Case Studies

M.Com. Semester I

Economics For Business Decisions

Revised Syllabus

University of Mumbai w.e.f. ac. Year 2016-17

Cases for class room discussion

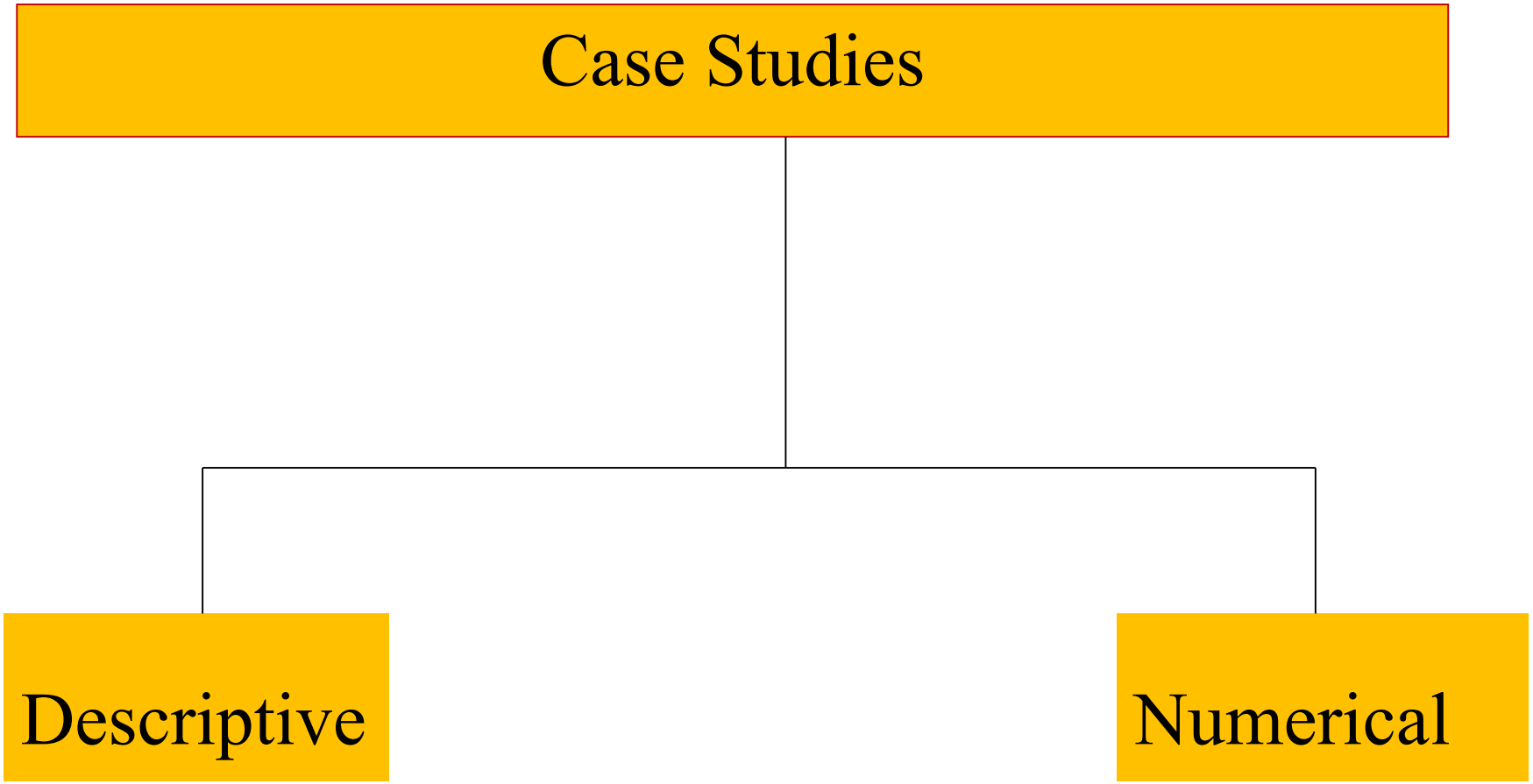
Module I

Demand Analysis

Dr. Parvathi Venkatesh

Principal

Mulund College of Commerce


Case Studies
Descriptive
Numerical

Demand Analysis

Topics for case studies

- Demand function
- Elasticity of demand
- Demand forecasting

Demand Function
(Descriptive)

- An article in the Economic Times described a successful marketing campaign by the French champagne industry. The article noted that

"many executives felt giddy about the stratospheric champagne prices. But they also feared that such sharp price increases would cause demand to decline, which would then cause prices to plunge."

