

Delta plastics inc. company

Education



This case study is about Delta Plastics, Inc. a company which produces plastic containers mainly for household purposes. Their products have been recognized for their high quality and they were providing to the customers through merchandised retailers. Delta was a well known industry leader that was continuously looking dynamically to wide their brand identification and market share. The key factor of the company was their R&D team which was working constantly to improve the plastic material and develop new product designs.

When R&D Delta's team presented a new plastic material which was resistant at extreme temperatures (could immediately moved from the oven to the fridge), which compared to the glass containers, facilitates no breaks or cracks. Delta's marketing group believed that this new plastic container would bring the revolution and corner the market, so they started pushing and arguing for direct production. That pressure lead to a meeting with the main issue whether to send it to the market or to go for further testing. The director of R&D Isabelle Harrison insisted for more testing in order to determine precisely the characteristics of the product.

Even though there was any issue for the product safety, they wanted to improve the material and verify any incidents during the production stage. The Director of Manufacturing Jose De Costa agreed that the new material may needs more examination in case it is fragile. On the other hand, George Chadwick, Director of Marketing argued against that millions of dollars had already been spent on design and testing, and that the new product should immediately go to production, before the competitor comes out with something similar.

The final decision was taken by Jonathan Fine, Delta's CEO who declared that " If product safety is guaranteed, small problems in production should not be a big deal. Let's initiate production as soon as possible. " Exactly one month after the production started, Jose De Costa while examining the production quality reports, observed weekly defects for products made with the new plastic material. He knew that it was necessary to carry out a better analysis to determine the actual problem and find out the differences between the two materials.

Even if there was differences he was not sure about the actions he should take. Defining Quality Quality is defined and creates a different sense for a range of people. However, everybody can understand what quality means. Customers can identify a good quality " manufactured" product, by evaluating the appearance, how it works and how applicable is, and depending on its performance and its appearance can judge its value. Further, satisfaction level of every customer plays its important role since they are the one who will rate how high or low it is.

Quality is defined as " the degree of excellence" from a related glossary. In any case, the actual explanation, being clarified in a different way depending on the environment that takes place, which means that the final decision based on the customer. Customer's requirements must be converted into a determined product or service in order to be successful. A successfully product / service depend on the target market desires. From the time that the specifications are given by them, techniques and methods to appraise and create the features of that should set up.

Hence, the target markets, in order to build a stable relationship, require the guarantee of the business for a continuous high quality services at a reasonable cost (Cambridge University, 2013). Various quality definitions can be easily found in the bibliography. The actual value of Total Quality Management movement is based on its guru. They managed to transfer their principles and ideas within the years and create the foundation of today's quality perception. Those philosophers were: Walter A.

Shewhart: managed to explain the variability procedure as well as to originate and advance the statistical control charts conception. W. Edwards Deming: emphasized the significance of management liability for quality. He also developed “ 14 points” giving a direction to companies on how to improve the quality. Joseph M. Juran: characterized quality as “ fitness for use” and developed the concept of cost quality. Armand V. Feigenbaum: Set up the total quality control conception. Philip B.

Crosby: Invented the expression “ Quality is free” and established the perception of zero defects. Kaoru Ishikawa: presented and set up the cause - and - effect diagrams and named the concept of “ internal customer” Genichi Taguchi: concentrated on product design quality and invented Taguchi loss function. (Total Quality Management, John L. Hradesky & McGraw-Hill, 1996, chapter. 5) Apparently, quality has been analyzed and defined from various perspectives. Some of the most well known and generally accepted definitions come from the quality gurus are: Philip B.

Crosby: “ Quality is conformance to requirements”, Joseph M. Juran: “ Quality is fitness for use”, W. Edwards Deming: “ Good quality means a predictable degree of uniformity and dependability with a quality standard suited to the

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customer” Other definitions that are generally known are: “ Quality is the degree to which performance meets expectations” as well as definitions derived from the American Society for Quality (ASQ): “ Quality is the degree to which performance meets expectations” (Cambridge University, 2013).

Defining Quality costs

Quality cost at first mentioned in 1951 to the first edition of Juran's QC Handbook, (Joseph M. Juran -Quality Guru). Nowadays, most of the companies use it as practice in their quality improvement strategy. Quality cost accounting and reporting is part of several quality standards since can recognize the potential economic chances. There is misunderstanding about the actual meaning of quality cost since there are many who make a wrong connection that quality equals to cost. Although our today's knowledge erases that wrong impression and clearly explain that quality is not a cost.

Quality works as a guide that creates higher profits throughout lower costs and the capacity to impose a finest price in the market. (“ Handbook for Quality Managers”, 2000 Thomas Pyzdek). American Society for Quality defines: “ The " cost of quality" isn't the price of creating a quality product or service. It's the cost of NOT creating a quality product or service. ” Quality Costs is divided into categories and is described as: Prevention Costs which includes all the actions were planned to avoid poor quality products / services.

Activities that illustrate this category are the costs of: quality design, new product/service re-evaluation, quality improvement meetings etc. Appraisal Costs: include costs related with evaluating, assessing or inspecting products/ services to guarantee compliance to quality standards and

applicable requirements. Examples costs are: examination of the sources and received material that have been purchased, checking during the in procedure and final check, use of appropriate equipment and measure tools, etc.

Failure Costs: include the costs that are outcome from products / services that did not complete customer's needs and desires. Internal Failure Costs: include the costs happening before the delivery of the product /service to the market. Examples of those costs are fragments, re-check, review of products, etc. External Failure Costs: the entire costs incident after the release to the market or during the distribution to the customers. Example costs are returns from customers, complaints, recalling of products, etc. ASQ, Cost of Quality) Total Quality Costs, is summarized according to ASQ as: " the difference between the actual cost of a product or service and what the reduced cost would be if there were no possibilities of substandard service, failure of products or defects in their manufacture. " Defining Quality tools The seven Basic tools are generally known as " Democratizing Statistic". Through them, statistical analysis became less complicated for the average people since the optical ability makes statistical and quality control more comprehensive.

All the quality tools considered fundamental and first mentioned by Kaoru Ishikawa who was the father of quality circles. The seven tools are the followings: Cause and effect diagram known also as Ishikawa or fishbone chart which recognize in advance the probable difficulties of potential problems and classifies the solutions into functional groups. Check Sheet: consists of a basic tool easily adapted for a range of uses that is organized in

a systematic form for gathering and evaluating the records. Control Charts: charts that present and examine how a process is modified for a period time.

Histogram: consists of the most common used tables that show the rates distribution, or the frequency appearance of each separate value in a set of data. Pareto Chart: on a bar graph are presented which aspects are more important. Scatter diagram: statistical data presented on tables pairs, only one variable on each axis, to seek for a correlation. Stratification, also known as “ flowchart” or “ run chart”: a method that takes apart the records collected from a range of sources in order create an outline. (ASQ, Seven Basic Quality Tools)