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CHAPTER VI
CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter I propose to gather all the threads given in the previous five chapters.

In first chapter I have explained the meaning and importance of productivity, in the present environment in our country. In second chapter I have described various factors affecting productivity of industrial worker in the engineering industry. I have also given information about the various studies undertaken by researchers in this field.

In third chapter I have discussed various methods of measuring productivity and need for measuring the same.

The fourth chapter explains the methodology of my work.

In the fifth chapter I have classified the data collected by me in my field survey. The general observations regarding the classified data have been given at the appropriate places.

In the present chapter I propose to describe the conclusions which I have drawn from my present study. This forms the first part of the present chapter. In the second part of the chapter, I propose to give my recommendations for raising the level of productivity
of workers in engineering industry.

6.2 Based on information collected from interviews of various groups, certain conclusions are drawn and presented below:

6.2.1 Majority of workers are working for money but "Not only for money". Motivation for work is money plus something else.

This "something else" is :-

a) Mental satisfaction  
b) Way of enjoying life  
c) To get experience of outside world  
d) Want to contribute in building national income  
e) Want to use own potentials 

f) Learning new things  
g) Status  
h) Growth and achievement

This shows workers have surpassed basic needs defined by Maslow, (i.e. physiological needs, safety and security needs) and they are operating at higher level needs (i.e. esteem, status, self fulfilment needs).

Productivity is higher where workers are operating at higher level needs categorized by Maslow and vice versa.

6.2.2 There is no significant relation between productivity of worker, and education of worker, his city life duration, as well as his ownership of housing.
6.2.3 There is a strong relation between productivity and ownership of agricultural land. Those who own agricultural land, often go to villages for farming taking leave even without pay. In these cases productivity is lower compared to their counterparts not owning agricultural land. Non owners of agricultural land are likely to have more involvement in work as this is their only source of livelihood unlike land owners.

6.2.4 Majority of workers are interested in work, if management provides environment to release their potential. This is in full agreement with Prof. McGregor's Theory Y. There is strong positive correlation between Theory Y and productivity level in the organization.

6.2.5 Productivity is higher where workers identify themselves with the organization and vice versa. To quote Prof. Galbraith, "Pecuniary motivation can be combined with identification, when element of compulsion is small". In modern industrial set up compulsion has receded.

To continue Prof. Galbraith's Theory of Motivation, "Higher compensation with no element of compulsion induces worker to identify himself with the organization. This being so organization does seek to cultivate his employee's loyalty, leading to congenial atmosphere at work and worker-management relations."
6.2.6 Workers like to get vital information about Company's plans, their new products which directly affects their job security. If this kind of information is communicated to the workers, they feel management has taken them in confidence thereby boosting workers' moral. The communication of this kind of information positively affects productivity; as it helps developing much more positive mental attitude towards management and the organization.

6.2.7 Communicating other type of information such as company history, or introducing worker to the fellow workers at the time of joining does not significantly affect productivity.

6.2.8 Working conditions such as lighting, ventilation etc. in almost all companies are satisfactory, because of statutory requirements.

6.2.9 Other facilities provided by the company, such as transport, canteen do not significantly affect productivity.

6.2.10 Satisfaction about reward system (salary and promotion system) has strong positive correlation with productivity, (as it directly affects the psychological level at which worker operates) and recognition of individual contribution.
6.2.11 Knowledge and understanding of productivity, work study etc., on the part of workers have no significant relationship with productivity.

6.2.12 Workers would like to increase productivity, if gains of productivity are shared with them on acceptable basis.

6.2.13 Hindrances in increasing productivity are:

a) Unacceptable sharing of gains of productivity - Higher productivity implies reduced cost per unit of output and generates surplus for the organization.

