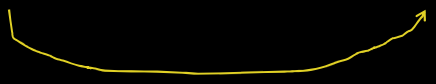
PRICE ELASTICITY OF DEMAND AND TR, AR AND MR.

- Discuss the relationship between **price elasticity of demand** and TR, AR and MR.
- What is demand forecasting and its SIGNIFICANCE, DIFFERENT TYPES, ITS STEPS.
- Discuss the statistical methods/ statistical methods / trend projection of demand forecasting (SURVEY METHOD, DELPHI METHOD)

Q. DISCUSS THE RELATIONSHIP BETWEEN PRICE ELASTICITY OF DEMAND AND TR, AR AND MR.

5	Price (P)	TR= P x Q	AR = TR/Q	MR= TRn- TR(n-1)
1	100	100x1 = 100	100/1=100	-------
2	90	90x2 =	180/2=	180-100=80
3	80	80x3 =	240/3=	240-180=
4	70			
5	60			



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Q	Price (P)	TR= P x Q	AR = TR/Q	MR= TRn- TR(n-1)
1	100	100x1 = 100	100/1=100	-------
2	90	90x2 = 180	180/2=90	180-100=80
3	80	80x3 = 240	240/3=80	240-180=60
4	70	70x4 = 280	280/4=70	280-240=40
5	60	60x5 = 300	300/5=60	300-280=20

- Q. The initial price of a commodity is Rs. 30 and the quantity demanded was 70 units. Price reduces to Rs. 20 and quantity demanded increases to 90 units. Calculate price elasticity of demand. According to you what is the degree of price elasticity in this case?

Ans: The price elasticity of demand (PED) can be calculated using the following formula:

$$\text{PED} = \frac{\%\ \text{Change in Quantity Demanded}}{\%\ \text{Change in Price}}$$

Where,

$$\%\ \text{Change in Quantity Demanded} = \frac{\text{New Quantity} - \text{Initial Quantity}}{\text{Initial Quantity}} \times 100$$

$$\%\ \text{Change in Price} = \frac{\text{New Price} - \text{Initial Price}}{\text{Initial Price}} \times 100$$

Given the information:

Initial Price = Rs. 30

New Price = Rs. 20

Initial Quantity Demanded = 70 units

New Quantity Demanded = 90 units

Ans: The price elasticity of demand (PED) can be calculated using the following formula:

1. % Change in Quantity Demanded = $\frac{\text{New Quantity} - \text{Initial Quantity}}{\text{Initial Quantity}} \times 100$

% Change in Quantity Demanded = $\frac{90 - 70}{70} \times 100$
= 28.57%

Initial Price = Rs. 30
New Price = Rs. 20
Initial Quantity Demanded = 70 units
New Quantity Demanded = 90 units

2. % Change in Price = $\frac{\text{New Price} - \text{Initial Price}}{\text{Initial Price}} \times 100$

% Change in Price = $\frac{20 - 30}{30} \times 100$
= - 33.33%

Ans: The price elasticity of demand (PED) can be calculated using the following formula:

3. PED = $\frac{\text{\% Change in Quantity Demanded}}{\text{\% Change in Price}}$

PED = $\frac{28.57\%}{-33.33\%}$
= −0.857

4. 0.857, which is less than 1. This suggests that the demand for this commodity is inelastic, meaning that consumers are not very responsive to changes in price.

- **Note:**
- 1. Price elasticity is **greater than 1** (e.g., -2.5, -3, -1.7, etc.), it indicates an **elastic demand.**
- 2. Value of price elasticity is **less than 1** (e.g., -0.5, -0.2, -0.8, etc.), it indicates an **inelastic demand.**

- Q. The primary price of a commodity was Rs. 40 and the quantity demanded was 70 units. Price reduced to Rs. 20 and quantity demanded increased to 90 units. Calculate price elasticity of demand. According to you what is the degree of price elasticity in this case?

- Q. The original price of a commodity was Rs. 50 and the quantity demanded was 100 units. Price reduced by 10 percent and became Rs. 45 quantity demanded increased to 110 units. Calculate price elasticity of demand. According to you what is the degree of price elasticity in this case?

- Q. The primary price of a commodity was Rs. 40 and the quantity demanded was 70 units. Price reduced to Rs. 20 and quantity demanded increased to 90 units. Calculate price elasticity of demand. According to you what is the degree of price elasticity in this case?

- Ans:

Given the new information:
Initial Price = Rs. 40
New Price = Rs. 20
Initial Quantity Demanded = 70 units
New Quantity Demanded = 90 units

1. % Change in Quantity Demanded= **28.57%**
2. % Change in Price= **–50%**
3. *PED*= **–0.571**

Result: 0.571, which is less than 1. This suggests that the demand for this commodity is still inelastic, meaning that consumers are not very responsive to changes in price.

Q. The original price of a commodity was Rs. 50 and the quantity demanded was 100 units. Price reduced by 10 percent and became Rs. 45 quantity demanded increased to 110 units. Calculate price elasticity of demand. According to you what is the degree of price elasticity in this case?

