MANAGERIAL ECONOMICS

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Lecture No - 15 : Demand Forecasting
Session Outline

- Demand Forecasting
Why Forecast Demand?

- Business environment is uncertain, volatile, dynamic and risky.
- Better business decisions can be taken if uncertainty can be eliminated or reduced.
- Demand forecasting – predicting the future demand for firms product, is one of the ways to reduce uncertainty.
Why Forecast Demand?

- Some of the business decision-making aided by a good demand forecast are:
  - Determining the optimal level of output
  - Planning and scheduling of production, distribution & transportation
  - Acquiring inputs (raw material, labour, capital)
  - Determining cost and pricing strategy
  - Decisions on expansion and exit strategies for the product
  - Meeting customer order dates and customer satisfaction
Why Forecast Demand?

• Demand forecasting is the starting point of fulfilling a customer order. Its accuracy is paramount.
• Based on the forecasted demand, a firm commits its resources, capacities and capabilities for a period of time to create goods and services that its customers value and are willing to pay for.
Why Forecast Demand?

• A low forecast will result in lost sales opportunity and customer dissatisfaction
• A high forecast will lead to accumulation of inventory, resulting in higher costs and less profits for the firm
• Thus forecast accuracy plays a crucial role in determining the effectiveness and efficiency of a firm
Demand Forecasting - Categorization

- Categorization by Level of Forecasting
- Categorization by Time Period
- Categorization by Nature of Goods
Categorization by Level of Forecasting

- **Firm level**
  - Refers to forecasting of demand by an individual firm for its products
  - Most important category for a manager for taking important decisions related to marketing and production

- **Industry level**
  - Refers to demand forecasting of a product in an industry as a whole
  - Provides insights into the growth pattern of an industry
  - Relative contribution of the industry in national income
Categorization by level of forecasting

• Economy (Macro) level
  – Refers to forecasting of aggregate demand in the economy
  – Helps in various policy formulations at government level
Categorization by Time Period

- Short term
  - Usually for a period of time less than a year

- Long term

- time horizon of 5-7 years, 10-20 years
Categorization by Time Period

• Short term
  – Avoid underproduction and over production, inventory, cost on variable factor, sales target and appropriate pricing

• Long term
• - manpower planning, long term capital requirement, investment decisions, interdependence of industry.
Categorization by Nature of Goods

- Consumer goods
  - Durable – new demand/ replacement Demand
  - Non durable – income level, social status, age, education and occupation of consumers

- Capital goods
- Derived demand
- Long term growth
Steps in Demand forecasting

• Following are the typical steps for a systematic demand forecasting
  – Understanding objective
  – Determining the time perspective
  – Understand and identify customer segments
  – Identify major factors that influence demand forecast
  – Determining the appropriate forecasting technique
  – Estimation and interpretation of results

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Subjective methods of Demand forecasting

- Deals with
  - What do people say
  - What do they do

Useful in forecasting for new product or new market for which no past data available.
Subjective methods of Demand forecasting

• Consumer’s Opinion Survey
• Buyers are asked about their future buying intentions of products, their brand preferences and quantity of purchase.
• Possible response to increase in price, probable change in product's feature and competitive product.
Subjective methods of Demand forecasting

- Consumer’s Opinion Survey
- Census Method
- Sample Method
- Stratified Sampling – for detail information
Subjective methods of Demand forecasting

- Consumer’s Opinion Survey - merits
- Simple to administer
- Realistic results
- Suitable for short term decisions
Subjective methods of Demand forecasting

• Sales force Composite

• Salespersons are asked about their estimated sales target in their respective sales territories in a given period of time.

• Sum total of such estimates form the basis of forecasted demand.
Subjective methods of Demand forecasting

- Sales force Composite - Merits
- Simple to administer
- Cost effective
- Reliable figures
Subjective methods of Demand forecasting

- Sales force Composite- Demerits
- Bias of salesperson
- Not suitable for long term
Subjective methods of Demand forecasting

- Expert opinion methods
- Group Discussion – experts meet by brainstorming session or structured discussion
- Osborn 1953
Subjective methods of Demand forecasting

- Expert opinion methods
- Delphi Technique
- Rand corporation – To forecast the impact of technology on warfare
- Getting opinion of experts without face to face interaction
Subjective methods of Demand forecasting

- Expert opinion methods - merits
- Experience of experts
- Time and resources – not required
Subjective methods of Demand forecasting

- Expert opinion methods - Demerits
- Bias
- Risk of loss of confidential information to rival firms
Subjective methods of Demand forecasting

- Market Simulation
- Laboratory testing of consumer Behaviour
- Artificial market
- Grabor – Granger test- 1960- popular technique of market simulation
Subjective methods of Demand forecasting

• Market Simulation – merits
• Consumer behaviour
• Helps in Absolutely new product
Subjective methods of Demand forecasting

- Market Simulation – Demerits
- Considerable amount of time and money
- Behave differently
Subjective methods of Demand forecasting

• Test Marketing
• Steps ahead of market simulation
• Product is actually sold in the certain segment of market, test market
• Real market- where consumers buy without knowing that they are being observed.
Subjective methods of Demand forecasting

- Test Marketing - merits
- Most reliable among qualitative methods
- Suitable for new products
- Less risky
Subjective methods of Demand forecasting

- Test Marketing - Demerits
- Costly – failure leads to sunk
- Time consuming
- Regional differences
Session References

Managerial Economics: Geetika, Ghosh and Choudhury
Supply Chain Management: Chopra, Meindl, Kalra