



Productivity: A Conceptual Framework

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ABSTRACT

Now-a-days productivity has become almost synonymous for progress. It is key to prosperity. Productivity is the ratio of all the available goods and services to the potential resources. Higher productivity leads to social progress and economic growth. Higher productivity brings lower prices for customers and higher dividend for shareholders.

The basic objective of analysis of productivity is to find out some ideas in relation to improve the efficiency and these ideas may be applied in the field of resources utilization.

This paper attempts to make a conceptual framework of Productivity which includes meaning, importance, difference between productivity and production, measurement of productivity, factors influencing productivity, and productivity improvement techniques.

KEYWORDS

Production, Profitability, Workstudy, MBO, Flexitime, Job enrichment, Quality circles

In the early part of the fifties, our planners and management experts seriously felt that productivity of Indian Industries is declining day by day. It was also increasingly realized that in our country there was no consistent effort for accelerating the tempo of productivity movement in India. The government of India invited two experts teams of International Labour Organization to our in 1952 and 1954 to give a boost to the productivity movement. They suggested to establish productivity council was established in Bombay in 1955 and National Productivity Council was established in February 1958. The NPC was to assist the formation of regional productivity councils, to make the industrialists productivity conscious and to look after a steady improvement in the quality of the products. The years 1962 and 1982 were celebrated as the productivity years in India with a motto, 'Grow more, consume less, Waste not.'

CONCEPT AND MEANING :-

Capacity to produce or the ability to produce is known as productivity. In words of Gupta,(1990) "Productivity refers to the physical relationship between the quantity produced (output) and the quantity of resources used in the course of production (input). It is the ratio between the output of goods and services and the input of resources consumed in the process of production." Finch,(1976) Writes" Productivity is a ratio of resources generated to the resources consumed in producing them, both measures being expressed as an index in which the current position is compared with the position during a base period."According to Kohler's Dictionary for Accountant productivity is "The yield obtained from any process or product by employing one or more factors of production. Productivity is usually calculated as an index number; the ratio of output to input." Subramaniam,(1977) defines the productivity as "The ratio between the output of a given commodity measured by its volume and one or more of the input factors also measured by their volumes." According to National Research Council (1979), "Productivity is the relationship between output produced and one or more of associated inputs used in the production process." NPC (1999), explain that; "Productivity compares the amount of output with the amount of input resources used to produce the output at any given period of time.

IMPORTANCE OF PRODUCTIVITY :-

Now-a-days productivity has become almost synonymous for progress. It is key to prosperity. Standard of living of society is determined with the amount and quality of food, clothing, housing, education and social security. Emphasis must be given on more production of these essential goods and services

to improve the standard of living. There are two ways to increase the amount of goods and services. The first is to employ more resources and the second is to utilize the existing resources more effectively and efficiently. As it is well known fact, that resources is comparison to increasing population are limited and higher productivity is needed for improving living standard. Higher productivity requires that wastage as far as possible should be minimized by spotting out and eliminating the wastage of materials, machinery, manpower, time, space and other resources. Several techniques e.g. value analysis, standard quality control, inventory control, ergonomics, work study etc. are used for this purpose. Higher productivity provides better wages and working condition, increasing the skill and efficiency of workers, better management and enhanced and regular source of income. Higher productivity brings lower prices lower prices for consumers and higher dividend for shareholders. It improves the exports and foreign exchange reserves and makes the country self-sufficient in the production of different items. Thus, it leads to social progress and economic growth. Higher productivity helps in increasing the volume of production at a reduced cost and hence enables the expansion of market and industrial growth. Mass poverty and mass unemployment have been a great problem in India. Only higher productivity can help in elimination of mass poverty and mass unemployment.

PRODUCTIVITY AND PRODUCTION :-

Productivity and production are two different aspects and should not be understood synonymous to each other. In words of Gupta,(1990) "Production is the process of transforming raw material or purchased components into finished product or sale. Any process involving the conversion of raw material and components parts into finished may be called production." Productivity is a ratio while production relates to a volume. Productivity does not concern that how is produced but it has stress on efficiency of production. "Productivity is different from production, Production may increase but productivity may fall due to inefficient use of larger resources."

