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Analysis of Anchoring Effect in Online Product Pricing Strategies

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Abstract:
People nowadays convert their consuming habits from traditional shopping methods to the e-commerce way, as a result of which they can easily get access to different products via e–commerce regardless of region or country. Some goods are selling perfectly well due to some merchants' brilliant pricing methods, though they are not that unique from other products. This phenomenon shows the importance of pricing strategies, and among the key components of pricing, the anchoring effect stands out as a crucial one. This review examines the application of the anchoring effect in pricing strategies, from its theoretical roots to current research development, including the effect of repeated anchors and so on, illustrating the deficiencies of using overly simplified goods type classification (utilitarian and hedonic) when research, presenting considerations regarding cultural and regional differences, and demonstrating the consequences of long–term repeated anchors. Moreover, classifying different anchor points, ranging from normal price anchors to non-price anchors (including quantity, time and the effect of majorities' decisions). The types of products have also been categorized into physical goods, virtual goods and subscription-based goods, which allow in-depth analysis about how to apply different kinds of anchor points. Finally, an advanced pricing method of using personalized dynamic anchors is proposed, which means anchor prices can be varied and adjusted based on various consumers and their different consumption behaviors.

Keywords: Anchoring effect; pricing methods; e–commerce.

1. Introduction

With the development of e-commerce, people's consumption habits have changed from traditional offline shopping to online shopping, offering great opportunities for e-commerce merchants. When consumers are in the market, they are confronted with a vast amount of information provided by the merchants,

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and their decisions to purchase or not are influenced by various factors. The most malleable part of the marketing mix is price price is often the first thing a client observes about a product [1]. So in order to maximize profits and attract consumers, pricing becomes increasingly important. There are multiple kinds of prices on the web page, and different kinds of prices can influence consumers behavior through various ways, most specifically, the typical price and listing price, which displays on the website is acting as an important primary influencing factor, then the final price of the products is inevitable to compare to those initial information before making the transaction. And this is a vivid embodiment of the anchoring effect in the pricing process.

The anchoring effect is a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered (the "anchor") when making decisions [2]. Owing to economic globalization, consumers can make decisions in global economies and compare prices across different regions based on their needs, investigate how those prices differ from each other, and become informed about available substitutes [3]. In this process, buyers psychologically establish an anchor point, searching for the most satisfied price between substitutes. Thus, pricing strategies such as how to charge a price that maximizes customers' willingness to purchase, are truly an essential point for suppliers to promote sales and generate greater revenue.

Separating goods into only two types (utilitarian and hedonic) was an undetailed analysis. Some products may contain both features and some are hard to define which type they belong to. In further research, can focus more on other products with combined features [4]. Most research was based on a regional market; however, the degree of readiness for online shopping and the sensitivity to different types of anchors are significantly different in different nations. The differences in consumer preferences across different regions can be taken into account in future research. Furthermore, Wu et al. found that repeating the anchor for greater than or equal to three times can enhance the current impact of the anchoring effect, but did not study the long-term effects. Frequent promotions in mobile commerce may lead to consumer habituation or suspicion.

The review article provides an overview of the development of the anchoring effect, ranging from the theoretical basis to applications in the e–commerce industry, aiming to analyze the present pricing strategies and put forward some deficiencies, also offering some innovative insights about pricing methods.

2. Theoretical Development

The concept "anchor" was first proposed by Tversky, A., & Kahneman, D. and they pointed out that the anchoring effect is most common when making numerical evaluations with relevant messages available ahead, and one classic study is about subjects being asked to estimate the percentage of African countries in the United Nations. They were given the first initial number by spinning a wheel of fortune, and their answers were undoubtedly biased towards the anchors [5].

According to this research, Joyce, E. J., & Biddle, G. C. formulate several hypotheses regarding auditing that anchoring effect and adjustment would be less effective to trained professionals, and the degree of anchoring effect in terms of task familiarity. The results turn out: sometimes anchoring happens, and sometimes it does not, and anchoring effects would not depend on the professionals' expertise, but when anchors are significantly biased from the true value, the intensity of the anchoring effect tends to stabilize or decrease [6].

Then, research from Thomas Mussweiler and Fritz Strack supports the notion that anchoring effects mediate the final judgement through mechanisms of hypothesis-consistent testing and semantic priming [7]. While Tversky and Kahneman focused on traditional anchoring mechanisms, Wu, Cheng, and Lin extended the theory to e-commerce contexts and proved that making comparisons isn't a necessity to induce the anchoring effect and also the strength of the anchoring effect can be affected by repeating the occurrences of the anchor three times. Wu et al. also provided suggestions about the pricing strategy (set high anchors) and the website layout (high anchors should be embedded in a web page repeatedly), aiming to influence buyers' value judgment to produce a premium [8].

Lin, Chen & Wu first explored the price anchoring effect in mobile commerce in 2022. They separated the products into two different types: utilitarian and hedonic, and they verified that varied goods types influence the anchoring effect. In terms of practical implications, for pricing strategies, utilitarian products should provide an external reference price (EPR) to enhance purchase intention. ERP close to the selling price (such as low prices of competitors) can be provided to reduce search intention. However, this theory can be taken further by classifying the goods more specifically [9].

