CHAPTER-7

CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

Whether it is a factory, farm or a domestic kitchen, resources of men, machine and money have to be coordinated against time and space constraints to achieve given objectives in a most efficient manner. The manager has to constantly analyze the existing situation, determine the objectives, seek alternatives, implement, coordinate, control and evaluate. The common thread of these activities is the capability to evaluate information and make decisions.

Managerial activities become complex as the organizational setting in which they have to be performed become complex. As the complexity increases management becomes more of a science than an art and a manager by birth yields place to a manager by profession.

However, with the change in the activities of a modern society brought about by industrialization, there is a need not only for examining the role of leaders and entrepreneurs in activities other than statecraft art also for training people down the hierarchy who can manage a system creatively, efficiently and effectively.

Management of organization-initially involved in economic activity and later extended to organizations with social objectives or a mixture of economic and social objectives has now to be studied and implement the feasible outcomes for betterment of the organization to improve industrial performance and hence, productivity of products as well as services to improve living standard of the people.

In this research study, “Industrial productivity scenario and potentiality”, the major outcomes of this study are discussed in the first part of the chapter. In the next part of the chapter, some recommendations are made on the basis of the study. At the end, limitations of the study and an attempt have been made to identify the scope for further research in this area.
7.2 Major Findings


The data were gathered with the help of four structured questionnaires and were analyze with the help of statistical tools.

[A] Respondents’ Personal Information

A2: Respondents’ age group: Respondents who participated in the research study, out of total 156 were: less than 25 years (4), between 25-40 years (35), between 41-55 years (95) and more than 55 years (22). Respondents’ age group ranges from minimum 2.60% (< 25) to maximum 60.90% (40-55) years.

A3: Respondent’s sex: Out of total 156 respondents who participated in this research study there were male respondents 150 and female respondents were only 6. Male respondents (150) were dominating the female respondents in this analysis.

A4: Respondents’ education level: Out of total 156 respondents the highest education level was Ph.D. (8), Master degree (35), Bachelor degree (103), diploma holder (4), and trade school education level (6) respondents have participated in this research study.

A5: Respondents’ professional status: Respondents who participated in the research study, out of total 156, Proprietors (5), Partners (6), Managers (61), Professionals (48), and Technicians (36) have responded the questionnaire.

A6: Respondents’ income group: Out of 156 respondents, 23 respondents in the income group less than Rs.1,50,000, 56 respondents were earning between Rs.1,50,001-3,00,000, 55 respondents were earning Rs.3,00,001-5,00,000 and 22 respondents were earning more than Rs.5,00,000 have participated in the research study.

A7: Respondents’ professional experience: Out of 156 respondents, 36 respondents were with work experience less than 10 years, 62 respondents were between 10-20 years, 37 respondents were between 21-30 years, 19 respondents were between 31-40 years and only 2 respondents were with 2 years work experience have participated in this study.
[B] Organization’s Profile

B2: Constitution of the company: The organizations who have participated in the research Study: Out of 156: 40 of proprietorship, 46 of partnership, 42 of private ltd, 17 of public ltd., remaining 11 other organizations have participated in this research study. The proprietors, partners and private holders have participated took lead role in this research study.

B3: Category of the company: Out of 156 organizations: 110 units were in small scale, 30 units medium scale and only 16 large scale units have participated and provided relevant data for this research study. More than 70 % were small scale units.

B4: Sector of the company: Out of 156 industries: 139 were private organizations, 8 public organizations, 1 government organization and 8 were others units have participated in the research study.

B5: Classification of the industry: Estate under study was dominated by 105 engineering units, 6 were electrical/electronic units, 9 were paints/varnishes units, 5 chemical units and 31 miscellaneous units of out of total 156 industries, have participated and supplied the relevant data for the research study.

B6: Standards followed: Out of 156 organizations: 68 industries follow IS standard, 16 industries follow BS standard, 31 industries follow DIN standard, 5 units follow JIS standard, 1 unit follow GOST standard and remaining 35 units do not follow any standard have responded the questionnaire for research study.

B7: ISO Certificate: Out of 156 organization of the sample study, 39 (25%) industries have ISO Certificate and 117 industries do not have ISO Certificate (75%) have participated in this research study.