PRODUCTIVITY AND PROFITABILITY :-

Profit earning ability of an enterprise and the capacity of management to generate surplus in the process of business operations are known as profitability. According to Gupta,(1995) "The term 'Profitability' is a composite of two words-'Profit' and 'Ability' and signifies the capacity or power of a business concern to earn profits." He further says that "Usually there is direct relationship between productivity and profitability. If productivity indices comes down profitability will also come

down and if there is an improvement in productivity index, productivity is likely to increase directly in upward direction." But it does not mean that productivity and productivity are the same. It is not necessary that increase in profit or improvement in profitability will also lead to increase in productivity.

MEASUREMENT OF PRODUCTIVITY :-

According to Robin and Lynch,(1983) Productivity measures are useful in the following management areas :

1. Goal setting;
2. Estimating Resources requirements;
3. Organizational improvement;
4. Operation Control;
5. Resource reallocation;
6. Responsibility Accounting; and
7. Motivation for improvement

Sardana and Vrat,(1990) presents the following major categories of models and their approaches :

1. Production function models
2. Economic Utility Models
3. Measurement Through Financial Ratios
4. Surrogate Models
5. Systems Approach Based Models
6. Production Based Models
7. Productivity Accounting Model (PAM)

FACTORS INFLUENCING PRODUCTIVITY :-

An imperative need to look into factors influencing productivity because of interrelationship of economic growth and productivity. Once the Factors are ascertained effective measures can be taken to improve productivity.

According to C.B. Gupta "Productivity is the outcome of several factors. These factors are so interrelated that it is difficult to identify the effect of any one factor on productivity. These factors may broadly be divided into two categories- human factors and technological factors.

Human Factors: Human nature and human behavior are the most significant determinants of productivity. Human factors may further be classified into two categories as given below:

Ability to work : Productivity of an organization depends upon the competence and caliber of its people- both workers and managers. Ability to work is governed by education, training, experience, aptitude etc., of the employees.

Willingness to work : Motivation and morale of people is the second important group of human factors that determine productivity.

Technological Factors : Technological factors exercise significant influence on the level of productivity. The main technological factors are as follows :-

- Size and capacity of plant.
- Product design and standardization.
- Timely supply of materials and fuel.
- Rationalization and automation measures.
- Repairs and Maintenance
- Production planning and control.
- Plant layout and location.
- Materials handling system.
- Inspection and quality control.
- Machinery and equipment used.
- Research and development.
- Inventory control.
- Reduction and Utilization of waste and scrap, etc."

PRODUCTIVITY IMPROVEMENT: SOME TECHNIQUES :-

In order to improve productivity, a large number of techniques have been developed

and suggested. Some of these techniques are being discussed here:-

1. **Work Study :** Work study is a vital tool of improving productivity and cost effectiveness. Eliminating inefficient and unnecessary activities and idle time, work study saves time and effort.
2. **Production Planning and Control :** It is the process of planning production in advance of operations, establishing the exact route of each important item and releasing the necessary orders as well as initiating. The required follow up to effectuate the smooth functioning of the enterprise.
3. **Automation :** Mechanization, automation and rationalization are considered major contributors to productivity. Such measures increase the speed and accuracy of work.
4. **Incentive Schemes :** a manager tries to satisfy needs of the employees in order to motivate them. The objectives which are used to satisfy needs are called incentives.
5. **Workers Participation in Management :** Two way communication, suggestion schemes, and joint consultation are the main forms of workers' participation in management and can help in developing mutual understanding and co-operation between workers and management.
6. **Management by Objectives (MBO) :** Management by objectives is a process in which the managers and subordinates together agree upon a set of activities, targets, dates and goals which will be used as the criteria to the subordinates performance and evaluation. A link is created between the organizational goals and individual targets so that an employee can see how his work contributes to the goals of the organization.
7. **Flexi time :** Under this system, the employees have the freedom to choose, within certain limitations, what times they begin and quit their job each day. Such type of arrangement generally improves morale, increase productivity and gives employees a greater sense of over their own lives. Overtime, short-term absenteeism and tardiness are reduced under flexi time system.
8. **Job Enrichment :** It is a form of improving a job so that a worker is likely to be more motivated. It provides the employee with the opportunity for greater recognition, growth, advancement and responsibility. In job enrichment workers are given new and more varied task to perform, greater responsibility for their own work.
9. **Quality Circles (QC) :** The main objective of a quality circle programme is to improve motivation, product quality and productivity. Quality circle provides workers an opportunity to participate in decisions about their work because it is a small group of workers which regularly meets to discuss problems, investigates causes, and recommends solutions.
10. **Research and Development :** Research and Development helps a lot in the introduction of modern techniques of production and improvements in existing machinery, equipment etc. The rate of technological progress is a direct determinant of productivity.

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