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"PRICE DISCRIMINATION AND CONSUMER WELFARE: ANALYZING THE IMPACT ON VULNERABLE POPULATION"

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Abstract

Price discrimination is the practice of charging different prices to different consumer groups for similar goods and services. The interplay between price discrimination and societal well-being has been a subject of extensive research and debate. This study aims to identify the circumstances under which price discrimination enhances or diminishes societal well-being. The researchers employed a series of literature reviews to compile data on the relationship between price discrimination and societal well-being. The study demonstrates that price discrimination can boost societal well-being through increased output. Increased output generates greater societal benefits, outweighing the welfare loss caused by inefficient product distribution. The study concludes that the societal advantages of price discrimination include providing essential services to low-income communities and maintaining equitable access to public goods. This study has significant implications for developing policies that implement price discrimination to promote equity among income groups and ensure the accessibility of essential high-cost services.

Research gap

1. To analyze the impact on vulnerable population.
2. Price discrimination can reduce welfare when quality is fixed.

Research objective

1. To charge different prices from different consumers on the basis of their geographical locations.
2. To charge different prices from different consumers according to their paying capacity, such as – to charge more price from rich consumers and less price from poor consumers.
3. To charge different prices from different consumers of different areas on the basis of competition prevailing in the area, such as- if there is no competition in a particular area, the product can be sold at a higher price and if there is tough competition in another area, the product can be sold at a lower price.

Literature review

Price discrimination is a pricing strategy that involves charging different customers varying prices for the same product or service, based on their perceived willingness to pay. Price discrimination can be classified into three main types: first-degree, second-degree, and third-degree. First-degree price discrimination involves charging each customer the highest price they are willing to pay for a product or service. Third-degree price discrimination divides the market into distinct segments and sells the same product at different prices to different segments.[SEP]Retailers can collect and utilize personal data (e.g., age, income, and behavioral patterns) to create detailed profiles of each customer, enabling them to personalize marketing campaigns accordingly. Catalina, for instance, provides personalized digital marketing solutions to retailers, allowing customers to receive customized coupons based on real-time information gathered throughout their interactions with the retailer. The collection of consumer data and its subsequent use to shape purchasing decisions without explicit consent raises concerns regarding consumer well-being. Most retailers employing this practice claim that only historical data (past purchases) is utilized in the development of targeted marketing campaigns. Consumers may not always benefit from the expected savings, and the balance of power has tilted in favor of businesses, undermining the principle of market efficiency. The convergence of physical and digital environments has empowered businesses to merge data from multiple touch points, enabling them to create increasingly detailed profiles of consumers. The accumulation of more comprehensive data allows businesses to construct more refined and targeted consumer profiles, ultimately enhancing product and service offer.

The study spanned two years and centered on the retail sector, gathering data from a retailer's loyalty card program. Loyalty card data provided demographic information and enabled tracking of total spending during the period. Non-loyalty card prices served as a reference point, representing the assumed spending behavior of regular customers without retailer discounts or personal information. The study created two separate tables: one encompassing loyalty card member demographics and transactions, and another with transaction data for non-member households. The original dataset captured individual transactions for each household, which were then aggregated without considering product categories. The control group was isolated from the transaction dataset, resulting in 1695 observations. Outliers caused by data

entry errors were removed through additional filtering. Demographic variables included age, income, marital status, homeownership, and household size. Dependent continuous variables tracked spending and discounts, such as retail discount, coupon discount, and manufacturer's coupons. Two new variables were introduced: Total (quantity multiplied by sales value) and the proportion of retail discount relative to total spending (retail disc / total). The proportion variable gauges the 'best possible value' that a household can obtain from the retailer.

Introduction

Price discrimination is a pricing tactic where a provider sells identical products or services at different prices to different market segments. It differs from product differentiation because the production costs for differently priced products are not significantly different. Price discrimination exploits customers' varying price sensitivities and demand elasticity. To implement this strategy, firms require market power, such as a dominant market position or unique products. Under price discrimination, all prices exceed the equilibrium price in a perfectly competitive market. However, some prices may be lower than those charged by a single-price monopolist. This strategy allows firms to capture additional consumer surplus and maximize profits while offering lower prices to some consumers. Price discrimination manifests in various forms, including education, telecommunications, and healthcare. Differential pricing, equity pricing, preferential pricing, dual pricing, and tiered pricing are alternative terms for price discrimination. Price discrimination aims to exploit differences in customers' willingness to pay and eliminate consumer surplus. It involves market segmentation and measures to prevent discount buyers from becoming resellers or competitors. Marketer-imposed boundaries, known as 'rate fences,' allow customers to self-segment based on their needs and payment preferences. Price discrimination is prevalent in services where resale is impractical, such as student discounts at museums. Laws and technologies, like the Digital Millennium Copyright Act, help enforce price discrimination. By understanding demand elasticity, businesses can leverage their market power to identify customers' price sensitivities and optimize profits.

