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Research on the Factors That Affect Demand and the Effects of Changes in Demand on Prices

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Abstract: Demand theory is one of the major fundamental and important theories of economics. It explores the relationship between consumer demand and price. Consumer demand is influenced by a variety of factors, which leads to different price changes that affect the entire social economic changes. Through a literature review, this article explores the analysis of demand theory and the three factors that influence demand, income, relevant markets and advertising. The article points out that willingness to pay and utility theory can be used to understand demand theory, and this research also analyzes the impact of income, relevant products, and advertisement on demand.

Keywords: economics, demand, income, relevant products, advertisement

1. Introduction

Demand theory is the foundation of economics. The concept that market demand depends on satisfying desires has been an important part of market economic analysis since Adam Smith [1]. The theory of demand is a theory of the relationship between demand from the consumer side and the price of a good or service within a market. One of the major developments in demand theory was the introduction of the term "utility" by Jeremy Bentham in the late 1700s. This refers to the satisfaction of wants and needs. In his conception, utility is a quantifiable characteristic [2]. Demand indicates the amount that consumers are willing to pay for a given good or service at a given price over a given time frame. The law of demand illustrates that price and demand are inversely related. As the price decreases, people are willing to buy more of a product or service. However, demand is not constant, and there are many factors that affect demand, which can lead to different changes in price, such as consumer preferences, people's income, advertising, etc. This article will explore the impact of demand theory on prices through literature, case study and thus provide further insights into market analysis.

2. Demand and Income

2.1. Demand Theory

Everyone's needs are different for different products. The amount that each person is willing to spend on a product or service is different and is defined in the economy as willingness to pay (WTP). This

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represents the maximum price that a consumer is willing to pay for a product [3]. Potential consumers may be willing to spend less than this price, but basically, they will not be willing to spend more.

Also, the level of satisfaction with the same product varies as the quantity increases. The level of satisfaction that a good or service can provide is called "utility". As the quantity increases, the utility of the product changes. The demand theory demonstrates the connection between price and quantity demanded. The demand curve is commonly considered to be downward sloping. It is understood by the utility theory that as the quantity increases, people's satisfaction with the increased product decreases, leading to that utility and quantity are inversely proportional, as is the demand. The law of demand points out that the quantity purchased varies inversely with price. As understood in terms of the theory of WTP, starting with the highest price, only the fewest consumers are willing to pay. As the price decreases, it gradually becomes the price that more and more consumers are willing to consume, and then the number of consumers gradually increases. This can also be understood from the point of view of the utility. Based on the principle of diminishing marginal effect, consumers first purchase the first unit of economic goods to meet the most urgent needs, and then they use each additional unit to meet the purpose of sequentially lower value. Each individual's utility is decreasing, and the demand curve is a combination of each individual's needs, so the overall line is also downward sloping. However, there are many factors that influence the demand, different incomes, relevant products, people's preferences, advertising, etc. The analysis of the market is based on rational consumption, i.e., they will choose the product that gives them the highest utilities.

2.2. Income

Changes in income affect people's demand for goods. An increase in income means an increase in budget, and people have more room at their disposal, which may lead to the purchase of more products. However, consumer demand may vary for different products, such as normal goods, inferior goods, and giffen goods.

Normal goods. Goods that change proportionally with income are called normal goods. In other words, if wages rise, the demand for normal goods will increase, and conversely, is wages fall, the demand will decrease. Normal goods usually refer to necessities, such as food, clothes, and household goods. Luxury goods are also in a sense a normal good, which increases in demand as income increases, and vice versa. However, the distinction between luxury goods and normal goods is usually based on different elasticity of demand coefficients, where luxury goods have a higher elasticity coefficient. When people's income increases, they are willing to spend a larger percentage of their income on luxury goods [4]. The difference between luxury goods and ordinary goods is not clearly defined, mainly depending on individual's consumption ability and income. What may be a luxury good for one person may be an ordinary good for another person. Take the global financial crisis of 2008 to explore the impact of income on the demand for goods. The financial collapse during that period due to the subprime mortgage crisis in the U.S. affected not only the entire country, but most economies around the world as well, and people's overall income dropped dramatically. Dilek & Çolakoğlu explored the changes in college students' consumption during the financial crisis. The conclusion reached was that one-third of the households received the income impact and their income dropped. In addition, consumption also decreased, with luxury goods suffering the most, while household items such as food suffered less. This is perfectly in line with economic theory [5].

Inferior goods. The opposite category of products is called poor quality goods, whose consumption is declining as people's income increases. Inferior quality here does not refer to quality, but to availability. For example, as people's income increases, they prefer to drive themselves or use more private transportation rather than take public transportation.

Giffen goods. There is a special category of inferior goods called giffen goods, which are low-income, non-luxury goods whose demand actually rises as prices rise. Its demand curve is sloping

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upward. It is usually a necessity that is influenced by income and for which there are few substitutes. Because incomes do not increase enough for them to buy better alternatives, they have to continue to buy the product, even if the price increases [6]. However, the classification of goods is not static, and as the overall economy rises, many goods move from luxury goods to normal goods to inferior goods, and even giffen goods. Potatoes can be an example of giffen goods in many countries' economies. Based on Salmensu's thesis, the responsibility of potatoes in different economic development processes is different. Potatoes were originally a luxury food in Europe, but with successful cultivation, potatoes soon became common among the poor and one of the main inferior foods. As economies developed, rising incomes led richer countries to gradually choose richer foods for consumption and reduce the use of potatoes. In developing countries, however, the potato's lower price led to its remaining a major source of staple foods. Based on the experiments and data presented by Salmensuu, it can be inferred that changes in the price and quantity of potatoes consumed are usually accompanied by changes in the economy [7].

