

## **e-content for PMIR-Semester-II Paper Code-CC-9**

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### **Unit IV**

## **Rationalization**

### **Introduction**

Rationalization in industry was first discovered in Germany. After the first world war the economy of Germany was completely ruined. Industries which were at the top before the war were declining. Labour force was badly reduced the industries were experiencing the acute shortage of funds and there was depression in the market. For the burden of reparation payment and the depreciation in the value of currency made the economic condition of Germany bad to worst. Industries had to recognize and revamp. With a view to rehabilitating and reorganizing the ravaged economy National Commission was set up in 1921. On this basis several experiments were done. Several new tools and techniques were introduced. As a result, the economy of Germany revived miraculously. With a short span of time between 1924 and 1929 the country regained its old position. All these experiments and efforts were collectively termed as 'rationalization, In German language rationalization is termed as rationalisierung. It means new industrial philosophy. Walter Meakin has named its new industrial revolution.

### **Concept and Definition**

In common parlance rationalization refers to rational and logical thinking for getting better result. In the industrial sense it is an act of reforming and industry by reorganizing it so as to eliminate waste and inefficiency relating to time, labour, material, methods, tools, etc. In a wider sense it implies a fundamental change in the structure and control of industrial activity in a well-coordinated and integrated manner for removing various types of waste and inefficiency and bringing down cost and meeting market demands.

- According to national board of economy and efficiency Germany's rationalization consists in understanding and applying every means of improving the general economic situation through technical and systematic organization.
- According to world economic conference Geneva 1927 rationalization refers to the method and techniques of organization designed to secure the minimum of waste of either effort or material. It includes the scientific organization of labour standardization

of both material and products simplification of processes and improvement in the system of transport and marketing.

- Professor E.A.G Robinson rationalization refers to the reorganization of relationship of the individual form to the industry as a whole.
- Professor Sergeant Florence rationalization is the moment to eliminate waste and inefficiency scientifically and logically by some sort of joint action between all the firms within one industry.

## **Features of rationalization**

1. **Movement for reforms** – One of the main characteristics of rationalization is that it is a movement for reforms. Revolution for change plan for reorganization and reconstruction and finally a scheme for Revival and growth. Full stop it was adopted in Germany for the Revival and growth of shattered industrial structure of the country.
2. **Elimination of waste and inefficiency** – This is another important characteristic of rationalization. Rationalization is adopted in order to remove inbuilt inefficiency and wasted wastage of men, money and material.
3. **Application of rational and scientific method and techniques** – With the help of rationalization old methods, traditional approach and unscientific and unsystematic thinking are supplanted by new methods, modern approach and scientific and logical thinking.
4. **Comprehensive process** – Rationalization is a comprehensive process. It is not restricted to production only. It covers the entire range of technologies, financial management, labour relations and personnel management, marketing methods, and practices, transportation and warehousing, etc. So as to the entire fabric of economy can be brought back on right track and desired growth may be achieved.
5. **Macro approach** – Rationalization lives in macro approach, not in micro approach. It is industry oriented, not firm oriented. The rational and logical thinking are applied in industry at large. With the help of collective endeavour every unit within an industry is rationalized so that maximum benefits may be reaped.
6. **Promotion of Industrial Research** – This is also an important characteristic of rationalization. In order to get maximum benefit research and development is promoted. Research and development are also resorted to for the purpose of replacing old methods and techniques and introducing new ones, in proving traditional system and approaches, promoting mechanization and automation.
7. **Social motive** – Rationalization has social motive by eliminating waste and inefficiency and by adopting rational and logical tools and techniques productivity is improved,

efficiency is increased and cost of production is reduced. This helps in lowering price which in turn benefit the customers.

