

Research and Prospect of Presale Strategies based on Consumer Behavior

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Abstract

In the fierce competition of the e-commerce market, e-commerce companies use the pre-sale model to sell products. There are many benefits, such as attracting consumers in advance and increasing conversion rates; guiding merchants to properly stock goods; alleviating the server burden of traffic surge at 0 o'clock; increasing consumers Logistics experience, etc. At the same time, there are many problems with the pre-sale model. Pre-sale occupies an increasingly important position in the market strategy of business practice. Pre-sale strategies based on consumer behavior have also become an emerging research area in academia. This article focuses on the pre-sale strategy motivated by improving the accuracy of demand forecasting, the pre-sale strategy motivated by the realization of price discrimination, the pre-sale strategy on the pre-sale guarantee mechanism, and the pre-sale strategy considering consumer strategic behavior. Summary, induction, review and prospect of key research literature in the field of pre-sale, hoping to find gaps in existing research, provide ideas for future research, and propose future research directions.

Keywords

consumer behavior; pre-sale; research outlook.

1. Introduction

Pre-sale refers to the sales model in which sellers provide consumers with the opportunity to buy in advance and guarantee the availability of pre-ordered products (Fay and Xie, 2010) before the product or service is officially launched[1]. Early pre-sale research mainly focused on service industries with short-term supply capacity represented by airlines, hotels, and healthcare. However, with the rapid development of science and technology, the applicability of pre-sale is becoming stronger and stronger, and the scope of application has become wider and wider. Now it has expanded to the sale of perishable products, electronic products and high-tech products[2]. In recent years, Double Eleven has become an annual national carnival for consumers. Taobao's double eleven transaction volume increased from 50 million in 2009 to 213.5 billion in 2018, and double eleven in 2019 will continue to hit a new high. Compared with the past, there are many significant changes in Double Eleven in recent years. One of them is to strengthen pre-sale: Ali intentionally guides consumers and merchants to participate in pre-sale. Including Jingdong, Suning, etc. have increased the proportion of goods pre-sale. The main purpose of pre-sale is: warm up, attract consumers to pay attention to Double Eleven 20 days in advance, so as to improve the conversion rate and ARPU (average revenue per user); guide merchants to reasonably prepare goods through pre-sale; The server load that surges in traffic at time; Improve the consumer experience, especially the logistics experience, by stocking in advance and entering warehouses. Consumers can also conduct online searches through mobile terminals such as mobile phones in advance to understand the sales information of some planned products, such as price trends and customer

evaluations. This helps consumers make the right purchase decision, but poses a serious challenge to what kind of presale strategy the seller uses.

Many results show that the profit of the retailer under the pre-sale mode is always better than that without the pre-sale strategy. Pre-sale can help retailers determine customers and their demand in advance, reduce inventory risks, and update demand forecasts, making retailers Profit increased[3]. At the same time, the pre-sale model also allows merchants to adopt discriminatory pricing strategies for consumers during different purchase periods. Fully explain that the pre-sale strategy has a great impact on enterprises and consumers. The following is a domestic and foreign market from four perspectives: the pre-sale strategy motivated by improving the accuracy of demand forecasting, the pre-sale strategy motivated by the realization of price discrimination, the pre-sale strategy regarding the pre-sale guarantee mechanism, and the pre-sale strategy considering consumer strategic behavior. Some key research literatures in the field of pre-sale summarize, summarize, comment and prospect.

