

Applications of the Anchoring Effect in Online Shopping Festivals

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Abstract: Nowadays, online shopping festivals are prevalent and effective at boosting e-commerce. Research focused on online consumer behaviours did not consider anchoring, a heuristic consumers use, during the decision-making process of purchasing, whereas studies of the anchoring effect failed to shed light on online shopping. This paper aims to explain the psychology behind five major strategies used by online retailers to explore the applications of the anchoring effect on online shopping festivals, which are ideal for examining online consumer behaviours involving impulse buying. It was found that sellers can exploit the anchoring effect by discounts, brand images, quantity anchors, bundles, and coupons to attract consumers to buy their products during online shopping festivals. Consumers, noticing the anchors offered by sellers, such as previous prices of items on sale, adjust insufficiently from them, resulting in biased estimations of the true value of products. Finally, suggestions for consumers, online shopping platforms, and the government to mitigate the anchoring effect are given. This paper provides guidance on both using and mitigating the anchoring effect for sellers and consumers online.

Keywords: anchoring effect, e-commerce, online shopping festivals

1. Introduction

1.1. Research Background

E-commerce changed sellers' strategies and consumers' purchasing habits. The sales estimates of e-commerce reached \$257.3 billion in quarter two of 2022, with an overall increasing trend of retail e-commerce sales as a percentage of total quarterly sales in the U.S. [1]. Since the prevalence and potential of online shopping, e-commerce consumer behaviors have received more and more attention in research and publications. Different from offline shopping, while consumers cannot smell, touch the items, or experience the atmosphere of shops, they can compare prices and qualities among stores readily via the Internet, saving time and budget [2]. For sellers, the differences include the platforms of selling, the marketing strategies, the product displays etc. Therefore, competition is fiercer on online shopping platforms. Learning about consumer behaviors on the Internet can not only help shops modify their strategies online but will also help consumers make better decisions.

1.2. Literature Review

Previous studies of online consumer behaviors mainly focused on three stages, namely consumers' intention, adoption, and continuance of purchasing online. The factors affecting each stage include consumer, environmental influences, product, service, medium, and intermediaries' characteristics, constituting the Model of Intention, Adoption, and Continuance (MIAC) [3]. Notably, most researchers apply classical theories of consumer behaviors and economics like Fischbein's attitudinal model and Engel's decision-making model to investigate online consumer behavior [2-4]. However, even though previous research and unified frameworks like the MIAC encompassed various aspects influencing online consumer behaviors, many areas remain unexplored like the psychology behind phenomena like online shopping festivals and the methods online shops use in these festivals when consumers' irrational behaviours, such as overspending and impulsive buying, are involved.

Discerning consumers' preference construction to be partial and mutable, some studies consider the anchoring effect on consumers' valuation process during purchasing [5-7]. To illustrate, traditional demand functions failed to demonstrate consumers' true preferences when additional factors, for instance, some arbitrary numbers, were involved in their decision-making progress [5]. This shows the potential limitations of traditional theories and models for consumer behaviors online. Analysing a heuristic from behavioural economics, which is a shortcut people use to reduce mental effort, can be a way to investigate online consumer behaviours further. Anchoring is a heuristic people use when facing uncertainties in decision-making [8]. Anchors, when noticed by the information presented trick people's minds unconsciously [9]. By applying this heuristic, an individual's judgements may be biased toward the initial value presented by the information given.

The mechanism of anchoring may be explained by the two systems in people's minds known as System 1 and System 2 [10]. For System 1, since it operates automatically, the anchors evoke certain compatible memories that prime other possible judgements, resulting in a priming effect of the anchors called the selective accessibility model [11]. System 2 operates slower and controls deliberate thinking. Anchors provide ease of thinking, empowering System 2 to form judgments even when uncertainty is present. However, since System 2 requires mental effort, the adjustments from the anchors are typically insufficient, resulting in biased estimations called the anchoring effect [12]. This bias is prevalent and extremely robust when past experiments and studies found that in certain cases, the relevance of anchors to the judgements' contexts or the knowledge and experience one possesses failed to influence the effectiveness of the anchoring effect [8, 13]. For studies about the anchoring effect on consumers, Lee and Ariely established a two-stage model of their goals during shopping, indicating that consumers are more susceptible to promotions and anchors in the first stage of shopping with ill-defined goals [6]. Wansink et al. performed field experiments to investigate the effect of anchoring by promotions like purchase quantity limits on consumers [7]. The results demonstrated that these points of purchase anchors did influence consumers' quantity of purchases. However, few studies examined the anchoring effect on online consumers' decision-making process from different angles of promotions and marketing strategies. Hence, delving deeper into the applications of the anchoring effect on online consumer behaviors is necessary for further research on sellers' marketing strategies and consumers' decision-making online.

