

# **Simplification, Standardization, Rationalization etc.**

## **Simplification**

### **Introduction:**

1. The concept of simplification is closely related to standardization.
2. Simplification is the process of reducing the variety of products manufactured.
3. Simplification is concerned with the reduction of product range, assemblies, parts, materials and design.
4. A manufacturer may reduce the number of different types of radio sets from a dozen to three or four to simplify his range.
5. Simplification makes a product, assembly or design, simpler less complex or less difficult.
6. Simplification removes the superfluous. It decreases varieties of sizes.
7. A production line is generally simplified when it possesses unnecessary complexity and confusion.
8. Often variety reduction will reveal that a subassembly or components needs simplification.
9. Variety reduction.
10. The availability of suitable standards assists in simplification.

### **Advantages:**

#### **(a) To manufacturers**

1. Use of special purpose machines and tools is possible.
2. Less capital is blocked in raw materials, finished products, jigs, dies and other tools.
3. Less supervision is required.
4. Less chances of errors.

5. Manufacturing cost decreases.
6. Correct estimate is possible.
7. Less chances of obsolescence.
8. Training to workers becomes easy, quick and economical.
9. Increased production rate.
10. Lower unit cost.
11. Investment of capital will be less.
12. Standardization is possible, which raises quality of products.
13. It reduces wastage of labour and materials.
14. Reduction of error in shipment.
15. Prompt delivery.

**(b) To Distributors:**

1. Selling is easy because only few items are to be sold.
2. Less capital is blocked in keeping the variety of products in hand.
3. Less depreciation and obsolescence of products in stock.
4. Selling expenses are reduced because of less handling.
5. Accounting and other clerical work reduced.
6. Less storage space is required.
7. Elimination of slow moving stock.

**(c) To Consumers:**

1. Better quality of products is available .
2. Better services in delivery and repairs.
3. Less cost.
4. Confidence and easiness in purchase.

## **Standardization**

It is the setting up of standards for quantity, quality, raw material, sizes and performance etc. of any product. It is done after considering various scientific procedures and is helpful for checking the quality performance and value of product.

All the tools, equipment, working conditions, material, quantity etc. should be standardized. Standard of product can only be achieved by standardizing tools equipments and materials etc. A machine should be in good condition, to keep the quality of product to be same as was in the beginning. Thus, it is necessary to maintain the machine in good working condition and similarly, if the tools are blunt, the quality of products will not be same and will be impossible to maintain their standard. Therefore, it is most essential to keep the tools and machines in good condition.

It can easily be understood by the following example:

If some manufacturers make 8 threads per inch length and some others 7 to 9 threads per inch length on a stud of 1 inch diameter rod, then it will be very difficult to use them o various machines. To avoid this difficulty, it has been decided to use 8 threads per inch length for 1 inch diameter rod by all manufacturers on studs and bolts etc. Thus, if we say a stud of one inch diameter then everyone understands that it will have 8 threads per inch length without explaining. In this way all the products of daily use are standardized.

### **Advantages:**

1. Interchangeability of products is possible.
2. Better quality of products.
3. Use of automatic machines is easily and economically possible.
4. It is possible to provide guarantee period for the performance of product.
5. It saves largely production time and labour and thus cost of products is reduced.
6. It helps in reduction of stock investment and storages space.
7. It helps in reduction of maintenance spares and thereby reduces maintenance cost.

8. It provides improved managerial control and better manufacturing efficiency.
9. Better customer's satisfaction is possible.

### **Disadvantages:**

1. Sometimes it results in marginal increase in costs.
2. Extra cost of changing over to standardization, sometimes discourages the decision for standardization.
3. Restriction of freedom of choice.

## **Rationalization**

Rationalization is the removal of all the duplication and overlaps without loss of economy. It eliminates wastage and inefficiency by reforming on scientific basis of all men, material, machine, management and money to keep to the maximum output with minimum cost and efforts.

### **Characteristics of Rationalization:**

Rationalization can be done in several fields:

**(a) Technical-** Technical rationalization means adopting the following processes:

**(i) Standardization.** It is the process for fixing certain standard of quality, processes of material etc. to limit the variety so as to eliminate wastage of labour, money and material and to reduce cost of product.

**(ii) Simplification.** To rationalize any industry, simplification is also necessary in which only selected type of products are manufactured so that more attention can be paid.

**(iii) Mechanization.** It is based on the mere use of automatic machines. It is used to speed up the work and thus by increasing turnover, cost of production is reduced to a large extent.

**(iv) Intensification.** It means taking the best use of existing equipment and using the machines, at higher speeds and try to increase the production with the availability of equipment and resources.

**(b) Organization-** To rationalize an industry, organization should be scientifically arranged because scientific organization is helpful for running the industry efficiently and keeps cooperation among different departments so as to maintain peaceful working at all levels.

**(c) Finance-** In this aspect rationalization is done to see that industries are neither over-capitalized nor under-capitalized. More emphasis should be given on modern equipment through self financing.

**(d) Social-** In rationalization social and human aspects are also taken into consideration. For this a systematic approach made to remove causes of labour discontent, to provide adequate incentives, reward to good workers, frame scheme of production and remuneration etc.

### **Advantages:**

1. Better production.
2. It improves the quantity and quality of product by utilizing men, material and machines in the best way.
3. Cost and products can be reduced greatly by using specialized machines and equipments.
4. Workers get good wages and incentives.
5. It helps to improve the prosperity of entire community by adapting rationalization.
6. It helps to bring economic stability in economic field by making improvements all-round the industry and trade.
7. It improves industrial cooperation due to scientific knowledge, improved techniques and different industries come closer to make their industries more rationalized.

### **Limitations:**

1. Danger to Small and Weak Industry.
2. Danger of Monopoly.
3. Difficulty of Finance.
4. Opposition by Workers.
5. Danger of Over-production.

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