



A STUDY ON IMPORTANCE OF QUALITY MANAGEMENT
IN MANUFACTURING INDUSTRIES

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Abstract-

Quality means the totality of features & characteristics of a product or service that bear on its ability to satisfy given needs.' The major **Dimensions of Quality** are features, performance, conformance, reliability, durability, service, aesthetics of product, product life, specifications and response of manufacturers & dealers to the customers. It is the excellence in products & services that fulfils the expectations of the customers.

Quality Management System (QMS) is a set of policies, processes, systems & procedures work with a focus to meet customer requirements and co-ordinate, direct & improve the organization's efficiency & effectiveness on a continuous basis. The principles of QMS involves; customer focus, involvement of people, process approach, system approach to management, continuous improvement, factual approach to decision making, leadership, mutually beneficial suppliers relationships and so on.

Keywords – Quality, Dimensions of Quality, excellence, conformance, reliability, service, customers focus, improvement.

Objectives of Research-

1. To study the objectives/ functions of Quality Management.
2. To study the importance of Quality management for production processes & technology.
3. To know the impact of Quality management on promotion of products.
4. To study the role of the function for market creation.
5. To know the importance of function in lead or customer generation & their retention.
6. To know the customers' view about the products & services of the company.
7. To know the employees' perspective about better quality materials.
8. To study the impact of Quality on the productivity of individual & overall.

Introduction-

“**Quality** is combination of fitness of purpose, adequacy of functioning & reliability, for the price paid, design & manufacturing characteristics tailored to meet customer's requirements.” Quality is something that is associated with a product connected to its uses, functions, benefits, performance, look, ingredients, advantages, etc. **Quality** is not an accident, but it is the result of intelligent efforts. It is measured in terms of the satisfaction of consumers, the degree of fulfilling their requirements. Quality is the excellence in products and services that fulfils the expectations of customers.

Product quality means to incorporate features that have a capacity to meet consumer needs, making them free from any defects or deficiencies and meeting with the given specifications of the product. **Process quality** refers to the degree to which the acceptable processes & methods including measurements & criteria for quality matches and how much it can be effective to produce quality products. **Service quality** is a term which describes a



comparison of expectations with performance. It is the conformance to specifications, service, excellence, value and meeting requirements.

Quality Assurance focuses on improving the processes to deliver quality products to the customers. It is a set of activities for ensuring quality in the processes by which products are developed. **Quality Control** focus on identifying defects in the product produced and take corrective actions to clear it. It is a set of activities for ensuring quality in products. **Quality Assurance** function has a goal of improving, developing and testing processes so that defects should not arise when the products are being developed. **Quality Control** function has a goal of identifying defects after a product is developed & before its released.

The approach of **Quality Assurance** is to establish a good Quality Management system and the assessment of its adequacy, periodic conformance audits of the operations of the system. The approach of **Quality Control** is to find & eliminate sources of quality problems through tools & equipment so that customers' requirements are met continuously.

Inspection at all steps is a major function of maintaining good quality. The quality inspection involves measuring, examining, testing, gauging various characteristics of the product in process or finished product and comparing the results with the specified requirements. The purpose of inspection is to ensure product quality, prevent defects and matching as per the product specifications & customer requirement.

Operations & Production management is a function of producing the product of right quality in right quantity by right processes, at predetermined time & pre-established cost. This is the term concerned with effective utilization of various resources i.e. men, materials, machines, methods, money, power, space, etc. to facilitate efficient production, enhancing productivity & quality, minimize cost and maximize profit. The proper management of this function has a great potential in the growth of the organization.

The major part of maintaining good quality of products is procurement of quality raw materials, components, tools, equipment. Producing good quality products need good quality raw materials. '**Materials management** is responsible for purchasing the best quality materials, equipment & tools at the lowest possible cost. It is an important function for improving quality, productivity & efficiency. It is a combination of processes responsible for the sourcing, purchasing, moving, storing & controlling of materials in an efficient, effective and cost-effective manner.'

Technological advancement plays an important role in Quality management. Right quality of products depends on the technology and the production processes. The processes should be standardised, simplified, systematic methods & operations, Quality check right from start to end i.e. procuring raw materials to finished goods.

Total Quality Management (TQM)-

TQM is the continual process of detecting and reducing or eliminating errors in manufacturing operations & processes, ensuring employees are up to the speed with training. It is a participative & systematic approach to planning & implementing a constant organizational improvement process. **TQM** involves the activities of procuring quality raw materials, technological advancement, standardisation of operations & processes, streamlining supply chain management, inventory control and producing quality products & services. **TQM** is management philosophy that seeks to integrate all organizational functions i.e., Marketing, Finance, Research, Design & Development, Engineering & Production,



Customer service to focus on meeting required quality, increased output, customer needs and organizational objectives.

‘**Total Quality Management (TQM)** is management philosophy that seeks to integrate all organizational functions i.e. design, engineering and production, material procurement, HR, finance, marketing, customer service to focus on meeting customer needs and organizational objectives.’

