

CHAPTER - II

THE TWO-FACTOR THEORY OF MOTIVATION AND CONCEPTS OF JOB ENLARGEMENT AND JOB ENRICHMENT:

The first management thinker to bring out the importance of job and job redesign was F.W.Herzberg¹ who propounded his famous "Two factor Theory of Motivation". The focus which was earlier on job context factors immediately shifted to job content factors. He recommended job enrichment techniques to provide intrinsic satisfaction to employees. The focus has been on the behavioural implication of contents of job and as a result concepts like job involvement, job morale, job adjustment, centrality of work, absenteeism, turnover and so on drew the attention of industrial psychologists and behavioural scientists. They diverted their attention to motivational factors to find out the remedies of the psychological problems of the worker and his efficiency.

This chapter first discusses the two factor theory of motivation propounded by Fredrick, Herzberg. Thereafter the discussion focuses on the concepts of job enlargement and job enrichment with a view to indicate how these techniques are an improvement over the earlier industrial engineering approach to job design. Finally, the chapter brings out some of the prominent experiments in job enlargement and job enrichment.

Contribution of F.W.Herzberg:

The study conducted by Fredrick. Herzberg² and his associates has generated a lot of interest as well as controversies in the area of work motivation and job satisfaction.

In this study, some 200 engineers and accountants who worked for eleven different firms in the Pittsburgh area were asked to describe the 'TIMES' on job when they felt exceptionally "GOOD" or exceptionally "BAD" about their jobs.

Herzberg concluded that there are some factors which motivate employees and there are other factors which are essential to maintain employee satisfaction. He further developed the theory that some factors, when absent, lead to dissatisfaction but their presence would not motivate the employees in a strong way. He called them 'HYGIENE' factors which include: company policy and administration, technical supervision, inter personal relations with supervisors, with peers, with subordinates, salary, job security, personal life working conditions and status. Similarly some factors when present lead to strong motivation but their absence rarely proves strongly dissatisfying. He called these factors as "Motivators" which include achievement, recognition, advancement, work, possibility of growth and responsibility.

Herzberg further explains that motivators can not operate in the absence of hygiene factors. Similarly hygiene factors

have a very tepid and unremarkable effect in the absence of motivators. Both these factors are independent of each other but indispensable in order to maintain the higher productivity and work to become a source of intrinsic satisfaction.

Gellerman, S.W.³ while reporting the Pittsburgh studies mentions", the Pittsburgh group found that both the traditional bread and butter motivators did not motivate. The motivation required some thing else, the freedom to exercise initiative and ingenuity to experiment, and to handle the problems of their own work in their own way, rather than the tangible rewards of work. The key to sustained motivation seemed to lie in assignments which pushed the men to the limits of their capabilities and which matched growth in abilities with newer and more serious challenges".

Pandey. N.T.⁴ has concluded the Herzberg theory in most simple way. "Some job characteristics lead only to satisfaction but not to dissatisfaction while some job characteristics lead only to dissatisfaction but not to satisfaction".

However, there are certain limitations in the application of Herzberg's Motivation - Hygiene Model.

First of all, researches on workers' suggest that some hygiene factors such as pay and security are frequently considered as motivational factors by blue collar workers. Thus, blue caller workers seem to give more emphasis on maintenance factors

than white collar employees. The studies by Malinovsky, M.R and Barry J. R(1965)⁵, Centers R and Bugental, D.E.(1966)⁶ have also come to same conclusion. Gellerman, S.W⁷, gives explanation for what has been said above "the production worker who often spends his days carrying out routines that were devised by somebody else, does not have much of an opportunity to experience personal growth on the job. Hygiene is therefore all important to him and he may be very sensitive to its absence as would be the case if his foreman were disinterested or unfair, But the professional worker is luckier: A man who finds his job challenging, exciting and satisfying will perhaps tolerate a difficult supervisor."

However, Herzberg⁸ and his associates themselves recognised certain restrictions on the conclusion they had drawn and were aware about the limitations mentioned above.

Another point is that there are individual differences in the relative contributions of "Motivators" and "Hygiene" to overall job satisfaction. That is some people do report satisfaction due to presence of motivators while some report job satisfaction solely from hygiene factors.

