DETERMINANTS OF PRODUCTIVITY

An increase in industrial productivity from time to time or from region to region is a result of certain factors. The factors influencing industrial productivity are so numerous, complex and inextricably interwoven that the task of evaluating the influence of each individual factor on the overall productivity of industrial units is beset with almost inseparable difficulties.\(^1\) The study of the determinants of productivity is necessary for correct interpretation of production data and formulation of definite co-ordination and unified policies for future.\(^2\)

The problem of increasing productivity is according to I.L.O., one of making more efficient, use of all types of resources in employment. Consequently, the factors that influence productivity changes have a close bearing on the nature and quality of the factors of production and on the way, they are put to use in the process of production. Therefore the study of the determinates, of productivity is

necessary for correct interpretation of production data and formulation of definite co-ordination and unified policies for future.\textsuperscript{3}

In this regard various attempts have been made by economist to classify the determinants of Productivity from time to time as Roland Gibson,\textsuperscript{4} Rostas\textsuperscript{5} and Sreenivasan.\textsuperscript{6}

Determinants of Productivity on so numerous complex and interrelated that it is difficult to arrange them into any logical or systematic sequence. Even with the best care and caution, the list prepared may not be exhaustive and logical. There are chance of over lapping and the classification looks perfectly justifiable for some industry but not for the other. There may be out standing differences in the approach and treatment of different factors.

In spite of the differences in the technique and methodology of classification, certain broad factor can be broadly classified as quality of inputs, level of technology,
size of the firm, organizational factors and capacity utilization.

**Quality of Input:**

**Labour**

Attitude and behaviour of Industrial workers towards their jobs is a major determinant of Industrial Productivity.

It is a matter of common observation that skill training, experience and general and moral education of workers have already made a remarkable contribution towards the recent improvement in industrial Productivity, whereas the non-co-operative and hostile attitude of the workers have tended to impede the progress in this direction.

Generally speaking the productivity of labour depends on three sets of factors i.e. the ability of the workers, willingness of the workers and the environment and condition under which he has to work. The ability of the worker to perform his job more efficiently depends upon his inherent and acquired skill, general training and experience, aptitude, capacity, intelligence and outlook.

The worker attitude and behaviour and influenced partly by the system of wage payment. It is generally recognized that under price ways system the workers have
greater incentives to work then under time wage system. The recent practice is to introduce newer incentives, which may stimulate the workers desire to produce more.\textsuperscript{7}

**Capital Input:-**

It would be logical to maintain that as the capital stock per worker tends to be high, there would be an increase in worker's Productivity, and the reverse is true if there is a decline in the amount of capital stock per worker of labour force. It is however impossible to establish exact relationship between the amount of machinery used and Productivity per worker. Amount of machinery used per worker cannot alone affect the Productivity of the worker quality of the machine used is an equally important factor and no reliable measure of the quality of machine is available. Further more simply the introduction of modern machinery does not increase the Productivity of an industry; technology and a number of other factors also profoundly influence Productivity.

**Raw material output**

Availability of raw material has become virtually important for a country to have easy access to sufficient

amount of raw materials. For a nation to achieve and sustain, higher levels of Productivity. It is indispensable that there contrition should exist:-

(a) raw material

(b) technology

(c) proper institution

There are few countries who have manages higher rates of Productivity over longer period of times depending upon the imported raw material from abroad.

Moreover, the material before use, should be well processed because it effects the Productivity considerably.

**Level of Technology:**-

Technology is one of the most important factor determining the level of industrial efficiency in terms of greater improvement in output per worker. The long term gains in Productivity mainly storm from the advance in science and technology and its application to Production. It is not a lack of manpower or raw materials or natural resources, which keeps the developing nation away from jumping the poverty gape. It is not a lack of manpower or raw materials or natural resources, which keeps the developing nation away from jumping the poverty gape. It is primarily the know how
which makes the difference. One can no longer measure the raw material position of any country without weighing its scientific and technological strength.\(^8\)

However, it cannot be denied that the level of Productivity could certainly be increases by input in equipment, notably increase in size of machines revising of plant layout, accelerated speed of operation, more precise and controlled devices and less susceptibility to break down and also improved condition of work and other refinements in factory building and design.