Discussion

This research examines the extent to which firms within an indirect retail network enhance their financial performance by transitioning from a conventional partial sales force price authority structure to a centralized AI/analytics-based pricing model. Contributions to Theory

and Practice The paper outline the theoretical and practical implications of the research findings. Future Research Discussion The paper concludes with a discussion of potential areas for future research in this domain.

Price discrimination

Price discrimination is advantageous when the revenue gained from segregating markets exceeds the revenue from keeping them unified. The efficacy of price discrimination is contingent upon the relative price elasticity's of demand in the submarkets. Consumers in submarkets with inelastic demand pay higher prices, whereas those in submarkets with elastic demand pay lower prices. Companies utilize price discrimination to discern distinct market segments with varying price elasticity's. Market separation is sustained over time by employing physical distance, usage type, or other barriers.

Price Discrimination in Airlines

· Firms must identify market segments based on price elasticity of demand.

· Enforcing the scheme is crucial.

· Airlines charge high prices for business travelers with inelastic demand and discount prices for tourists with elastic demand.

· Enforcement involves a no resale policy on tickets, preventing tourist from selling discounted tickets to business travelers.

· Preventing direct purchase of discount tickets is achieved by imposing advance ticketing or minimum stay requirements.

International price discrimination

Pharmaceutical companies frequently set higher drug prices in affluent nations, such as antiretroviral medications in Africa, owing to the lower purchasing power of African consumers. This price discrimination is frequently influenced or impeded by government drug laws or regulations. Non-material goods, such as music streaming services, also have online sale prices that vary depending on geographic location. Lower-income subscribers benefit from price discrimination by paying lower subscription costs. Cross-national price variations increase corporate earnings by around 6% while lowering welfare by 1%.

Types of price discrimination

- First degree (Perfect price discrimination)
- Second degree (Quantity discount)
- Third degree (Market segregation)

1. First degree (Perfect price discrimination):-

First-degree price discrimination is a strategy where a monopoly seller knows the maximum price consumers are willing to pay for a good or service. This allows the seller to sell the product at the maximum price, transforming consumer surplus into seller revenue. This method is most profitable as it obtains all consumer surpluses and each consumer buys the good at the highest price they are willing to pay. This eliminates deadweight loss in monopolistic markets. First-degree price discrimination can be observed in markets where consumers bid for tenders, but collusive tendering could reduce market efficiency.

2. Second degree (Quantity discount):-

Second-degree price discrimination is a strategy where the price of a good varies based on the quantity demanded, often in the form of quantity discounts. This approach acknowledges the law of diminishing marginal utility, which suggests that a consumer's utility may decrease with each successive unit. By offering a discount for larger quantities, the seller can capture some of the consumer surplus, particularly in industrial sales where bulk buyers enjoy discounts. This is also common in mobile phone plans and subscriptions, where consumers may perceive a one-year subscription as more cost-effective than a monthly one, leading to increased sales and profit. This form of non-linear pricing benefits consumers by allowing them to purchase at a cheaper price when they buy more than at the normal price.

3. Third degree(Market segregation):-

Third-degree price discrimination involves charging different prices to different consumer groups based on their demand elasticity's. This can be seen in various industries, such as transportation, cinema, and service provision. Businesses must use additional information to identify consumers and set prices based on their willingness to buy. This method generates

sales by identifying different market segments with different price elasticity's, such as domestic and industrial users. Markets must be separate by time, physical distance, and nature of use, preventing overlap and ensuring consumers can resell at a higher price in the inelastic sub-market. For example, Microsoft Office Schools edition is available at a lower price to educational institutions.

Impact of price discrimination in vulnerable population

· Economic Exploitation: Vulnerable populations, like low-income individuals, may pay higher prices for goods and services, widening the wealth gap and perpetuating poverty cycles.
· Reduced Access to Essential Goods and Services: Price discrimination can limit access to essential goods and services, leading to long-term negative effects on their well-being.
· Social Exclusion: Price discrimination can reinforce stereotypes and discrimination, deepening existing social divisions and fostering feelings of alienation and inequality.
· Limited Opportunities for Economic Mobility: Higher prices can hinder economic mobility and perpetuate intergenerational poverty.
· Health Disparities: Higher prices for medical services or medications may prevent timely treatment, leading to poorer health outcomes and widening health inequalities.
· Psychological Impact: Price discrimination can lead to feelings of powerlessness, stress, and inferiority, contributing to feelings of stigma and marginalization.
· Mitigation Strategies: Implement regulations, increase transparency, provide targeted support, promote financial literacy, and advocate for consumer advocacy.

