

## **Application of Pareto Principle for Service Quality Improvement in Eureka Forbes Water Purifier**

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### **Abstract**

The customer has always been at the centre of business at Eureka Forbes, India and they are constantly expanding the ways of reaching out to them to understand their needs and aspirations. The company is always passionate for delivering with excellence with high quality products to ensure satisfaction and the wellbeing of the families. Valuing the special bond it shares with customers, the team puts in extra efforts to maintain and deliver products of unmatched quality. Strict adherence to quality control policies ensures that its products meet the customer expectations in every way. The company believes in continuous process improvement in delivering the services to the end users. The consumer's experience while using product can be a valuable source for continuous improvement.

The research shall be based on the application of Pareto Principle for quality improvement in the services provided by the Eureka Forbes team. Pareto Analysis is one of the basic tools of quality. Pareto charts are simple to construct and interpret, and they can provide important insights for problem solving and process improvement.

The objective of the research shall be to identify the different causes for the customer complaints in Eureka Forbes Water Purifier. The research shall involve a literature review and an empirical study. A quantitative approach with regard to the method of research shall be applied. Document analysis – mainly complaint register and brainstorming interactions shall be used as a research instrument. The research findings shall help to better formalize the operating strategy of the Eureka Forbes team and thus helps to improve the satisfaction level of the customers. The research shall also suggest some guideline for continuous improvement.

**Keywords:** Quality, Continuous improvement, Pareto Analysis, complaint management

**Introduction:**

The customer has always been at the centre of business at Eureka Forbes, India and they are constantly expanding the ways of reaching out to them to understand their needs and aspirations. The company is always passionate for delivering with excellence with high quality products to ensure satisfaction and the wellbeing of the families. In order to achieve the goal, the company has introduced direct selling in India and pioneered the water and air purification systems, vacuum cleaners and security systems. The company has since added channels to enhance their reach and respond effectively to the needs of the customers. The Consumer Channel was established to effectively respond to the expectations of customers looking for the means to safer and healthier living. It offers them a range of water purification and home cleaning products through a network that has rapidly spread to encompass over 15,000 dealers across over 1,800 cities and towns across India. Valuing the special bond it shares with customers, the team puts in extra efforts to maintain and deliver products of unmatched quality. Strict adherence to quality control policies ensures that its products meet the customer expectations in every way. The company believes in continuous process improvement in delivering the services to the end users. The consumer's experience while using product can be a valuable source for improvement.

Quality is essentially about learning what you are doing well and then doing it better. It also means finding out what you may need to change to make sure you meet the needs of your service users. Quality is about knowing what you want to do and how you want to do it, learning from what you do, using what you learn to develop your organisation and its services, seeking to achieve continuous improvement and about satisfying your stakeholders (those different people and groups with an interest in your organization).

The meaning of quality differs depending upon circumstances and perceptions. For example, quality is a different concept when focusing on tangible products versus the perception of a quality service. The meaning of quality is also time-based or situational.

**What 'Quality' generally means:**

- 1- Quality is fitness for use: Quality means the product or service does what it is intended to do. Poor quality of a product or service costs users if it doesn't do what is expected out of it.
- 2- Quality is meeting customer expectations: Quality is satisfying the customer. The customer defines quality. The customer perceives the quality of a product or service.
- 3- Quality is exceeding the customer expectations: Quality is the extent to which the customers or users believe the product or service surpasses their needs and expectations. Quality is delighting the customer.
- 4- Quality is superiority to competitors: Quality is how a company's products and services compare to those of competitors or how they compare to those offered by the company in the past.

Some quality characteristics can be enumerated as follows:

**For products:** Performance, serviceability, reliability, reasonable price, ease of use, maintainability, durability, simplicity of design, aesthetics, availability, safety, ease of and disposable.

**For service:** Responsiveness, credibility, availability, reliability, safety, security, competence, understanding of customer, accuracy, completeness, timeliness and communication.

