CHAPTER IX
SUMMARY AND CONCLUSIONS

It is further observed that the findings of any research work should be such that they have the viability for field applications. This is very much essential in the case of Stochastic models which are conceptualized and solved based on ground realities. In many areas of human resource management arise from time-to-time and the solution to such problems becomes imperative. This kind of a phenomenon is very common in industrial, banking and other commercial organizations. In this thesis some real life situations have been conceptualized as Stochastic models. The solutions of the same have been obtained by using the methods of statistics and operations research. The following is the summary of the findings and conclusions drawn on the basis of the different models discussed in the various chapters of the thesis.

(i) On the basis of the numerical illustrations in Chapter III, it can be seen that, the expected time to recruitment and its variance are due to the combined influence of the parameter of the random variables involved. The model developed in this Chapter is not only applicable to industry but also in a wider context.

(ii) On the basis of the results discussed in Chapter IV, it is concluded that, if the threshold Y follows exponential with parameter $\theta$ satisfy SCBZ property, the threshold level increases then expected time to recruitment and its variance decreases. Further, it is observed that the magnitude of wastages increases then both expected time to recruitment and its variance increases. It is a matter of importance that the proper and appropriate type of distribution for the concerned variables should be formulated theoretically only after the scrutiny of real data set collected.
(iii) From Chapter V, a Stochastic model is developed to determine the expected time to recruitment when the breakdown threshold has four components using Shock model and cumulative damage process. This Chapter is well suited to the organization in which manpower depletion crosses the threshold level where the breakdown of the organization is necessary. As threshold level increases, the value of expected time to recruitment and its variance shows a decrease. It is also observed that the parameter of the interarrival times between depletion increases then the expected time to recruitment and its variance also shows a decrease. This is shown the existing ground realities are very much applicable to industry.

(iv) Two models are developed in Chapter VI, and is used to facilitate the adequate profession of manpower for the industry at various levels. The models developed in this Chapter also provide a tool for accessing the manpower development on an industry wide basis.

(v) In Chapter VII, indicates how the real life situations which arise in the development of human resource planning. The conceptualizations of mathematical and Stochastic model help the process of finding the optimal solutions and also the implementation of the same. However it is very important to identify the appropriate probability distribution that would portray the realities. The identification appropriate distribution is an important step. Hence the survey method can help the identification of such distribution. The test for goodness of fit of such distribution based on real life data is an important procedure. Once this is taken care of then the models can be used in solving real life problems. Many inventory models of such types can be suitably incorporated for future research.
(vi) In Chapter VIII, the models are developed to analyze and predict manpower wastage on the basis of all possible individual characteristic responsible for wastage using Cox’s approach by specific distribution. The Extreme value distribution is better than the Weibull distribution particularly in the estimation of incomplete manpower data.

**Suggestions for Future Research**

These are many areas of an organization or industry in which the application of Stochastic models is quite necessary. It would be very much useful in every sector of human activity. First of all it is imperative to identify those areas of human activity where the demand for manpower and supply are at disequilibrium. Especially in the area of specialist skill, it becomes necessary to identify where the disequilibrium exists and also were there is interruption in the work schedule due to shortage of manpower. The identification of such areas, the type of problems involved and the conversion of a real life situation into a mathematical model are essential to develop human resource management, which will yield profits not only to the management but also to the society itself. The various Stochastic models which have been derived in the different chapters of the thesis indicate how the real life situations which may arise in the management of manpower planning. The conceptualization of different Stochastic models developed in this thesis help the process of finding the optimal solutions and also the implementation of the same. However it is very important to identify the appropriate probability distributions that would portray the realities. The test for goodness of fit of such distributions for real life data is an important procedure. Once this is taken care of then the models can be used in solving real life problems.
Recommendation

It is interesting to note that the distribution of the random variable denoting the demand for manpower, the magnitude of wastage, the distribution of the threshold are such that in real life situations they may undergo a parametric change or even the change of distribution. Such phenomena should be incorporated into the mathematical model so that the forecasting as well as the estimate of the different variables like expected time to recruitment etc., can be more precise and accurate. This increases the validity of the models when applied to real life problem. Hence the case of SCBZ property, change of distribution has been suitably incorporated in the different models discussed in this thesis. It would be also very appropriate if the concepts like censoring, truncation of data are all suitably utilized so that the models will become more appropriate.