Roll No. | | | | | | | | | | | | **Total No. of Pages : 03**

Total No. of Questions : 17

MBA (Sem–4)

BUSINESS FORECASTING

Subject Code : MBA-964-18

M.Code : 78032

Date of Examination : 30-05-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A contains EIGHT questions carrying TWO marks each and students have to attempt ALL questions.**
2. **SECTION-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and students have to attempt any ONE question from each Subsection.**
3. **SECTION-C is COMPULSORY and consists of ONE Case Study carrying TWELVE marks.**

SECTION-A

1. What is meant by Demand Forecasting?
2. What are the determinants of Demand Forecasting?
3. What is cross-sectional data collection?
4. What are focus groups?
5. What is meant by the Extrapolation of time series?
6. What is Autocorrelation Function?
7. What is forecasting error?
8. What are composite indexes?

SECTION-B

UNIT-I

9. Discuss the need and relevance of demand forecasting in the present business environment. Explain by citing examples.
10. How can one select an appropriate forecasting technique? Explain by citing examples.

UNIT-II

11. Discuss in detail the forecasting with the regression model. Also, enlist its application areas

12. Write notes on

    a) Time series data collection

    b) Estimation of parameters

UNIT-III

13. What are different extrapolation models? Explain by discussing the applications of each model.

14. a) What is smoothing and seasonal adjustment?

    b) Discuss the specifications required for ARIMA models.

UNIT-IV

15. Discuss in detail the GARCH process. Compare it with ARCH process.

16. **Write notes on :**

    a) Qualitative Forecasting techniques

    b) Use of software packages for forecasting.

SECTION-C

17. **Case Study :**

    Due to the increasing level of competitiveness among companies, forecasting plays an important role in supply chain management, and the viability of a company is often dependent on the efficiency and accuracy of forecasts. Demand forecasts are beyond all strategic and planning decisions in any retail business as they directly affect the company's profitability and competitive position. For these reasons, the use of demand forecasting techniques is one of the fundamental supports in the planning and management of a company's supply chain. Its importance becomes patent since its outcome is used by many functions in the organization: they allow the financial department to estimate costs, levels of profit and capital needs: enable the sales department to obtain the know-how of die sales volume of each product; the purchasing department may plan short and long-term acquisitions; the marketing department can plan their actions and evaluate the impact of different marketing strategies on the sales volume and brand awareness, the logistics department that will be able to define the specific logistics needs and finally, the operations department that can manage and plan the purchase of machinery and materials, as well as the hiring of labour, in advance. It is, therefore, consensual that the forecasts are very useful and even essential for most companies. Accurate demand forecasts have the potential to increase profitability,

improving the chain's efficiency and reducing waste. In the food business, proper management of inventories involves numerous articles whose particular characteristics, namely perishability, are relevant. Bad decisions in this area can lead to large losses related to excess stock

Demand Forecasting Methods

Predicting demand is a fundamental activity, as it can reveal market trends and contribute to the strategic planning of the company. Demand forecasting is an essential tool to make the decision process faster and safer. There are several techniques available to support analysts in forecasting demand. Although these techniques have substantial differences, there are common characteristics:

- They generally assume that the causes that have influenced demand in the past will continue to act in the future;
- Forecast accuracy decreases as the forecasting horizon increases;
- Aggregated forecasts for product groups are more accurate than individual product forecasts.

Forecasting methods may be divided into quantitative and qualitative methods. Quantitative methods require the construction of mathematical models using historical data that describe demand variation over time. These methods include decomposition, moving averages, exponential smoothing, ARIMA, etc. Qualitative methods, in general, result from the opinion of process specialists to predict demand. They are frequently questioned as the systematic approach provided by quantitative techniques presents a better performance concerning future estimates. However, in cases of information scarcity, for example, in the launching of new products, the experience and know-how of managers may be useful.

Questions:

a) Discuss the need for demand forecasting in supply chain management.

b) Discuss the various demand forecasting methods. Also, from your subject knowledge, suggest the applications and limitations of Quantitative and Qualitative methods.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.