Davis Keith⁹ puts it in this way "motivational and maintenance factors operate primarily in one direction but also partly in the other direction. A maintenance factor is a motivator to some people but its predominant influence is

toward maintenance. There is no absolute distinction, neither factor is wholly unidimensional in its influence".

Herzberg¹⁰ admits that there are people who are 'hygiene seekers' and they derive satisfaction from the attainment of "hygienes". He distinguished them i.e. "motivator" and 'hygiene' seekers on the basis of growth of personality. He postulated that motivation seekers are those who have reached higher psychological development stage and want to satisfy higher order needs while hygiene seekers have not reached a stage of personality development at which higher needs are active. From this point they are fixated at a less mature level of personal adjustment. A hygiene seeker according to him is not merely a victim of circumstances but is motivated, in the direction of temporary satisfaction.

Pandey N.T¹¹ explains same thing in his thesis "different people give importance to different aspects of the jobs. However, satisfaction with job, it seems, depends on how far the values to which they give importance are satisfied in the context of job". He further mentions "most of the people may seek both intrinsic and extrinsic rewards in a job situation and only a small number may be at the two extremes, seeking satisfaction of only extrinsic values or seeking satisfaction of only intrinsic values".

However, what is important for this study is the conclusion

that individuals have different motivation structure which is key to a problem of motivation and satisfaction. In other words, from what factors people get satisfaction depends on what they actually want from the work situation and what they want from the situation depends on their own motivational structure.

Though the work of Herzberg has created a number of controversies, at the same time it has opened the vista for new research in the area of job design.

The recommendation of Herzberg to job redesign in order to provide intrinsic satisfaction drew the attention of industrial psychologists to the importance of job characteristics. Various researches were undertaken to find out what constitute meaningful job. The focus shifted to job contents and techniques like job enlargement and job enrichment.

The emergence of job enlargement and job enrichment techniques was the beginning of new job design approach. These techniques provided new direction of thinking in the area of job-person relations and helped to develop subsequent integrated job characteristics approach.

Now, the following pages bring out the concept and meaning of job enlargement and job enrichment alongwith the importance of these techniques.

Concept and meaning of Job Enlargement:

Job enlargement concept in job design tries to improve the work performance by focusing on the needs of the worker rather than exclusively the needs of technology. There is an attempt to overcome the inherent disadvantages of over-specialisation and mass production by changing the nature and content of the job itself. This approach is contradictory to that of methods analysis of the industrial engineers which focuses on a mechanistic work specialisation approach to job design.

This technique constitutes various human factors related with the job such as more variety of tasks, in order to remove the factors like monotony, boredom, fatigue and to provide intrinsic motivation so that worker achieves some reasonable satisfaction from the work.

However, job enlargement has been defined and explained differently by different authors.

Job enlargement has been defined by Kilbridge M.D.¹² as "the expansion of job content to include a wider variety of tasks and to increase the workers freedom of pace, responsibility for checking quality and discretion for method."

Susman G.I.¹³ defines job enlargement "as a process which allows workers to be responsible for their own mistakes and

machine setting alongwith supervising and attaining the goal of their own job. In this concept, worker has freedom to choose his job, supervise it and will also be responsible for his own work".

Reif W.E. and Schoderbek P.P.¹⁴ explain, "Its purpose is to eliminate the undesirable characteristics of the highly repetitive, specialized job by enlarging the concept of the individual job to include (i) a greater variety of knowledge and skills (ii) a more complete utilization of the important cognitive and motor abilities possessed by the worker (iii) more freedom and responsibility in the performance of the task at hand.

Davis L.E.¹⁵ writes, "A worker centered approach to job design is represented by job enlargement where one consideration is worker's participation in deciding how the work will be divided among them".

As can be seen from the foregoing definitions that various authors focus differently on different job characteristics. However, it is important to keep in mind that the major emphasis is upon enlarging the job by increasing the variety of tasks performed by the individual, not merely adding more of the same kind of duties.

There is further classification of job enlargement. A job may be enlarged in two dimensions - horizontal and vertical.

The horizontal dimension refers to the number and variety of the operations that an individual performs on the job. Horizontal job enlargement means giving the job incumbent more of similar things to do. In 'widening' the task in this way, the decisions an individual must take remain at the same level but there will be more of them.

