

A Sociological Analysis of Workers Alienation in Socio-Technical Systems of Production

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I. INTRODUCTION

Researches on work attitude and perceptions of work roles of workers employed in Indian industrial organizations so far received little attention from Indian psychologists and sociologists particularly in the context of the impact of modern technology on the worker alienation. Some treatises have no doubt appeared on social change in India but the fact has lamentably been obliterated that the transformation of the Indian workers constitutes an important area of social change. This transformation is due to the establishment of the factory system in India consequent upon the advent of industrialism. A rapid industrialization took place, throwing the traditional handicraft economy completely out of gear. A new urban or industrial culture began to appear fast on the national scene since the independence. The Indian industrial worker was faced with challenging demands of the new industrial system and of most modern technology that came to be used for mass production of goods.

It is pertinent to observe here that factory system works under few constraints that call for rapid adjustment and transformation of worker. At best, it may be viewed as a system of role relationships between workers and the management on the one hand and the technology and workgroup in the context of the work situation on the other. In this context the influence to technology, flow of work, speed of machines, etc. are often the decisive factors in ordering the required skills, in determining the occupational status of workers, and in arranging the social relations at work.

In this context, it is useful to think of the setting with in which a man does his assignment work as a "Socio-technical system" (Emery and Trist, 1962). This idea emphasizes the close inter dependence of technology and human relations on the job. The socio-technical system is a blending of the social and technical aspect of organization. The technical system refers to a physical plant, the machinery, and the mechanical processes that are organized toward to goal of producing goods or services. The technical organization lays out the work and provides for the flow and allocation of materials. The technological factor-what machines can do and the concern for the minimizing the costs decisively affect the way the work is organized. Taken together, the nature of the technology and the criterion of cost limit the alternative ways of getting the

job done. It takes people to operate a technical system, and there is no technical system without a social system. The technical system flexes important aspect of the group situation. The socio-technical system includes :

(i) A specific technology; (ii) the formal division of labor; and (iii) the informal human relations on the job. The problems of the enterprise is to create socio-technical systems that simultaneously achieve technical goals and hold th working group together. When it is not the case, the resultant condition is one which has been typified as, "alienation."

Now let is consider worker in different types of socio-technical systems of production. Craft workers are not dominated by the technical system. They control the pace at which they work, the quality of product the quantity of output. They determine the techniques and methods involved in production and constantly meet to solve problems in the course of their work. The sense of isolation and anonymity common in mass production industry is almost absent or supposed to be absent in the craft industry. Automobile production is based on a totally different technical system. As the incomplete motor vehicle moves along a conveyer belt at a pre-determined speed, workers at every point on the assembly line assemble one of component parts. The mportant features of the assembly-line work are : (1) extreme subdivision of jobs, (2) complete pre-determination of work methods, and (3) the mechanically – set speed of the conveyer belt. In such a work system, little skill or training is required. The work is extremely repetitions and little instiative is possible because engineers and time study personnel are these to see how each job is done. These workers have no control over their socio technical environment. It is expected that the assembly line worker may feel alienated more than the workman in any other industrial environment.

In contrast to the assembly line technical system, in a continuous-flow system, the product flows automatically through an extensive network of pipes and reactor units. Within each of these units a particular process or reaction is carried out. Manual workers do not deal with the product directly as they do in craft and assembly line industries, but control the reactions of invisible processes of production through monitoring control boards, watching ganges and instruments and adjustment values. There is freedom of movement because automated work environments are

relaxed and free from pressure. It is supposed that it is continuous process technology produce a socio technical system with low alienating tendencies. The powerlessness of workers in assembly line is replaced by control over automatic processes. It is supposed that it is continuous process technology produce a socio technical system with low alienating tendencies. The powerlessness of workers in assembly line is replaced by control over automatic processes. The loss of meaning that may be due to extreme division of labor is supposed to be absent, because the responsibility of the individual worker encompasses an entire productive process.

Automation is still another technical system in which it is supposed that the alienation of workers is less or sometimes found absent. Besides these, there are many socio technical systems in modern industry that cannot be classified as craft, assembly line, or continuous process. However, in view of great diversity in work environments, their is great need to assess the general quality of human relations and the level of worker alienation.

Alienation is a cognitive cum affective behavior which is generally manifest among workers in such behavior patterns as belongingness, meaninglessness normlessness, powerlessness,, instrumental orientation, isolation from organizational goals and like (Vashishtha 1991).

1. Today the concept of alienation has become part of ordinary language which use in media but the concept of alienation has traditionally been used in Sociology by Karl Marx.
2. In Sociology alienation is the estrangement of individuals from themselves and others; a feeling of formlessness and powerlessness caused by separation and isolation and individual sense of self society and work.
3. According to Stanford Encyclopedia of philosophy the concept of alienation and identifies a distinct kind of psychological or social ill one involving a problematic separation between a self and other that property belong together.
4. The theory of alienation is the intellectual instruct in which Marx displace the devastating effects of capitalist production on human beings on their physical and mental status of which they are a part.
5. The Theoretical basis of alienation within the capitalist mode of production is that the Worker invariably loses the ability to determine the life and destiny When deprived of the right to think of themselves as the director of their own actions; to determine the characters of said actions; to define relationship with other people; and to own those items of value from goods and services produced by their own labour

There is a reason to believe that understanding of the phenomenon of alienation among workers will be better if its relationship with such factors as technical systems of

production, age structure, education and income as well as influence of these factors on alienation among workers is explored and estimated. The present study is an humble attempt in this direction.