Quality management is an organisation-wide approach to understanding precisely what customers need and consistently delivering accurate solutions within budget, on time and with the minimum loss to society.

### Seven Basic Tools of Quality

The **Seven Basic Tools of Quality** is a designation given to a fixed set of graphical techniques identified as being most helpful in troubleshooting issues related to quality. They are called *basic* because they are suitable for people with little formal training in statistics and because they can be used to solve the vast majority of quality-related issues.

The tools are:

- The cause-and-effect or Ishikawa diagram
- The check sheet
- The control chart
- The histogram
- The Pareto Analysis
- The scatter diagram
- Stratification (alternately flow chart or run chart)

### Introduction to Pareto Analysis

Since quality is an important factor in the successfulness and longevity of any business (especially where repeat consumption is part of the business model), it would be beneficial to the business to have tools by which quality could be measured. Many of these tools already exist and are called “quality-control” tools. Pareto Analysis, which will be discussed in this paper, is one such tool. It can be described as the 80/20 rule applied to quality-control. The 80/20 rule was originally formalized by Italian Economist Vilfredo Pareto, after studying the distribution of wealth. He noticed that about 80% of wealth was held by about 20% of the population. Several years later, Joseph Juran applied the principle to quality-control, and Pareto Analysis was born. Pareto Analysis essentially states that 80% of quality problems in the end product or service are caused by 20% of the problems in the production or service processes. In practice, then, it is beneficial to separate “the vital few” problems from “the trivial many,” and thereby identify the individual problems that can be fixed and most drastically benefit the end product or service. Once these problems are identified, the 20% that are causing 80% of the problems can be addressed and remedied, thus efficiently obtaining quality.

### Literature Review:

Organizations everywhere are growing increasingly conscious of the competitive potential of quality. Quality has become an issue because standards are now contractually defined whereas previously they were vague and unmonitored. Competition focuses not only on price but on quality also. In the present economic & political climate, even higher standards are demanded in the face of diminishing resources.

Pareto analysis is a statistical technique in decision making that is used for the selection of a limited number of tasks that produce significant overall effect. It is one of the most commonly used, and easy to implement method for quality improvement. Pareto analysis is a relatively simple methodology that is used when trying to determine which tasks or factors in an organization will have the most impact (Cervone, 2009). The technique is based on ranking the data/factors in the descending order from the highest frequency of occurrences to the lowest frequency of occurrences. The total frequency is summed to 100%. The “vital few” items occupy a substantial amount (80 %) of cumulative percentage of occurrences and the “useful many” occupy only the remaining 20% of occurrences. This is also known as the 80-20 rule developed by the Italian Economist Vilfredo Pareto (Karuppusami and Gandhinathan, 2006).

Pareto Analysis can be applied in a variety of areas such as searching for books online in digital library catalog, assessing major causes of customer complaints from products or services, determining which tasks in a project will have the most impact, identifying those products or services that account 80 percent of the profit and many more.

F. Talib , Z. Rahman, M.N. Qureshi (in 2010) applied Pareto analysis for identifying TQM factors critical to success for service industry. It is examined that the work of leading authors to ascertain the “vital few” and “useful many” CSFs for successful implementation of TQM program in service industries for effective business performance and improvements in quality service. It is identified that top-management commitment is listed as the top CSFs with customer focus and satisfaction close behind.

From the literature review it is revealed that successful application of Pareto analysis can significantly reduce the problems/defects and improve the performance of Eureka Forbes team. In this research Pareto Charts are used to identify, prioritize and reduce the problems faced by the consumer of Eureka Forbes Water Purifier while in usage.

### **Research Objectives**

- To identify the different causes for the customer complaints in Eureka Forbes Water Purifier
- To apply Pareto Principle to separate “the vital few” problems from “the trivial many”
- To propose a guideline for handling the major causes

### **Research Hypothesis**

- 80% of customer complaints are arise from 20% of your products or services.
- Pareto Analysis can be use as a tool for quality control.