B8: Man Power: Out of 156 representative industries and total employees recorded as 12092: Out of this 11801 (97.59%) male employees and only 291 (2.41%) female employees working in the organization of the sample considered and those have responded this research study.

B9: Markets scenario: Out of 156 organizations: 31 organizations have indigenous market, 46 organizations marketing at state level, 36 organizations marketing at national level, and 42 organizations marketing internationally, were recorded in
the representative organizations of the sample considered. State level demand observed slightly more compared to national and international demands.

**B10:** Technical Collaboration: Out of 156 industries of the sample considered only 27 industries have technical collaboration and 129 industries do not have any technical collaboration with third party either nationally or internationally have responded to the questionnaire for this research study actively.

**[C] Job Satisfaction:** In the context of improving productivity job satisfaction study was carried out considering various 14 aspects.

Overall picture of employees’ job satisfactions is not appreciable. Total 14 aspects were examined. Out of 156 respondents, 35 (22.44%) respondents judge very satisfied, 45 (28.85%) respondents were somewhat satisfied, 73 (46.80%) respondents remained neutral, 2 (1.28%) respondents were somewhat dissatisfied, and only 1 (0.63%) respondent felt very dissatisfied with the Job satisfaction aspects considered which reflect the productivity of the organization. No clear verdict is obtained from respondents about these 14 factors of Job satisfaction were considered as motivational tools to increase productivity. This implies that corrective measures are required to improve job satisfaction at workplace.

**[D] Present Infrastructure Scenario:** In the context of improving industrial productivity. 29 variables are considered for assessment of infrastructural facility.

[ **I** ] Physical Infrastructure: Land for development, Land for large scale, Water, Power, Raw materials, Manpower, Transport-Railways, Transport-Roadways, Transport-Airways, ITI, Education, Shelter, Healthcare, Climate: Respondents’ assessments are: Excellent (13.23%), Good (31.46%), Average (40.71%), Satisfactory (7.05%) and Poor (7.55%).

[ **II** ] Social Infrastructure: Entrepreneurship, Markets, Lending Institutions, Human attitude: Respondents’ assessments are: Excellent (8.97%), Good (35.26%), Average (45.51%), Satisfactory (8.33%) and Poor (1.92%)

[ **III** ] Helping Hands: GIDC, GIIC, GSIC, GSFC, GIBC, IndexTb, Industry Commissionrate, DIC, National Industrial Policy, State industrial Policy, VUIA:
Respondents’ assessments are: Excellent (2.61%), Good (12.12%), Average (55.07%), Satisfactory (16.61%) and Poor (13.58%).

As it is well known and accepted fact that sound infrastructure will help to improve productivity of the organization. In this research study scenario, the opinion of the respondents is divided. On average respondents believed that present infrastructure is not up to the marks and all the contributing factors to be attended to upgrade infrastructures to increase productivity, whether be physical, social and helping hands to be attended thoroughly though overall status of present infrastructure is satisfactory by 46.79%.

[E] Target Market Criteria: In the context of improving industrial productivity, 14 variables are considered for assessment of Market Criteria. Respondents’ assessment:

Respondents’ views on market criteria in the context of improving productivity are:

- **Very Important**: Quality of products/service (66.67%), Customer service (48.08%),
- **Important**: Price (58.97%), Brand name recognition (44.23%), Friendly attitude of staff (66.03%), Discounts on sales (51.28%), Convenience of service for use (53.85%), Guarantees/ Warranties (69.87%), fast growing/ adopting new ideas (62.18%), Flexible Payments terms (60.90%)
- **Not Important**: Broad array of service (53.20%), Attractiveness of packaging (51.90%), Convenience of store location (58.34%), Store appearance (64.74%)

Respondents’ overall opinion is balanced for Very important (26.00%) and Not Important (26.00%), Important (48.00%). In fact marketing plays very vital role in the growth of the business, for selling and making profit required quality goods and services to satisfy and earn goodwill of the customers. Majority opinion is in favour of good market criteria to improve productivity of the organization.

[F] Globalization and Competitiveness: Do you confirm that productivity has increased due to globalization and high competitiveness? 7 statements are

1. **Strongly agree**: Globalization has changed Industrial Scenario (62.18%), Privatization has improved industrial Performance (67.31%), ISO Certificates
has improve the image of company (55.13%), ISO Certificate increases expectations (37.18%).