- What mistake are the executives making in their analysis of the situation? Illustrate your answer with a graph.

The data on sugar demand and sugar price in India for 2 years were

Year	Demand (in lakhs tonnes)	Price (2004-05 =100)
2014-15	96.9	168.9
2015-16	97.5	173.1

The comment of a prominent politician on this data is as follows: "This clearly shows that the law of demand is not operating in the sugar market: the price went up yet consumers bought more. We can not rely on outdated economic concept for analysis of current problems."

Do you agree with this observation? How would you interpret the data.

- John, the research manager for marketing at the Chevrolet Division of the General Motors Corporation, has specified the following general demand function for Chevrolets in India.

$Q_c = f(P_c, N, I, P_F, P_G, A, P_I)$

Where Q_c is the quality demanded of Chevrolets per year, P_C is the price of Chevrolets,

N is population,

I is disposable income,

P_F is the price of Ford automobiles,

P_G is credit incentives to purchase Chevrolets.

- Indicate whether you expect each independent or explanatory variable to be directly or inversely related to the quality demanded of Chevrolets and the reason for your expectation.

Demand Function

(Numerical)

The Ice Cream Parlor is the only ice cream parlor in the town. Prasad, the son of the owner, has just come back from College, where he majors in business administration. In his course in managerial economics, Prasad has just studied demand analysis, and he decides to apply what he has learnt to estimate the demand for ice cream in his father's parlor during his summer vacation. Using regression analysis,

Prasad estimates the following demand function :

$Q = 120 - 20p$

Prasad then sets out to get the following :

(a) derive the demand schedule for ice cream and plot it

(b) find the point price elasticity of demand at each price, from P=6 to P = 0, and

(c) find the arc price elasticity of demand between consecutive prices (i.e. between P=6 and P=5 , P=5 and P=4 and so on). Show how Prasad would get his results.

- Ashok and company (AAC) is currently selling 1,000 suits at a price of Rs. 500 per suit. Total cost is Rs. 4,50,000 of which Rs. 1,50,000 represents fixed costs. Average variable cost is constant. The company aims at achieving maximum profit.
- The marketing manager of the company believes that if the company could reduce the price to Rs.400 per suit, its sales would increase by 20%. In contrast, the consultant of the company argues that a 20% reduction in the current price would bring 60% increase in sales.
- (a) If you were the proprietor of AAC and were totally convinced by the demand estimates of your marketing manager, would you reduce the price of your product of Rs. 400? If so, why?
- (b) If, instead of agreeing with the demand estimate of the marketing manager, you agree with that of the consultant, other things remaining the same as in (a) above, would you entertain the price reduction? If so, why?
- (c) Compute the price elasticity of demand

- ABC enterprises manufactures a desk designed as a micro computer work station. Anil, its marketing manager, has graduated from a prestigious school of management, majoring in marketing and economics. Anil was anxious to apply some of the tools he has learnt and so estimated the demand function for desks in India. His results were
- $Qd = -2.8 + 2.5\ Y - 8.5\ p\ d + 3.5\ P0 + 0.19A$
- Where Qd = annual sales of desks (thousands of Nos.)
- Y = average household annual income (thousands of rupees)
- Pd = desk price (thousands of rupees)
- P0 = price of other (related) goods (thousands of rupees)
- A = Annual advertising budget (thousands of rupees)

The current values of the independent variables are Y= 16.5, Pd = 4, P0= 2 and A= 200.