### **Research Methodology**

#### **Data Collection**

Name of Company: Eureka Forbes, India

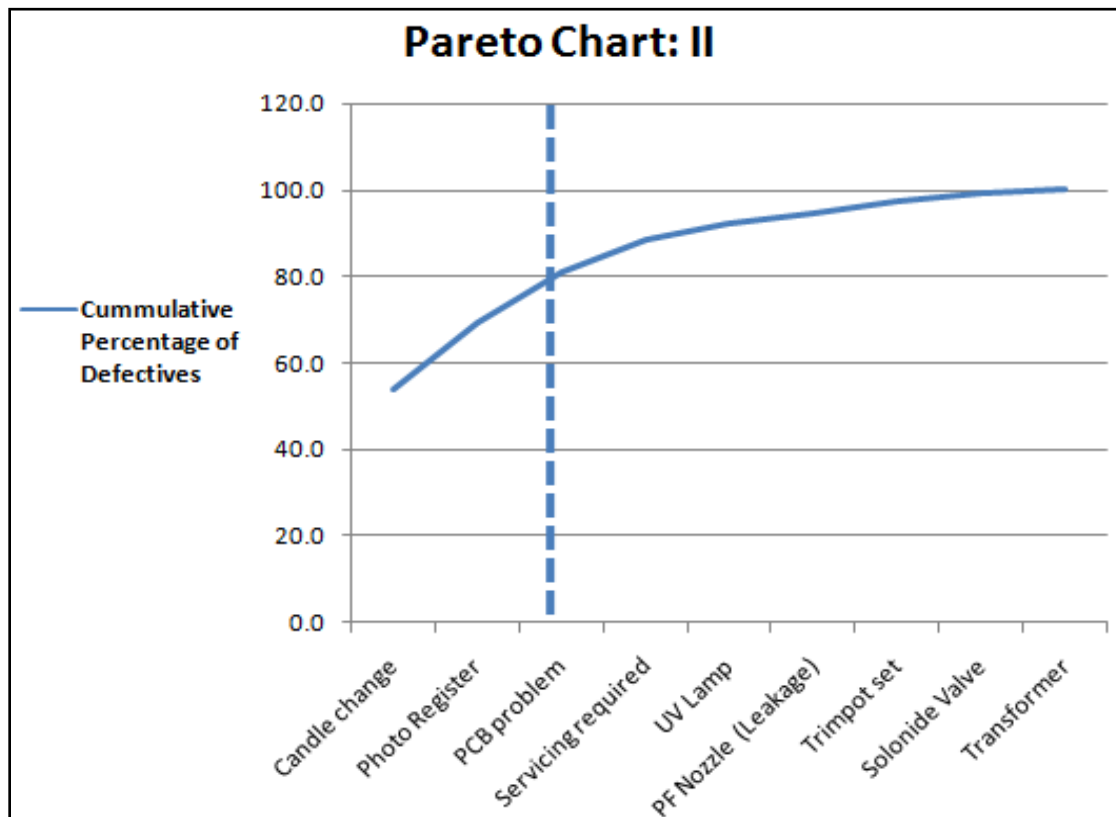
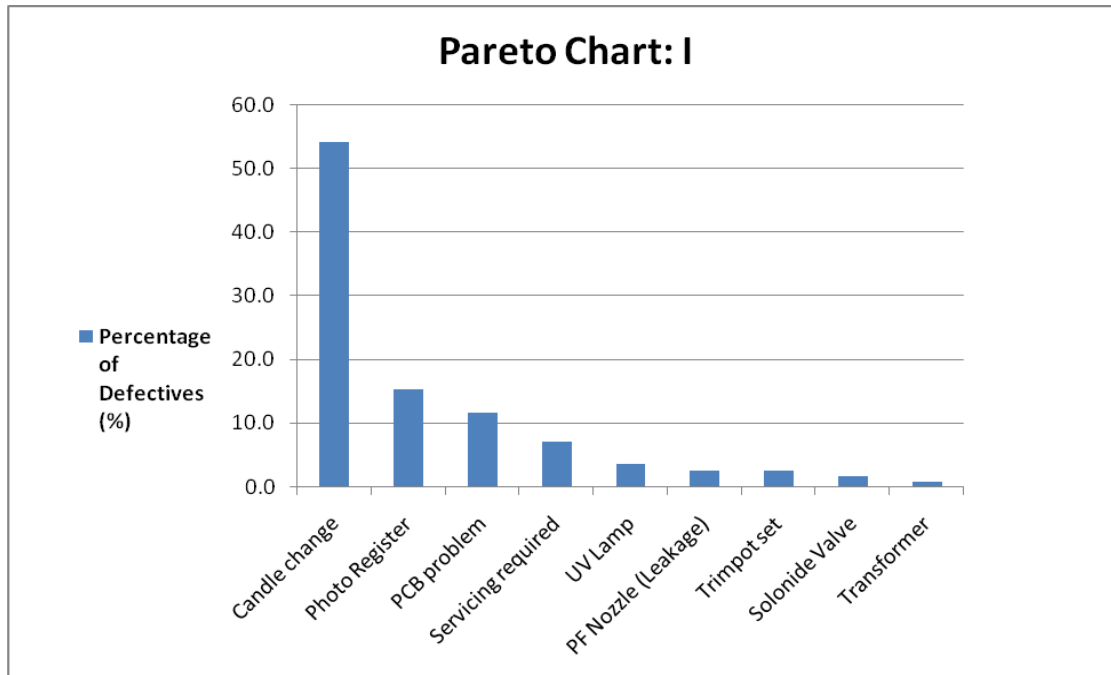
Name of Product: Water Purifier