The principles of TQM are,

- a) Produce quality work
- b) Focus on the customer
- c) Have a strategic approach to improvements
- d) Encourage mutual respect & teamwork
- e) Leadership & engagement of people
- f) Evidence based decision making
- g) Relationship management
- h) Lean management

KAIZEN is an approach to creating continuous improvement based on the idea that small ongoing positive changes can reap major improvements. It is focused to lower defects, eliminate waste, boost productivity, encourage worker purpose & accountability and promote innovation. The **5S KAIZEN** methodology or technique means,

1. **Sort-** Remove items those are no longer needed.
2. **Straighten or Set in Order-** Organise the items to optimize efficiency & flow.
3. **Shine-** Clean the area in order to more easily identify problems.
4. **Standardise-** Implement colour coding & labels to stay consistent with other areas.
5. **Sustain-** develop behaviours that keep the workplace organizes over the long term.

Lean management is an approach to running an organization that support the concept to work that systematically seeks to achieve small, incremental changes in processes in order to improve efficiency & quality. It is a systematic method for minimization of waste, reducing ineffective time, simplifying processes, improving the productivity and promoting flexibility.

Business Process Re-engineering (BPR) is fundamental rethinking, recreating and redesigning process to improve the efficiency and effectiveness of the organization. It is recreating the core business processes with the goal of improving speed, output, quality & reducing costs. The main points considered are the processes, operations, sequence, technology, capability and production system, etc.

Literature review-

1. According to Juran, ‘**Quality** means that a product meets customer needs leading to customer satisfaction. It is a holistic approach that revolves around a Quality Trilogy consist of Quality planning, Quality control & Quality improvement.’
2. According to Deming, ‘Adopt the new **philosophy**, cease dependence on **inspection** to achieve quality. End the practice of awarding business on price alone, instead minimize total cost by working with a single supplier. Improve constantly & forever every process by planning, production & service.’
3. According to Martand Telsang in the book “Industrial Engineering and Production Management” (2003), “TQM means that everyone should be involved in quality at all levels and across all functions ensuring the quality is achieved according to the



requirements in everything they do. The management responsibility refers to the need for every one to be responsible for managing their own jobs, which incorporates managers with workers and all others concerned. Thus TQM portrays a whole system view for Quality management.”

4. According to Samuel Eilon (1989) in the book **Elements of Production Planning and Control**, ‘The highest efficiency in Production is obtained by manufacturing the required quantity of product, of the required quality, at the required time, by the best and cheapest method. To attain this target, management employs production planning and control, the tool that co-ordinates all manufacturing activities.’
5. According to K. Aswathappa, K. Shridhar Bhat (2008), in the book ‘**Production and Operation Management**’, “**Quality Control (QC)** aims at preventing the defects rather than detecting the defects. **Quality Assurance (QA)** is activity of providing assurance that the product will satisfy given requirements for quality.
6. According to B. S. Sharma (2006) in the book **Total Quality Management**, “The reliability of a product or service is synonymous with the concept of Quality in the mind of the customer. Reliability is perceived to be the quality performance of the product or service over time, and in many sectors of industry & commerce reliability is considered the most important attribute.”

Research Methodology-

Research Methodology is systematically solving the research problem. It is a crucial part of any research study and a systematic & scientific approach used to collect & analyse the data. This involves the techniques and procedures in systematic way to get the solution of the problem statement. It provides a framework for designing & conducting the research work and the way of getting the solutions to research problems. In this research study, it is important to know the importance of Quality management for the growth of the industry.

Data Collection-

There are different ways by which the information or data collection can be done. The techniques i.e. primary and secondary sources of data collection for the research work is used.

Primary source of data is collected through the use of questionnaires, interviews, observations, case-studies, surveys and personal experience also added some information for the topic. Ensuring the questions were properly structured and the questionnaire set was asked to the respondents which constitute the sample for the study. These are the owners, managers, supervisors and other employees which include operators, technicians, workers from industries. The industries are of all kinds i.e. small, medium & large scale and the products are of all kinds like plastics, steel, automobile, electricals, agriculture, chemicals, packaging, food products, etc.

The **secondary sources of information** are collected from books, past research work, journals, articles, internet search, websites, seminars, workshops, etc.

Data Analysis and Interpretation-

The data after collection is processed and analysed in accordance with the outline laid down for the purpose of the research. The questionnaire set are formed on the topic that is ‘Importance of Quality Management in Industries’. How the procurement of right quality material support in the operations and production processes, improve productivity, quality of the finished product lead to the satisfaction of employees & ultimately customers, increase



customers, improve sales & thereby profitability, market reputation and brand image. Hence it is essential to maintain quality of all activities in the industries right from materials, processes, methods, working system, HR, Marketing, customer service. Quality is a powerful tool for the growth of every industry.

The questions are asked to the respondents i.e. the owners/directors of the industries, managers, supervisors, technicians, operators, workers and clerical staff members of different functional areas of the company.

