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WEEK-1 LAQ

Discuss in detail about Forecasting Models.

1. Time series model

This type of model uses historical data as the key to reliable forecasting. You'll be able to visualize patterns of data better when you know how the variables interact in terms of hours, weeks, months or years.

While there are several methods of completing a time series model, you can follow these general steps in a spreadsheet to estimate outcomes using information gleaned from recent analytical data.

- Have your time-based data available for use (time series and values series).
- Input the compiled data involving time or duration in the first column.
- Insert remaining values you want to forecast in the next column.
- Select relevant data
- Click the Data tab, then select Forecast Group, then choose Forecast Sheet.
- Access the sheet, then select the line or bar graph option you want to use.
- In the Forecast End box, determine your end date and hit Create.

Once you've set up your forecasting model, you will then move onto interpreting it to formulate your best estimation of the future.

2. Econometric model

Those employed in the field of economics often use an econometric model to forecast changes in supply and demand, as well as prices. These models incorporate complex data and knowledge throughout the process of creation. Like the name infers, this type of statistical model proves valuable when predicting future developments in the economy.

Here is the basic structure behind this type of model:

- Decide what your independent and dependent variables are. Which economic relation do you want to test? For example, you may ask "Does X have an effect on Y?"
- Formulate a hypothesis to test this relationship. Consider other factors that may have an effect on "Y" and label them "Z," also known as the control variables.
- Gather the data set encompassing "Y," "Z" and "X."
- Plot this data to find any anomalies or outliers.
- Determine whether the relationship between "Y" and "X" is linear, quadratic or something else.

- Calculate the transformations using a mathematical method you understand.
- Interpret the effect that "Y" has on "X." What is the significance of "X" about your hypothesis?
- Add the "W" variables to this regression to further analyse your findings.

3. Judgmental forecasting model

Various forecasting models of the judgmental kind utilize subjective and intuitive information to make predictions. For instance, there are times when there is no data available for reference. Launching a new product or facing unpredictable market conditions also creates situations in which judgmental forecasting models prove beneficial.

Here are some characteristics of judgmental models:

- Takes a subjective, opinionated approach
- Assumes specific variables
- Comes with limitations
- Accuracy improves with the addition of new information

This type of forecasting model is especially helpful in the field of research and development. Focus groups and expert panels can provide insight that no computerized model would have. For instance, when surveying a group of people about what they look for in a product, companies can better assess their direction when developing specific product features.

4. The Delphi method

This method is commonly used to forecast trends based on the information given by a panel of experts. This series of steps is based on the Delphi method, which is about the Oracle of Delphi. It assumes that a group's answers are more useful and unbiased than answers provided by one individual. The total number of rounds involved may differ depending on the goal of the company or group's researchers.

These experts answer a series of questions in continuous rounds that ultimately lead to the "correct answer" a company is looking for. The quality of information improves with each round as the experts revise their previous assumptions following additional insight from other members in the panel. The method ends upon completion of a predetermined metric.