## **OBJECTIVES OF RATIONALIZATION**

1. **Eliminating waste and inefficiency** – The primary objective of rationalization is to eliminate all types of wastage and inefficiency prevailing in an industry. Therefore, rationalization cure the is caused by faulty production system ineffective organizational structure improper coordination among various factors of production and unbraced competition.
2. **Ensuring maximum utilization of resource** – The next important objective of rationalization is to ensure optimum use of available resource. It is a well-known fact that resource is eliminated and hence scarce. Irrational use depletes the resources very soon and increases the cost of production. Without ensuring optimum utilization of resources maximum production at minimum costs is not possible.
3. **Maximizing production** – Rationalization aims at maximization of production by applying rational and logical approach. This helps in lowering costs and offering products to consumers at low prices. Production is increased due to use of better machines and equipment's and increase in overall efficiency of industry.
4. **Maximizing efficiency at minimum effort** – Efficiency effects the overall performance and profitability of industry. Hence rationalization seeks to improve efficiency of workers by improving working conditions.
5. **Simplifying marketing and distribution system** – One of the fundamental objects of rationalization is to improve the efficiency and effectiveness of distribution system. To achieve this objective unnecessary transport practices are eliminated unless multiplication of middleman is removed and access a financial burden is relation to transport system is terminated.
6. **Improving the quality of product** –Rationalization aims at not one increasing the quantum of production but also in enhancing quality of product. Quality of product is increased by using that equality raw material, standardization and specification.
7. **Establishing industrial stability** –One of the basic objective of rationalization is to establish industrial stability in the nation. This is done by adopting the means of restructuring and reorganizing the entire industrial structure of the nation. This helps in overcoming the danger and trade cycle.
8. **Improving Industrial Relation** –In order to increase the efficiency of workers rationalization aims at improving the condition of Industrial Relations in the industry. The Bombay textile labour inquiry committee 1941 also stressed on the improvement in the efficiency of workers and in working conditions. In fact, only a motivated and satisfied worker can give better result.

9. **Regulating the variety of products** – Unnecessary varieties of products causes wastage in industry and prove a burden on scarce resources. This also leads to confusion in the minds of customers. Hence, rationalization aims at reducing the unnecessary varieties of products through which research into the processes and methods of manufacture and standardization and grading.
10. **Increasing the standard of living of society** –Increasing the standard of living of the mass is also a basic objective of rationalization. By eliminating waste and inefficiency at all levels improving working conditions, and by introducing modern tools and techniques, efficiency of increased; production is maximized; quality of product is improved; resources are optimally used; and cost are reduced.

### **Causes of rationalization**

1. Effects of War –One of the causes responsible for the emergence of rationalization is the adverse effects of World War I. Due to this war, economy of Germany was completely shattered. In order to revive the economy, the rationalization movement was started in Germany and the success was marvelous. This attracted the attention of other countries like USA the UK Japan etc. toward rationalization.
2. Worldwide depression –Rationalization measures had been adopted for averting the adverse impact of worldwide depression of 1929. This famous depression caused unemployment, low level of demand, low production, higher cost and several other malaises in industrial sector. To mitigate or remove these ills rationalization was adopted.
3. Scramble for scarce resources – Several resources are limited and scarce in nature. The shortage of resources gives rise hectic competition. Competition is struggles with others to acquire as much resource as possible by hook or by crook. But only a few succeed in this struggle, other lag behind. In such situation, planned use of resource is the only solution. Rationalization promotes planned use of resources available in Limited quantity all the firms in an industry through the process of rationalization main distribute the resource on a mutually agreed basis.
4. Ideal plant capacity –The productivity of a firm depends to a great extent on the utilization of plant capacity. Generally, during the period of prosperity or boom a mushroom growth of firms takes place. But during depression due to the reduction in demand production level is reduced. This causes under-utilization of capacity which in turn, influences the performance and productivity of the plant. Rationalization is a good solution in this regard. It may be noted that during the depression of the thirties measures of rationalization Where adopted mainly because of removing the ideal plant capacity in the industry.
5. Unnecessary product varieties – This is one of the important reasons of wastage in an industry. Cut throat competition lead to proliferation of product varieties. This further increases the cost of advertising and other mean of promotion. Again, overall cost of

production is increased and price go up. Rationalization helps in this regard. By adopting standardization, the varieties can be effectively reduced which leads to Economics of scale.

6. **Obsolete machinery and equipment**– Obsolete machinery and equipment if used for production increase operating maintenance and repair cost. Does production wait such missionary and achievements in uneconomical? Rationalization provide solution it stresses on the use of modern and up-to-date machinery and equipment. Automation is one of the principle of rationalization. It is does obvious that for the purpose of increasing efficiency is steps need to be taken to replace the one out and absolute machinery by latest machinery and equipment. This lead to rationalization.

