The word productivity, has taken on a more precise meaning in the course of time. In its widest sense, it may be said, that, productivity is the measurement of the economic soundness of the means. Productivity is higher when the means used to achieve a given end are more limited. From a more technical viewpoint, productivity may be defined as "production per factor unit."

The increase in total productivity of a given industrial unit, society or country indicates the total actual savings made on the total consumption of production factors. Lower cost per unit of production per factor unit may result from a drop in the factor cost itself, or from turning the factor to better account.

EFFICIENCY & PRODUCTIVITY

European Productivity Agency (Report on project No. 235) prefers the word efficiency in place of productivity. It argues:
The word "Efficiency" may be taken in its widest sense as practically synonymous with "Productivity," "Output" or "Yield." If an exact definition is sought, it will be seen that the word "efficiency" does embrace the idea of productivity but goes beyond it in that it expresses an aptitude or capacity - in short a quality of the unit, the productivity of which is under consideration. The word "efficiency" may, in fact, be regarded as expressing the quality of a unit of definitely adequate productivity, but which is constantly striving to improve this productivity by conscious and successful effort on reasoned lines.¹

The report further adds:

"The term in fact, expresses better than productivity or output, the idea of an organizing brain and a process of intellectualization of effort with a view to derive the best advantages from the means employed to achieve the desired end. The word is, moreover, rarely used to mean the specific productivity of material factors. It can be used only in reference to a man, a technique, a firm or institution, and in describing any of these, obtaining concrete results by a deliberate effort to improve productivity."
Productivity is somewhat an abstract concept and thus non-measurable, since the efforts and sacrifices involved in production are of varied kinds, and it is impossible to dimensionalize them and to add together.

It is possible, however, to relate output to the input of a particular factor of production - land, capital, or labour - and arrive at a concept which is, if one is willing to make some rather arbitrary assumptions, statistically measurable and which may be called the productivity of that factor of production.

It is sometimes important to focus attention on the productivity of one factor or the other (say labour). There are dangers in doing so. In the case of labour productivity there is not only the danger of being misunderstood and being thought to place undue emphasis upon what can be done by labour to increase production. There is also a danger of giving insufficient attention to problems of what can be done to increase production by making a more efficient use of other factors of production.
It is scarcely necessary to say that to speak of productivity of labour is not to emphasize the efforts to be made by labour, but the importance of making use of the services of labour. In the expression:

\[
\frac{\text{Output of Wealth}}{\text{Input of Labour}}
\]

It is the numerator that one wants to increase. The use of the term "productivity" of labour in no way implies that what workers can do to increase output is more important than what employer and government can do. Still less does it carry a suggestion of a desire to exploit labour. Quite the reverse. It shows a concern not for higher output at all costs, but for higher output in relation to labour input.

Though the input of labour is a simpler concept than the input of resources in general, even the input of labour may be thought of in different ways. If it is taken to mean the amount of efforts put in by workers, it follows that an increase in output produced at the cost of correspondingly greater effort will not be regarded as an increase in labour productivity. The amount of effort put in is, however, an exceedingly difficult concept to
measure. For statistical purposes it becomes necessary to fall back, as a measure of effort, on man-hours, man-days etc.

This measure again is influenced by the other factors used in production. Thus, many of the discrepancies in the productivity between countries are the result of different degrees of mechanization; but the discrepancies between factories in the same country, and especially between workers within the same factory are usually the result of different conditions affecting the human factors.

PRODUCTIVITY DEFINITIONS

A survey of the literature yields a substantial number of definitions of the term "productivity," but most of them can be classified into four basic approaches to the concept of productivity.

Productivity -

(1) as a form of "efficiency"
(2) as the utilization of resources or the effectiveness of utilization of resources
In the most general sense, "productivity" denotes "the quality of state of being productive;" or "the possession or use of power to create, to bring forth or to make."

Since the use of creative or productive power can be measured only by results it follows that such use cannot be measured separately for two or more subjects or factors that cooperate in production. When such is the case one has to consider the subjects or factors which come together - as affecting or helping the productive efforts. The effective use of this power, then, depends on one major element and that is "willingness" of labour or other men (personnel) to use the power in producing the goods.

DEFINITION USED IN THIS RESEARCH

To be productive means to utilize the power or capacity - mental or physical - to produce more (quantity) and better (quality) in a given situation.
If this dimension is also considered, and it is necessary that it should be, then the aspects of morale, attitude, group dynamics etc. will be forged together to give a composite picture. A direct emphasis on perception of conditions and suggestions to modify or change certain conditions - material or psychological - thought to be affecting the production will be helpful even though their quantification is difficult.

