

Epilogue

7.1 Analysis and Interpretation

At first a survey is being conducted to find the various applications of MCDM methods. There are different types of MCDM methods are available such as AHP, TOPSIS, ELECTRE, PROMETHEE, SAW etc. Each method has its own characteristics. Choosing the suitable method is depending on problem area. Characteristics of different methods are also discussed. A conventional MCDM method does not support imprecision, implication, uncertainty, partial truth and approximation where the fuzzy set can support. Fuzzy logic is a form of many-valued logic that deals with approximate, rather than fixed and exact reasoning. Fuzzy is applied in MCDM field and it combined with the different types of MCDM methods. After completing the survey we observed that FTOPSIS and Fuzzy combinational techniques come among the most widely used FMCDM techniques in order to be used in some domain. Methods of MCDM can be applied to select the best life insurance company for purchasing an online term plan. A model has been proposed for the ranking of different life insurance companies. Fuzzy TOPSIS methodology is used to solve this problem. There are 12 insurance companies are selected as alternatives and 10 criteria are selected for evaluating these alternatives. A group of decision maker is given their judgment for evaluating the importance of criteria and alternatives of each criterion. After applying the FUZZY TOPSIS, LIC is selected as best alternative and CANARA HSBC is worst alternative. A sensitivity analysis is being conducted for checking the stability of this model. In the second study, the results of ANFIS classification were very encouraging as

compared to SVM and ANN using train lm and TRAINCG training function. This study is based on the design of Sugeno type ANFIS system with hybrid learning. ANFIS presents a much better learning ability: for a similar network complexity, a much smaller convergence error is achieved. ANFIS can achieve highly non-linear mapping and requires fewer adjustable parameters than others. ANFIS is a hybrid combination of FIS and ANN. FIS has decision making capability and facilitates there presentation of prior knowledge as a set of constraints to 84 reduce optimization search space while ANN has generalization capability i.e. the ability to learn patterns in the data during training.

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The overall performances of the used approaches for predicting diabetes is shown in fig. 7.1.

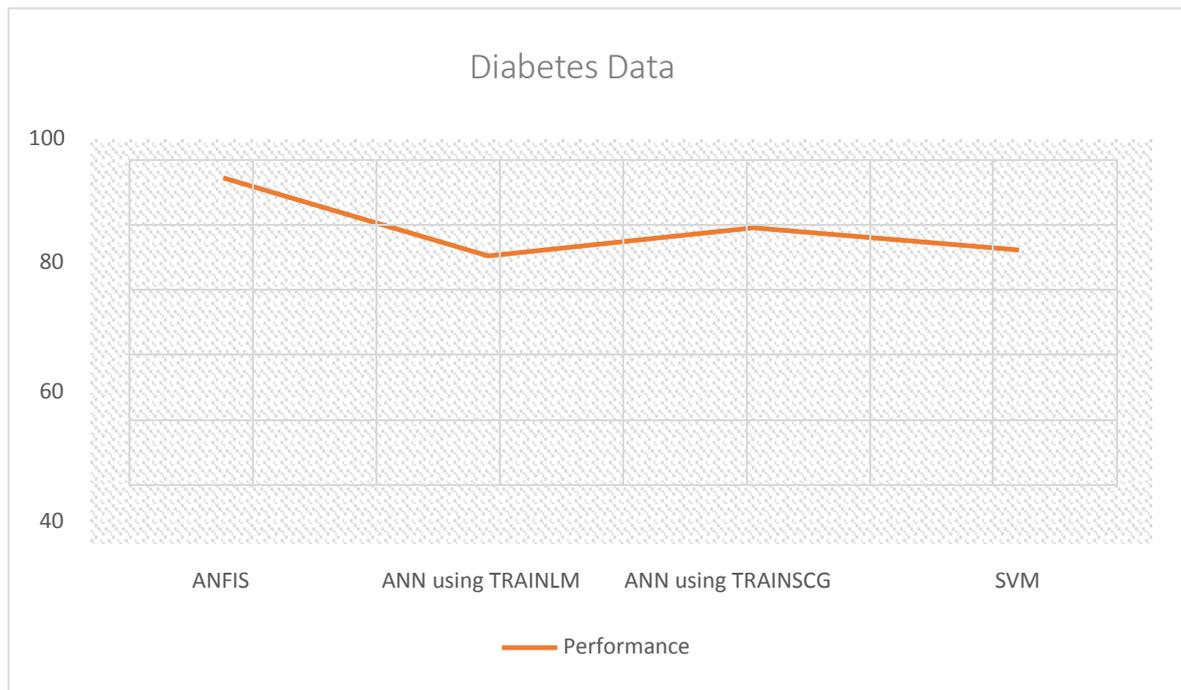


Fig.7.1. Overall performance of ANFIS, ANN and SVM.

7.2 Summary of work

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Methods of MCDM can be applied to select the best life insurance company for purchasing an online term plan. A model has been proposed for the ranking of different life insurance companies. Fuzzy TOPSIS methodology is used to solve this problem. There are 12 insurance companies are selected as alternatives and 10 criteria are selected for evaluating these alternatives. A group of decision maker is given their judgment for evaluating the importance of criteria and alternatives of each criterion. After applying the FTOPSIS , LIC is selected as best alternative and CANARA HSBC is worst alternative. A sensitivity analysis is being conducted for checking the stability of this model.

7.3 Future scope of the work

This section suggests some recommendations for further investigation and study.

- Obviously, the proposed model is not restricted to the life insurance industry. It is devised to handle the uncertainty issue, to study the concept of dependency, to consider the importance of each participant in a design making group, to assess criteria weights and to rank available alternatives accordingly. Hence, it is worth investigating the practicality and suitability of the proposed model in other domains.
- Conducting competitive studies is suggested to expand the proposed model by testing it in different regions and industries.
- In response to the concept of uncertainty, a possible future research direction is to present the importance weights of the DMs in the decision making group as fuzzy weights, not just as crisp weights, in order to model uncertainty in the importance weights of DMs.
- The different DMs' importance weights have been evaluated by assigning a unique decision maker with a prior knowledge of the expertise and skills of all other DMs. However, it is not always possible to find such a situation. Thus, future research may investigate or develop new techniques to define the importance of each group member.
- In order to solve a problem it is possible to combine the different MCDM methods. So, in further work, other methods can be utilized in order to build other new MCDM models or two of more methods can be utilized in order to build other new hybrid MCDM model for future investigation.

7.4 Implication

It is very complex task to determine the best insurance company for purchasing an insurance policy where the several criteria is exist. Decision-making is required to solve this problem. We proposed a model that supports the MCDM and its helps to solve this problem. This proposed model can be applied to choose the best life insurance company in India for purchasing an online term plan. It is also evaluate the ranking of alternatives in order to see anyone can say that which is the best choice and worst choice of alternative.

7.5 Limitation

There are several life insurance policies are available such as Term insurance, Endowment plans, Unit linked insurance plans (ULIP), Whole life policy, Money back policy, pension policy, child plan etc. This proposed model is applicable only for purchasing an online term plan where others life insurance plans are not consider in this model. This proposed model may not be suitable for purchasing the different types of insurance plans except online term plan.