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THE IMPACT OF DEMAND ELASTICITY ON PRICING STRATEGY

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ABSTRACT: Pricing strategy is very important for buyers and sellers. The elasticity theory of demand and supply is a fundamental economic concept that explains how price changes affect the quantity demanded and supplied of a product or service. This paper explores the real-world application of the elasticity theory of demand. Specifically, it examines how different market factors affect the elasticity of demand and how firms and policymakers can use elasticity theory to optimize pricing strategies, increase revenue, and achieve policy objectives. Moreover, in this article, the complexity of price elasticity of demand and its impact on setting price are given.

Keywords: demand elasticity, pricing strategy, elastic demand, inelastic demand, unit elastic demand, total revenue.

ANNOTATSIYA: Narxlash strategiyasi xaridorlar va sotuvchilar uchun juda muhimdir. Talab va taklifning elastiklik nazariyasi narx o'zgarishi mahsulot yoki xizmatning talab va taklif miqdoriga qanday ta'sir qilishini tushuntiruvchi fundamental iqtisodiy tushunchadir. Ushbu maqolada talabning elastiklik nazariyasining real hayotda qo'llanilishi o'rganiladi. Xususan, unda turli bozor omillari talabning elastikligiga qanday ta'sir qilishi va firmalar va siyosatchilar narxlash strategiyalarini optimallashtirish, daromadlarni oshirish va siyosat maqsadlariga erishish uchun elastiklik nazariyasidan qanday foydalanishlari o'rganiladi. Bundan tashqari, ushbu maqolada talabning narx elastikligining murakkabligi va uning narxni belgilashga ta'siri keltirilgan.

Kalit so'zlar: talab elastikligi, narxlash strategiyasi, elastik talab, elastik bo'lmagan talab, birlik elastik talab, umumiy daromad.

АННОТАЦИЯ: Ценовая стратегия имеет большое значение для покупателей и продавцов. Теория эластичности спроса и предложения — это фундаментальная экономическая концепция, объясняющая, как изменения цен влияют на количество спроса и предложения товара или услуги. В данной статье рассматривается практическое применение теории эластичности спроса. В частности, исследуется, как различные рыночные факторы влияют на эластичность спроса и как фирмы и политики могут использовать теорию эластичности для оптимизации ценовых стратегий, увеличения доходов и достижения политических целей. Кроме того, в статье рассматривается сложность ценовой эластичности спроса и ее влияние на ценообразование.

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Ключевые слова: эластичность спроса, стратегия ценообразования, эластичный спрос, неэластичный спрос, единичная эластичность спроса, совокупный доход.

INTRODUCTION

Price elasticity is a measure of customer sensitivity to changes in price. It provides a basis for understanding and predicting consumer response to price. According to the demand law, a certain movement in demand is supposed with every change in price. This relationship, between price and quantity sold, is referred to by economists as the price elasticity of demand. The price elasticity of demand is calculated by dividing the percentage change in quantity demanded by the percentage change in price: Price elasticity formula:

$$Price\ elasticity\ of\ demand = \frac{Percentage\ change\ in\ quantity\ demanded}{Percentage\ change\ in\ price}$$

For example, imagine that after a 10 percent increase in the price of an ice-cream cone, you buy 20 percent fewer cones. We calculate your elasticity of demand this way:

$$\text{Price elasticity of demand 20 percent} = \frac{20\,\%}{10\%} = 2$$

In this example, the elasticity is 2. That means that the change in quantity demanded is proportionately twice as large as the change in price

To simplify, price elasticity of demand (PED) values can be classified into three different buckets:

- Elastic demand (PE > 1): If the demand changes significantly in response to a slight change in price, the demand is considered elastic. In this case, consumers are sensitive to price changes, and a price increase would lead to a proportionally larger decrease in quantity demanded, and vice versa.
- Inelastic demand (PE < 1): If the demand changes only slightly in response to a substantial change in price, the demand is considered inelastic. In this case, consumers are not very responsive to price changes, so a price increase would lead to a proportionally small decrease in demand, and vice versa.
- Unit elastic demand (PE = 1): If the percentage change in demand is exactly equal to the percentage change in price (i.e., PED=1), the product is considered unit elastic. In other words, consumers are willing to buy more or less of a product exactly in proportion to the change in its price. This means the total spending on the product remains the same. [1]

Moreover, demand elasticity indicates the extent to which the quantity of goods or services requested will change in response to price changes. In contrast, supply elasticity measures a producer's response to price changes by changing the quantity of goods or services offered. The two are interrelated and create a dynamic in the market that can shape the price and quantity produced. The importance of understanding elasticity in managing the modern economy can be seen from several perspectives. First, in formulating price policy, understanding how sensitive consumers are to price changes (demand elasticity) can help companies set optimal prices to achieve maximum profits. Second, for governments and regulators, an understanding of elasticity

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can help in designing more effective fiscal and monetary policies to control inflation and boost economic growth. [2]

METHODOLOGY

Learning the topic scientifically, logicality, systematic analysis in the process of analysis and research, synthesis and cognitive thinking methods were widely used. This study adopts a qualitative research approach to explore the impact of demand elasticity on pricing strategy. Price elasticity of demand is a fundamental concept in economics that helps businesses understand how consumers react to changes in price. By analyzing price elasticity, businesses can make informed decisions about pricing strategies, revenue forecasting, and market equilibrium.

