CHAPTER -7

CONCLUSIONS AND FUTURE SCOPE OF WORK

In previous chapters, data analysis and hypotheses testing has been presented. This chapter starts by presenting the summary of this research, followed by the contributions from the research. Then, the research limitations are presented and at last, scope for future works.

7.1 SUMMARY OF STUDY

The study is aimed at identifying the attributes of Manufacturing Competency and Strategic Success of the Indian manufacturing organisations in order to enhance performance. The study also critically examines the manufacturing competency factors affecting the strategic success of these organisations. Moreover, the study illustrates the relationship of Manufacturing Competencies and Strategic Success factors in Indian automobile manufacturing industries to have overall business performance. The major objective of this research is to examine, how manufacturing competency effects the strategy formation and thus organisation’s success. Lastly the research culminates with development of a manufacturing competency model for Indian automobile manufacturing unit for growth and competitiveness. Primarily, the focus of this research was to determine the impact that manufacturing competency has on strategic success when viewed from an automobile manufacturing organisation’s perception.
To provide for the impact that manufacturing competencies have on strategic success, it was important to include the human and technology interaction while developing a model. This chapter presents the conclusions and recommendations for future from this study.

After reviewing more than 150 papers, it was observed that impact of manufacturing competencies on strategic success has not been addressed yet. Based on the research gaps, the objectives are framed and issues for the study were listed along with the methodology adopted for the research work. Initially there are 11 input factors having 61 sub variables and 12 output variables.

During this research work, a questionnaire was prepared for the survey to be conducted in the North Indian automobile manufacturing units. For the questionnaire a pilot survey was made for finalizing the questionnaire. During pilot survey, academicians, industrialists, existing literature were consulted. Responses to the questionnaire were received from 118 units. For survey, telephonic interviews were made, e-mails and postages were sent, even visit to the industries were made.

After completing the survey, preliminary analysis of the data was carried out. Firstly, Croanbach alpha, a reliability analysis was performed to analyze the questionnaire prepared. Then various quantitative techniques were employed like, PPS and Central
Tendency. This was followed by correlation and regression analysis of the above data. Based on the data analysis, factors were selected for detailed study in various manufacturing units.

Case studies were prepared in four different manufacturing units, as:

1. HMSI, Gurgaon (Two-wheeler manufacturing Unit)
2. Suzuki, Manesar (Four-wheeler Manufacturing Unit)
3. SML Isuzu, Roopnagar (Commercial Vehicle Manufacturing Unit)
4. Mahindra and Mahindra Ltd., Chandigarh (Agricultural Manufacturing Unit)

Data from each manufacturing unit was collected in detail by visiting the organisations during the research work. Letter of supports were signed by the above units (Appendix B).

From the case studies, it is seen that the performance of organisations has kept on improving from the past years. All the organisations have gone for new technologies and strategies in product development.

Based on the data collected from questionnaire survey and case studies, combined results were made. Then it was followed by qualitative analysis of the data. Firstly, AHP followed by Topsis, Vikor and Fuzzy Logic were employed for parameter selection according to its importance and then for development of a model SEM was carried out by
using AMOS 21.0 in SPSS 21.0 tool. Various important factors required for SEM_My model i.e. Quality Control, Production Planning and Control, Product Concept and Management were formulated from the questionnaire, case studies and from the extensive literature review. Further various data analysis techniques like test for kurtosis and skewness i.e. for checking the normality variables, were applied on the model i.e. SEM_MC. Through Confirmatory Factor Analysis (CFA), various items which were affecting for the model to unfit were removed from independent and dependent variables. During this a model was developed to conclude the results of whole research work.

7.2 RESEARCH CONTRIBUTION

The research highlights the attributes of Manufacturing Competencies and Strategic Success of the Indian auto manufacturing organisations in order to enhance performance. The study also critically examines the manufacturing competency factors affecting the strategic success of these organisations. Moreover, the study illustrates the relationship of manufacturing competencies and strategic success factors in Indian automobile manufacturing industries to have overall business performance. The research critically examines the impact of manufacturing competency on strategy formation and thus organisation’s success. Finally, the research culminates with development of a Manufacturing Competency model for Indian Automobile Industry for sustained strategic success. This study is a legitimate reaction to a developing need of both academicians and professionals for better comprehension of the relationship of various manufacturing competencies and strategic success attributes.
The empirical analysis has been conducted in this research to evaluate the critical contribution of manufacturing competency factors in realizing strategic success in the organizations. The association amongst manufacturing competence parameters and strategic success factors has been deployed to critically examine the impact of distinct manufacturing competency and strategy factors towards fulfillment of organizational sustainability objectives. In this admiration, notwithstanding exhibiting a most recent understanding of the present status of the impact of four capacities on execution of vehicles organizations, it formulates valuable ramifications for managers with respect to the technique development. The conclusions drawn from research work have been highlighted below.