In absence of acceptable solution for sharing the surplus (generated by the way of increasing productivity) productivity is adversely affected.

b) Resistance to introduction of new technology:

Introduction of new technology invariably increases production and productivity - For given production manpower requirement will be lower. Workers and worker unions will resist introduction of new technology unless there is an assurance from management for their job security.
c) Pseudo - Professional Management:

Professional Management is in the vogue. Every individual and organization likes to be called as a professional manager and professionally managed organization. However some organizations are not willing to submit to the discipline, professional management demands though they want the results of professional management. This reduces management to Pseudo professional management.

d) Non availability of material:

Non availability of material at right place at right time keeps worker idle, with loss of time and corresponding reduction in productivity.

e) Non availability of tools and equipments:

Sometimes workers are not provided with proper equipments and tools. Sometimes proper equipments and tools are provided, but not available at right time and right place.
f) Poor Supervision:

Many times fresh engineers are recruited for shop floor supervision. These engineers are not exposed to the areas of labour laws and human relations which are most important for shop floor management and control. Some organizations do not give adequate training to the newly recruited engineer supervisors so they do not know what is to be done and what is expected from them. They are also not sensitive to the problems arising out of human relations. As they are not exposed to rules, regulations and procedures in labour laws, problems arise while enforcing discipline and controlling workers.

Some organizations have a policy to pick up first line supervisor from worker. Usually a good worker is selected for this position to reward him. However a good worker does not necessarily have qualities required for effective supervision. Thus the organization may lose a good worker and get a bad supervision.
g) Poor quality material:

Material available and used in production does not conform to the quality specified for production. Tools and equipments are designed and provided for the quality of material specified. Variation in material quality leads to lower speed of production and also rejections and rework leading to lower productivity.

h) Enforcement of discipline:

There is general lack of will power, at all levels of management to enforce discipline.

Supervisors do not like to take disciplinary action because they are not sure of getting adequate support from top management and secondly it adversely affects their working relations with workers.

With the present status of worker management relations in the region and also in the country top management feel enforcement of discipline will aggravate labour management relations and may lead to go slow, tool down and ultimately
to strike. This will cause lower production. However data shows the otherwise.

Organizations which are endorsing enforcing discipline rigorously, have higher levels of productivity. Absence of discipline leads to loss of control and lower productivity.

6.2.14 Workers work to their full capacity, on their own if they get acceptable incentive income.

6.2.15 Productivity is adversely affected if time involved in solving grievances is longer than expected by workers or unions, as situation is precipitated by making prestige issue out of small grievance.

6.2.16 Higher the wages, more efficient will be the management action to improve productivity. Higher wages increase cost of production and reduce profit margins. Therefore management has to act to offset impact of high wages.

6.2.17 In Indian culture, people get satisfied very early, as demands are limited. So economic benefits are motivating factors to a certain extent. Beyond this limit economic benefits seize to motivate workers, unless they are pushed into higher socio-economic stata, where new wants emerge.
6.2.18 Surplus labour is a myth as far as industry is concerned. Industry needs skilled and semiskilled workers who are not available in quality and quantity required. This can be seen from the fact that almost all large industries recruit people as apprentice trainees and train them in requisite skills.

6.2.19 Technical improvement may temporarily result in reduction in employment. However new jobs are created at higher level of skills. Demand for the same product may be increased if prices are reduced. In the long range and considering overall economy, technical improvements lead to increase in employment.

6.2.20 General level of labour productivity is higher, in the organizations where incentive schemes are operating.

6.2.21 During periodic collective bargaining settlements productivity rise is connected with wage increases, in all companies, studied.

6.2.22 Union is a vital link between management and labour, and plays a dominant role in deciding productivity levels in the organizations.

6.2.23 Productivity depends on replacement of machines which in turn is decided by return on investment.
6.3. **Recommendations**

Based on the study, recommendations for increasing productivity are presented below:

6.3.1 Reward System:

A) Salary:

Workers sell their efforts to organization for money. If salary paid to workers in any given organization is comparable with salary paid to workers in other industries in that particular geographic area, it has a positive psychological orientation, conducive for higher productivity. So salary paid to the worker should be comparable with the salary paid to other workers in the same geographical area.

B) Increments and promotions:

Increments and promotions are recognition of workers' contribution to the organization. If these are satisfactory according to workers, they will have positive effect on productivity. If these are not upto workers' expectations, the reason for the difference should be properly explained to him.
This will reduce adverse effect likely to cause as a result of deviation in expectation and reality.

C) Sharing gains of productivity:

Rise in productivity reduces unit cost of manufacture, thus generating additional surplus. The resources generated in the process should be equitably distributed among various groups - workers by the way of higher monetary and other benefits, shareholders by the way of adequate returns on their investments, consumers by the way of lower prices of goods and services. Organization should also retain necessary funds for modernization and expansion, which will increase employment opportunities.