2. Pre-sale Strategy Motivated by Improving Demand Forecast Accuracy

Supply and demand matching is very important for enterprises. Uncoordinated supply and demand is an important factor leading to increased operating costs for manufacturers. Loginova and Wang (2016) show that pre-sale reduces the uncertainty of the company and the buyer, can significantly improve the matching of supply and demand between the company and the consumer, and enables the company to update its forecast of future demand, which divides consumers into experienced and inexperienced. Reservations from experienced consumers can more accurately predict the company's future needs. It indicates that the company will always use pre-sale, and the best booking price may be a discount or premium over the normal sales price[4]. Boyacı and Özer (2010) researched the joint benefits of obtaining capacity planning information through pre-sale and revenue management of installed capacity through dynamic pricing, and explored inventory decision issues during normal sales periods based on market information obtained from product pre-sale. It is found that the pre-sale information can provide a scientific basis for the manufacturer's inventory decision, and then improve corporate profits[5]. Tang CS, Rajaram K, Alptekinoglu A (2004) analyzed the optimal pricing and ordering strategies of merchants in markets with varying levels of demand fluctuations. Studies have shown that discounted pre-sale will guide consumers to choose to book products before they are officially launched. Merchants can then use the relevant information obtained by the pre-sale to update consumer demand forecasts. At the same time, the benefits of the discounted pre-sale model were evaluated and the optimal discount and its related properties under the condition of maximizing the profit of the merchant were given[6]. Hui et al. (2008) based on the research of Tang et al (2004) and others, based on the consumer utility function to construct a consumer's individual behavior model, and predicted the DVD's booking and sales allocation amount[2]. Li and Zhang (2013) explored a single retailer's presale strategy when facing a heterogeneous consumer market. Research has found that accurate demand information can increase product availability, thereby weakening retailers' ability to demand high pre-sale prices[7]. Chu Hongyan and Zhang Qinhong (2018) studied the online retailer's product order and deposit decision-making issues with the background of deposit pre-sale generally used in the domestic online shopping market. The conclusion shows that the higher the value of the product, the expected profit of the deposit pre-sale model is more advantageous than the normal sales model; and the demand information update effect of the deposit pre-sale model is conducive to the retailer to obtain higher profits; in addition, the more dispersed the consumer value, the more consumers cancel a reservation, which is not conducive to the deposit pre-sale model[8].

This type of research focuses on how to use the demand information obtained from pre-sale to improve later-stage demand forecasting.

3. Pre-sale Strategies Motivated by Price Discrimination

The application of the pre-sale model originated in the service industry, which has limited supply capacity for products and services. Based on consumers' different buying timings, sellers will adopt price discrimination strategies. Combining with the realistic background, scholars have made many meaningful explorations on the issue of making pre-sale strategies motivated by price discrimination. Gale and Holmes (1993), DeGraca (1995), Yu and Ahn (2015) all consider capacity-limited monopolies. Gale and Holmes (1993) show that presale discounts allow companies to differentiate between consumers who reasonably determine their future service utility and consumers who are more uncertain[9]. Degraba (1995) also found out why monopolists deliberately create excess demand. Although the customer prefers to buy after knowing it, the monopolist prefers to sell to the customer without knowing it, because a group of unknown customers value the product more consistently (expected) than the informed customer. Less sales than customers can entice customers to buy without knowing it, because anyone who waits for a purchase until they know it can't find what is available. It indicates that companies may benefit from intentional scarcity strategies that induce consumers to buy in advance to avoid rationing risks[10]. Yu and Ahn (2015)[11] found that capacity allocation during the pre-sale period is an effective tool to signal product quality. It was found that during the pre-sale period, high-quality sellers allocate less capacity than low-quality sellers, enabling them to distinguish themselves. If consumers know the quality of the product, this signaling mechanism exists at all times, that is, pre-sale is optimal for high-quality and low-quality sellers. Xie and Shugan (2001)[12] studied the use of the pre-sale model to enhance market participation and found that binding capacity constraints can in turn affect the profitability of pre-sale. At the same time, it shows that as long as the unit marginal cost is not too high, even without capacity constraints, companies You can also get better income through pre-sale. It also shows that pre-sale profits do not come from buyer surplus, but from more buyers being able to buy. Xie and Shugan (2004)[13] reviewed the pre-sale research literature of the service industry and found that under the situation of limited capacity, it can be profitable to adopt a pre-sale at a premium and limit the number of pre-sale. The profit increase from pre-sale can be huge, and this profit increase does not require industry-specific factors, such as price-sensitive customers arriving early. Liu and van Ryzin (2008)[14] introduced a protection mechanism in the dynamic pricing model that can reduce the price of consumer uncertainty. The research results show that capacity allocation can guide consumers to buy products in advance, and analyze the ability to maximize company profits select. Boyacı and Özer (2010) consider the manufacturer to formulate the corresponding capacity plan by collecting pre-sale information before officially launching the product, and analyze how the operating conditions and market characteristics affect the value of the pre-sale information obtained[5]. Talluri and Albeniz (2011) studied the price competition of oligopoly in a dynamic environment, and first proved the existence of complete equilibrium for the sole subgame of oligopoly. In the equilibrium state, the sellers participate in the Bertrand competition, so that the seller with the lowest retention value eventually sells a unit at a price equal to the equilibrium retention value of the competitors[15]. This series of studies mainly considers inventory and pricing decisions motivated by retailers to achieve price discrimination in the context of pre-sale.