Objectives of the Study :

The present study has been designed with the following objectives:

1. To estimate the magnitude of alienation among workers.
2. To find out the magnitude of relationship each one of pairs of worker alienation components.
3. To ascertain the influence of technology i.e. different technical system of production on alienation among workers .

Hypotheses :

The following hypotheses are being proposed for being tested against relevant data.

- 1- By and large workers are likely to be normally alienated.
- 2- The likelihood is that relationship between each pair of alienation components will be low.
- 3- Other things being equal, workers working under different technical system of production, are likely to differ significantly in respect to their level of alienation.
- 4- There is a likelihood that as we proceed from simple technological system of production towards a more advance technical system of production, there is an increasing trend of alienation.

II. RESEARCH STRATEGY

Research Design :

In their present study, Normative survey method and causal comparative method will be used for achieving the objectives of the study. Normative survey method will be applied for ascertaining the general status of worker alienation and its various dimensions. In the present study, since the magnitude of worker alienation and its various dimensions will be compared with respect to different technical systems of production, the causal comparative method will be obvious choice for testing various hypotheses formulated. Interview, questionnaire, testing and such statistical techniques as correlation, analysis of variance, t-test of significance, will be used for the purpose.

The investigation will prefer to use probability sampling for the selection of his sample by applying stratified random sampling procedure. The strata will be defined in terms of industrial population limits. Industrial plants will be selected randomly. The workers will also be selected randomly in the sample using Fisher Yates table from different selected plants. Thus multistage randomization will be applied. This sample technique will help investigator

in the selection of 800 workers i.e. an effective sample of 200 each from such four different technical systems of production as craft, textile, cane sugar and manufacturing will be drawn for the purpose of present study.

Research Tool :

Worker Alienation Scale developed & standardized will be used.

III. STRUCTURE OF THE REPORT

Chapter – I Introduction, Conceptual Analysis of Alienation, Review of Literature.

Chapter – II Research Methodology.

Chapter – III General Description of Sampled informers.

Chapter – IV Relationship between Socio-Technical system of production in reference workers age, education and income and impact of workers alienations on their families

Chapter – V Conclusion and Findings.

The concept of “alienation” was developed and popularized by classical European thinkers, prominent among them being the German Idealists. Among these classical thinkers, the conceptualization of those of the late eighteenth and early nineteenth century was in sharp contrast to those of the late nineteenth century. While the former used the concept in the theological, metaphysical and philosophical or material sense, the later treated it more or less psychologically sociologically and sought to turn it into an empirical reality. It is also noteworthy that among the European countries where the concept of “alienation” found a free sway, mention may be chiefly be made of Germany, France and England – all these being highly industrialized countries with a fair degree of advancement in culture and civilization. Therefore, there is no wonder if the classical European thinkers were struck by the human condition which they readily characterized as “Alienation”.

Early notion of alienation reviews and compares the thinking of Hegel, Feuerbach, Marx, Mill, Weber, Durkheim and Simmel. The conceptualization of classical thinkers may be understood as (i) a historical process; (ii) a objectification of self (iii) a development of the opposite condition; (iv) both in materialistic or psychological sense; (v) separation of something from something. Alienation is seen by these classical thinkers as a characteristic feature of modern society only. But it has been observed that it is not so; it is an over present phenomenon, which is not time bound or confined only to particular societies.

The contemporary empirico-analytical social scientists have defined the alienation phenomenon in objective terms. These efforts have led to the development of (i) Unidimensional approach; Srole, Dreits, McClosky,

Schaar, Nettler, Ransford, Clark, Pearlin, Seeman, Gupta Vashishtha, (ii) Di-dimensional approach; Campbell, Olsen, Meier and Bell, Dean, Finifter, Thielber, (iii) Tri-dimensional approach : Wilson, Dean, Han, Bullough, Hallen, (iv) Syndromic approach; Davids, Seeman, Scott, Hobart, Browing, Olsen, Middleton, Blanner, Lengermann, Keniston, Hajda, Scott, Gould, Hobart and (v) Multidimensional approach; Neal, Rettings, Cartwright, Middleton, Simmons, Bonjean, Crimes, Shepard, Sharma, Hallen and Vashishtha.

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2. The likelihood is that relationship between each pair of alienation components will be low.
3. Other things being equal, workers working under different technical system of production, are likely to differ significantly in respect to their level of alienation.
4. There is a likelihood that as we proceed from simple technological system of production towards a more advance technical system of production, there is an increasing trend of alienation.