1.3. Research Contents and Framework

In this paper, the influence and uses of the anchoring effect on online consumer behaviors are addressed and extended from many angles in the context of online shopping festivals to give explanations of online consumers' psychology and future applications. In the next section, online

shopping festivals influenced by the anchoring effect will be analysed from various angles. Section 3 will offer suggestions. Section 4 concludes.

2. The Anchoring Effect in Online Shopping Festivals

Online shopping festivals are one of the best environments for examining online consumers' behaviors. During such festivals, online shops attract consumers with a series of promotion strategies, creating a phenomenon altogether. Different from offline, other factors like the design of websites, the virtuality of spending online, and the promotion strategies encourage more overspending and impulse buying, which means buying without planning [14]. As a typical example, Tmall's "Double Eleven" online shopping festival starting in 2016 reached \$84.54 billion in gross merchandise volume in 2022, showing an ever-increasing trend for sales in this five-year interval [15]. Another online shopping festival, Cyber Monday, reached \$10.7 billion in 2021 compared to \$7.8 billion in 2018, displaying a rising trend except for 2021 when the pandemic hit [16].

The magic attracting consumers every year to online shopping festivals not only includes the factors listed on the MIAC and other studies focusing on the drivers of consumer behaviors, but the anchoring effect underlying sellers' strategies also explains more about the mechanism of consumers' psychology when experiencing online shopping festivals. Next, five major strategies used by e-commerce retailers in online shopping festivals are examined through the lens of the anchoring effect.

2.1. Discounts

In online shopping festivals, discounting is the most commonly used promotion strategy. Discounts are displayed online by showing the previous prices of the goods with the sale prices or by explicitly indicating the percentage off from the previous prices.

This type of reference-price advertisement was studied by scholars with experiment designs offline demonstrating the effect of anchoring [17]. The previous prices of the items serve as a high anchor in consumers' minds, which happens unconsciously [9]. Then, consumers estimate the true value of the items they would like to purchase by adjusting from the previous prices. Consumers may be prone to impulse buying if the sale prices are much lower than their adjusted estimations. After understanding the effect of anchoring on consumers by discounting, online shops can exploit the anchoring effect to achieve higher sales by setting higher anchors. However, unlike offline stores where the price of similar items is not as readily available to consumers, it should be clarified on the product page as a promotion strategy so consumers can make better decisions. When online shops use discounts, they should be careful when deciding the displaying prices before sales since the anchoring effect may be diminished when the high anchors are too extreme in magnitude [18]. Online consumers should be cautious during online shopping festivals when purchasing discounted goods. To reduce the anchoring effect, Mussweiler et al. suggested the "consider-the-opposite" technique [19]. Before clicking the "buy now" button for these discounted items, consumers should consider the reasons why the sale prices are too low to evoke System 2 and the inconsistency of anchors.

2.2. Brand Image

Even during online shopping festivals where thousands of brands participate, the discounts vary for different brands. As an example, consumers assume that products from luxury brands are of high quality based on their high prices [20, 21]. Due to insufficient adjustments from the high prices of the brands and the compatible information of the brands, consumers readily anticipate the similar

high quality of other products of the same brand. While the products of a brand have a variety of qualities and prices, the brand image of high quality and luxury generated by overall high prices helps shops sell more of the same brand even when there are few discounts. Similarly, consumers who buy products from shops with relatively low prices may anchor on the low prices, not adjusting enough when the same brand offers higher-priced products. Buying from the store of these brands evokes the associative coherence of low prices as anchors of low prices.

Therefore, for online shops aiming to sell high-quality products, higher prices can serve as anchors for consumers to establish corresponding premium brand images. Conversely, for online shops delivering cheap products, lower prices can be anchors for consumers to buy more when relatively high-priced products are for sale. Consumers in this case should consider whether they should stick to the same brand or not when purchasing goods. More study on the relationship between brands and products' quality may be beneficial, especially if a certain brand sells items cheaper than their other products, or vice versa.