Price discrimination and consumer welfare

Price discrimination enhances consumer welfare by boosting total production, but neglecting the output effect can harm social welfare. Third-degree price discrimination may reduce consumer welfare, but it offers social advantages if output is increased. Sellers utilize price discrimination to seize consumer surplus, resulting in increased overall revenue. A Broadway theater study revealed that a 50% discount increased profits by 5%, but excessive discounts could deter customers from full-price tickets. Price discrimination's impact on consumer

welfare is generally modest, with the primary factor for welfare improvement being increased output. In third-degree price discrimination, unequal marginal utility leads to inefficient output allocation. In homogeneous firms, increasing output mitigates consumer inefficiency. In heterogeneous firms, better output redistribution can prevent surplus inefficiency. Positive externalities, such as drink discounts, can enhance welfare by attracting more customers, resulting in increased welfare.

Availability of high-cost essential services

Socially Justifiable Price discrimination is deemed acceptable for essential goods and services that face decreasing long-run average costs but lack profitability, such as public transportation and postal services. Redistributive Effect Price discrimination can have a positive impact on lower-income groups by charging higher prices to higher-income individuals and subsidizing lower prices for those with lower incomes. Agricultural Price Discrimination In the agricultural sector, price discrimination is essential to ensure equitable access to public commodities for all farmers, regardless of their income or farm size. Social Equity in Agriculture Price discrimination in agriculture promotes social equity by providing incentives for small and local farmers and potentially enhancing profitability through premium pricing for sustainable or locally produced goods. Optimal Resource Allocation and Price Discrimination Price discrimination is not desirable in the absence of optimal resource allocation and distributive efficiency. Social Welfare and Price Discrimination Price discrimination can enhance social welfare by ensuring that everyone has access to essential goods and services at an affordable price. Affordability in Agriculture In agriculture, price discrimination can increase affordability for low-income consumers through discounts or sliding-scale pricing, benefiting small and local farmers.

Limitation

Price discrimination can lead to perceived unfairness among customers. While price discrimination can be financially beneficial, it incurs administrative costs and requires strategic planning to differentiate market segments. Price discrimination may reduce consumer surplus. Adverse selection issues may arise when firms lack accurate information about customers. Firms may resort to unethical methods to gather consumer data for targeted pricing. Price discrimination aims to transfer consumer surplus to producer surplus, which can create social injustice in certain cases.

Case Study

Indian Railways (IR) is the only railroad owned by the government of India. The railway industry experiences increasing returns to scale, indicating that as the size of the industry increases, the average cost per passenger or ton transported decreases. Dealing with IR is considered a natural monopoly, meaning that IR has exclusive control over the nation's rail transportation. IR is one of the largest and busiest rail networks globally, serving over eight billion passengers and transporting approximately 900 million tons of freight annually. With over 1.3 million employees, IR is the world's largest employer of business personnel. An intriguing topic is the ability of IR to increase prices. Despite increasing fares, IR has consistently seen a rise in passenger traffic. Factors contributing to this include population growth and increased affluence, which are expected to drive further demand for passenger transportation services.

Consequently, it can be deduced that the rightward shift in demand caused by India's growing population and per capita income has historically outweighed the impact of price increases. However, a shift occurred in 2014, with passenger traffic declining for the first time in Indian Railways' history. Despite a 20% fare hike in January 2013, the national carrier was forced to reduce its revenue expectations from the passenger segment for 2014 as a result of the decline. The 18 million passenger volume declines in the first two months of fiscal year 2014 remains an enigma for Indian Railways. The current trend raises concerns for Indian Railways, as it suggests significant price elasticity in the passenger segment. With an operating ratio of 90.4%, Indian Railways is facing financial constraints, hindering its ability to replace aging infrastructure and rolling stock. Modernization and expansion are becoming more challenging in this scenario. The recent decline in Indian Railways' passenger traffic can be attributed to the availability of substitutes. Improved road connectivity and increased wealth levels have made low-cost air travel more accessible, offering an alternative to rail travel. Price increases for higher-class rail travel negatively impact demand for such services, reducing the price gap between high-end rail and low-end air travel. These factors have led to a leftward shift in the demand curve for rail services. Indian Railways' experience exemplifies the limitations of monopolistic power.

The monopolist's pricing freedom is constrained by the availability of alternatives. Any price hike by the monopolist triggers a significant decrease in demand, making the market price-

elastic when numerous substitutes are available (own price elasticity exceeds unity). In such a scenario, the monopolist establishes an equilibrium price and quantity, ceasing further price increases.

Conclusion

Third-degree price discrimination is the most prevalent type, sparking debates and research on its social implications. It offers both social benefits and drawbacks including inefficient resource allocation, lower production, employment, and income. Price discrimination also generates resource waste and higher prices for smaller purchases often it decreases social welfare as most consumers pay more than the marginal supply cost. However, when average costs decline, price discrimination benefits consumers leading to increased market production and lower prices for lower-income consumers. Studying price discrimination and its social welfare impact highlights the need to consider it in policymaking. This can ensure sufficient supply of essential services make them accessible to low-income groups, and promote equity in public goods consumption. Such research informs policy formulation to enhance social welfare.

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