

Introduction to Actuarial Models Assignment 1

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1.The key advances I would take in the improvement of the model are -

- Set the goals for final Results.
- Make a list of Data items.
- Gather the information from Various sources.
- Design the Data for additional analysis.
- Brainstorming the data, e.g. addressing unusual, missing or inconsistent values.
- Demonstrating the Results.
- Producing the outcomes.
- Checking the process; refreshing the information and repeating the interaction whenever required.

2.Items to be referenced are as follows: -

- Policyholder behaviour, for example, take-up rates for choices, may vary practically.
- The administration activities accepted may not match what might occur in extreme conditions.
- There might be mistakes in the coding of the model. The model is probably going to be complicated and hard to check.
- The model depends on input data, which might be assembled as opposed to having the option to run each arrangement. Any mis-information could make the result be mistaken.
- Sampling error might come about because of running inadequate simulations. (It should be possible to give a confidence interval for the error that could result from this source.)
- Models will be chosen which it is felt give a reasonable reflection of the underlying real-world processes, but this may not turn out to be the case.

3.The stages to go through in recognizing a good model are as follows-

- Identify suitable software to make the model.
- Test the correctness of the outcomes and make changes whenever required.
- Write a report recording the outcomes and impart the outcomes.
- Check out on which information are accessible on the Internet.
- On the basis of data, define the model you propose to use. If the data are simple and not detailed, then a complex model is not justified which will be appropriate in this case.
- Consult the existing literature on models for forecasting mortality, and speak to experts in this field of application.

4. The most important things to remember about modelling documents are the following-

- Basis on Stochastic Model or Deterministic Model.
- How the model can be modified or extended.
- Model limitations are observed.
- Purpose behind the model.
- Perform tests to validate model results.
- Summary of model results.

5.Advantages Of this strategy: -

- The model can be easily adapted to suit different populations or take into account future changes in population.
- The model is easy to understand and convey.
- The model is easy and cheap to make.
- Previous data about consumption rates will likely be quite accurate.

Disadvantages of this strategy:

- Chocolate consumption may affect the economy, for example whether there is a recession.

- Past trends in consumption by age may not be a good guide to future trends.

- Consumption may be sensitive to pricing, which may change in the future.

6. Possible reasons why results are different as follows: -

- One or both of the runs may have been incorrect as, for example, the second trainee may not have been fully aware of the set-up. E.g. – Data set given could be incorrect.

- The difference between the two runs may not have only been the parameter change, for example- Random Seeds or Simulations could have been different.

- The expectation that the parameter could have been incorrect.

8. The factors which the company should take into consideration when developing the model are -

- Easy to Explain and understand.

- Whether the company has made any model to measure sickness rates among its employees, and how successful they were.

- The complexity of the model. More Complex the model, more costly it gets.

- Benefits payable under the scheme under sickness.

- The ease of communication of the model.

- The budget of the company available for the construction of the model.

- Capability of staff. E.g. – Hard to understand and interpret.

- The independence of sickness rates should be taken into account.