2. **Agree:** Globalizations improve the living standard of the people (.47.44%), Liberalization improves performance of the organization (48.72%), ISO Certificate- improves productivity (35.90%).

The impact of Globalization, Liberalization and Privatization on productivity is studied in this survey: Hence it is concluded that Globalization, Liberalization and Privatization enhanced the industrial performance and productivity in highly competitiveness of the business. Overall 81.60% of respondents are in agreement of these statements.

[G] **DOWN SIZING: Voluntary Retirement Scheme (VRS):** Do you agree that VRS helps increase performance and hence productivity of the organization?


Respondents ‘assessment: Early Separation Scheme (ESS) improves industrial performance VRS Reducing Manpower: Yes: 52(33.33%), Not Sure: 44(28.21%), NO: 60(38.46%).

Respondents are divided in their overall opinion about VRS and ESS. Hence, it is concluded that respondents are not fully aware about the long run benefits of downsizing by cutting flab. It is required to make them educate schemes followed by well known company Tata’s Early Separation Scheme etc.

[H] **Quality Introspect:** In the context of improving productivity: Overall: Quality Introspect: In the context of improving productivity of the organization.16 variables are examined. The overall picture of what respondents of all organizations in the sample view quality introspect as productivity improvement means and measures.

- **Quality concept tools:** It is concluded that more efforts are required to adopt latest concepts of improving productivity.

- **Inventory control technique:** It is concluded that organizations of the estate are lacking in using this technique which is considered as vital for smooth functioning of the industry to meet the target in time.

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• **Standard models:** It is concluded that more effort is required for organizations to understand the importance and use of standard operations research models to increase industrial productivity.

• **Incentive schemes:** It is concluded that all these concepts / tools / techniques/models / incentive schemes must be tried to enhance industrial productivity of the estate under study. There are a lot of potentials for improvements.

Hence, it is concluded that more and rigorous attempts are required to convince and make them accepting the use of these concepts, tools and techniques for increasing productivity of employees as well as of the organization.

(2) **Factor analysis was carried out to understand the common perception of the organizations towards Infrastructure in the context of industrial productivity.**

Factor analysis was carried out on all the responses to 29 statements. The following points emerged from the analysis:

**The industries appear to associate with the following (statements) variables with industrial productivity very emphatically:**

(a) The industries appear to associate ‘Helping hands’ with ‘Productivity’.

(b) The industries appear to associate ‘Industrial policy’ with ‘Growth’.

(c) The industries appear to associate ‘Infrastructure’ with ‘Performance’.

(d) The industries appear to associate with ‘Resources’ and ‘Human attitude’

(e) The industry appears to associate with ‘Basic resources’ and ‘Industrial growth’.

(f) The industrial estate appears to associate with ‘Infrastructure’ and ‘Productivity’.

**The industries do not appear to associate with the following (statements) variables with industrial productivity very emphatically:**

The industries do not appear to associate these statements with industrial productivity very emphatically.

**The industries do not appear to associate** ‘Raw materials availability, Man power availability, roads transport availability for industrial use, housing facilities, availability of finance, Gujarat Industrial Development Corporation (In fact GIDC is backbone of
industrial growth), District Industry Centers, The role of Vitthal Udyognagar Industries Association: are not considered so important by the respondents of the organizations and given less comparatively less weightage.

(3) Factor analysis was carried out to understand the common perception of the organizations towards target market criteria:

Factor analysis was carried out on all the responses to 14 statements. The following points emerged from the analysis:

The industries appear to associate with the following (statements) variables with industrial productivity very emphatically:

(a) The industries appear to associate with ‘Sales and productivity’
(b) The industries appear to associate with ‘Quality for Productivity’
(c) The industries appear to associate with ‘Service and Discounts’
(d) The industries appear to associate with ‘Customer satisfaction’

The industries do not appear to associate with the following (statements) variables with industrial productivity very emphatically:

The industries do not appear to associate ‘Friendly staff attitude with customers’, ‘Attractiveness of packaging of products to increase industrial productivity’, ‘Fast growing /adopting new ideas to increase productivity’.