## Principles of Rationalization

Rationalization is a multidimensional moment. It is comprehensive in nature. Its scope is wide. It encompasses all those activities which are undertaken to increase production and productivity reduce various cost eliminate waste and inefficiency and ensure higher industrial stability and better standard of living of society. In order to achieve the goals of rationalization several principles are followed these principles touches each and every aspect of an industry the principles of rationalization are also termed as elements of rationalization scope of rationalization aspects of rationalization a techniques of rationalization. The principles of rationalization for the sake of simplicity and convenience are studied under the following heads.

### 1. **Technological principles**

Rationalization aims at securing maximum technological efficiency and industry. Hence, the technological principle of rationalization is concerned with industrial engineering which is its foundation. The following principles are related to technological aspects of rationalization:

- i. **Standardization** –The principle of rationalization is related to products and their varieties. This calls for removal of unnecessary product varieties and regulation of production to a selected variety. Thus, standardization is concerned with fixing standards of size, processes, quality and varieties of products to be produced in an industry. This principle helps in eliminating wastage of efforts material and capacity so as to cost of production and distribution could be reduced to optimal level.
- ii. **Mechanization** –It emphasizes on the adoption of more and more machines in place of human labor. This helps in reducing cost of production, bringing about standardization, increasing efficiency of labour, improving the quality of products and finally in enhancing return on investment.

- iii. **Intensification** –Intensification refers to the optimal use of available or existing machinery, equipment and organizational capabilities including labour. This also includes the use of old machines after proper repairing and improvement. In fact, the purpose of intensification is to operate machines at a higher speed and increase labour productivity without making any major change in plant and machinery.
- iv. **Specialization**– It is an important principle of rationalization, it is concerned with division of labour, allotment of products, segmentation of Markets and grouping of activities among the forms with an industry. It facilitates effective and proper use of available resources, reduction of cost and improvement of Industrial efficiency.
- v. **Simplification** – The principles of simplification is the product of standardization in any specialization. It implies reduction in the complexities involved in production programme. This brings about improvement in organization and techniques which in turn, lead to higher productivity through high production and lower costs. It also ensures increased sales of each varieties of products.
- vi. **Modernization**– Modernization refers to the processes of change or replacement of old and absolute plant and machinery and equipments by modern plant. Machinery and equipment's. Hence, it is an important principle or element of rationalization.
- vii. **Scientific management** –It is also termed as fictionalization. It means the application of scientific methods and techniques in the matters of supervision and Management in internal organization of a firm within an industry. Its purpose is to ensure maximum utilization of men, money, machines and materials.
- viii. **Industrial Research** - Industrial Research is a vital element of rationalization. In order to apply the above techniques continued research and development is equally essential. Industrial Research helps in determining the most economical processes of production and distribution. It facilitates the improvement in product quality and helps in searching new usage of products.
- ix. **Automation** –Automation is a fundamental principle of rationalization. It is the improved form of mechanization. The philosophy of automation implies the establishment of proper and effective integration and coordination among the methods of Material Management, production management and organization structure so as to work within an enterprise could be performed within minimum efforts.

## 2. **Organizational principle**

Rationalization stresses not only on revolutionary technological change, but also on organizational re-structuring and re-vamping within an industry. Such measures are taken with a view to eliminating waste arising out of cut-throat competition among the

enterprises. organizational changes are brought about with the help of the following principles:

- i. **Industrial combination** –With a view to making the industry vibrant and effective the tool of combination is adopted under rationalization. Combination employees the integration for merger of various types of small and inefficient business units with large and efficient units this helps in reaping the benefits of large-scale production and distribution it also ensures plant utilization of resources and capacity.
- ii. **Matching of supply and demand**– Rationalization regulate the behavior of market by suitably adjusting overall production to overall demand. Thus, production is controlled keeping in view the total aggregate demand. The enterprises within an industry, for the purpose of exercising control over production come into a common agreement.
- iii. **Control over the entrance of new units** –This is also an important aspect or principle of rationalization. In order to bring about adjustment of aggregate production to aggregate demand restrictions imposed on the entrance of new enterprises. This may also be affected with the help of statutory measures.
- iv. **Nationalization**– It implies the taking over of ownership and management of an industry by the government. This is done with a view to making the enterprises within an industry more efficient, more effective and more productive. It may be noted that the measures of nationalization can be considered an aspect of rationalization when it is based on economic reality not on political ideology.