Following table shows respondents' positive responses about the importance of **Quality Management** in performing different works, targets, functions of the industries.

Work / Function	No. of responses	Positive Response	%	Not sure (%)
Employees' satisfaction	180	155	86.1	13.9
Improving employees' efficiency	170	135	79.4	20.6
Productivity improvement	165	136	82.4	17.6
Enhancing operations & production processes, methods, technology	170	142	83.5	16.5
Smooth functioning/ Working system	170	148	87	13
Reducing maintenance cost	165	132	80	20
Enhancing profitability of the company	150	122	81.3	18.7
Increase in Sales volume	165	148	89.7	10.3
Generation of new markets/ customers	165	142	86	14
Creating more customers/ retention	165	145	87.9	12.1
Increase in Price of product	160	135	84.4	15.6
Improve in Brand image of the product	160	128	80	20
ISO Certification	120	92	76.6	23.4
Need more capital/ investment	120	107	89.1	10.9
Need more space/ resources	115	98	85.2	14.8

Questionnaire-

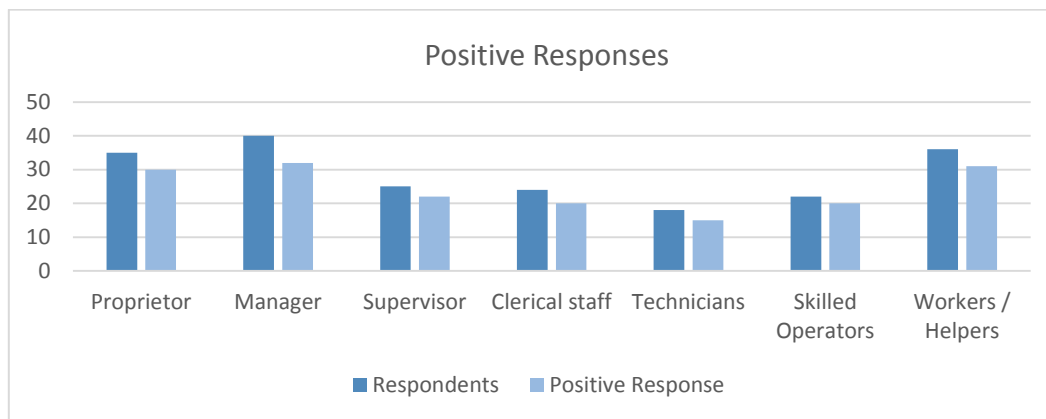
1. Is Quality management function is important for the growth of industries?
2. What is the impact of producing quality products & services on customers?
3. Impact of the function on the production methods & processes?
4. Impact of the function on the individual & overall industrial productivity?
5. Impact of Quality management function on employee morale and satisfaction?
6. Does the function result in improving the profitability of the firm?
7. Do the function result in customer retention and developing new market/ customers?
8. Role of Quality Management for getting ISO Certification?
9. Is any extra investment required for maintaining good quality of the products?
10. Is additional equipment & advanced technology required?

The following table shows the Positive response of the Respondents for the above questions.

Person / Post	Respondents	Positive Response	%	No/Not sure	%
Proprietors/Directors	35	30	85.7	05	14.3
Functional Managers	40	32	80	08	20



Supervisors/Officers	25	22	88	03	12
Clerical staff	24	20	83.3	04	16.7
Technicians	18	15	83.3	03	16.7
Skilled Operators	22	20	91	02	9
Workers / Helpers	36	31	86.1	05	13.9
Total	200	170	85	30	15



Interpretation –

The above observations says clearly that how the Quality control is important for the progress of the manufacturing industry to improve the productivity, production processes, output of the company. The organization is a place of work with satisfaction and the members of the organization are the asset of the company and the quality management function is major contributor to achieve the organizational goals. The Quality management is an important function to improve the working processes, technology, productivity and overall developed mindset of all members of the organization.

The practise of application of quality in all the steps of production system result fruitful, customer trust, improve sales & thereby profitability. At the same time promotes boosting the morale & getting work satisfaction to the employees. ‘The fundamental factors which affect the **Quality** of the product & services are 9Ms, these are Market, Money, Management, Men, Materials, Machines, Methods, Mechanization & Motivation.’

Conclusion –

Quality in production & operations is the fitness of the product for its intended use as required by the customer. Quality begins with the design of product in accordance with the customer specification, established measurement standards, the use of proper materials, selection of suitable manufacturing processes, technology, etc. Quality assurance streamlines production and helps to ensure final products meet company’s quality criteria and the processes used to design, test & produce products are qualitative.

Quality in manufacturing industries involves acquiring raw materials of good quality, designing & using inspection procedures, complying with production processes, removing the defects, minimizing wastages, training HR, improve productivity, promotes safety, maintain position & brand image in the market.



Good Quality products have many benefits like building trust, customer satisfaction, relationships, retention, employees' satisfaction, improving brand image, company reputation, enhancing profitability, creating competitive advantage and many more. 'By improving quality, companies will decrease expenses as well as increase productivity & market share.'

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