The vertical dimension refers to the degree to which the job holder controls the planning and execution of his job and participates in the setting of organisational policies. It means giving the work role the responsibility for higher level activities and decisions which were previously undertaken by the rank above.

There is a controversy regarding the kind of job enlargement which is necessary for intrinsic motivation. Various authors have advocated that tasks in order to be motivating must be enlarged both vertically and horizontally.

Lawler E.E(1969)¹⁶ has reviewed the literature regarding the effects of vertical and horizontal job enlargement and concludes that simultaneous enlargement in both directions may be optimal in most cases. The conclusion is supported by the results of the study undertaken by Hackman and Lawler¹⁷. It is only if a job is enlarged vertically employee is likely to feel personally responsible for his work outcomes and when a job has some amount of horizontal enlargement, he is likely to experience his work meaningful.

Concept and Meaning of Job Enrichment:

The job enrichment is based on the theory that job satisfaction and interest is the function of job content. It is applied as motivational tool whose basis is 'motivators' which satisfies higher order needs of the worker. It seeks to improve both efficiency and satisfaction by making the job meaningful to the worker. The job becomes meaningful when it provides a sense of achievement, recognition, an opportunity to the worker to use his skill, knowledge and abilities in order to ensure personal growth and advancement. It makes the job challenging and full of responsibility for him.

Sirota David¹⁸ includes four key elements to understand job enrichment:

1. Rating the responsibility level of a job.
2. Increasing the discretion with which the job is performed.
3. Increasing cloy sure (doing 'the whole thing').
4. Increasing the timeliness of performance feedback.

Whitsett D.A¹⁹. considers job enrichment as a strategy for designing or altering a job to provide interesting work for employees and utilize their competence and talent in effective operation of an organisation. This has numerous characteristics viz. (i) telling the dimensions of a specific job with its start and end points, (ii) control of employees over decision-making and (iii) employees know frequently about their achievements and drawbacks on the job.

Hackman, J.R and Lawler E.E.III (1971)²⁰ have brought out three characteristics of enriched job.

1. The job must allow a workers to feel personally responsible for a meaningful portion of his work.
The autonomy dimension would seem to tap the degree to which workers feel personal responsibility for their work.
2. The job must provide outcomes which are intrinsically meaningful or otherwise experienced as worth while to the individual.

The job come to be experienced as meaningful to employees to the extent that they involve doing a whole piece of work of some significance and job that provides the chance to use their valued skills and abilities which he personally values.
3. The job must provide feedback about what is accomplished.

Some of the job factors which have been concentrated by the social scientist in this respect are: repetitiveness, variety in the job, skill requirement, knowledge of results, autonomy to take decision, a degree of responsibility, freedom of movement, interaction with co-workers, opportunity to learn and opportunity to complete the job.

Job Enrichment, Job Satisfaction and Productivity:

There is a shift in the emphasis on the role played by job enrichment technique. In the beginning researches in this area were confined to show positive relationship between job enrichment and job satisfaction. It was found that job satisfaction increases when meaningful work is provided to workers and when there is scope for his personal development and advancement. Thus, major emphasis was upon improving the plight of the worker through job enrichment techniques. But thereafter the job enrichment technique was considered as a tool to improve productivity. The famous A.T.T.(American Telephone and Telegraph Company) experiment on job enrichment in U.S.A. reported by Ford, R.N.(1969)²¹ and I.C.I. (Imperial Chemical Industry) experiment in U.K. reported by Paul, W.J and Robertson, K.B.(1973)²² show positive relationship between job enrichment and productivity, quality of work.

The other studies with ^{the} same conclusion are: S. Sirota David(1973)²³ Philips (1963-68)²⁴, Kuriloff(1963)²⁵, Blood and Hulin(1967)²⁶.

Thus, later on job enrichment is advocated primarily as a device to increase productivity. The focus changed from job satisfaction to higher productivity.

However, it does not matter if primary emphasis is on productivity or satisfaction. Although there is not sufficient

empirical evidence showing direct relationship between productivity and satisfaction, it can be said that they are certainly not contradictory to each other.

The behavioural Scientists such as Lawler, E.E(1973)²⁷, Ross and Zander(1957)²⁸, Vroom (1964)²⁹, have come to conclusion that satisfaction leads low absenteeism and low turn over.