4. Pre-sale Strategy Regarding the Pre-Sale Guarantee Mechanism

4.1. Price Guarantee

Price guarantee refers to the price matching strategy that the seller guarantees that if the price decreases within a certain period of time, it will provide price compensation (backward difference) to consumers who purchase in advance to eliminate the strategic wait of consumers. Lai et al.(2010)[16] Research shows that the price guarantee policy eliminates the waiting incentives of strategic consumers, thereby allowing sellers to increase prices during normal sales seasons, when the proportion of strategic consumers is not too small, and their valuations decline over time When neither too low nor too high, the price guarantee policy can significantly increase the seller's profit and inventory investment. When only a few strategic consumers or the valuation of the strategic consumer drops very low or high, the price guarantee policy may be harmful of. Li & Zhang (2013)[17] found that under the price guarantee, the seller will reduce prices in the regular season only when the demand for reservations is low; however, this advance information also means that the demand in the regular season is weak. This means that in the regular season, sellers can no longer benefit from high demand. Therefore, in the case of a price guarantee, more accurate advance demand information may still damage the seller's profit due to its adverse impact on the regular season.

4.2. Return Guarantee

Because pre-sale leads to the separation of consumer purchase decision and product experience, as long as the actual value of the product is lower than the consumer's psychological expectations or the refund is not less than the actual value of the product, consumers will submit a return application, Defect return issues. Therefore, the current pre-sale field has begun to shift to the research of product-free return strategies. Hagerty et al (1998)[18] research found that when: the benefits of its products cannot be consumed in a short period of time; its product line provides the opportunity for cross-selling; it is more likely that retailers will provide low Troublesome return policy. Li Yongjian et al. (2012)[19] studied the retailer's pre-sale strategy for non-defective returns when consumer product valuation and demand are uncertain, and analyzed the pre-sale policies that do not provide pre-sale and provide partial refund service. The best pre-sale discount for retailers under a sales strategy and a pre-sale strategy with a full refund return service. Wang Yefeng et al. (2020)[20] constructed three models of pre-sale returns under the constraints of production capacity, and studied the single pre-sale strategy, the pre-sale returns are no longer sold, and the pre-sale returns are normal sales strategies when there are strategic consumers. . The above literature only considers the return guarantee strategy for monopoly sellers during pre-sale, and does not consider the pre-sale return guarantee mechanism in a competitive environment. Guo (2009) used the choice of corporate profit and refund policies as the starting point, and discussed the pre-sale strategy of enterprises with capacity constraints in a competitive environment[21]. Demirag OC (2013) and others studied the impact of different return strategies (zero refunds, partial refunds, and full refunds) on merchant profits under the pre-sale model. The research results show that in a competitive market, some The refund strategy is a balanced choice for all merchants[22].

5. Pre-sale Strategy Considering Consumer Strategic Behavior

The proliferation of emerging Internet media and communication paths has led to a gradual increase in consumer information. Consumers gradually show a strategic behavior when making shopping decisions. That is to integrate information obtained from various channels, consider product prices, pay attention to product availability, search costs and price changes,

as well as various factors of out-of-stock risks, and form rational expectations for future market conditions. With the increasing amount of information, consumers no longer completely passively accept corporate-led marketing strategies, but will judge future price trends based on existing information (vendor inventory and market demand, etc.), and rationally respond to the price mechanism of potential sellers. The principle of maximizing self-revenue is to choose the most favorable buying opportunity.