7.2.1 PPS RESULTS

The research provides an insight into exploits of Indian entrepreneurs regarding manufacturing competency and strategic success and provides an assessment of prevailing status of Indian entrepreneurs regarding different competency and strategy parameters

a. The analysis of significant attributes of major product concept (idea generation) issues reveal that significantly large number of organisations have evolved well planned and structured concept generation process (percent point scored, PPS=70), promote innovation and marketing (PPS=58.4), encouragement for inter-departmental teams (PPS=51.0), centralized planning (PPS=51.0), creativity (PPS=58.0).
b. The analysis of significant attributes of product design and development issues reveals that significantly large number of organisations have an effective design technology (PPS=67.8), computer technology for analysis (PPS=54.0), Product Life Cycle (PPS=5.2), Aesthetics and Ergonomics of products (PPS=57.8), Simulation and Modeling (PPS=53.8).

c. The analysis of issues related to process planning shows that many manufacturing organisations have an effective process planning program (PPS=67.16), tracking process planning costs (PPS=77.7), material and machine selection (PPS=56.1), Group Technology (PPS=5.8), finishing and assembly of the product (PPS=63.7).

d. The close analysis of various issues related to raw material and equipment has indicated that many manufacturing organisations use ERP software for record keeping (PPS=68.0), whereas some other factors like having own transportation (PPS=5.2), inventory storage (PPS=58.2), different departments involvement for machine selection (PPS=55.7) need immediate attention, since these factors have been found to be under-preforming.

e. The analysis of data obtained from the survey has indicated that many manufacturing organisations have generally reported low performance (PPS) regarding production, planning and control factors. The results reveal that many manufacturing organisations exert on precision and accuracy (PPS=65.9), green manufacturing (PPS=52.1), hydraulic and pneumatic system (PPS=5.0), Computer Aided Manufacturing (PPS=59.1).
f. The analysis of significant attributes of Quality revealed that many manufacturing organisations have shown acceptable performance rating (PPS). The data has indicated that that many manufacturing organisations test products under actual conditions (PPS=75.4), technology for quality analysis (PPS=57.0), life cycle analysis (PPS=52.7).

g. A reasonable rating has been observed from the survey regarding the strategy agility attributes. The results reveal that many manufacturing organisations have exhibited strong endeavor to realize various strategic success issues, quality conformance (PPS=66.9), customer base (PPS=62.3), competitive pricing (PPS=65.0), market share (PPS=71.4), profit (PPS=64.0).

h. The significant attributes of management depict that many manufacturing organisations have better production planning and control functions (PPS=72.4), co-ordination between departments (PPS=7.0) and enhanced production capabilities (PPS=71.2) but some improvement can be suggested for other factors like efficient information flow (PPS=56.6), information analysis in departments (PPS=54.4), crises management (PPS=54.0) and Risk management (PPS=51.3), since these factors have been under-preforming.

i. The analysis of data obtained from the survey has indicated that many manufacturing organisations have shown unsatisfactory performance (PPS) regarding team work factors. The results reveal that many manufacturing organisations emphasize on improving communication and coordination amongst team members (PPS=68.8), coordinated efforts for fostering next generation
technology (PPS=62.1) and better promotion of products (PPS=68.2) whereas some other factors need immediate attention, since these factors have been found to be under-performing.

j. The analysis of significant attributes of administration has indicated that many manufacturing organisations have efficient administration and management (PPS=71.6), top level management commitment (PPS=63.1) and policy formation (PPS=67.6) support and encouragement from top management (PPS=56.3).

k. The analysis of significant attributes of interpersonal issues has revealed that many manufacturing organisations have worked aggressively for building self-confidence of employees (PPS=71.6), safety and health awareness (PPS=58.7), self-managed teams (PPS=57.6), employee empowerment (PPS=56.8), multi-skilling of workers (PPS=55.0) and stress management (PPS=52.3).