Technical changes could not be thought of exclusively in terms of revolutionary any changes in methods of production nor should they be identified with mechanization. The long-term gains in Productivity have really resulted not so much from the revolutionary discovery of some new physical or chemical elements or some new source of power but from slow, gradual and some times even imperceptible improvement in technical process. Such improvement may take the form of new tools and equipment improvement in handling methods, better lay out of plan more efficiently integration of process are job etc.

In the present day industrialization backed by the application of scientific knowledge, productivity is predominantly a technological question. For the increased productivity it may be better to make a drive for technological efficiency even without present equipment not postpone it till we are able to get more modern equipments are such a move in addition to increasing total production would definitely be helpful in reducing the cost of production and improving the quality of articles. In the present phase of development of the country, there it is not possible to invest more capital. We should concentrate our effort in those innovation and technological efficiencies can increase productivity and reduce cost of production and only with the present labour and capital over a time period, but also the elasticity of output with regard to capital and labour remaining content. This type of technological efficiency or innovation is known as the neutral technological change. The neutral technology mostly seem in the industrial sector is playing a very important part in the increase in Productivity due to the reason that technology is changing at a faster rate them the mechanization.
Capacity Utilization:-

Partial utilization of the installed capacity in many of industrial units has not only seriously affected the production as well Productivity potentiality, but has also created devilish problem of rising prices. It is often argued that the situation has developed in this manner on account of shortage of raw materials, paucity of bank credit, insufficient allocation of foreign exchange, labour unrest, transport bottleneck, power shortage and difficulties in processing spares and equipments and so on. While there may be some elements of truth in this there is also some justification in the comment shut plant capacities are not fully utilised with a view to restricting output for securing higher price and profits margin. Indeed the underutilisation of capacity in Industrial sector has been the mix of large variety of factors but the phenomenon relates broadly to the installation of initially a heavy in built capacity, recession in the demand for industrial products, operational difficulties and administrative inefficiency.

The provision of heavy in built capacity in many industrial unit, they lead to the under utilisation. There is no reason to disagree with the fact that the achievement of full capacity is a factor, which is achieved through stages, but the growth of enterprises shows that the plant expanded before
the capacity installed had not been achieved. The recommendation of the study team of administrative reform commission is worth mentioning, "before going for additional capacity the agency concern should assess the demand for its product in all its aspects, the effect of price on demand, the allocation pattern, the time phasing of demand and the practical possibilities of selling the product under competitive condition in India and Abroad".

The study of the causes of under utilization of capacity have revealed that it has been the interaction of such factors for which the labour management, entrepreneur and even government may be hold possible but ever may be the causes and whose ever may be responsible for it, this situation needs urgent attention.

Since the problem of the under utilization of the capacity created has been the result of the interaction of several factors, it requires not a few but several improvements. At the government, level the procedure of growing import licenses for the pro current of stores, spares, and raw material will have to be liberalized. At the industry level measure with regard to diversification of product, promotion of product export improvement in the interrelations with each other and forming up of
administration are required to be undertaken urgently. The unsocial stick attitude of the workers, towards work is also, needed to be met with very strongly.\textsuperscript{9}

**Size of Firm:**

The efficiency of an industrial unit very largely depends upon its size. It is generally observed that smalls size unit is less economical and conducive to low efficiency than large size units. The cost of production of large-scale firm will be less then small sizes firms due to the division of labour.

In spite of having these advantages, the large size firms have many drawbacks as under utilization of capacity, lack of adequate of management co-ordination and less flexibility in relation to the demand and the taste of the consumer. It is clear that after the increment up to particular size known as optimum size the efficiency will start declining.\textsuperscript{10}

\textsuperscript{9} Administrative Reforms Report Commission, New Delhi, June 1976, p. 91.

\textsuperscript{10} By the optimum firm we mean that firm which in existing condition of technique and organizing ability has the lowest average cost of production per unit when all those cost which must be covered in the long run are included. ”Pabintion, E.A.G., the structure of completive industry, p. 15.
Besides these theoretical conclusions, the empirical and fact-finding investigations about the relationship between size, efficiency and productivity per worker provide contradictory evidences. One such study undertaken by Mehta about seven industries suggest that there is a high degree of correlation between size and cost and size and rate of profit.

It is firmly believe that up to a particular size the productivity of the firm increased beyond this most desirable size, the efficiency and productivity starts declining.\textsuperscript{11} 

\textsuperscript{11} Ibid.