3. Relevant Product Market

Other than differences in the products themselves, changes in related products can also lead to shifts in demand. Related products here refer to complementary products and substitutes.

3.1. Substitute Goods

Substitute goods are goods that basically satisfy the same demand. According to economic theory, a decrease in the price of substitute goods leads to a decrease in the demand for the analyzed good. Because consumers will choose substitute goods over the analyzed product when the same demand is met, and vice versa. One of the major effects of substitute goods is to promote the industry as a whole, as products that are mutually classified as substitute goods will upgrade themselves in various ways in order to capture a larger share of the limited market.

Generic drugs have always been a big potential substitute for regular drugs, and usually the price of regular drugs is higher, especially for patients with serious diseases, which is a big burden. So they turn to generics, and Jaume Puig-Junoy has done research on the impact of generics on regular drugs in the European market [8]. According to Jaume Puig-Junoy, it can be concluded that generics have an impact on the price and that the decline is greater for the regular drugs. This is a good sign for consumers, who get a better product at a lower price.

3.2. Complementary Products

Complementary good is a product that is used with another product. Having complementary goods usually brings higher value to consumers compared to using them alone. An increase in the price of complementary good leads to a decrease in the number of analyzed products consumed, as the price of purchasing complementary goods increases. More money is spent to achieve the maximum satisfaction of combining the two goods.

The most common pair of complementary goods is energy and transportation, such as oil and automobiles. Fluctuations in oil prices have a strong correlational effect on the entire automotive industry. By analyzing the stock market for oil prices and automobiles, Pal & Mitra modeled the correlation between the daily returns of four major stock indices in the automotive industry (the main oil consuming industry), namely the MSCI ACWI Auto & Components Index, the STOXX Europe 600 Auto & Components Index, the S&P 500 Auto & Components Index, and the MSCI World Auto Index with the price return of crude oil (West Texas Intermediate - WTI). The conclusion is that oil prices and auto stocks are strongly correlated. Although oil price shocks vary, investors can still refer to oil prices but need a customized diversification plan [9].

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4. Advertisement

Merchandise aside, advertising is another avenue to influence consumer demand. Positive advertising is usually able to promote consumer needs. Usually businesses increase brand awareness and loyalty through advertising by anchoring specific groups of consumers, and then its WTP will be elevated. Driven by advertising, consumers will choose the item due to high exposure, or brand loyalty, thus influencing the increase in demand [10]. Conversely, some advertisements may expose the bad effects of the product. For example, smoking and drug use are harmful to health, drinking alcohol has effects on the liver. In other situations, failed advertisement does not attract the customer base, which leads to the same or lower consumer preference for the product, thus reducing the WTP and lowering the demand.

In recent years, social media advertising has been one of the most popular forms of advertising. Because of its wide and easily reachable communication, brands are spending a large ratio of marketing and advertising on social media. By adjusting brand features, post content, and fan interactivity, the brand's customer stickiness can be enhanced. It can be concluded that the more vivid and interactive the brand posts are, the more popular they are. The share of positive comments on brand posts is positively correlated with the popularity of brand posts. Fans of a brand are usually consumers or potential consumers of the brand, while word-of-mouth communication from users of social networking sites significantly influences new registrations [11]. So positive advertising may just enter a virtuous circle, increasing consumer loyalty while increasing potential consumers.

5. Discussion

There are many reasons among others that affect the factors of demand, such as income, related markets, and advertising. The effect of income on goods depends on the type of goods, whether they are normal goods or inferior goods, and in general, as people's income increases, their budget increases, leading to a willingness to purchase more products. In order to pursue better products, people will discard inferior goods after their budget increases, resulting in a decrease in consumption.

With the progress of society as a whole, based on Maslow's hierarchy of needs, people will gradually pursue higher levels of satisfaction, which may lead to the transformation of goods from luxury goods to giffen goods. The overall economic development process can be inferred from the change of products. At the same time, changes in the market for related products can help businesses determine the price of their goods. In the case of substitutes, a decrease in price may lead to a loss of customers, so it is particularly important to regain customers by lowering prices or improving quality. For complementary products, price changes can indicate changes in the quantity of product demand, and merchants can adjust their product lines by judging the price trends of complementary products.

In order to expand the potential consumers, advertising is an indispensable part. When positive advertising is obtained by various means, not only is brand loyalty of existing consumers higher, implying that people are willing to spend more money on the product, but also the potential customer base and the potential demand are expanded.

6. Conclusion

This paper develops the demand theory and analyzes how demand affects price. Three factors that influence demand are explored through literature, revenue, related market and advertising. The effect of income on demand depends mainly on the type of goods, while the development process of the whole economic system can be inferred by the change of the type of the same goods. The related market is divided into substitutes and complements, and changes in the related market in different markets will bring different two responses. The price change of substitutes is positively proportional to the quantity demanded of the analyzed product, while the price change of complements is inversely proportional to the quantity demanded of the analyzed product. Advertising, on the other hand, can influence demand, and thus price, positively or negatively through differences in content. However, it must be clarified that the research done for this article is limited and each argument deserves to be studied in depth. There are many factors that affect price and demand is just one of them. And there is no way to conduct experimental analysis with controlled variables in real life, so the article is more based on theory. To strengthen the position of the article, experiments should be designed and more literature should be referenced for further research so that demand theory can be better explored.

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