2.3. Quantity Anchors

The aforementioned sections discussed anchors by manipulating prices. Through strategies like multiple-unit pricing, quantity limits, and suggestive quantity slogans, consumers' quantity decisions can also be impacted by the anchoring effect [7].

When shops offered explicitly information about quantity like "Buy 2 for \$5", "Maximum 5 per purchase", or "Buy 10 for your fridge", consumers anchor on the quantity provided by sellers. Adjusting downward insufficiently, consumers end up buying more products than without the anchors when purchasing everyday goods since a low level of engagement is required [7]. This may also occur during online shopping festivals. With the vitality of buying items, adding more quantity can be done with a simple click, so that consumers will not feel as if they are losing money. Eventually, higher quantity anchors help retailers increase their sales online. Online shops may use this effect to attract consumers to buy more quantities of their products for potential profits and larger scales. While increasing sales, online shops should also consider their target audience when deciding on quantity cues. When more motivation and engagement are needed for making purchase decisions like purchasing luxury goods, quantity anchors may not work as well as staple goods. To mediate the anchoring effect, consumers should consider their demand for the product with more consideration and engagement when cues of quantity appear.

2.4. Bundles

Bundles are another commonly used strategy for shops to promote their products by adding various products into a package. Yadav found that when consumers are evaluating a bundle, they will start by scanning the products, selecting an anchor, and finally adjusting from the anchors [22]. By scanning the bundle, consumers rank the items from the most valuable to the least valuable. Then, consumers perceive the most significant item as the high anchor when evaluating the bundle. Next, the bundle is valued at a higher price than the sale price since a product act as a high anchor.

During online shopping festivals, online shops employ a similar approach but not like the one offline by physically combining items in a package. For example, when a consumer is looking for a book online, the recommendation system of the online store will automatically generate a bundle to include another similar book to the book the consumer is originally interested in. By combining the books with a lower price, consumers may value the whole bundle with a higher perceived price since the book they are interested in is the most valuable item in the bundle. Adjusting from this item, the consumers believe buying more books at lower prices than buying one separately is a "saving" or a "gain", resulting in buying more books than needed. Online stores enhance buyers'

impulse buying by presenting potential bundles with the item buyers initially intended to buy. This helps online stores sell more items per trade and thus generate more benefits.

The combination of items for online shops should be carefully considered. If consumers do not perceive any items in the bundle as a high anchor, the anchoring effect of the whole bundle is proved to be less effective [22]. Accordingly, online shops should combine high anchor items like popular items or high-quality products with lower sales items based on information from consumers' browsing and shopping carts. By bundling, sellers can not only boost total sales but also earn more. Furthermore, the more products in the bundle, the more difficult purchase decisions buyers must make [23]. Retailers should avoid bundling too many things to reduce the mental work required by customers throughout the purchase process.

For consumers wishing to prevent impulse buying, especially on occasions like online shopping festivals, evaluating the bundles sellers provide is crucial. To act more rationally, one should activate System 2 by considering the pros and cons of buying more goods that used to be not on the shopping list.

2.5. Coupons, Vouchers and Promotion Codes

A strategy that combined quantity anchors with price anchors is coupons issued by sellers. There are many types of coupons including but not limited to ones with a recommended spending amount to give discounts, vouchers that can be directly used as a certain amount of money when purchasing at that shop next time, and promotion codes offered by online sellers for shoppers to reach higher total charges. For those coupons that can only be used in purchases at present, buying up to the limit can be a high anchor for consumers to adjust from. Initially, consumers may not have a specific goal to achieve while spending online, simply finding things they need to check out. However, when consumers realize the amount suggested by sellers to receive coupons before paying, the anchoring effect is activated unconsciously. Moreover, since consumers noticed the previous prices of the goods they selected before applying the coupons, the anchoring effect of discounts also applied in this case of coupons. By recommending other goods in store for consumers to redeem the coupons, bundling's anchoring effect is in effect. By anchoring on the most valuable item selected first, consumers add more items into the shopping cart, generating a bundle themselves through the guidance of sellers. Therefore, providing coupons can have a combined anchoring effect of discounts and bundles on consumers, which reinforces the insufficient downward adjustment from the previous prices of the items in the shopping cart.