The willingness to utilize the power will be a necessary outcome of needs - ranging from the basic physiological needs (hunger, thirst etc.) to the need for self-actualization. This willingness will have to components - (a) an internal component - depending entirely on the personality with its need pattern, interest, aptitude etc. and (b) an environmental component - such as plant-outlay, physical and working conditions, policies of the company etc.

An acceptance of a job by an individual may not mean his willingness to utilize his power to produce. The environmental component should be such as to fuse his internal component with itself, and thus energize the willingness to produce.
The definition that is preferred in the present study falls under the second category mentioned above i.e. Productivity as the Utilization of Resources or the Effectiveness of Utilization of Resources. The definition is:

"Productivity of labour is the outcome of 'willing' efforts of labour to be productive."

In the definition given above, one will see its clear differentiation of productivity from ability, capacity, state etc. A person capable of doing certain things may not do it because of personality factors and such social factors as the attitude of the group or society toward the production activity. If we are measuring what one is capable of doing rather than what he actually does we will be testing one's ability. Productivity has a reference to things which are either directly visible in terms of units produced or are qualitatively felt.

By "willing efforts" we mean free and unforced use of the capacity by an individual. What the individual thus will do, one can presume to be equal to the capacity
which he has for utilizing, without pressure or feeling of undue strain, in a particular situation.

Again, when we refer to the part that the employer plays in productivity of labour by pointing to "of" rather than 'by' labour," we consider another aspect of "willingness." What the employer thus can do is to utilize the man for the right kind of job and create a satisfying climate so as to help the man to put his best. The concept of fusing of the organizational and individual's goals can then be realized. The effective utilization of its work-force by the industry depends on the perception of the people for acquiring their goals through organizational goals - a possibility seen and later tested to be true by actual realization of self-goals.

DIRECTIONS OF PRODUCTIVITY STUDIES

Studies on productivity listed in literature show a wide variety ranging from statistically computed results on one hand and the related areas of job-satisfaction, morale etc. on the other hand. Economists, all the while, seem to be largely concerned about this but the interest that social and industrial psychologists have
shown is no less. The variations are also observed in
the specificity of interest as getting the productivity
of national capital, industry-wise, as well as unitwise,
productivity. At the other side experimental approaches
such as that of Hawthorne studies are also widely used.
In all such studies one has either tried to measure
productivity directly or has tried to find the effect
of some variable on productivity. Some studies have
used Human Engineering aspect to tackle the machine side
to help an operative to produce maximum with minimum
of his efforts; while others have utilized minor aspects
of work environment as introducing music on shop floor
and its effect on production.

These wide areas of study have clearly indicated that
the emphasis was not on determining the productivity of
an individual or a group, but in raising the production
by manipulating work methods and work environment to
reduce the boredom and monotony from the job. All this
assumes that an individual on a job is holding something
back consciously or unconsciously which can be brought
forth to get more production.

Attitude surveys, studying the impact of attitude on
job-satisfaction, morale and production, show a clear
use of perception phenomena which act as intermediaries in the process of production. Social psychological studies refer to the perception variations because of attitudes, past-experiences, interest needs and so on. Keith Davis (1962) gives a clearer picture of how the best conditions when not perceived as present create problems, dissatisfactions, and in turn affect the production.

The problem of adequate uncovering and proper evaluation of social psychological factors in the area of organizational effectiveness constitutes a major aspect of current thinking and research in productivity. Since productivity entails considerable theoretical interest as well as action implications, it has received constant attention.

In attempting to provide answer to the problem of variability in output in comparable conditions, many studies have explored the relationship of several factors to productivity, employing various approaches. These include "morale," certain "job-satisfaction," "supervisory practices" and "group-cohesiveness." The results even though inconsistent and inconclusive in many cases (Georgopoulous and Tannenbaum, 1969; Kahn, 1960) point to the complexity of the problem.
It clearly emerged that productivity is the resultant of a complex of factors, both individual and situational, both phenomenological and objective. Both rational and nonrational factors appeared to be involved, some being factors favourable and others unfavourable to high productivity.