l. The analysis of significant attributes of organisations has revealed that many manufacturing organisations have revealed acceptable performance (PPS) regarding major attributes. The organisations work on quality (PPS=79.2), production capacity (PPS=77.0), Reliability (PPS=75), Production Time (PPS=73.5), and some organisation work on Productivity (PPS=68.6), Competitiveness (PPS=63.7), Sales (Annually) (PPS=65.2), Customer Base (PPS=64.0) and Profit (Annually) (PPS=62.7). However, there is an emergent need to affect improvements in Lead Time (PPS=57.6), Growth and Expansion (PPS=58.4) and Market Share (PPS=59.7), since these factors have been under-performing.
7.2.2 CORRELATION RESULTS

The research has highlighted contributions of various manufacturing competency attributes in Indian manufacturing industry for realizing strategic success achievements for competing successfully in fiercely competitive marketplace. The data analysis has been conducted in this research to evaluate the impact of manufacturing competencies in realising strategic success in the organisations. The association amongst manufacturing competence parameters and strategic success factors has been deployed to critically examine the impact of distinct manufacturing competency and strategy factors towards fulfillment of organisational sustainability objectives. Thus manufacturing managers must develop competencies for managing manufacturing initiatives efficiently for realizing global strategic success. Therefore, effective adoption of manufacturing competency factors contributes towards realisation of sustained strategic success.

a. The analysis of correlation matrix has revealed that the correlations obtained between the product concept and output was significant and they were being affected in the organisation in a positive manner. The correlation of the product concept with the parameters i.e. production capacity (r = .606), production time (r = .613), lead time (r = .450), quality (r = .675), reliability (r = .727), productivity (r = .500), growth and expansion (r = .527), competitiveness (r = .684), sales (r = .404), profit (r = .453), market share (r = .448) and customer base (r = .348) was significantly positive.

b. The analysis of the correlation matrix showed that the correlations obtained between the product design and development and all process of output was
significant and they were being affected in the organisation in a positive manner.

The correlation of the product design and development with the parameters i.e.
production capacity \( (r = .606) \), production time \( (r = .635) \), lead time \( (r = .527) \),
quality \( (r = .692) \), reliability \( (r = .758) \), productivity \( (r = .554) \), growth and
expansion \( (r = .556) \), competitiveness \( (r = .696) \), sales \( (r = .472) \), profit \( (r = .505) \),
market share \( (r = .471) \) and customer base \( (r = .436) \) was significantly positive.

c. The analysis of the correlation matrix showed that the correlations obtained
between the process planning and all process of output was significant and they
were being affected in the organisation in a positive manner. The correlation of
the process planning with the parameters i.e. production capacity \( (r = .550) \),
production time \( (r = .469) \), lead time \( (r = .371) \), quality \( (r = .595) \), reliability \( (r =
.746) \), productivity \( (r = .468) \), growth and expansion \( (r = .472) \), competitiveness \( r
= .675 \), sales \( r = .450 \), profit \( r = .451 \), market share \( r = .354 \) and customer
base \( r = .359 \) was significantly positive.

d. The analysis of correlation matrix revealed that the correlations obtained between
the raw material and equipment and all output parameters was significant and they
were being influenced in the organisation in a positive manner. The correlation of
the raw material and equipment with the parameters i.e. \( production \ capacity \ (r =
.672) \), \( production \ time \ (r = .631) \), \( lead \ time \ (r = .451) \), \( quality \ (r = .690) \),
\( reliability \ (r = .770) \), \( productivity \ (r = .553) \), \( growth \ and \ expansion \ (r = .552) \),
\( competitiveness \ (r = .704) \), \( sales \ (r = .478) \), \( profit \ (r = .511) \), \( market \ share \ (r =
.526) \) and \( customer \ base \ (r = .412) \) was significantly positive.
e. The analysis of the correlation matrix showed that the correlations obtained between the production planning and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the production planning with the parameters i.e. production capacity ($r = .614$), production time ($r = .549$), lead time ($r = .384$), quality ($r = .590$), reliability ($r = .688$), productivity ($r = .496$), growth and expansion ($r = .553$), competitiveness ($r = .638$), sales ($r = .443$), profit ($r = .422$), market share ($r = .508$) and customer base ($r = .481$) was significantly positive.