So is true with relationship between satisfaction and job involvement, job morale, job adjustment*.

The performance of any industrial organisation is influenced by these factors. Thus, indirectly it can be said that satisfaction leads to better performance and productivity.

To conclude, the focus of this chapter has been on job contents, job enlargement and job enrichment techniques which satisfy the higher order needs of workers and would result in to higher satisfaction and productivity. Gradually, it was realised that one should not assume that workers want to satisfy higher order needs. Their lower order needs might be dominating their behaviour. The different industrial workers have different need priorities and it is, therefore, important to determine their real needs.

* See Chapter IV

In job enrichment technique, it is assumed that workers want to satisfy higher order needs. But subsequent researches resulted into job characteristics approach which measures the strength of higher order needs and their role as moderating agents. In job characteristics approach the various job dimensions and behavioural responses in terms of performance, satisfaction, absenteeism and turnover are measured.

This approach forms the subject matter of the next chapter.

Some Prominant Experiments In Job Enlargement and Job
Enrichment:

Job Enlargement: I.B.M. Corporation. (1944)³⁰

The term job enlargement originated as a result of morale building programme at the I.B.M. Corporation in 1944. Their Company President felt deeply that the then current modes of organising work left very little to hold the interest of, and to give satisfaction to the worker and thus I.B.M. became interested in developing more efficient methods of production.

Originally, there were four distinct jobs : in the general machine shop: Machine Operator, set-up-man, tool sharpner and inspector. It was decided to combine the various specialized jobs in to one enlarged job. Under the new plan the job enlargement programme added new skills and responsibilities such as sharpening of tools and the ability to completely set up the machine for each new order from the blue prints and shop orders. In addition the employee was required to make a complete inspection of the finished part. This required a knowledge of how deviation and tolerances would affect the part in subsequent machine operations. By the time the programme was completed, machine operators were doing all their own set up-work and most of their own inspection. The expansion of the scope and responsibility of jobs increased costs due to higher wages and the purchasing of additional inspection

equipment. However the higher costs were more than off-set by a number of benefits that included higher quality, less idle time and increased job satisfaction. There was more interest, and a feeling of responsibility on account of more variety of tasks, and a greater variety of tasks to perform. In addition the elimination of the inspector and set-up-man erased one level in the organisational hierarchy which had the positive effect of upgrading the job of machine operator. This increased the prestige and status of workers at the lower levels in the organisation.

Walker and Guest(1952):³¹

"The Man on the Assembly Line"

The concept of job enlargement come into prominence after the experiment on the assembly line by Guest and Walker. They undertook this experiment in order to test the hypothesis that jobs of broader scope lend interest and satisfaction to the worker.

In mechanical pacing job while experimenting, no direct question was asked but nearly every worker expressed his opinion about it while talking about other points including job and the company.

These free association comments on pace as governed by the moving conveyer showed that (1) A large majority of the workers regarded the moving line or conveyer belt as an

undesirable feature of the job. (ii) A small minority expressed themselves as enjoying the excitement of the moving line.

For the repetitiveness in the job, majority of the workers were critical of the repetitive character of their jobs. 2. A minority preferred the repetitive character of their work or were indifferent to it. 3. A large number of workers compared on the line jobs unfavourable with off the line jobs because these jobs offered more variety.

The researchers found that they were able to correlate the number of operations a man performed with expressions of interest or lack of interest in his job. Thereafter, the number of operations performed on any given job was determined not by direct questioning but by analysis of the job descriptions.

| Operations Performed | Very fairly interesting | not very or not at all interesting |
|----------------------|----------------------------|---------------------------------------|
| 1 | 19 | 38 |
| 2 - 5 | 28 | 36 |
| 5 or more | 41 | 18 |

The researchers concluded that interest in work increases with the increase in number of operations performed. They explained that minority group preferring the repetitiveness in contrast to majority of workers, must be due to different pattern of their individual personalities.