### 3. Financial principles

Proper Financial Management is essential for the success of rationalisation movement. The other areas technological and organisational could be improved on the basis of financial rationalization. Hence financial aspects include the following:

- i. **Financial planning** –It is an essential element of rationalization. It aims to ensure that adequate funds are raised at the minimum cost. It also ensures that the funds so raised are widely used in the firm in particular and in the industry in general. With the help of optimal financial planning the dangers of over capitalization and under capitalization could be avoided. It may be noted that inadequacy of funds hampers operation where as too much funds are an unnecessary burden on earnings.
- ii. **Capital structure**– According to Gerstenberg capital structure implies that kinds of securities and their proportionate amount that make up the capitalization. For the success of rationalization movement, the capital structure both of the firms or companies and industry should be based on the fundamental principles of safety and economy. Hence a proper ratio between two or more types of securities is to be fixed for optimal capital structure.
- iii. **Financial control** –For the purpose of effective use of available funds rationalization seeks to exercise proper financial control. This can be effected with the help of budgetary Control, management Accounting, cost accounting and financial audit.

#### 4. **Social and human principles**

Rationalization does not only cover technological forces organizational elements and financial aspects, but it also covers social and human factors. This is the reason why it is said that rationalization is not merely a mechanical process but it is also an art. According to C.S Myers, rationalization demands the consideration of business not in its own purely selfish, technical and commercial aspects but also in its wider economic social and generally human aspects, without all this aspects it will be pseudo rationalization of business affairs. The main aspect of social and rationalization in industry are as follows:

- i. **Industrial Relations**– Building good Industrial Relations in an industry is an important principle of rationalization. It facilitates optimum utilization of Manpower. Industrial relation and manpower planning relate to recruitment of labour, provisions for adequate training, better schemes of remuneration, motivation and incentives, recognition of efficient workers, schemes of promotion, building high moral of workers, etc. providing adequate security of employment, improved working conditions and provisions for labour welfare are also covered by the scheme of rationalization.
- ii. **Social welfare** –The scheme of social wellbeing is also a vital aspect of rationalization. In order to raise the standard of living of society, rationalization ensures supply of better-quality product at reduced price with ample opportunity of making choice.
- iii. **National interest** –It is a truth that the scheme of rationalization was implemented in Germany to revive the strength the economy of the country. Hence, rationalization serves the interest of a nation by ensuring efficient and proper use of resource, providing economic stability, securing industrial, development and boosting national prosperity. In Modern times protecting, preserving and promoting environment have also become a crucial element of rationalization.

#### **Benefits of rationalization**

Rationalization is considered a key to industrial development and economic stability. It attacks on waste and inefficiency and promotes efficiency and productivity as also social welfare. As a result, its benefits pass on from producers to consumers and finally to the nation.

1. Benefits to producers initially rationalization benefits the producers in a number of ways these benefits are as under.
  - a) Higher production
  - b) Lowering of costs
  - c) Maximum use of power and materials
  - d) Higher profit
  - e) Elimination of wasteful competition
  - f) Adequacy of funds
  - g) Benefits of standardization



- h) Benefits of specialization
- i) Protection from the evils of trade cycle
- j) Promotion of Industrial Research
- k) Promotion of better industrial Corporation

**2. Benefits of workers** –Workers are the vital part of any industrial system. Hence, the levels of production, productivity, profitability and use of resources are greatly influenced by the work culture of the workers. This is the reason why you rationalization page great attention on it. Further, rationalization benefits the workers in many ways. These benefits are as follows:

- a) Increase in efficiency
- b) Increase in remuneration
- c) Stability in employment
- d) Better working conditions
- e) Labour welfare
- f) Proper selection and training
- g) Mutual cooperation

3. **Benefits to consumers**- consumers are also benefited from rationalization. The major benefits are as follows:

- a) Availability of better products
- b) Availability of cheaper products
- c) Ease in product selection
- d) Highest standard of living
- e) Availability of products in right quality
- f) Prompt delivery

4. **Benefits of the Nation**– As we know the scheme of rationalization was introduced in Germany with the view of restructuring the shattered economy. This reveals that ultimately rationalization benefits the nation in the number of ways. The major gains the nation obtains are as follows.