f. The analysis of the correlation matrix showed that the correlations obtained between the quality control and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the quality control with the parameters i.e. production capacity ($r = .653$), production time ($r = .628$), lead time ($r = .427$), quality ($r = .586$), reliability ($r = .652$), productivity ($r = .564$), growth and expansion ($r = .531$), competitiveness ($r = .525$), sales ($r = .395$), profit ($r = .377$), market share ($r = .358$) and customer base ($r = .453$) was significantly positive.

g. The analysis of the correlation matrix showed that the correlations obtained between the strategy agility and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the strategy agility with the parameters i.e. production capacity ($r = .679$), production time ($r = .677$), lead time ($r = .506$), quality ($r = .709$), reliability ($r = .643$), productivity ($r = .612$), growth and expansion ($r = .590$), competitiveness ($r
= .569), sales (r = .547), profit (r = .554), market share (r = .482) and customer base (r = .474) was significantly positive.

h. The analysis of the correlation matrix showed that the correlations obtained between the management and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the management with the parameters i.e. production capacity (r = .516), production time (r = .640), lead time (r = .597), quality (r = .547), reliability (r = .700), productivity (r = .581), growth and expansion (r = .606), competitiveness (r = .639), sales (r = .529), profit (r = .655), market share (r = .521) and customer base (r = .515) was significant.

i. The analysis of the correlation matrix showed that the correlations obtained between the team work and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the team work with the parameters i.e. production capacity (r = .607), production time (r = .652), lead time (r = .494), quality (r = .647), reliability (r = .806), productivity (r = .596), growth and expansion (r = .555), competitiveness (r = .708), sales (r = .522), profit (r = .584), market share (r = .508) and customer base (r = .467) was significantly positive.

j. The analysis of the correlation matrix showed that the correlations obtained between the administration and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the administration with the parameters i.e. production capacity (r = .527), production
The analysis of the correlation matrix showed that the correlations obtained between the interpersonal and all process of output was significant and they were being affected in the organisation in a positive manner. The correlation of the interpersonal with the parameters i.e. production capacity (r = .528), production time (r = .554), lead time (r = .450), quality (r = .553), reliability (r = .738), productivity (r = .470), growth and expansion (r = .449), competitiveness (r = .610), sales (r = .400), profit (r = .432), market share (r = .475) and customer base (r = .498) was significant.

### 7.2.3 REGRESSION RESULTS

The research has been extended further to establish a mathematical model between the dependent and independent variables involving manufacturing competencies and strategic success attributes. For this purpose, ANOVA analysis and t-test have been performed.

a. The key predictors identified from the regression analysis of production capacity were Product Concept, Raw Material and Equipment, Production Planning and Control and Quality Control attributes of manufacturing competencies and Strategy Agility and Management attributes of the strategic success.
b. The predictors identified from the regression analysis of production time were Product Concept, Product Design and Development, Process Planning, Production Planning and Control and Quality Control parameters of manufacturing competencies and strategy agility, management and team work parameters of the strategic success.

c. The predictors identified from the regression analysis of lead time was Product Concept, Product Design and Development, Raw Material and Equipment, Process Planning and Control and Quality Control parameters of manufacturing competencies and Management parameter of the strategic success.

d. The predictors identified from the regression analysis of Quality were Product Concept, Production Planning and Control and Quality Control parameters of Manufacturing Competency and Management and Administration parameters of the strategic success.

e. The predictors identified from the regression analysis of Reliability were Product Concept, Product Design and Development, Raw Material and Equipment, Production Planning and Control and Quality Control parameters of manufacturing competencies and Management and Interpersonal parameters of the strategic success.

f. The predictors identified from the regression analysis of Productivity included Product Concept, Process Planning, Production Planning and Control and Quality Control parameters of manufacturing competencies and Management, Administration and Interpersonal parameters of the strategic success.
g. The predictors identified from the regression analysis of *Growth and Expansion* were Product Concept, Product Design and Development, Production Planning and Control and Quality Control parameters of Manufacturing Competency and Management and Administration parameters of the strategic success.

h. The key predictors identified from the regression analysis of *Competitiveness* were Product Concept, Product Design and Development, Production Planning and Control and Quality Control parameters of the manufacturing competencies and Management and Administration parameters of the strategic success.

i. The key predictors identified from the regression analysis of *Sales* were The predictors identified from the analysis was Product Concept, Production Planning and Control and Quality Control parameters of Manufacturing Competency and Management and Interpersonal parameters of the strategic success.

j. The predictors identified from the regression analysis of *Profit* were Product Concept, Raw Material and Equipment, Production Planning and Control and Quality Control parameters of the manufacturing competencies and Management, Administration and Interpersonal parameters of the strategic success.

k. The key predictors identified from the regression analysis of *Market Share* were Product Concept, Process Planning, Production Planning and Control and Quality Control parameters of the manufacturing competencies and Management and Team Work parameters of the strategic success.

l. The predictors identified from the regression analysis of *Customer Base* was Product Concept, Production Planning and control and Quality Control
parameters of the manufacturing competencies and Management parameter of the strategic success.