(4) Factor analysis was carried out to understand the common perceptions of the organizations towards quality introspect: In the context of improving of productivity of the organization. Factor analysis was carried out on all the responses to 16 statements. The following points emerged from the analysis:

The industries appear to associate with the following (statements) variables with industrial productivity very emphatically:

(a) The industries appear to associate with ‘Tools for Productivity’.
(b) The industries appear to associate with ‘Quality for productivity’
(c) The industries appear to associate with ‘Motivations for productivity’

(5) Multiple Discriminant Analysis was carried out (1) Categories of the company and (2) Sector of industries and (3) Classification of industries.

(a) Multiple Discriminant Analysis between Categories of the company:
Since there are three types of categories of company: small scale, medium scale and large scale, maximum two function could be extracted. On the basis of the statements associated with the function1, the function was inferred to be associated with ‘Physical infrastructure’ Social infrastructure; and ‘Helping hands’. Similarly, on the basis of the statements associated with ‘Physical infrastructure’ Social infrastructure, and ‘Helping hands are predominantly associated with function 2.

Similar conclusion can be drawn about present infrastructure and its role in increasing productivity from centroids of the groups and the scatter diagram. The conclusion is that the medium scale company has the highest value on the function1 and the large scale the lowest. It can be seen from the figure that medium scale company has the highest value on the function2 and the small scale has the lowest. The medium scale company, therefore, seems to associate ‘Physical Infrastructure at higher level with productivity’ as compared to large scale while the small scale company attaches the lowest level.

The classification results based on analysis sample indicate that 62.82% of original grouped cases are correctly classified. This indicates a satisfactory validity. It may, therefore, be assumed that the interpretations made in the earlier paragraphs on the basis of Multiple Discriminant Analysis (three groups) for types of categories are valid.

(6) **Analysis of variance:** One of the most powerful tools of statistical analysis is what is known as analysis of variance. Analysis of variance is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables. Essentially, analysis of variance is used as a test of means of two or more population.

Analysis of Variance was carried out on all the responses and the following points emerged from the analysis:

(a) **Relation between respondents’ annual income and categories of the company:** (small scale, medium scale and large scale industries). Annual income ↔ Scale of the company.

‘There is an impact of scale of industry on annual income of the respondents’.

(b) **Relation between respondents’ annual income and sectors of the company:** (Private, Public, Government and others): Annual income ↔ Sector of the company
‘There is an impact of sector on annual income on the respondents.’

(c) **Relation between respondents’ annual income and classification of industries:**
(Engineering, Electrical/ Electronics, Paints /Varnishes, Chemicals & Miscellaneous).

‘There is an impact of classification of industries on annual income of the respondents’.


The analysis was carried out to understand the common perception of the organizations towards employees (Executives, officers and staff) towards motivation, morale job satisfaction and productivity.

The total number of questionnaires distributed 150 and 85 questionnaires received back. Out this 66 questionnaires (44.00%) found usable, which are considered for this research study. The analysis was carried out on all the responses to 23 statements. The following points emerged from the analysis: (Refer Chapter 6: page 242-258)

**QUESTION WISE ANALYSIS**

**Q.1: Employees feel proud to be associated with this organization.** (Feel proud)

 ‘The employees of the organization feel proud and feel good to be associated with the organization’.

**Q.2: Employees feel that their job is secured.** (Job Security)

 ‘The almost all employees of the organization feel that their job is secured with the organization’.

**Q.3: Employee’s salary does not match with their work demand and Industry standards.** (Remuneration satisfaction)

 ‘The majority of the employees of the organization are not satisfied with the remuneration and the opinion is divided about employees’ salary and that does not match with their work demand and industry standards’.

**Q.4: Employees are satisfied with past and present rewards.** (Reward Satisfaction)
‘The majority employees of the organization are not satisfied with the reward mechanism and the opinion is divided about past and present rewards apart from salary’.

**Q.5: Employees think that there are no chances of promotion.** (Chances of promotion)

‘Many employees think that chances of promotion depend more on the experience rather than performance and few are not all clear about the chances of promotion.’

**Q.6: Employees are aware about organizational objectives.** (Objectives)

‘The maximum numbers of employees are aware about organizational objectives. They have vision and mission clarity’.

**Q.7: Employees are not clear about what is expected from them in the organization.** (Role ambiguity)

‘Many employees are not at all clear about their role and what is expected from them in the organization’.