ANALYSIS AND RESULTS

I have used some examples to illustrate the impact of demand elasticity on price setting. The first example is about understanding how price elasticity affects revenue.

Let's imagine a company that sells a popular soft drink with a retail price of U$2 per can. The company has decided to conduct a pricing experiment to determine the impact of price changes on sales volume and total revenue.

Here's a sample initial scenario:

- Price: $2 per can
- Quantity sold: 10,000 cans per week
- Total revenue: $20,000

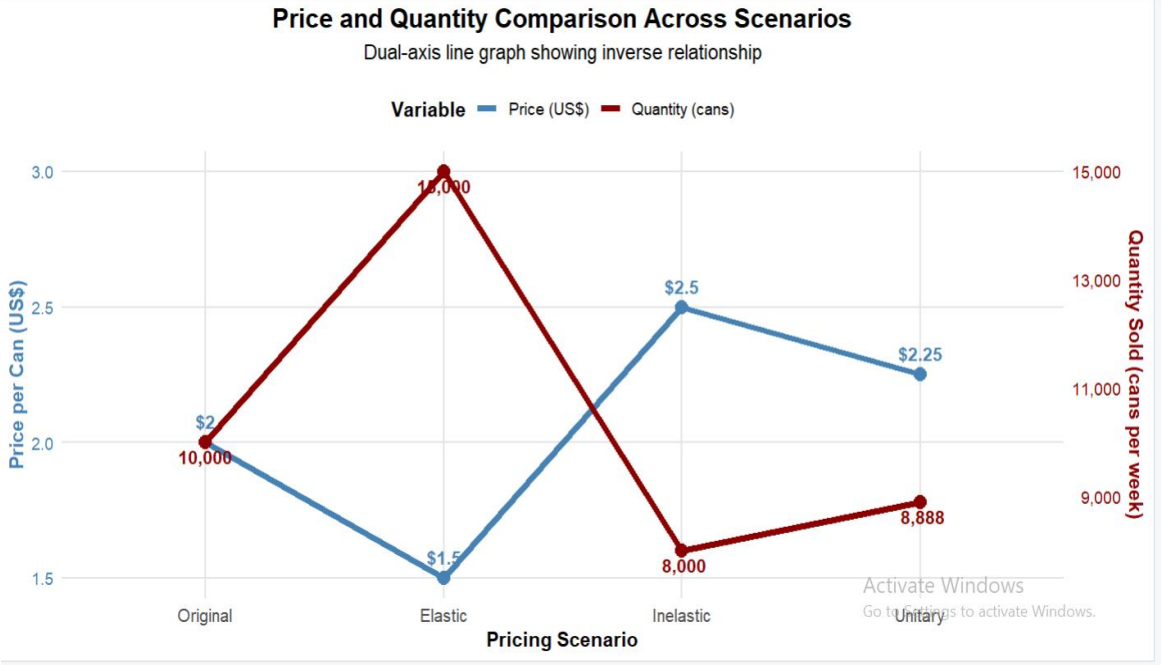

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Figure 1. Understanding how price elasticity affects revenue

According to this graph, let's consider a scenario with elastic demand. The company reduces the price of the soft drink to $1.5 per can. As a result, the quantity sold increases to 15,000 cans per week. The total revenue ($1.5 × 15,000) is $22,500. Here, the demand is elastic because the percentage increase in quantity demanded (50%) is greater than the percentage decrease in price (25%). Despite the lower price, the increase in sales volume leads to higher total revenue. To illustrate inelastic demand, let's assume that the company raises the price of the soft drink to US$2.5 per can. As a result, the quantity sold decreases to 8,000 cans per week. The total revenue ($2.5 × 8,000) is $20,000. The demand is inelastic because the percentage decrease in quantity demanded (20%) is less than the percentage increase in price (25%). Despite the decrease in sales volume, the higher price leads to higher total revenue.

For unitary elasticity, let's assume that the company adjusts the price of the soft drink to $2.25 per can. As a result, the quantity sold decreases to 8,888 cans per week. The total revenue ($2.25 × 8,888) is $20,000. In this scenario, demand exhibits unitary elasticity because the percentage decrease in quantity demanded (11.12%) is equal to the percentage increase in price (12.5%). The price change has no net effect on total revenue.