- a) Effective and economical use of resource
- b) Increase in national income
- c) Economic prosperity and stability
- d) Rapid industrial development
- e) Increase in export potential

## **Objectives of rationalization**

1. **Producers objective against rationalization** –As we know, the producers are the direct beneficiary of the scheme of rationalization. However, rationalization faces opposition from the side of producers. The major objections against it are as follows:

- a) Requirement of heavy capital expenditure.
  - b) Scarcity of fund
  - c) Problem in exercising control
  - d) Fear of International competition
  - e) Fear of Nationalization
  - f) Difficulty in cooperation
  - g) Fear of obsolescence
  - h) Fear from
  - i) Fear of not obtaining sufficient Returns
2. **Workers' objections against Rationalization** – The workers are by far, the most important opponent of the scheme of rationalization. They attack rationalization vehemently and openly. Their attack, at times, take the forms of strikes and demonstrations. The workers criticize it mainly on the following grounds:
- i. Danger of large scale unemployment
  - ii. Danger of increased workload
  - iii. Danger of exploitation
  - iv. Danger of reduced mobility
  - v. Danger of dominance of capital of capital over labour
  - vi. Danger of adverse working conditions
  - vii. Disparity in sharing the benefits
3. **Society's objections to Rationalization or general objections** – Rationalization is criticized and opposed not only by the producers and workers, but by the people in general also. The society's objections are based on the following grounds:
- i. Danger of monopoly conditions
  - ii. Danger of big business
  - iii. Adverse impact on small business
  - iv. Danger of concentration of wealth
  - v. Fear of wastage of resources
  - vi. Adverse impact on skill and personality development
  - vii. Danger of environmental pollution

### **Difference between Rationalization and Nationalization**

| <b>Rationalization</b>   | <b>Nationalization</b>   |
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| <b>1.</b> Rationalization aims at cutting the ills of all the enterprise-private and | <b>1.</b> Nationalization aims at removing the abuse of power by private enterprise through converting |

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| <p>public-within an industry.</p> <ol style="list-style-type: none"> <li>2. Rationalization is a process of increasing efficiency of the enterprise within an industry.</li> <li>3. Rationalization does not aim at transferring the control and management of private enterprise to the hands of the government.</li> <li>4. Under rationalization, generally private entrepreneurs decide the measures to be adopted for the units within an industry.</li> <li>5. Rationalization saves the units within an industry from wasteful competition through rational or logical means.</li> </ol> | <p>them into public enterprise.</p> <ol style="list-style-type: none"> <li>2. Nationalization is the state policy through which private enterprise are taken over and managed by the state in public interest.</li> <li>3. Nationalization aims at transferring control and ownership to the government from the private hands.</li> <li>4. Under Nationalization, measures for public enterprise are decided or planned by the state.</li> <li>5. Nationalization saves the community from exploitation by private entrepreneurs.</li> </ol> |
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### **Difference between Rationalization and Scientific management**

| <b>Rationalization</b>  | <b>Scientific Management</b>  |
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| <ol style="list-style-type: none"> <li>1. Rationalization was discovered in Germany with a view to converting the shattered economy into a prosperous one</li> <li>2. The scope of Rationalization is wide and comprehensive. It, inter alia, includes scientific management.</li> <li>3. Rationalization is industry oriented because its scheme is introduced at the whole industry level.</li> <li>4. Rationalization covers all activities of an industry, such as production, finance, organization, marketing, personnel, social and human, etc.</li> <li>5. Rationalization encompasses several measures to ensure industrial progress and prosperity, such as, combination, mechanization, automation,</li> </ol> | <ol style="list-style-type: none"> <li>1. Scientific management was discovered in the United State with a view to maximizing the efficiency of plant.</li> <li>2. The scope of scientific management is limited. It is, in fact, a constituent of rationalization.</li> <li>3. Scientific management is plant oriented because its principles are applied at individual plant level.</li> <li>4. Scientific management mainly covers production and organizational activities.</li> <li>5. Scientific management encompasses only a limited measures, such as time study, motion, study, fatigue, study, tool study, personnel matters, etc.</li> </ol> |

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| reorganization, industrial research,<br>standardization, intensification, etc. |  |
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