Primary Data: Questionnaire Method

Secondary Data: Company Reports, websites, research papers

Sample Size: 100 ( randomly selected within Nagpur City)

## Data Analysis & Interpretation using Pareto Principle



From Graph I & Graph II it is proved that 20% causes are resulting in 80% problems in the product. The 20 % causes include candle change, photo register and PCB problems. These 3 causes are the vital few. Hence Hypothesis-I is proved.

Now we know the problem area and we have to focus on it to control the quality of product. The manufacturer need to make the required updates either in the design or manufacturing processes so that these problems can be totally eliminated at the source itself. Hence Hypothesis-II is also proved.

### Future Research Direction

This paper gives a short, practical, and applied approach to Pareto Analysis. Pareto Analysis can be used on a more complex scale, including the incorporation of defect weights based on time, cost, and difficulty of implementation. It also makes some assumptions that may not be in line with highly volatile companies. In this paper, the objective was to find out the causes resulting in major problems. The research can be continued further to find out the effect of proposed solutions and recommendations. We can also drill down the causes and can again apply the Pareto Principle. This will help us to find out the root cause of the problems.

### Suggestions & Conclusions

For quality management, the manufacturer should follow the guideline given below:

- As quality depends on customer needs and expectations, focus should be on collecting the customer requirement on timely basis.
- The Organisation must ensure efficient quality function deployment.
- The organisation must adopt total quality management principles for their success.
- Each and every employee must have some defined responsibility for quality management.
- The approach for quality management should be proactive rather than reactive in nature.
- Quality management must be treated as a tool for continuous improvement.
- The organisation must follow the principle of “*Do it right for the first time itself and keep repeating it always*”.
- Provide training to the employees and adopt tools for employee empowerment.
- Processes, not people are the problem.
- Quality concepts must extend to a company’s suppliers.

Since the organizations depend on their customers, therefore they should understand current and future customer needs, should meet customer requirements and try to exceed the expectations of customer. An organization attains customer focus when all people in the organization know both the internal and external customers and also what customer requirements must be met to ensure that both the internal and external customers are satisfied.

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