Chapter-6

Summary and conclusion
6.1 Summary and Conclusion

The objective of this research is to analyze the decision making situation for selecting an appropriate supply chain coordination scheme. Following shows summary and outcome of the work depicted chapter wise:

A systematic literature survey has been carried out on classification of SCCS in Chapter 2. Classification on SCCS has been proposed on the basis of organizational inner-dependencies supported by different parameter like level of control, decision style, resource sharing and risk and reward sharing. All the schemes can be classified into three groups like symmetric and cooperative, symmetric and competitive, and asymmetric and cooperative. Also 48 factors relevant to SCCS selection have been explored through literature survey and after consultation with SC experts. These 48 influencing factors are broadly classified into four dimensions namely supply chain environment, requirement, risk and benefit.

In Chapter 3, the researcher explores the applicability/importance of different schemes. Schemes are further classified based on their implication/uses in Indian context. Collaborative initiative schemes like quick response, postponement, Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI) and Collaborative Planning Forecasting & Replenishment (CPFR) are the most popular or applicable schemes in India. Back up Agreements and Advance Discount Booking are the least applicable schemes in India. Further an attempt has been made to explore the critical influencing factors which affect the selection decision of SCCS. Two factors of the supply chain environment and seven from the benefit are discarded out of 48 total factors. Total 38 factors are identified as persistent one in Indian context. These selected factors are used for further analysis.

In Chapter 4, the study includes analysis of interdependency in terms of influences at dimension level, component level and subsequently at factor level. DEMATEL coupled with MMDE methodology has been applied in order to carry out this exercise. The ultimate outcome of DEMATEL and MMDE methodology includes a detailed table on degree of influences and set of IRM diagraphs. These are the primary outcomes of the study at this stage for extracting relevant insights on the behavior and interdependence of the factors which affect the selection process and management of SCCS. However a
broad conclusion may be drawn in terms of identifying the most important factors which may play significant roles in this decision making process. These important factors need special attention and subsequently necessary actions may be taken for effective selection decision and implementation of SCCS.

In Chapter 5, an attempt has been made to identify the importance of each criterion for selection of SCCS. Subsequently, DANP is used to find the global weight of each criterion by capturing the interdependence and feedback. The most appropriate SCCS in a given supply chain environment is selected. Moreover, a framework is proposed to prioritize and select most appropriate SCCS in a given situation.

6.2 Practical implications of the research outcome

The outcome of this research does help decision maker in conceptualizing and understanding the selection process of supply chain coordination schemes. The results of this research project may be outlined below:

a. Classification of SCCSs and exploration of critical factors applicable for SCCS selection process.
b. Analysis of the inter-influences among the critical factors depicted structurally and graphically.
c. Establishment of a compressive methodology for selection of SCCSs, which used as a decision support system for this strategic decision making.

It also helps in extracting relevant insights on the behavior and the interrelations among the factors which affect the selection process and management of SCCS. The proposed framework (DANP result) helps prioritizing and selecting most appropriate SCCS in a given situation. Hence it is expected that the supply chain manager will be immensely benefited by this outcome which will be subsequently carried forward to the end customer in terms of better quality, right price & also improved customer service.

6.3 Limitations

There exist some limitations in this study outcome. First, the population of respondents seems to be not large enough to derive any generalized conclusion. It is advisable to increase the number of responses both from industry and academia experts and same of
the sample preferably should be kept equal. But in reality, the responses are differing along with the different industry profile. Although the methodology may remain same, the result will surely differ from industry to industry. It is also proposed that detailed sensitivity analysis is essential for its use in reality.

6.4 Future directions of research

Future research may also seek to consider the consequence of a change in degree of importance of different dimensions and criteria on final alternatives can be analyzed i.e. sensitivity analysis of each criterion. This study uses crisp numbers as input which opposes fuzzy number. Future studies could incorporate a fuzzy number to estimate the relative influence weight. Dynamic Network Process can be used instead of ANP which deal with time dependent priorities in a networked economy. The VIKOR (VIsekriterijumska Optimizacija I Kompromisno Resenje in Serbian, which means the Multi-criteria optimization and compromise solution) can be used to rank the performance of alternatives and use of benchmarking for performance improvement of various SCCSs.