

INSTITUTE OF ENGINEERING, JIWAJI UNIVERSITY



Factors Influencing Productivity UNIT-V BE 8sem (EL-8103) Electronics

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Factors Influencing Productivity

Factors influencing productivity can be classified broadly into two categories:

- A. Controllable (or internal) factors and
- B. Un-controllable (or external) factors.

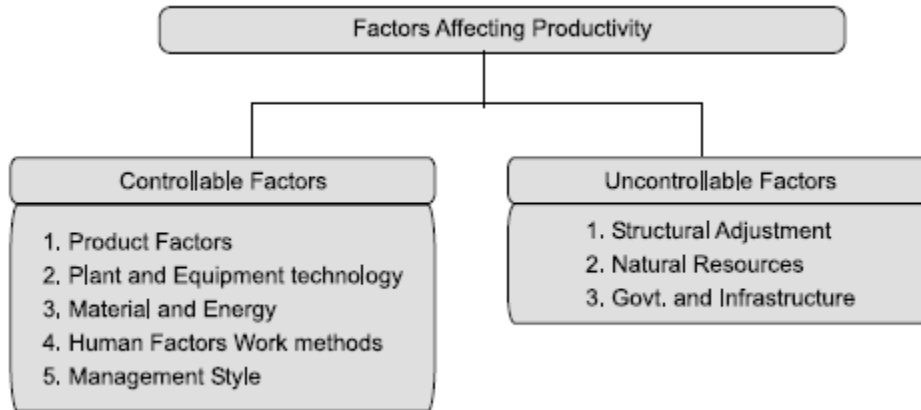
A. CONTROLLABLE (OR) INTERNAL FACTORS

1. *Product factor:*

In terms of productivity means the extent to which the product meets output requirements product is judged by its usefulness. The cost benefit factor of a product can be enhanced by increasing the benefit at the same cost or by reducing cost for the same benefit.

2. *Plant and equipment:*

These play a prominent role in enhancing the productivity. The increased availability of the plant through proper maintenance and reduction of idle time increases the productivity. Productivity can be increased by paying proper attention to utilization, age, modernization, cost, investments etc.



3. **Technology:**

Innovative and latest technology improves productivity to a greater extent. Automation and information technology helps to achieve improvements in material handling, storage, communication system and quality control. The various aspects of technology factors to be considered are:

- i. Size and capacity of the plant,
- ii. Timely supply and quality of inputs,
- iii. Production planning and control,
- iv. Repairs and maintenance,
- v. Waste reduction, and
- vi. Efficient material handling system.

4. **Material and energy:**

Efforts to reduce materials and energy consumption brings about considerable improvement in productivity.

1. Selection of quality material and right material.
2. Control of wastage and scrap.
3. Effective stock control.
4. Development of sources of supply.

5. Optimum energy utilization and energy savings.

5. *Human factors:*

Productivity is basically dependent upon human competence and skill. Ability to work effectively is governed by various factors such as education, training, experience aptitude etc., of the employees. Motivation of employees will influence productivity.

6. *Work methods:*

Improving the ways in which the work is done (methods) improves productivity, work study and industrial engineering techniques and training are the areas which improve the work methods, which in term enhance the productivity.

7. *Management style:*

This influence the organizational design, communication in organization, policy and procedures. A flexible and dynamic management style is a better approach to achieve higher productivity.

B.UNCONTROLLABLE (OR) EXTERNAL FACTORS

Structural adjustments:

Structural adjustments include both economic and social changes. Economic changes that influence significantly are:

Shift in employment from agriculture to manufacturing industry,

Import of technology, and Industrial competitiveness.

Social changes such as women's participation in the labor force, education, cultural values, attitudes are some of the factors that play a significant role in the improvement of productivity.

Natural resources: Manpower, land and raw materials are vital to the productivity improvement.

Government and infrastructure: Government policies and program are significant to productivity practices of government agencies, transport and communication power, fiscal policies (interest rates, taxes) influence productivity to the greater extent.

Total Productivity Measure (TPM)

It is based on all the inputs. The model can be applied to any manufacturing organization or service company.

Total productivity = Total tangible output + Total tangible input

Total tangible output = Value of finished goods produced + Value of partial units produced + Dividends from securities + Interest + Other income

Total tangible input = Value of (human + material + capital + energy + other inputs) used.

The word tangible here refers to measurable.

The output of the firm as well as the inputs must be expressed in a common measurement unit. The best way is to express them in rupee value.

Partial Productivity Measures (PPM)

Depending upon the individual input partial productivity measures are expressed as:

Partial productivity = Total output / Individual input

Labor productivity = Total output / Labour input (in terms of man hours)

Capital productivity = Total output / Capital input

Material productivity = Total output / Material input

Energy productivity = Total output / Energy input

One of the major disadvantages of partial productivity measures is that there is an over emphasis on one input factor to the extent that other input are underestimated or even ignored.

THANK YOU