Gains of increase in productivity can be shared with the workers in two ways:

1) Bonus payments
2) Incentive payments

1) Bonus:

Bonus paid as a statutory requirement has become a right rather than reward. This does not act as an incentive for increasing productivity.
2) Incentive Payments:

Workers work to their full capacity on their own where satisfactory incentive schemes are in operation. Properly designed incentive schemes rewards individual worker, which is directly related to his own efforts and contribution. As incentive payments are made on monthly basis, worker can easily relate his efforts and rewards.

However bonus payments differ from incentive payments. Bonus payment usually depends on profits organization makes. Profits depend on factors other than workers' contribution like unit price realization, increase in sales, more efficient procurement of materials required and so on. Many organizations are paying bonus in excess of statutory requirement. In that case organizations should link bonus payment in excess of statutory requirement to rise in productivity during relevant years, if they are not doing so. Existing statutory maximum limits for bonus payments are twenty per cent of the salary subject to
per month as maximum. These limits are outdated and need a revision. In fact the Government should abolish these limits - percentage and also maximum lump-sum amount. It should solely depend on increase in productivity.

In view of above discussion organizations should give more stress on incentive schemes rather than on bonus, in sharing gains of productivity with workers, as incentive schemes offer rewards directly related to the efforts of workers, which automatically increase productivity.

3.2 Introduction of Modern Technology:

In continuous process of productivity improvement and cost reduction, management heavily rely upon technical improvements and introduction of latest technologies. This results in temporary reduction in manpower requirements of the organization. However new jobs are created at higher level of technical skills. Workers and unions will cooperate in this process if management gives unconditional assurance for job security. This will only be possible if affected workers are retrained with the new skills required for new jobs. While introducing
new technologies, management should develop schemes for training affected workers in consultation with worker representatives well in advance.

In the process, workers are not only assured of their job security but also get indirect assurance from management that organization is interested in labour welfare which boosts morale of workers and helps in creating positive atmosphere for increasing productivity.

6.3.3 Professional Management:

With growing size of organizations, their functioning is getting more complex and their requirements are becoming more diverse. The environment in which organizations have to function is even more complex. Running these large organizations on the line of old one man show has become an impossible task. Considering huge investments made in these organizations risk of failure is enormous.

To manage these organizations, division of labour is a must. With continuous development of technology, it is getting obsolete very fast. Organizations can not run efficiently without people having adequate training and experience in various areas of specialization, such as engineering, materials, quality assurance and control, production, maintenance, finance, marketing, labour laws and so on. With rise in specialization, coordination has
become a critical function. All these specializations and their co-ordination have developed over the period with lot of research and experimentation to improve productivity, reduce cost and improve quality. Professional managers are now equipped with modern analytical techniques such as quantitative methods, operations research and computerised information storage and retrieval which increases rationality in decision making. Professional managers should be entrusted with the responsibility of management of large organizations, at various levels.

6.3.4 Selection and Training:

a) For Supervisors:

Many times fresh engineers are recruited for undertaking shop floor supervision responsibility. Many organizations do not give adequate training to the newly recruited engineer supervisors so they do not have the exact idea of their work, and the expectations of the organization from them. They have got limited knowledge in the areas of labour laws and human relations which are of vital importance as far as shop floor supervision is concerned.

Organizations should provide adequate training to newly recruited supervisors in the areas of labour laws and human relations.
When a worker is promoted as supervisor, he should be provided with adequate training in the above mentioned areas.

Selection of Supervisors:

Shop floor supervisors should be selected, keeping in mind requirements of specific job such as leadership interpersonal skills, and so on. These should be matched with individual aptitudes and personal traits. While promoting worker as supervisor, same things should be borne in mind.

b) Training for Workers:

Trained workers are not easily available whenever required by the industry. Facility for training available at present is not sufficient in quality and quantity. This can be seen from the apprentice training programmes conducted by various industrial organizations. So Government, industrial associations, individual industrial organizations or even private institutions should jointly or independently run training programmes in consultation with various industries, to develop necessary technical skills, at workers' level.
6.3.5 Labour-Management Relations:

Labour-Management relations mainly depend on management attitudes and decisions taken by management or otherwise, in the areas where unions and workers feel they are likely to be affected, and are sensitive about the same.