Online shops should determine coupon amounts by analysing different bundle values that include high anchors and mediocre anchors. By issuing different coupons for different total charges in the shopping cart, online sellers attract more sales from consumers. However, sellers should also consider the prerequisite of issuing coupons since a sense of inequality and dissatisfaction may influence consumers if the promotion code is not provided before payment, resulting in shopping cart abandonment [24]. From the perspective of consumers, coupons indeed help save their money before paying the total charge. Nevertheless, coupons sometimes lead them to buy more products without planning, which can be a double-edged sword since the products add to receive the coupon can be useful or become another item waiting to be used in the boxes. Thinking about the consequences of buying more products unintended to buy at first may help consumers make better decisions facing the lure of coupons.

3. Suggestions

After delving into the effect of anchoring on multiple angles of strategies used by sellers in online shopping festivals, further suggestions to either exploit the anchoring effect or mitigate it should be

discussed. During online shopping festivals, sellers can combine discounts, quantity anchors, bundles, coupons etc. to build a brand image and attract consumers to enter virtual shops and purchase more products. However, since each online shop has its unique features and items for sale, the extent of discounts, the combination of bundles, and the level of coupons to be redeemed vary to be more effective. Furthermore, online retailers could collaborate with online shopping platforms to ensure promotion strategies effectively boost sales of products in the shop and maximize the brand's benefit rather than merely increasing the platform's total sales. More research on exploiting the anchoring effect on consumers through these promotion strategies is required for online stores to practically utilise anchoring during online shopping festivals and more.

Consumers are affected by the promotion strategies mentioned and more during online shopping festivals and daily consumption if they have little product or brand knowledge [25]. Through understanding the mechanism of triggering the anchoring effect in different scenarios, consumers are more vigilant to certain cues when deciding the items and quantity in their shopping carts. As consumers browse more related products and brands, they can accumulate knowledge that can mitigate the anchoring effect. Albeit the anchoring effect was proven to be robust and can hardly be eliminated, the “consider-the-opposite” strategy can be a helpful start for consumers to realise their heuristics usage and motivate their System 2 when making judgements under uncertainty [10, 19].

Except for sellers and buyers, online shopping platforms and the government should also be aware of the importance of the anchoring effect on consumers and regulate sellers' usage of promotion strategies. Online shopping platforms should validate the veracity of the information given by merchants, such as prior pricing of the products on sale and coupons' terms of use etc. Sellers, when noticing the robust effect of anchoring, may exploit anchoring by posting fake information or hiding the true value of the item. Thus, to help consumers purchase more rationally and carefully, online shopping platforms should regulate the shops when using multiple promotion strategies that trick consumers. Government, similarly, should introduce laws and regulations for shops online when using promotion strategies to evoke consumers' valuation based on heuristics.

4. Conclusion

E-commerce is a newly emerging area to study consumer behaviors. However, the psychology of consumers' behaviors was left unexplained in previous studies regarding online consumer behaviors.

In this paper, the applications of the anchoring effect in online shopping festivals provide explanations of the psychology underlying consumers' behaviors online by investigating five major strategies used by sellers. In the case of discounts, previous prices provided by sellers near the sale price act as an anchor when consumers are estimating the true price of the product. Brand image is also a result of the anchoring effect. When buying goods from the same brand, consumers could have biased expectations of the products' prices and quality. For quantity anchors, sellers may indicate the quantity explicitly by advertisement or slogans, providing anchors for consumers. Combining goods into bundles is another strategy retailers employ to promote total sales in their online shops by exploiting the anchoring effect. Finally, the coupons and promotion codes combined the anchoring effect of discounts and quantity by allowing consumers to redeem the coupons or codes after reaching a certain amount of total spending. From the five aspects, the anchoring effect is proven to influence consumers' behaviours online, especially during events like online shopping festivals when multiple promotion strategies and more mental efforts are involved. Therefore, sellers can apply the anchoring effect more efficiently by mingling their unique products and brand image with promotion strategies to boost sales. Purchasing under uncertainty and promotions should be taken more seriously by buyers. Online shopping platforms and the government should regulate promotions used by retailers to help consumers make better purchases.

This study, however, has several limitations. This study does not reveal the precise magnitude of anchoring's impacts on consumers. Also, other promotion strategies used in online shopping festivals are not discussed. Additionally, how different online shops can exploit the anchoring effect on consumers with their products is a question for future research to delve into more comprehensively. More research and experiments for developing a framework of the factors influencing consumer behaviours during online shopping festivals including anchoring or other heuristics is another potential direction to further improve the studies of online consumer behaviours.

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