These examples above show that how changes in price influence sales volume and total revenue depending on the price elasticity of demand. Understanding price elasticity helps the company make informed pricing decisions to maximize revenue and profitability.

The second example is about a sample visualization of a dashboard simulating what-if scenarios for a particular product's revenue based on certain price elasticity

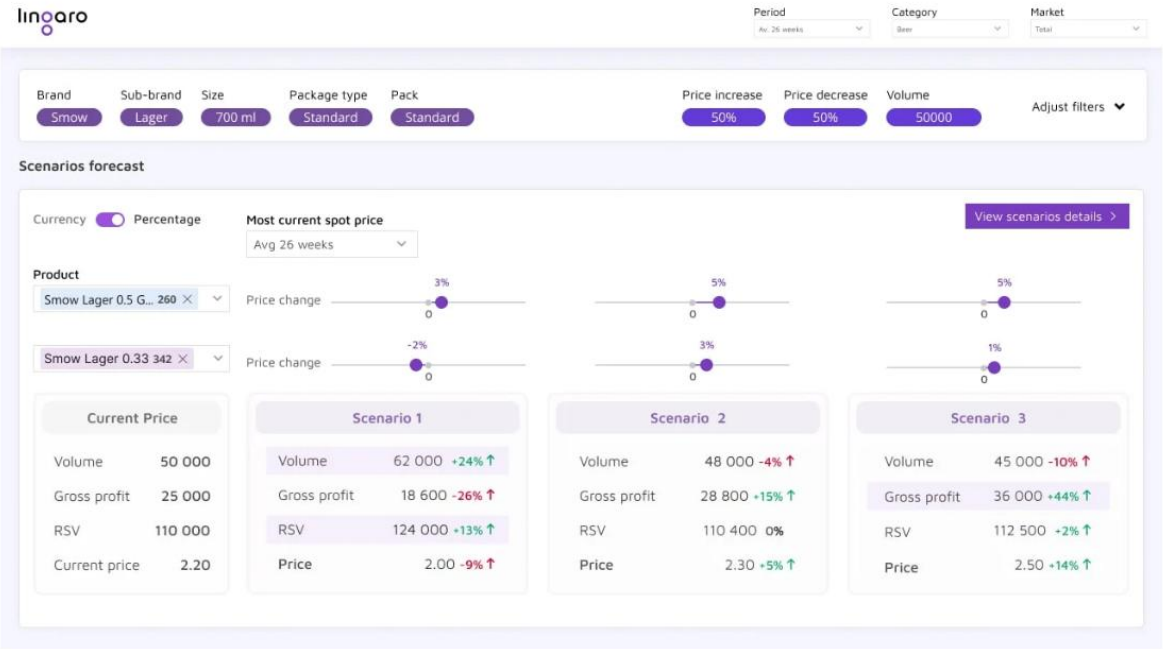

Figure 2. A sample visualization of a dashboard simulating what-if scenarios for a particular product's revenue based on certain price elasticity.

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This table shows how changing the price of two beer product (Smow Lager 0.5 and 0.33) affects: Volume (units sold), Gross profit, RSV (Retail Sales Value) and Price. The system generates three price-change scenarios and compares them with the current value. Its object is evaluating how different price changes affect volume, revenue, and profit for Smow Lager products, and identifying the best pricing strategy.

- In Scenario 1: The price reduce to 2.00 with 9% and this reduction increases sales volume significantly (24%) and RSV also rises. However, gross profit drops sharply to 124000 (13%), meaning the company sells more but earns less profit per unit.
- In Scenario 2: Price increase to 2.3 (5%). Then, this small price increase causes only a small decline in volume with (-4%) at 48000. After this, gross profit improves and RSV stays almost unchanged with 28800 and 110400 respectively. This scenario seems balanced and profitable.
- In scenario 3: We can see an increase in the percentage of price to 2.5 (14%) and this growth leads to a decrease in the proportion of volume minimally but gross profit increase strongly to 36000, meaning the price elasticity is quite low. This scenario maximizes gross profit even though volume falls.

In conclusion, overall, this table shows how demand responds to price changes. And I found that at lower prices more units sold but lower profit as well as at higher prices fewer units sold but higher profit. Scenario 2 and 3 suggests that the price is inelastic, meaning customers do not reduce purchases too much when price rises.

These exams above also suggest that a product's or service's demand elasticity can significantly impact business pricing strategies and consumer behavior.

CONCLUSION

In conclusion, understanding the concept of price elasticity of demand is crucial for businesses looking to understand consumer behavior and make informed decisions about pricing strategies. By analyzing the factors that influence elasticity, measuring it accurately, and interpreting the results, businesses can adapt their strategies to maximize profitability and navigate the complexities of market equilibrium.

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