Davis and Werling(1960)³²

"Job Design Factors"

They report the results of a field study in a chemical manufacturing company which for 20 years had been an operating division of a national chemical company. Job assignments in some departments had been enlarged by prior company discussions and decisions. The results reported cover a period of 2 to 3 years before the decisions were taken and 2 to 3 years following the reorganisation of the work. The organisation changes were directed at centralising previously decentralised functions and where applicable, introducing related planning scheduling and control. The job changes were directed at broadening job duties and responsibilities. These changes were introduced in the distribution and maintenance departments. Results show that by the end of third year, the total reduction in personnel amounted to 42 per cent. The quality also improved compare to other departments. These other departments served as control groups in the experiment since job enlargement was not established with these departments at that time.

In the maintenance department, when the departmental maintenance crews were brought into the centralised maintenance departments, their jobs were restudied and enlarged. The additional skills were added by means of a formal on and off the job training programme.

The results of the changes produced positive effects in terms

of number of factors, such as quantity, quality of out put, costs, increasing employee interest in their jobs, improved personal relations in daily Union-Management affairs and in labour negotiations on the part of employees in the enlarged job groups.

Biggane and Stewart (1963)³³

"Job Enlargement: A Case Study"

These researchers dealt with the operations of assembling the water pump for an automatic washing machine at the Maytag Company. The pump included 26 parts and originally was assembled by 5 men on an assembly line basis. However, in the enlarged method, one operator performed all assembly operations. This involved rearrangement of the work areas and changes in the materials handling. The job enlargement resulted in improved quality improved house-keeping, cost reduction, reduction in turnover. They concluded that job enlargement offered definite opportunities to enhance the meaning of work through greater involvement of the operator, to favourably affect quality and cost, and to provide an opportunity for greater job satisfaction for the man on the job and his supervisor.

A.T.T. Experiments on Job Enrichment:³⁴

A series of studies were conducted in the Bell System, a subsidiary of the American Telephone and Telegraph Company.

In these studies, nineteen trials were conducted on different sites covering wide variety of jobs as those of semiskilled, shop floor workers, clerks, engineers, key punch and switch board operators and so on. In each case, experimental groups were set up with radically restructured job descriptions and the effects on performance, and attitudes (employee, managerial customer) were monitored and compared with those collected for control groups. Over 2000 employees were involved in these studies.

However, only two important experimental cases are reported here:

I. The Case of the "frame-men"

In this study, there was a group of forty men engaged in the wiring up of telecommunication's frames.

The initial procedures and organisation were as follows:

An order was taken for a particular piece of work by the group of craftsmen who translated the order into the frame-work, to be done. The group was divided into three teams performing the three distinct and specialized functions: taking orders and design of specifications, Wiring the frames and testing the circuits.

There had been much trouble with this group of men. It had the history of low output, missed completion dates, poor quality, faulty work, high overtime and a large number of

grievances by the men through their union.

A plan for change was devised whereby all the formerly discrete functions of job were integrated.

The first stage was to integrate wiring and testing so that a testman was substituted for a cross-connection man in the wiring team and the team became responsible for both completing the wiring of the circuit and testing. The second stage was to link the team directly to the customer in order to receive direct orders, do write up and supply working circuit to the customer.

Thus, analysis of job functions was undertaken, work teams were recognised and meaningful module of work tackled the complete job rather than a set of separate, fragmented tasks.

The management achieved its objective after these changes: Orders were completed on time where earlier only 50 per cent of completion dates had been met, quality standards were consistently achieved and grievances dropped sharply.

II. The Case of "Treasury Department"

In this experimental work in job enrichment, there was group of 104 young women, working in the Company's Treasury Department which answered customer complaint letters concerning stocks and bonds.

In order to reduce turnover amongst these women, an experiment in job enrichment was undertaken. The change programme was undertaken in order to enrich job ^{and} enhance ^{and} job satisfaction which was considered the main reason for the turnover.

The result of the study show that changes introduced in to the experimental group provided greater satisfaction to employees than the satisfaction derived by the control group.

I. C. I. Job Enrichment Studies:³⁵

The Imperial Chemical Industries, V.K. took the initiative to varify the conclusions of job enrichment experiments undertaken by American Telephone and Telegraph Company. U.S.A.. The number of experiments involving a number of occupational groups were undertaken. In each case, small experimental groups were set up and their jobs restructured to inject more responsibility, discretion and autonomy. The changes in performance and intrinsic job satisfaction of the experimental groups were measured and related to control groups with same composition and circumstances but where no changes were introduced.

