Department of Computer Science & Engineering

Assignment No. 9: Mini Project

Final Year B. Tech. (CSE) – I: 2022-23

5CS462: PE5 - Data Mining Lab

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Price Elasticity:

Economists use price elasticity to understand how supply and demand for a product change when its price changes. Like demand, supply also has an elasticity, known as price elasticity of supply. Price elasticity of supply refers to the relationship between change in supply and change in price. It's calculated by dividing the percentage change in quantity supplied by the percentage change in price.

$$Price\ Elasticity\ of\ Demand\ =\ (Percentage\ Change\ in\ Quantity\ Demanded)\ \div\ (Percentage\ change\ in\ Price)$$

Factors That Affect Price Elasticity of Demand

1. Availability of Substitutes

The more easily a shopper can substitute one product for another, the more the price will fall. For example, in a world in which people like coffee and tea equally, if the price of coffee goes up, people will have no problem switching to tea, and the demand for coffee will fall. This is because coffee and tea are considered good substitutes for each other.

2. Urgency

The more discretionary a purchase is, the more its quantity of demand will fall in response to price increases. That is, the product demand has greater elasticity.

3. Duration of Price Change

The length of time that the price change lasts also matter. Demand response to price fluctuations is different for a one-day sale than for a price change that lasts for a season or a year. Clarity of time sensitivity is vital to understanding the price elasticity of demand and for comparing it with different products. Consumers may accept a seasonal price fluctuation rather than change their habits.

Types of Price Elasticity of Demand:

If the percentage change in quantity demanded divided by the percentage change in price equals:	It is known as:	Which means:
Infinity	Perfectly elastic	Changes in price result in demand declining to zero
Greater than 1	Elastic	Changes in price yield a significant change in demand
1	Unitary	Changes in price yield equivalent (percentage) changes in demand
Less than 1	Inelastic	Changes in price yield an insignificant change in demand
0	Perfectly inelastic	Changes in price yield no change in demand

Dataset: (https://1drv.ms/u/s!AtgrmeCPhKh7kYIacOREVS-3gUjxZw).

References:

1. https://www.investopedia.com/terms/p/priceelasticity.asp
2. https://towardsdatascience.com/calculating-price-elasticity-of-demand-statistical-modeling-with-python-6adb2fa7824d