**Q.8: Employee receives meaningful work assignments.** (Work assignments)

‘The majority of employees have meaningful work assignment in the organization.’

**Q.9: Employees get enough co-corporations from workers/ Supervisors.** (Co-corporation)

‘The majority employees are satisfied with the cooperation they get from the lower level as well as middle level employees’.

**Q.10: Employees get enough co-operations from the supervisors and managers.** (Cooperative environment)

‘About 60% of the respondents are satisfied that they get cooperation from top level and middle level’

**Q.11: Employee is not involved in decision making process.** (Decision making)

‘The respondents are differed in their opinion for the involvement in decision making processes’.

**Q.12: Employee doesn’t have right amount of interaction with superiors.** (Communication Gap)

‘The respondents are differed in their opinion for the existence of communication gap’
Q.13: Employee is satisfied with working conditions in own department. (Working Conditions)

‘The majority of the employees are satisfied with the working environment’

Q.14: Employee is aware about housekeeping needs in their workplace. (Workplace housekeeping)

‘Almost, all, employees aware about the need of housekeeping in their workplace’.

Q.15: Employee thinks that housekeeping is a moral responsibility. (Moral responsibility)

‘Almost, all, employees accept that housekeeping is a morale responsibility’.

Q.16: Employee thinks that team work is prevailing in the department. (Team Work)

‘Teamwork is prevailing in the organization’.

Q.17: Employee thinks that training is necessary. (Training)

‘All employees are agreed that training is necessary to increase industrial productivity’.

Q.18: Employee thinks that job rotation is necessary. (Job rotation)

‘The majority of the respondents think that job rotation is very necessary’.

Q.19: Employees think that productivity should be increased. (Productivity)

‘Near 100 percent employees think that productivity should be increased’.

Q.20: Employees are satisfied with management policies and rules. (Management policy)

‘The employees have a mix- feel of satisfaction and dissatisfaction for management policy’.

Q.21: Employee is satisfied with organizational culture. (Work culture)

‘The employees have a mix- feel of satisfaction and dissatisfaction for work culture’.

Q.22: Training and Development programme arranged in organization which helps employees’ productivity. (Employees’ productivity)

‘The 100 percent employees think that training and development arranged in the department is very useful and increases employees’ productivity’.
Q.23: Overall industrial productivity increases due to decrease in waste, unproductive time and increase employee morale, motivation, earning etc. (Overall industrial productivity)

‘The 100 percent employees think that overall industrial productivity increases by reducing in waste, unproductive time and by motivated employee’.

OVERALL CONCLUSION

Overall analysis of all the 23 statements gives the overview was carried out for all 23 variables.

‘The respondents are divided about the various aspects of productivity improvement means and measures considered in this analysis’.


QUESTION WISE ANALYSIS

The analysis was carried out to understand the common perception of the organizations towards employees (Workers) towards motivation, morale job satisfaction and productivity. The total number of questionnaires distributed 150 and 77 questionnaires received back. Out this (43.33%) questionnaires found usable, which are considered for this research study. The analysis was carried out on all the responses to 27 statements. The following points from the analysis has emerged and concluded in following paragraphs. (Refer Chapter 6:page 258-267)

Q.1: Workers feel proud to be associated with this organization. (Feel proud)

‘Hence, it can be concluded that all workers of the organization feel proud and feel good to be associated with the organization’.

Q.2: Workers receive enough help to get the job done. (Help)

‘Hence, it can be concluded that all workers of the organization receive required help to get job done’.

Q.3: Workers get proper instructions and directions from supervisors. (Instruction and direction)

‘Hence, it is concluded that majority of the respondents of the organizations are satisfied with the supervisory staff’.
Q.4: Workers feel that their job in the organization is secured. (Job Security)

‘Hence, it is concluded that majority of the respondents are in dilemma and un
secures about job’.

Q.5: Workers are getting good wages/salary. (Remuneration Satisfaction)

‘Hence, it is concluded that majority of the respondents are in dilemma about
remuneration satisfaction. Percentage of satisfaction of remuneration is less than
percentage of dis-satisfaction’.