PAST RESEARCH IN PRODUCTIVITY

Studies in productivity of labour took shape just before the first World War with the publication in America of Josephine Goldmark's "Fatigue and Efficiency" (1913); and the appointment, by British Association for the Advancement of Sciences meeting in Birmingham in 1913, of a committee on "Fatigue from the Economic Standpoint." During that war enquiry into the limits of productivity was urgently pushed forward by Health of Munition Workers' Committee appointed by Lloyd George in 1915. In America, as soon as she entered the war, U.S. Public Health Service took up similar enquiry. The results of these enquiries were published between 1916 and 1924 in two reports of the British Association and twenty-one Memoranda of the Health of Munition Workers' Committee Bulletin, 106, of the U.S. Public Health Service, Vernois.
These enquiries during the First World War were mainly concerned with the effect of hours and physical conditions of work on particular kinds of jobs. Hence the emphasis on fatigue, physical health and the limits to the capacity of labour. Florence (1914) for instance, gave separate hour to hour work and accident curves for different types of work, and analyzed all the jobs in a giant factory according to the part played by the human factor.

Between the wars interest switched from physiology and economics to the psychology, sociology and anthropology of the industrial scene. An outstanding enquiry was that of Elton Mayo (1933) and his associates at Harvard, which brought out the importance of job satisfaction of personnel and personnel relations and above all of the behaviour of workers as a group. It is often maintained that Mayo's enquiries contradicted the earlier results because the productivity of a small group of girls did not fall when their hours of work were put back to their original longer duration. This view ignores the fact that the girls' hours of work were never more than forty-eight a week, and that earlier enquiries dealt with hours of over forty-eight right up to seventy-two a week. It was in these longer working
days that a rise in productivity including quality of work and attendance was associated with a fall in hours, and that the work and accident curve fell as the working day proceeded. In short Mayo's work added to our knowledge of the multiple factors involved, but did not cancel previous conclusions. In England the Industrial Health Research Board succeeded the Health of Munition Workers' Committee. The enquiries of this Board, though contemporary with Mayo's in America, have not been received proper attention. While making original contributions to group behaviour many of the Board's numerous reports continued to stress the importance of monotony in certain types of work and of physical conditions as affecting output and accidents in the course of long working hours.

During World War II the Industrial Health Research Board ceased publishing research reports and little progress was made in the study of productivity either in England or America. But since 1945, there has been a certain reaction from the Mayo school of thought in two directions. More attention, especially in America, has been paid to the trade union affiliations of the worker, instead of only to the firm or to an informal group. And both in England and America there are signs
of renewed interest in the type of work as a factor both in productivity and job-satisfaction. Elton Mayo's concentration upon relations within and between the groups has led writers on social psychology like J.A.C. Brown (1954) to insist that "any definition of work which leaves out the fact that it is a social activity is no definition at all."

Again since Elton Mayo's time, the interest of most psychologists was largely wrapped up in what workers felt and thought rather than in what they did in job-satisfaction and attitudes, or in their social relations rather than in their productivity and mobility.

It is also clear from the literature reviewed that measures of job-satisfaction do not provide consistent relationship with productivity variables. (Brayfield and Crockett-1955; Herzberg et al, 1957, 1959). Many rationales for such inconsistency have been or could be proposed. Haire (1959) suggests that there is no reason to assume that a positive attitude will bring forth higher productivity. Roethlisberger and Dixon (1936) and Zaleznik, et al (1958) found that measures derived from the work-group norm may minimize the variance of productivity and be a contributing factor to a lack of
relationship between satisfaction and productivity.

Productivity measures have presented many problems - for productivity is by no means a simple concept. (Brogden and Taylor, 1950; Wherry, 1950). The interactional effects of situational variables upon the relationship cannot be ignored. Kornhauser (1939) proposed that social, economic, and political variables must be taken into account. Until the recent efforts of Katzell, Barrett and Parker (1961) little attention was paid to such variables by psychologists.

A survey of the research suggests following classification of variables studies:

(1) Productivity and Job Satisfaction
(2) Morale
(3) Organizational behaviour
(4) Physiological factors (age, sex, etc.)
(5) Working and physical conditions
(6) Communication
(7) Interpersonal perception

The research on job-satisfaction and productivity (Kahn, R.L. 1960) or morale and productivity (Norse, N.C. & E. Reimer 1956) has not affirmatively given any answer
to the question of productivity correlates.

Leonard R. Sayles (1968) states -

"It is a long step to move from observations of group behaviour to questions of morale and productivity. These factors are much less tangible and less observable."

Dr. George Strauss (1960) observes that high grievance activity and high productivity were positively correlated.