In the present study, Normative survey method and causal comparative method have been used for achieving the objectives of the study. Normative survey method have been applied for ascertaining the general status of worker alienation and its various dimensions. In the present study, since the magnitude of worker alienation and its various dimensions have been compared with respect to different

technical systems of production, the causal comparative method was obvious choice for testing various hypotheses formulated. Interview, questionnaire, testing and such statistical techniques as correlation, analysis of variance, t-test of significance, have been used for the purpose.

The investigation have been preferred to use probability sampling for the selection of his sample by applying stratified random sampling procedure. The strata have been defined in terms of industrial population limits. Industrial plants have been selected randomly. The workers were also be selected randomly in the sample using Fisher Yates table from different selected plants. Thus multistage randomization have been applied. This sample technique has been helpful investigator in the selection of 800 workers i.e. an effective sample of 200 each from such four different technical systems of production as craft, textile, cane sugar and manufacturing have been drawn for the purpose of present study. Worker Alienation Scale developed & standardized by A.C. Vashishtha have been used to achieve the objectives of the present study.

On the basis of statistical analysis the following conclusions have been drawn :

- (i) Workers included in the sample are in general alienated from their work.
- (ii) Worker alienation is a normally distributed phenomenon.
- (iii) Worker alienation is a stable phenomenon but its intensity varies from society to society, period to period and organization to organization.
- (iv) There are wide differences among worker with regard to their work alienation as well as its components.
- (v) The degree and intensity of work alienation of the same worker differs from time to time.
- (vi) That all the aspects or components of worker alienation which have been included in the scale are interrelated.
- (vii) The relationship between the all pairs of correlates is significant.
- (viii) That a moderate relationship exists among aspects of worker alienation.
- (ix) Marked difference exist in the alienation of workers employed in – (1) Craft and (2) Textile, (1) Craft and (3) Manufacturing, –(1) Craft and (4) Techno-modern, (2) Textile and (3) Manufacturing, – (2) Textile and (4) Techno modern and (3) Manufacturing (4) Techno-modern.
- (x) The more the workers of a group differ in the magnitude of their alienation is more the sharpness of differences they manifest in their (technical system) technology.
- (xi) The workers belonging to craft industry manifest lesser alienation from work in comparison to the alienation revealed by workers belonging to textile industry, manufacturing factory and advanced technical system of production.
- (xii) Advanced technology (technical system of production) is a significant condition for the development of feeling of worker alienation.
- (xiii) Advanced technology significantly contributes to worker alienation as well its dimensions.
- (xiv) In respect of belongingness, the significance of differences exist between the groups of workers belonging to craft and textile industries, craft and manufacturing industries, craft and techno-modern industries, textile and techno-modern industries and manufacturing and techno-modern industries.
- (xv) In respect of normlessness, the significance differences exists between the groups of workers belonging to craft and manufacturing industries, textile and manufacturing industries, craft and techno-modern, textile and techno-modern industries and manufacturing techno-modern industries.
- (xvi) There is no significance difference between the groups of workers belonging to craft and textile industries in respect to normlessness.
- (xvii) Significance differences exist between the groups of workers belonging to craft and textile industries, craft and manufacturing industries, craft and techno-modern industries, textile and manufacturing industries and manufacturing and techno-modern industries in respect to powerlessness component of worker alienation.
- (xviii) Significance difference exists between the groups of workers belonging to craft and textile, craft and manufacturing, craft and technomodern, textile and manufacturing, textile and techno-modern, manufacturing and techno-modern industries, in respect of meaninglessness component of worker alienation.
- (xix) In respect of instrumental work orientation a aspect of worker alienation, the significance of differences between the groups of workers belonging to craft and manufacturing, craft and techno-modern, textile and manufacturing textile and techno-modern, manufacturing and modern.
- (xx) Significance differences exist in respect of isolation from organizational goal, between the groups of workers belonging to craft and textile, craft and manufacturing, craft and techno-modern industries, textile and manufacturing textile and techno-modern, manufacturing and techno-modern industries.

- (xxi) The contrasting groups of workers formed on the basis of production technologies tend to magnify the differences in the level of worker alienation and its six dimensions.
- (xxii) There is no significant difference between the groups of workers belonging to craft and textile industries in respect to the instrumental work orientation aspect of worker alienation.
- (xxiii) Workers employed in craft type of technical system of production have low level of worker alienation, while in all other three technical systems workers have more alienation comparatively.
- (xxiv) The level of worker alienation and its dimensions differ significantly in all four types of technical systems of production – craft, process, machine tending and techno-modern set up.
- (xxv) The over all differences among workers of the sample in respect to belongingness, powerlessness, normlessness, meaninglessness, instrumental work orientation, and isolation from organizational goals are indeed quite sharp.
- (xxvi) Advanced technological productive system is a significant condition for the development of objective conditions of various such aspects of worker alienation as belonging– lessness, powerlessness, normlessness, meaninglessness, isolation from organizational goals and instrumental work orientation.
- (xxvii) As we proceed from a simple technical system of production towards a more advanced technical system of production, there is increasing trend among Indian workers.

It is evident that all the hypotheses set out for verification have been confirmed.

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