

Advantages of statistical Quality Control

There are two options before a manufacturer. He should either get each and every item checked and decide about the quality or he should use the statistical quality control methods.

SQC involves the inspection of a small no. of items and decides about the quality of the whole lot of the product.

SQC has many advantages over 100% inspections which are recorded below:-

(i) SQC involves inspection of only a fraction of items produced in a fixed period. Hence it is very economical.

(ii) The inspection of each and every item has hardly been feasible, as the rate of production in many cases will be faster than the time required for the inspections of items.

Hence 100% inspection would cost too much. Also in cases where the unit is destroyed during inspections, 100% inspection is impossible.

(iii) The inspection of each and every will reduce the efficiency of the quality inspectors because of boredom. SQC keeps the quality control personals alert.

(iv) SQC can be carried through persons who do not possess a high degree in engineering and statistics. As a matter of fact, great skill and intelligence is required to develop the statistical method for quality control in a particular case rather than applying the method set for the purpose.

(v) SQC keeps consistent vigilance on the quality of the product. The moment it is found that the process is out of control, the production engineer is informed about it. In this way there is an incalculable reduction in losses.

(vi) Variation is inherent and unavoidable. So merely measure in the variation from the standard values does not serve the purpose. We have to decide

Whether the variation is within the tolerance limits or not. Such a variation is termed as Chance's variation. If the variation is beyond tolerance limits, it is said to be due to assignable causes. Thus with the help of SPC, the process is kept under control, so that the product meets the specifications within tolerance limits.

(vii) Process control provides the basis to the producer for deciding about the specifications. It makes no sense to fix up the specification, which cannot be maintain economically.

(viii) SPC enables the manufacturer to know whether the changes brought in the production by installing new machines or by changing the system of process or by employing more skill persons has improved the quality of the product or not.

(ix) S&C is a basis for compromise betⁿ the machine operators and the engineers. The engineers may expect a total adherence to specifications whereas the operators may emphasize their performance upto the mark, inspite of large variability in the units. Hence S&C is a device to keep both the sections satisfied.

(x) S&C provides protection against losses to the producer as well as to the consumer.

Limitations of S&C :-