7.2.4 RESULTS OF PRELIMINARY DATA ANALYSIS

The empirical analysis has highlighted that Product Concept, Production, Planning and Control, Quality Control and Management have emerged as significant contributors for realizing sustained competitiveness in the organisation.

a) Product Concept has a great impact on an organisation’s performance as it is related to R and D department of the organisation thus involving innovation and idea generation.

b) Production, Planning and Control plays an important role in success of an organisation as production directly deals with manufacturing, planning relates to plan formed for manufacturing and control refers to the secondary plans or controlling operations for the manufacturing process.

c) Quality Control directly affects the market value of an organisation as better the quality of the product leads to improved sales, thus better the market value and performance of the organisation.

d) Management support and commitment significantly affects the success of the organisation since management initiatives provide much needed impetus for motivating employees towards organizational goals and also provides resources and investments thereby leading to growth of the organisation.
7.2.5 CASE STUDIES RESULTS

Further, detailed multiple-descriptive case studies have been conducted in selected automobile manufacturing organisations across northern part of the country that has made serious interventions regarding manufacturing competency and strategic success. The following key issues have been highlighted through the case study:

a. The case studies have depicted organisations have deployed various manufacturing competencies for attaining strategic success, thereby evolving significant production system innovations successfully, attaining cost effective production capabilities, mitigating production wastages, evolving and aligning personnel competencies with organisational sustainability objectives through empowerment and facilitation.

b. The Manufacturing organisation has been successful in creating a congenial atmosphere for implementation of manufacturing competencies through establishing improved communication in the organisation, ensuring enhanced employee involvement, motivation and empowerment; and by putting in resources for improving the employee competencies through training and multi-skilling.

c. Finally, an evaluation of achievements accrued through competencies has been highlighted to evolve the consensus on strategic success of organisation in highly competitive environment. The study reveals that the companies have kept on growing from the past experiences by introducing innovative strategies and technologies in their products. Thus to be able ensure realization of sustained
strategic success, the organisations must consistently continue to foster manufacturing competencies.

7.2.6 QUALITATIVE ANALYSIS RESULTS

For parameter selection from the questionnaire, after analysis has been made using Analytical Hierarchy Process (AHP). Consistency Ratio has been computed as the ratio of Consistency Index and Random Consistency Index. For the study the value of CR has been obtained as less than .1 (9.4%), which means the judgments considered for the study have been consistent and acceptable. Further, to validate the parameters ranking as achieved from AHP, TOPSIS, VIKOR and Fuzzy Logic have been employed and similar results have been obtained. For further validation of results obtained from qualitative techniques, the Structural Equation Modeling analysis has been conducted. This study uses the confirmatory factor analysis approach using Structural Equation Modeling in AMOS 21.0 software to employ the relationship between manufacturing competencies and strategic success in the study.

a. Model Fit summary of SEM_MC model RMR value was 0.48. Similarly, Goodness-of-Fit Index (GFI) value was 0.530. Normed Fit Index (NFI) value was 0.550

b. Model Fit summary of SEM_MC model after deploying Modification Indices has indicated that the RMR value was observed .22, and also the Goodness-of-Fit Index (GFI) for the model was observed .82, This indicated that the model after modifications does provide a better fit with respect to the Normed Fit Index (NFI)
also which was observed .919. Thus, the SEM study confirms and validate SEM_MC model.

7.2.7 COMPETENCY-STRATEGY MODEL

Finally, the research culminates with the development of Competency-Strategy model. The validation of the model justifies that the factors that emerged as significant are rightly so. The work presents the evolution of a Manufacturing Competencies and Strategic Success model in Indian automobile manufacturing industry. The model has been based upon the extensive literature review, learnings from Manufacturing Competency Questionnaire analysis and results from case studies conducted in selected automobile manufacturing organisations.