Q.6: Workers are satisfied with past and present rewards. (Reward Mechanism)

‘Hence, it is concluded that majority of the respondents are in dilemma about
reward mechanism satisfaction percentage of satisfaction of reward mechanism
satisfaction is less than percentage of reward mechanism satisfaction dis-
satisfaction’

Q.7. Worker feels their work interesting. (Work interest)

‘Hence, it is concluded that majority of the respondents are satisfied with their
work and taking interest’.

Q.8: Workers are satisfied with working hours. (Working hours)

‘Workers satisfaction with work hours is less than percentage of dissatisfaction
work hours of the respondents, gives divided opinion’.

Q.9: Workers are satisfied with working conditions in their department. (Work
environment)

Hence, it is concluded that the percentage of satisfaction about working
conditions is less than percentage of dissatisfaction working condition their
department, the respondents give divided opinion.

Q.10: Workers think that housekeeping is a moral responsibility of the employees.
(Housekeeping)

‘Hence, it is concluded that housekeeping is morale responsibility of all
workers’.

Q.11: Employees are aware about housekeeping needs in the department.
(Workplace Housekeeping)
‘Hence, it is concluded that workers are aware about the needs of housekeeping’.

**Q.12: Workers are not clear about their role in organization.** (Role ambiguity)

‘**Hence,** it is concluded that workers are divided about their role in organization’.

**Q.13: Workers are not aware about organizational objectives.** (Objectives)

‘So, maximum numbers of workers have declined that they do not have awareness of objectives of the organization’.

**Q.14: Workers get enough cooperation from co-workers/supervisors.** (Cooperation)

‘So, maximum numbers of workers were not sure about the co-operation or not get cooperation from the co-workers and supervisors’.

**Q.15: Workers think that communication gap is prevailing.**

(Interpersonal communication)

‘Hence, it is concluded that there exists interpersonal communication gap among employees’.

**Q.16: Workers think that there are no chances of promotion.**

(Chances of promotion)

‘Hence, it is concluded that workers are not satisfied with chances of promotion’.

**Q.17: Workers think that teamwork is prevailing in their department.**

(Teamwork)

‘So, there is a mix feeling of satisfaction as well as dissatisfaction for existence of team work in their department’

**Q.18: Workers think that training is necessary.** (Training & Development)

‘Hence, it is concluded that maximum numbers of workers believed that training is very necessary’.

**Q.19: Workers think that job rotation is necessary.** (Job rotation)

‘**Hence,** it is concluded that maximum numbers of workers are not sure about the necessity of job rotation’.
Q.20: Workers are satisfied with management policies and rules. Management policy

‘Hence, it can be concluded that the workers are divided on management policy’.

Q.21: Workers think that productivity should be increased. (Productivity)

‘Hence, it is concluded that all workers think that productivity should be increased’.

Q.22: Workers are satisfied with organizational work culture. (Work culture)

‘So, workers are not satisfied with the work culture of the organization’

Q.23: Workload: Job stress: (Stress lead to dissatisfaction and quitting. (Workload stress)

‘Hence, it is concluded that workers are divided on workload stress and its effects on performance’.

Q.24: Work hours: Job stress: (Stress lead to dissatisfaction and quitting. (Work hours stress)

‘Hence, it is concluded that workers are divided on work hour’s stress and its effects on performance.

Q.25: Work shifts: Job stress: Stress lead to dissatisfaction and quitting: (Work shifts stress)

‘Hence, it is concluded that workers are divided on work shifts stress and its effects on performance.’

Q.26: Training and Development programme arranged in organization helps improve employees’ productivity. (Employee productivity)

‘Hence, it is concluded that training and development programme is improving employees’ productivity’.

Q.27: Overall productivity increases due to decrease in waste, unproductive time and increases employees’ morale, motivation, earning etc. (Overall performance)

‘So, it is concluded that overall performance and hence productivity increases due to decrease in wastes, unproductive times and increases in employees’ morale, motivation and, earning’.
OVERALL CONCLUSION

Overall analysis of 27 statements of the questionnaire: To study of employees’ motivation, morale, job satisfaction and productivity of the organization. Overall analysis of all the 27 statements gives the overview was carried out for all 23 variables.

‘The respondents are divided about the various aspects of productivity improvement means and measures considered in this analysis’.