Researchers in industrial relations have been overly impressed with the worker's need for social satisfaction on the job. Undoubtedly there is truth in Mayo's (1933) observations on the mule-spinning department of a textile plant. It is significant, however, that Mayo (1945) later modified his original hypothesis to take into account the effect of the change itself on worker attitude.

Of equal importance in encouraging productivity may be the factor of experiencing group solidarity and success in attaining economic satisfaction. In a number of studies of Survey Research Center, "Pride in the work group" is one of the major correlates, and
one of the few consistent correlates of high productivity.

It is also suggested that the total plant as an environmental factor, in explaining industrial relations and productivity, needs to be taken into account (S.R.C.1948).

Efforts to find universal solutions to the problem of productivity within the dynamics of the friendship groups have not been successful. (Especially refer to Goode and Fowler, 1948; also Seashore, 1955; Horsfall and Arensberg, 1949; Zaleznik at el. 1958).

The research in the direction of emotional state and production, points out that man is generally productive in a positive feeling tone than in a negative one - but this is not always so.

From all these researches one sees a growing awareness on all fronts, taking indirectly labour and labour productivity as centers. The actual usefulness of the factors is tested on shop floors with variations in results. This variation is suggested as due to perceptual differences as to the motives behind and effects of such changes introduced. The implementation and use will depend on perception of such factors and acceptance of such factors in a proper perspective. This
is where the perception studies need to emphasize. In productivity, points out Keith Devis (1957), the worker's perception of environment and himself in relation to that environment should become the center of attention. How a worker perceives a particular situation and how he interpretes it is going to tell on his productive efforts. If a particular condition or regulation is perceived as threat, the workers will resist it by showing a loss in production, and blaming the tangible factors - such as humidity and air-circulation.

The perception of conditions and its interpretation - even of conditions such as training and literacy - does depend on the past experiences of these conditions. But in a work-situation where the psychological contact is already getting established the interpretation is mostly in the social frame of reference rather than individual. A complaint regarding humidity, a worker knows, is going to be looked into if the performance of all workers around in the loomshed is showing deterioration or all are complaining about it. It is not whether the condition is present or absent that is going to tell on the productivity, but whether it perceived to be so. This is more true of the social and organizational
factors than of material and machines, i.e. about the intangible factors than the tangible ones.

THE PRESENT WORK AND ITS OBJECTIVES

Productivity - a complex phenomena - is thus dependent on a host of factors interdependent and interlinked. These factors interact with each other, and a change in one factor, may bring a chain of changes in other factors. Such a complexity as referred by Georgopoulos, B. (1957) leads to undertake a survey of these factor in totality rather than isolation. The material conditions will only be the stimulators rather than anything else. The impact of these stimulators on the factors of production (of labour) will necessarily give us output variation. But in order to name this output in the terms of productivity of these factors and also in the efforts of improving this productivity or overall efficiency, the impact has to be known. The impact or the effect of the stimulating conditions will depend on the perceptual frame of reference of the labour class and other personnel in the factory. These perceptual differences will have to be known in a situation before further efforts are put to uncover the actual impact or relative impact of each condition and to improve their quality either by changing
the conditions themselves or the perceptions. This is then the main objective of the present study i.e.
"To determine the relative importance of the conditions affecting production as perceived by the textile personnel."

Besides this main objective other objectives are -

(1) What situations and functions affect the individual's performance in an organizational set up - according to the personnel in that organization.

(2) How different is the impact perceived, of various condition by the people - according to qualities or characteristic distribution of the job, such as (a) Position in the hierarchy, (b) Experience and education, and (c) Department or section of work.

It is the contention of the author that the present study will give a sufficiently clear picture of the factors affecting productivity. Also in the light of present status of Indian industry, especially textile industry, such a study will emphasize the necessity of attending to certain human characteristics which need to be looked into to get better production. Indian
industry is becoming rapidly capital centered as technical modernization is done at an accelerated rate. The human element is likely to be forgotten in such a race for becoming up-to-date. This study it is hoped will bring the awareness before it is too late.

The objective is simple, just to study how the people perceive the various aspects of work environment, as affecting productivity of labour. Generalization is neither intended nor attempted. The fact that organizational conditions are not going to change in their names and matter, is well understood; but, the effectiveness of labour in production is dependent on the perception of the workforce is still understood to be of prime importance. The efforts are towards understanding the details of organization climate—through perceptions of the organization men.