7.3 MAJOR FINDINGS OF THE STUDY

This research is a legitimate reaction to the developing needs of both academicians and professionals for understanding the relationship of various manufacturing competencies and strategic success attributes. In this admiration, notwithstanding exhibiting a most recent understanding of the present status of the impact of four capacities on execution of vehicles organisations, it formulates valuable ramifications for managers with respect to the technique development. The Conclusions from this study are:

1. Product Concept, Production Planning and Control, Quality Control and Technical Management have emerged as significant contributors to sustained competitiveness in the organization.
2. Product Concept has a significant impact on an organization’s competency as it involves innovation, development and implementation.

3. Production Planning and Control plays a vital role in enhancing the manufacturing competency as it directly deals with manufacturing strategy planning, execution and controlling the operations. Its contribution to strategic success is higher than that of product concept.

4. Quality Control directly affects the market value of a product and contributes significantly to the strategic success of an organization.

5. Strong Management Support provides the much needed impetus for motivating employees towards organizational goals by making available the required resources which ultimately lead to the success and growth of any organization.

6. The qualitative competency-strategy model developed for Indian automobile industry has highlighted the significant contributions of manufacturing competency factors to strategic success of an organization.

### 7.4 RESEARCH LIMITATIONS

The research limitations of the present work, presents suggestions for future studies. The samples in this study were collected among automobile organisations. The validity of the findings regarding the relationship between manufacturing competencies and organisation performance may be hampered by as data on manufacturing practices and organisational performance were collected around the same point in time. At last, organisation performance may be affected by other variables not accounted for in this
work. It would be useful to examine the organisation performance by taking factors like the legal situation and economic ones into account. Further limitations of the study are:

1. The research concentrated on manufacturing competencies, other competencies such as product design and development, maintenance, supply chain, green manufacturing, and such others can also affect the organization’s performance.

2. This study has been conducted in automobile manufacturing industry only. Factors may vary according to manufacturing industries of different other products like bicycle, machine and machine tools, material handling equipments, Farm and agri-machinery.

3. In this research, only four significant factors; Product Concept, Production Planning and Control, Quality Control and Management Support were considered. Other factors like Design and Development, Process Planning, Total Productive Maintenance; could also have a significant effect on firm performance.

4. The scope of this research has been limited to North India only; significance of issues may differ in other parts such as South, Central or whole of India.

5. A qualitative competency-strategy model has been developed. No other modeling techniques have been explored in this research work.

7.5 SUGGESTIONS FOR FUTURE RESEARCH

The primary aim of this research is to synthesis strategic success concept and exploring manufacturing competencies for automobile manufacturing organisations, while a similar
study can also be conducted in future for other Indian product, process and service industries as well.

The work is aimed at developing manufacturing competencies and strategic success model for North Indian automobile and auto parts manufacturing organisations and various manufacturers have been treated alike irrespective of the sector of manufacturing organisations. Another direction for future research is developing area-wise, sector-wise and product-wise competency model for automobile manufacturing industry. Thus, individual case study could be conducted for different areas, products and sectors of manufacturing industry and accordingly the typical methodologies can also be evolved in future.

While this research provided an insight into manufacturing competencies and their relation with strategic success, it also discovered areas that could improve from further research. This work focused only on manufacturing competencies of automobile organisations. Future works could focus on other competencies as well. By doing so, a better and broader understanding of the effects that other competencies have on organisation’s performance may be accomplished.

1. Manufacturing competencies of automobile manufacturing units have been explored. Future research could focus on the other competencies like innovation, design and development, supply chain, green manufacturing and such others.
2. Various other factors like Process Planning, strategy agility, team work and goal orientation may be considered for future studies. They may also have an impact on organization’s strategic success.

3. Future research could also concentrate on sectors like large scale, medium scale, and small scale industries for competency model development in those industries.

4. Such studies can also be conducted in other regions of India to develop a holistic competency model for automobile manufacturing industry.

5. A mathematical model for depicting competency and strategy relation could be attempted in future as in the present study a qualitative model only has been developed.

7.6 CONCLUDING REMARKS

To summarize, this research makes a significant contribution in the direction of manufacturing competencies and strategic success of automobile industry. However, this study helps to overcome the limitations that were encountered with the most methodological sound techniques. This study will encourage other researchers to engage into more research regarding competencies and strategies while hoping that such efforts will enhance the performance of organisations, its managers and customers with regard to common advantages and benefits.