7.3. Recommendations

(1) To improve industrial productivity is the ultimate objective of the organization, the various philosophies of quality improvement and operation research models, productivity improvements means and measures must be attended on priority basis.

(2) The training to the workers for CNC machines and use of other sophisticated instruments and equipments must available on the regular basis to the employees and organization should permit for the same.

(3) There must be strong and live tie up with the nearby technical institutes and industries of the estate to exchange know-how for the mutual benefits of both.

(4) More companies should go for ISO Certificate and must follow the latest stands for manufacturing.

(5) They must try for the following as a means for productivity improvements concepts:

(a) Technology helps to improve the quality of life: e-Learning model-Virtual learning facility

(b) Most productive work day - Manic Tuesday

(c) Poor diet at workplace affects productivity: Food for thought-A study

(d) Job analysis - Improve Industrial Performance

(e) Ergonomics can reduce employee breakdowns - Ergonomics at work help increase productivity
(f) Designed to Enhance Productivity: Small steps, big profit- Improving office productivity was never so simple

(g) Flexible Timing at workplaces- A radical practice

(h) Virtual workplace wave: The Future of work shifting patterns

(6) TPM implementation in manufacturing organizations

(7) Skill development in manufacturing and engineering measurements

(8) Awareness programme among the weak industries about standard, globalizations and changing scenario of the manufacturing sectors and productivity in new dimensions.

(9) More human approach than fire drill for getting work done efficiently and effectively with incentives and appreciation leading to job satisfaction.

(10) There is potentials for improvement of estates and industrial units because one only estate: Vitthal Udyognagar G.I.D.C. has expanded and doing reasonably well. Other estate at Borsad, Umreth, Sojitra, Khambhat and Petlad are lagging in almost all aspects of better performance.

7.4 Limitations of the study:

The limitations of study are listed in chapter6; all the all efforts were made to receive responses from the organisations so that the data is representative of the entire estate. However, responses through questionnaires took mare time to convince them than to fill the same. This has resulted in 156 organisations in case of first questinnare, 66 organisations in second questionnaire and 65 organizations in third questionnaire have participated as valid questionnaires.

The problems in data collection were many like: Non-availability of some secondary data, Responses with reservation caused limited co-operation from some of the respondents. Top level, middle level and lower-level officials, employees responded differently and might have added little or more bias, The postponements of the responses were time consuming and tiresome due to busy schedule or unwillingness to disclose certain information by the respondents, The investigator was thought to be industry - agent or government authority in spite of avowal was given, so extracting information was difficult initially, too much time was consumed in convincing them for the purpose of the study, The time factors, poor awareness of some respondents were other limitations., The supervisors and technicians were scared about the disclosing problems they are facing at workplace, Lower education, language
problem and lack of freedom to disclose the facts were major constraints to the most of the workers. The workers were unable to understand and explanation in almost all cases was given to them so that they can respond correctly.

7.5 Suggestions for further research

The present study in Vithal Udyognagar, an industrial estate becomes interesting from two points of views. One the industrial estate is situated between two big educational townships, namely Vallabh Vidhanagar and New Vallabh Vidyanagar, in real sense the hub of world class education in highly competitive environment. Thousands of students are availing these infrastructures for higher studies and research. Secondly, educationalists, technocrats and managers with high skills and micro-small-medium to large scale industries formed a cluster of mutual interest and benefits imparting to the society. Since the establishment of this estate it was a demand as to time to study and evaluate the existing scenario and its potentiality to enhance further improvement in industrial performance leading to higher industrial productivity help improving living standard of people. There is lot of scope for further study and future research in this area of interest of industrial productivity and potentiality such as;

(a) Solid waste management in the entire estate as a critical research study.

(b) Industrial growth of the other estate of the Anand district GIDC at Borsad, Umreth, Sojitra, Petlad and Kambhat should be critically examined for the potentialities of product diversification and up gradations in the use of technology.

(c) The survey can be conducted to assess Industry-Institutes-Interaction so far and possibilities to expand in more area.

(d) The financial performance and employees’ productivity assessments thought the estate can be searched.

(e) The research can be performed for human behaviour at work and its implications on various aspects of the industrial performance.

(f) The Voluntary Retirement Schemes consequences in the industrial sector for past and present scenario and Incentives schemes, Profit sharing concepts can be studied as further research.