- Ans:

Given the information:
Initial Price = Rs. 50
New Price = Rs. 45
Initial Quantity Demanded = 100 units
New Quantity Demanded = 110 units

1. % Change in Quantity Demanded= **10%**
2. % Change in Price= **−10%**
3. *PED*= **−1**

Result: 1, which suggests that the demand for this commodity is unit elastic, meaning that the percentage change in quantity demanded is exactly equal to the percentage change in price.

- Discuss the statistical methods/ statistical methods / trend projection of demand forecasting (SURVEY METHOD, DELPHI METHOD)

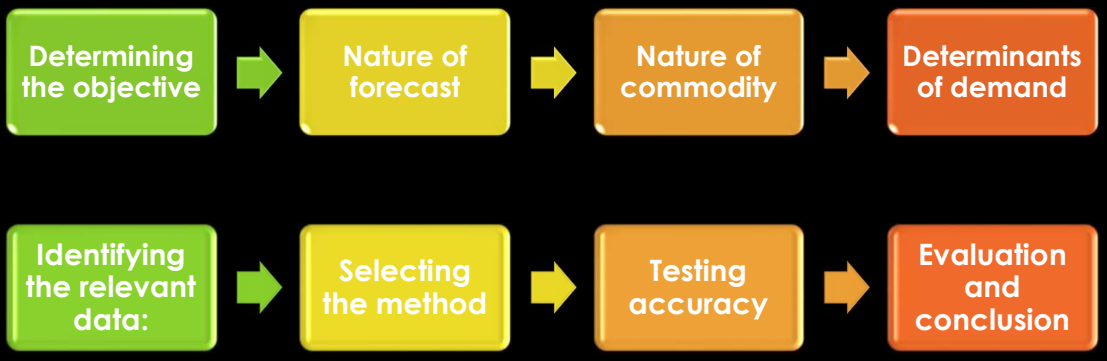
DEMAND ESTIMATION AND FORECASTING

Demand forecasting means estimation of demand for the product for a future period. Demand forecasting enables an organization to take various decisions in business, such as planning about production process, purchasing of raw materials, managing funds in the business, and determining the price of the commodity. A business organization can forecast demand for his product by making own estimations called guess or by taking the help of specialized consultants or market research agencies.

https://vitalflux.com/

SIGNIFICANCE OF DEMAND FORECASTING

STEPS IN DEMAND FORECASTING



METHODS OF DEMAND FORECASTING

SURVEY METHOD

- Expert's opinion
- Delphi method
- Consumer survey method (Complete enumeration method, Sample survey method, End-use method)
- Market experiments (Actual market experiment, Simulated market experiment)

STATISTICAL METHOD

- Trend method (Graphical Method, The Least Square Method)
- Regression method

SURVEY METHOD

➢**Expert's opinion:**

Predict the demand for a product based on his experiences and his knowledge in the particular specialized field. salesman, sales manager, marketing expert, market consultant etc.

Team India head coach Rahul Dravid

https://zeenews.india.com/

SURVEY METHOD

➢**Delphi method:**

A group of experts gives their opinion on the demand for the products of individual firm in future based on questions which have been asked by the firm.

SURVEY METHOD

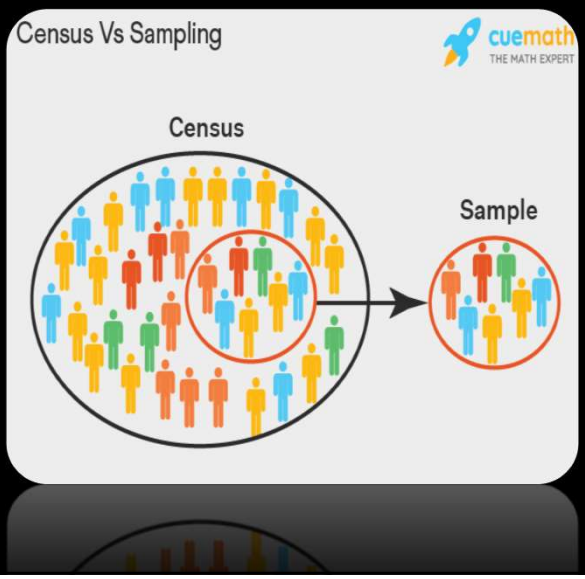
➢ **Consumer survey method**

This method is the most direct method because forecasting is done by interviewing all consumers or a selected group of consumers out of the relevant population through various other methods of survey.

a. Complete enumeration method: whole population who demand for the commodity.

b. Sample survey method : Sample of consumer is the true representative of data

c. End-use method: Final good industries using this product at home and abroad. It helps us to understand inter-industry' relations.