3. Types of Anchors in Online Product Pricing Strategies

3.1 Price Anchors in Pricing Strategies

By presenting a direct high anchor, the price difference between the "high anchor point (list price)" and the "low actual price" can be directly seen by consumers. Consumers may easily and intuitively get attracted by the actual selling price, and assume that they've got a great deal. Sometimes, merchants may set extremely high prices, for example, the enterprise edition in a software package, which are called "extreme anchors". Those extreme prices are far more expensive to ordinary consumers. However, merchants may also sell another edition (e.g. personal edition) at the same time, which has a relatively normal price and is more affordable. This price strategy stimulates customers' consumption also by implying that they get a real bargain.

3.2 Non-price Anchors in Pricing Strategies

Non-price anchoring strategies move beyond direct price comparisons. Instead, they provide more diverse information--quantity, time, and social proof to consumers to make decisions based on perceived value. Quantity anchors stimulate wants through displaying labels like "Stock running low" or "Only one left", leaving a deep impression of scarcity in consumers' minds. This taps into consumers' fear of missing out (FOMO) to prompt immediate action. Similarly, advertisements such as "Buy one, get one free" or "Buy two, get one free" use "additional benefits" as anchors, making consumers feel "the more you buy, the more you gain", effectively raising purchase volumes without cutting prices.

Time anchors designed like "Limited time offer: only this night" or slogans like "15-minute discount", maximizing consumers' eagerness for consumption. This creates a scene that makes consumers feel that if they miss this time, they'll lose out on this product or discount forever. Under the circumstances, consumers will shorten their consumption-deciding process and make an immediate purchase to grab the "special offer" opportunities. This strategy significantly increases the conversion rate and generates greater profit for merchants in the long.

Majorities' decisions and ratings always build trust for other consumers. Those recommendations displayed on social media web pages, such as "95 percent user likes" and "five-star rating," will convey messages to potential customers. Decisions made by others are gradually anchored in consumers' minds and influence them to exhibit the same behaviors without too much hesitation or detailed thinking. Especially, when they are deciding something which are unfamiliar to them, as a result, they will largely rely on others' judgements and evaluations.

In this essay, separate goods into three types, which are physical goods, virtual goods and subscription-based goods. For physical goods, using prices as anchors is more common and effective. People are more willing to compare the numerical messages of the physical goods between different merchants and stores, seeking the most suitable price. Especially on some special holidays when stores and merchants provide some special offers, together with cross-store discounts. Differences in prices are easily captured and highlighted by consumers. This helps consumers to compare and identify information and also brings higher sales for the market

Virtual services (e.g., online office software, cloud storage services) are totally different. Rather than focusing on price gaps, they focus on feature-tiered anchoring. Take office software as an example: the basic version (e.g. personal edition) offers common editing functions for free or at a low price to attract entry-level users; the advanced version (e.g. enterprise edition) adds collaborative work and advanced data processing features at a higher price. Different feature tiers act as anchors, allowing consumers to choose based on their needs. This helps platforms cater to diverse user groups and expand their market share.

Subscription-based goods often use combined time and price anchors, such as video platform membership. This kind of membership often has different types classified by time periods—monthly, quarterly, and annually. Obviously, monthly membership packages are the highest in unit price (cost per day), followed by the quarterly fee. The high monthly membership fees act as high anchors. They set off the cost-effectiveness of a yearly subscription and give consumers an incentive to opt for long-term membership.

Overall, in order to achieve growth in sales, merchants have to apply suitable pricing strategies based on the products' own characteristics.

4. Discussion of Customized Pricing and Personalized Anchors

As the internet connection system matures, new possibilities for pricing emerge, which are enabled by the use of big data, reshaping the traditional pricing strategies. Consumer addressability through a database is available in most firms, and this ability is particularly important in customized pricing [10].

The core of pricing for information enterprises lies in Price Discrimination —— charging different prices based on differences in users' "willingness to pay" to maximize total revenue. This concept is similar to customized pricing, which is both based on the information of consumers, but the classification of customers in customized pricing would be more specific.

Consumers' data in tune with geographical location, historical average purchase price and other information such as these, themselves are powerful anchor points when consumers are shopping. Merchants can target potential buyers and boost competitiveness in the crowded e-commerce market by adjusting or setting prices according to the local price level, consumers' historical consumption ability and other sorts of consumers' preferences.

For personalized anchors, merchants adjust their adver-

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tisements on their web page containing different anchors in accordance with different types of consumers, which is an effective method to boost transaction rate. For instance, if a skin care brand targets its consumers to people who usually consume budget-friendly products, it may display "original price $19.9, current price $9.9 only for tonight" on its web page. Besides people who regularly consume luxurious goods, another type of anchor can be used rather than price anchors—others that highlight products' superiorities in aspects consumers care deeply about, such as quality and materials.

5. Conclusion

This review summarizes the significance of the anchoring effect in online pricing, including its theoretical development and recent applications in e-commerce, combining product type differences and repeated anchors. Deficiencies, including oversimplified product classifications (utilitarian and hedonic) which ignore hybrids and can be more precise in future investigations, are also acknowledged and taken into consideration. Furthermore, cultural variations are neglected and insufficient study on the long-term impacts of repeated anchors (e.g., may raise consumer suspicion).

Though aforementioned research gaps will not markedly have impacts on the relatively robust application of the anchoring effect in reality, the investigations can be made more comprehensive in the future. Future work should also use anchor points effectively according to the products' own functions and types. With the utilization of big data for global online markets, a customized pricing strategy is put forward. This method uses different price anchors based on consumers' ability and willingness to pay on the basis of consumers' personal information, such as historical purchase prices, location data, and so on. And this can also serve as a research direction for the future.

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