(……..contd)

a) Name at least two important causal variables that Anil seems to have ignored in his estimation.

b) Is product desk a normal good or a Giffen good? Explain.

c) What do the coefficients + 2.5 and – 8.5 represent in the function?

d) What is the relationship between the desk and the other (related) good?

e) If the firm has an annual sales target of 54,000 desks, indicate two policy options for attaining the target.

f) Economic forecasters think that there is a possibility of a major recession next year, which will reduce the average household annual income to Rs. 15,000 without affecting any other relevant variable. Forecast the company's sales for the next year.

Elasticity of Demand

(Numerical)

- Given that the quantity previously demanded was 100 units, decrease in quantity demanded 5 units; increase in price Rs. 5 and price elasticity of demand 1.2. Calculate the price before the change.

- A consumer spends Rs. 80 on a commodity, when its price is Rs. 1 per unit and spends Rs. 96 when its price is Rs. 2 per unit. What is the elasticity of demand for the commodity?

The demand function for coffee of a typical consumer is the following :

Compute all possible demand elasticities.

Year	Coffee price (Rs./kg)	Quantity of coffee bought	Real income (Rs.)	Tea Price (Rs. /kg.)
1	95	20	1000	35
2	98	18	1000	35
3	98	21	1050	35
4	95	21	1000	40

Consider the following data:

Commodity	Original		Changed	
	Price	Qty.	Price	Qty.
X	20	80	20	90
y	70	80	60	140

Calculate cross elasticity of demand of x and y and identify whether they are substitutes or not.

The demand for personal computers can be characterized by the following point elasticities: Price elasticity = –5 cross elasticity with software= –4 and income elasticity= 2.5 Indicate whether each of the following statements is true or false and explain your answer.

a) A price reduction for personal computers will increase both the number of units demanded and the total revenue of sellers.

b) The cross elasticity of demand indicates that a 5% reduction in the price of personal computers will cause a 20% increase in software demand.

c) Falling software prices will increase revenues received by sellers of both computers and software.

d) A 2% price reduction would be necessary to overcome the effects of a 1% decline in income.

Elasticity of Demand

(Descriptive)

- Economists have observed that spending on restaurant meals declines more during economic downturns than does spending on food to be eaten at home. How might the concept of elasticity help to explain this phenomenon?
- An estimated 80% increase in the retail price of cigarettes is necessary to cause a 30% drop in the number of cigarettes sold. Would such a price increase help or hurt tobacco industry profits?
- Would you expect the price elasticity of demand to be larger in the market for all ice creams or the market for vanilla ice cream? (Be sure to explain in your answer)

Demand function and Elasticity
Integrated problem

- A publishing company plans to publish a book. It finds from the sales data of other publishers of similar group that the demand function for the book can be expressed as Q=5000-5P
- Find out

(a) demand schedule and demand curve

(b) Number of books sold when P= Rs.25

(c) Price for selling 2500 copies

(d) Price for zero sales

(e) Point elasticity of demand at price 20

(f) Arc elasticity for fall in price from Rs. 25 to Rs. 20 and for a rise in price from Rs. 20 to Rs. 25

Demand Forecasting (Numerical)

Fit a linear regression line to the following data and estimate the demand when the price is Rs.30.

Year	1980	1981	1982	1983	1984	1985	1986	1987
Price	15	15	12	26	18	12	8	38
Sales	52	46	38	37	37	37	34	25
('000 Units)								

1988	1989	1990	1991
26	19	29	22
22	22	20	14

Estimate Regression Line for Sales & Advertising

Year	Advertising	Sales
1	10	44
2	9	40
3	11	42
4	12	46
5	11	48
6	12	52
7	13	54
8	13	58
9	14	56
10	15	60

The Sales department of a firm is planning to expand sales to Rs.10 lakh . The consultant to the sales department points out that in the past this firm's sale proceeds and advertisement expenditure have a very high correlation of = 0.75. The past data revealed that the firm's average sales per year has been Rs.4 lakh with a variance of Rs.30,000 and its average annual advertisement expense has been Rs.1 lakh with a variance of Rs.10,000.

How much advertising expenditure this firm must, therefore, incur to achieve its sales target.