In recent years, scholars at home and abroad have begun to pay attention to consumers' rational buying behavior, consider the game between consumers and enterprises, and incorporate it into the formulation of pre-sale marketing strategies. Part of the research is on the relationship between strategic consumer demand and product pricing and inventory under the pre-sale model. For example, Mesak HI, Zhang H, and Pullis JM (2010) studied the best capability allocation strategies of service providers under monopoly and competitive market conditions, respectively, and have already resolved the depth of advance sales and whether the advance sales of service companies should. The question of whether the duration is optimal and whether excess capacity is the best strategy[23]. Zhou Xiongwei, Li Jun, Cai Dan, etc. (2017) showed that supply capacity must often lead to a shortage of perishable products with a fixed consumption period, and consumer utility and retailer costs will change over time. Under the exogenous conditions, a two-stage time strategy model for pre-sale and current sale of perishables was constructed, and the issues of the retailer's decision on the pre-sale time, when to start the current sale, and the length of the current sale were analyzed and discussed[24]. Duan Yongrui, Yu Bofeng et al.(2018)[25] pointed out that action regret and waiting regret are two common regret behaviors of consumers. Based on the consideration of these two regrets, this paper studies the enterprise capacity planning in the pre-sale environment when consumers are strategic. Nasiry and Popsco (2012)[26] described the impact of anticipatory regrets on consumer decisions and corporate profits and policies in situations where buyer valuations are uncertain. Shows how a company should best respond to consumer regrets, and describes a standard regret threshold beyond which companies should not sell ahead of time. Action regret reduces the profit of the pricing company and the value of the pre-sale and reservation limit policies; no action regret has the opposite effect. Cachon and Feldman (2017) identified two approaches to restrict the effectiveness of presale competition. First, although monopolists can sell to consumers with the same preferences at high prices, this homogeneity intensifies price competition and reduces profits. Second, the competition in the spot period may reduce the price of the spot period, thereby forcing companies to reduce the price of the pre-sale period, which is also not conducive to profits. Rational companies foresee this and reduce or eliminate the use of presale. Therefore, even if the monopolist makes full use of the pre-sale approach, rational firms facing competition must either mitigate it or completely avoid it[27]. Yin Zhe and Wang Shu believe that the uncertainty of the value of the pre-sale period has induced strategic purchase delays by consumers, and cannot fully take advantage of the pre-sale. Based on this, how to deal with the negative impact of uncertain product value in pre-sale through the introduction of the deposit value-added strategy. The results show that the use of deposit value-added can effectively alleviate the waiting behavior of strategic consumers, thereby improving the pre-sale effect of retailers[28]. He Yingying and Guo Chunxiang[29] built a mathematical comparison model of return shipping insurance based on the consumer's strategic behavior, and studied the pre-sale strategy and decision of return shipping insurance under the condition of uncertain consumer valuation. Get the best pre-sale discount factor and the best refund amount.

6. Research Prospects

In summary, pre-sale needs to continue to be studied in theory and practice. The current research is very rich, but there are also many new problems and research directions. In the future, research in the field of pre-sale based on consumer behavior can be carried out in the following research directions, so as to solve various problems encountered by enterprises in pre-sale in reality.

(1) Research on pre-sale model in a competitive environment based on consumer behavior

Studies have shown that monopolists benefit from pre-sale, but in a competitive environment, consumers' purchasing choices are more complicated. Although monopolists benefit from pre-sale, pre-sale is not necessarily for companies facing competition. Existing researches mostly focus on the pre-sale strategy of a single company. Therefore, it will be more practical to extend the pre-sale model from a monopoly environment to a competitive environment. Based on the above reasons, literature research, game theory, and example simulations have been used in the existing research to try to analyze the new problems of pre-sale of e-commerce enterprises in a competitive environment when consumers have strategic delayed purchases. In order to analyze the decision-making process of individual consumers in different situations, not only when and when to buy products, but also from which company to buy, consider the impact of behavioral deviations on consumers and corporate strategies.

(2) Research on the pre-sale guarantee mechanism based on consumer behavior

With the development of science and technology, consumers have more and more channels to obtain product information, and the proportion of enterprises stimulating consumers to buy in advance through pre-sale is decreasing, and at the same time, consumers have higher quality of services and goods received than before. May be dissatisfied with the product at any time and may not be purchased or returned. Therefore, it is necessary to systematically analyze the price guarantee and return guarantee in pre-sale when considering consumer behavior, study its applicable conditions, formulate a reasonable pre-sale guarantee mechanism, and reasonably arrange the relationship between pre-sale and normal sales. Relationship, accurately describe the movement of consumer demand between the pre-sale period and the normal sales period due to the adoption of the guarantee mechanism, and improve the applicability of the pre-sale guarantee mechanism, which will be another focus of future research in the field of pre-sale.

(3) Research on Presale Strategies Based on Consumers' Irrational Behavior

In the existing research, the research that consumers are set to be absolutely rational is extremely rich, and there are many new directions on the impact of irrational behavior on pre-sale decisions. Consumers' strategic waiting, risk appetite, regret behavior, overconfidence behavior, and opportunism are real. These irrational behaviors have been studied in many fields. Literature research can be conducted to consider the different changes caused by the behaviors in the presale environment, To develop a more realistic pre-sale strategy.

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