SURVEY METHOD

➢ **Market experiments**

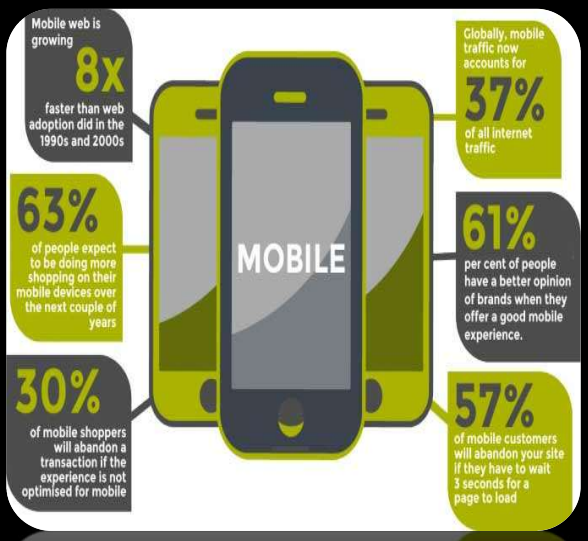
a. Actual market experiment: This method is conducted in the actual market place in several ways

Actual market experiments can be more complex and detailed than this example. They often involve careful planning, data collection, statistical analysis, and decision-making based on the outcomes.

b. Simulated market experiment:

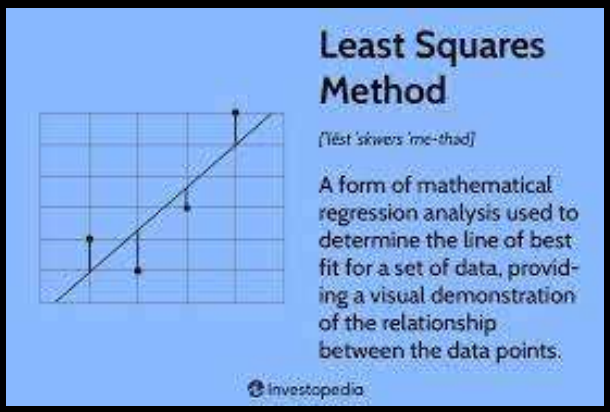
- **This method is also called as consumer clinic or laboratory experiment.**

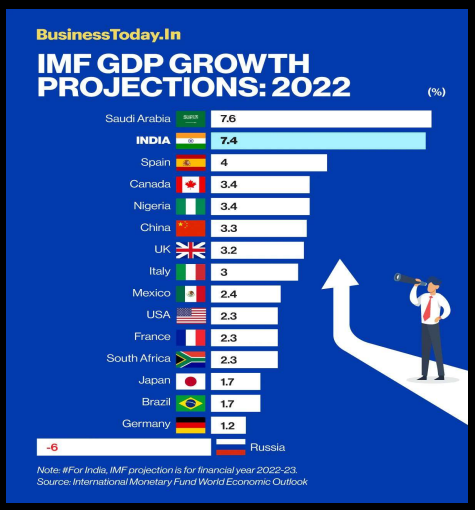
Simulate the market response to the launch of a new smartphone model and identify the potential impact of different marketing strategies on sales and revenue.



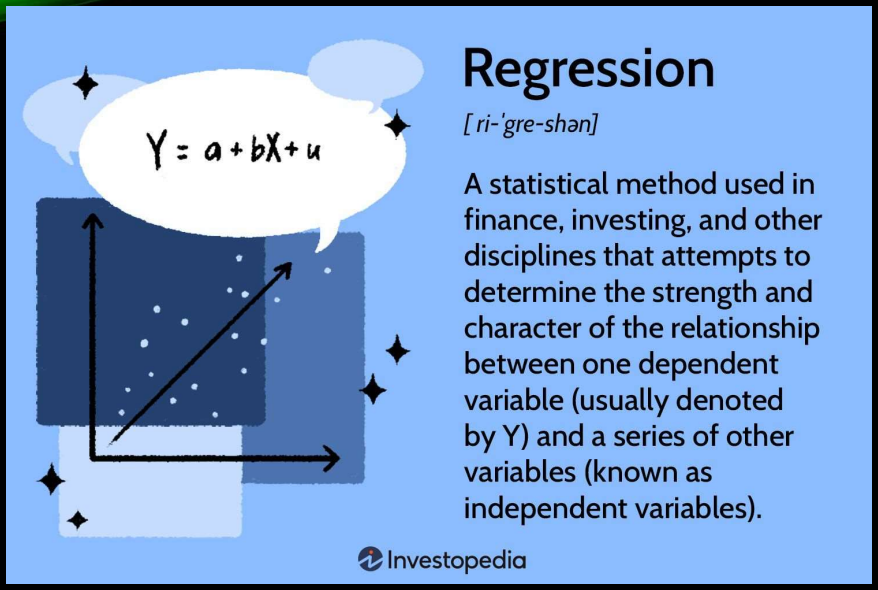
STATISTICAL METHOD

- **Trend method (Graphical Method, The Least Square Method)**





STATISTICAL METHOD

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