according to its satisfaction of customer, teamwork and constant improvement in product and process. The company has ISO9001:2001 certification to improve its quality in the product.

The survey is conducted in Mypol Private limited, Mysore through well-structured questionnaire by taking consideration of 50 respondents. According to the result of the survey it is evidently seen in the hypothesis testing on the two objective which are concerned with parameters of quality improvement development program and client's satisfaction and internal quality conscious of employees.

According to the hypothesis conducted on two factors quality improvement program and client satisfaction and internal quality conscious of employees, it is predominantly seen that there is a

very strong hypothetical motion between quality improvement program and client satisfaction as null hypothesis get accepted and alternative hypothesis get rejected. As per the survey the company has full support of top management in quality improvement program and after implementing the program the company seen the drastically improvement in the product quality. The training program on quality system is given to employees with industry standards for the work they perform. According to the survey it is clear that the company mainly focuses on non-managerial employees than managerial employees in providing quality training to make them better understanding of quality standards in the product. In the second factor it is seen that hypothetical motion between internal conscious of employees and employees with their working conditions, will reject the null hypothesis and will accept the alternative hypothesis. As per study organization view of quality is to eliminate defects to improve its quality and to satisfy the internal and external customer.

Therefore, the top management supports employees in improving the quality. By providing awareness on quality by various program and training helps the employees to improve their knowledge and understand their role to produce high quality of product.

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