CHAPTER 10

CONCLUSION

In this research, we have developed various inventory models under static and dynamic environment. We have found the optimal replenishment policies for different inventory systems with different types of demands. Inflation which plays a major role in economy is also considered. Further realistic features like partial backlogging of shortages, allowing permissible delay period for settling the accounts are also considered.

The impact of postponement strategy along with trade credit is also analyzed. The results show that employing postponement strategy will reduce cost to a significant degree. Further when the permissible delay in payment is offered the trader should utilize it to a maximum extent, which will again reduce the total cost to a significant degree. We have developed inventory models with storage time dependent holding cost to suit to reality. We have shown that the setup cost can be reduced to a greater extent by one time capital investment done at the start of the cycle. This will result in total inventory cost reduction.

We have formulated a two level supply chain considering quality improvement. Here the order size is linked to both the trade credit and freight rate. Our research result shows that the supplier and buyer should work cooperatively and coordinate supply with actual demand to achieve
significant cost savings. Moreover, significant cost savings on the total cost of the entire supply chain can also be achieved by quality improvement.

Multi-item inventory models and inventory models under stochastic environment are under consideration for future study.