If workers and union are convinced that management is not here to exploit them but will take care of their individual and collective needs, then labour management relations will be excellent. This creates atmosphere where mutual respect and confidence exist. Workers and union then develop affiliation with the organization and it believes they have some stake in the organizational welfare. Under these circumstances, workers and union are more willing to accept organizational objectives and work towards achieving them.

Labour Management relations tend to affect productivity adversely because of bias on the part of workers which is likely to develop as a result of lack of exposure or limited exposure to the realities of business world e.g. risk of entrepreneur, responsibilities of management, role of capital and labour etc.

Due to above bias, workers and union perceive the reality in a different way, and a feeling of injustice is developed, polluting atmosphere and affecting productivity negatively.
Management should consult union representatives while implementing any change where workers are concerned.

To enlighten workers and union representatives, management should sponsor training courses in various areas e.g. realities of business world, productivity and work study, and other related areas.

6.3.6 Discipline and Grievance Handling:

Enforcement of discipline will reduce idle time of workers on shop floor thereby directly increasing productivity. Better discipline will also reduce absenteeism among workers. In both the above cases, if workers are working on some machine, machine utilisation will improve which will help in raising productivity.

Some managements think, enforcing discipline will invite labour problems. However this is not true. In short term management may avoid go slow, tool down, and even strikes by compromising on discipline. But when discipline is enforced consistently for long time, workers do know what is expected from them and what will not be tolerated. This reduces confusion on the part of workers and their approach is much more mature and responsible. Thus in the long range, discipline pays for itself by improving productivity.

Whenever individual worker feels injustice has been done to him, he should have full access to the
highest authority to in the organization to represent his case and demand justice for the same. Representation can be done individually or through the union. If time lag between the grievance and its solution is more, situation precipitates, making it difficult to find acceptable solution affecting productivity adversely. So efficient grievance handling procedure should be estimated and the individual worker should have access to the highest authority in the organization.

It is needless to say, management should also be absolutely fair in handling grievances which will create positive atmosphere helping in increasing productivity.

6.3.7 Communication of Information:

Workers like to get information about ongoing company activities, its future plans etc. This kind of information helps in creating better psychological orientation of workers and unions. This indirectly affects their work positively. They feel management is taking the workers in confidence by sharing this information. Workers also feel that management consider worker as an integral and responsible part of the organization. Future expansion plans give them feeling of job security which in turn creates atmosphere conducive for improving productivity.
Information relating to ongoing company activities, future plans and related areas in which workers are very much interested, should be communicated to the workers either through formal channel of communication such as house-journal, notice boards etc. or through informal medium of verbal communication.

6.3.3 Selection of workers:

It was found, in the organizations where workers are owners of agricultural land, and go for farming taking leave, productivity is lower compared to the organizations where workers do not own agricultural land.

The workers who do not own agricultural land have generally no other source of income and are fully dependent on employment for livelihood. They devote whole of their capacity, energy and time available to their work and hence productivity is likely to be more.

Therefore prospective candidate, who does not own agricultural land, should be given preference in employment as an industrial worker. These workers are more likely to concentrate on industrial employment, giving better productivity. And owners of land can concentrate on agricultural activity giving better results in agriculture.
(A) Situation in an organization, having a single union is much more simpler compared to the situation in the organization having multiple unions. Management finds it quite difficult to deal with multiple unions. Management simply can not understand which union they should talk to. When Management consults any one of the unions, it comes to an understanding on some issue. If this understanding is not acceptable to any other union or unions, inter union rivalry may disturb proper functioning of the entire organization, which directly affects productivity negatively.

If the multiple unions have different political ideologies, the problem become worse.

To overcome the problem of multiple unions Government should pass legislation for banning multiple unions. Representative union will be decided by secret voting by the workers concerned.
(B) When the union leader is an insider, i.e. working with the same organization, he has first hand information and knowledge about workers' problems. He has direct stake in the welfare of workers as well as the organization. Therefore union demands are likely to be more realistic and reasonable. Outside union leader may be better equipped in the areas of representations, negotiations and bargaining but he may not have first hand information about workers' problems. He certainly does not have any stake in the organizational welfare, which may lead to indiscriminate strikes and labour unrest leading to lower productivity. If insider is a union leader, productivity is likely to be higher.

Therefore, Government should pass legislation, banning 'outsider as a union leader', however insider can take consultation in various areas from the experts.