I. Case of Sales Representative:

One specific problem was inducing initiative in capturing the market where extra effort was needed from comparatively well treated and reasonably satisfied group with their jobs.

Six changes were introduced: (1) No obligation to write reports on every customer call (2) Responsibility for determining calling frequencies was placed wholly on the representative for him to judge what was appropriate for a particular customer. (3) The technical service department agreed to provide service 'on demand' from the representatives and to treat calls as their first priority. (4) In case of customer's complaint about product performance, representatives were authorised to make an immediate settlement upto ₹ 100. (5) The complete authority to decide how best to deal with the matter if faulty material had been delivered. (6) Representatives were given discretionary range of about 10% in the prices of most of the products they sold. The theme of all the changes was to build up sales representatives job so that it becomes more complete in its own right. Now he had authority to take decision of his own instead of looking to head quarters. Each change implied a greater responsibility, together they gave the freedom and challenge necessary for self development.

An experimental group of fifteen salesmen worked under these new arrangements and their performance and attitudes were compared with the rest of the sales force over the same period.

Results showed that during the trial period, the experimental group increased its sales by 18.6% compared with the same period of the previous year while the sales of the control group dropped by 5%.

The further analysis showed that the gross margin per £ of sales value achieved by the experimental group was high, than that achieved by the control group which showed that experimental group did to use their 10% discretion to change lower prices. Job satisfaction in the experimental group increased by 11% and in the control group by less than 1 per cent.

II. A case of Experimental Officers:

This exercise started with low morale in the research and development department, among experimental officers (EOs) whose job was to implement experimental programmes devised by graduates. A non-graduates, their career prospects were limited but at the same time they felt that their experience and technical ability were being wasted. The chief aim of the exercise was to give them more scope to exercise their abilities in their existing organisational hierarchy.

This was attempted through the following changes. EOs were encouraged to write a final report on each project for which they had been responsible.

Officers were more involved in the planning of projects and experiments and given time to follow up their own ideas even if these went beyond the initial research outline. They took part in interviewing candidates for laboratory assistant's

jobs, acted as first assessor on their own assistants and were made responsible for devising and implementing a training programme for junior staff. They were empowered to requisition materials and order services on their own signatures.

The experimental groups of fifteen and fourteen officers were set-up, and their performance compared with a control group of fifteen, over a period of twelve months. Variations in performance were evaluated by superior's assessments of monthly reports (requested from all groups for the first time) and by the number and quality of minutes produced. After ~~an~~ an initial period in which the performance of both experimental and control groups rose, that of the control group fell away while the experimental groups sustained their improvement.

The other researches involving design engineers, draughtsmen, production and engineering foremen were on the same pattern and showed ^{the} same results. i.e. Job enrichment changes increased performance and satisfaction.

David Sirota(1973) ³⁶

"Job Enrichment Is it for Real"

In the beginning not all managers were interested in having this work done in their departments and they were not forced to do so. But from our training(JET) and follow-up efforts have emerged dozens of job enrichment projects.

One is a Silicon wafer slicing operation with the employees being essentially close to the machine tenders: they were instructed to watch the process closely and if they saw anything wrong, immediately call their managers who informed maintenance. (This is a particularly good illustration that even highly technologically constrained jobs can be enriched significantly.)

The managers of this area first decided to discontinue the rotation of employees among all of the slicing machines and to give each employee his own machine to operate. The operators were given training and responsibility for, minor maintenance of their machines. For major problems, they contacted maintenance, directly rather than going through their managers.

The third change was to give the employees responsibility for deciding when the slicing blades (the most important components of the machines) should be changed. Previously, they had to follow rigid rule in the manufacturing engineering manual that specified precisely (in terms of number of slices) a blade should be changed.

Finally, a daily performance system was initiated to inform the workers to maintain sample measurements on work quality and to report these each night to the employee working on the slicers.

Results:(1) the 'Yield' (the ratio of good out-put to in-put) improved significantly. This measure had shown no change over the previous two years. (2) the cost of maintaining the machines declined to just about zero. There is now almost no need for replacement parts. The employees now knew their machines better. (3) Interview and attitude questionnaire indicated increased job satisfaction especially on those items dealing with skills utilization.

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