

Negative Consumer Psychology Generated by Blind Boxes: How the Uncertainty Attribute of Blind Boxes Affects Compulsive Buying Tendencies

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Abstract: In recent years, a "blind box fever" is sweeping the world, and blind boxes are becoming a popular item worldwide. However, while the sales of blind boxes are booming, many consumers are spending a lot of money because of the characteristics of blind boxes that they buy in bulk. This study discusses the relationship between the uncertainty of blind boxes and compulsive consumer psychology in order to protect consumers and make them more aware of the negative effects of blind boxes. It concludes that the uncertainty of blind boxes can lead to compulsive consumer psychology. This study argues for the negative effects of blind boxes, reminds consumers of the need to be aware of the negative consumer psychology generated by blind boxes when purchasing blind boxes, and suggests that government departments and blind box companies should strengthen consumer protection measures to avoid the negative effects of blind boxes on consumers.

Keywords: blind box, uncertainty, gambling psychology, compulsive buying psychology

1. Introduction

In the 1920s, a twister with snacks and small toys appeared in the U.S. market and was used by businesses to attract children to buy, and then in the 1980s the twister was introduced to Japan and exploded in the Japanese market, which is the origin of the "blind box" [1]. In the decades of evolution, the blind box has gradually gone to the world and gained the love of the worldwide market. In China, Tmall (Online shopping platforms in China) statistics show that more than 200,000 consumers will spend more than \$2,800 per year on blind boxes, and some consumers will even spend millions of RMB to collect blind boxes, the market size of China's blind box industry has reached \$7.4 billion in 2019 and is expected to reach \$25 billion by 2025 [2]. But while blind boxes are selling well, many consumers buy blind boxes as if they are addicted to gambling, which makes many consumers spend a lot of money on blind boxes, which makes blind boxes that should be entertainment in nature no longer useful. This also illustrates that certain features of blind boxes may create a compulsive consumer mentality.

This paper confirms through previous research that blind boxes are characterized by uncertainty, scarcity, sociality, collectability, and are prone to undesirable consumer psychology such as gambling psychology, comparison psychology, and conspicuous consumption psychology [2].

2. Uncertainty and Compulsive Buying: Exploring Theoretical Frameworks and Interactions

2.1. The Psychological Effect of Uncertainty

Numerous scholars have engaged in an examination of the mechanisms within the field of uncertainty marketing. The fundamental theories that delineate their study can generally be segregated into four primary categories: theories relating to positive emotion, the concept of information gap theory, theories focusing on the resolution of uncertainty, and theories rooted in inherent optimism.

Primarily, uncertainty raises stimulation levels, intensifying emotional experiences, and evokes positive emotions [3]. Positive uncertain events maintain positive emotions, increase consumer feelings, and result in enthusiasm speculation [3].

Meanwhile, the information gap theory suggests that the gap between known and desired information provokes curiosity, drawing attention to ambiguous advertisements [4]. Individuals are intrinsically driven to resolve uncertainty, even in circumstances where the outcome may be unfavourable, given that the process of resolving uncertainty operates as a form of positive reinforcement [5]. Additionally, the innate optimism theory provides insight into the common tendency of individuals to perceive themselves as being fortunate, thereby leading to an optimistic estimation of prospective outcomes. In conclusion, the effectiveness of uncertainty marketing is shaped by the intent behind a customer's purchase and the nature of the product in question. [6]. Purchases driven by emotion are more likely to elicit increased interest and motivation towards the strategies of uncertainty marketing whereas cognitive purchases require clear and detailed information, favouring deterministic factors.

2.2. Compulsive Buying Tendencies

Compulsive buying has been studied by researchers, with varying definitions proposed. Certain scholars perceive compulsive buying as a deficiency in impulse control, drawing parallels with obsessive-compulsive behaviour [7]. Other researchers have formulated diagnostic instruments to quantify and categorize compulsive buyers, considering factors such as personality characteristics, familial communication dynamics, and demographic variables [8]. Furthermore, an analytical methodology has been proposed that associate compulsive buying behaviour with elevated emotional activation, increased cognitive control, and heightened reactivity, conceptualizing compulsive buying as a generalized impulse to make purchases [9]. Overall, compulsive buying is a complex phenomenon with multiple definitions and proposed theoretical bases in the literature.

2.3. The Link between Uncertainty and Compulsive Buying Tendencies

The correlation between uncertainty and compulsive purchasing tendencies is further consolidated by studies indicating that compulsive buyers are more inclined to experience negative emotional states including anxiety, ennui, and depression [10].

Moreover, the uncertainty created by limited availability, scarcity, and the unknown contents of products can be powerful motivators for compulsive buying behaviour. The use of blind boxes, loot boxes, and mystery bags by retailers takes advantage of this by creating a sense of excitement and anticipation among consumers who are uncertain about the contents of the box. In some cases, consumers may purchase multiple boxes to alleviate the uncertainty, leading to compulsive buying

tendencies. Overall, the link between uncertainty and compulsive buying tendencies highlights the importance of understanding how marketers can use uncertainty to create demand and how consumers can protect themselves from the negative consequences of compulsive buying.

3. Analysis of Uncertainty Marketing and Blind Box Consumption: Understanding Psychological Mechanisms and Behavioural Impact

The researchers found that pigeons exhibited similar behaviours to human gambling, such as taking risky bets and showing addictive patterns. The design of a blind box creates an unpredictable reward model uncertainty that creates a sense of excitement and thrill for consumers. They also found that certain 'jackpot' signals, such as flashing lights and sounds, led pigeons to make riskier choices, even though they had previously known that these choices would bring less reward. When people open a blind box, they never know what they will get until they open it. A study conducted by researchers at the University of Kentucky, which looked at how pigeons make decisions when faced with the opportunity to gamble on food rewards. This reward pattern leads to the same psychological mechanism as gambling addiction - intermittent reinforcement [11]. Skinner's research suggests that animals and humans tend to adhere to intermittently reinforced behaviours, even when reinforcement is infrequent and unpredictable. Intermittent reinforcement is more effective at maintaining behaviour than continuous reinforcement, which provides a reward or punishment each time the behaviour is performed. This is because intermittent reinforcement creates a sense of uncertainty and anticipation in the individual, which makes the behaviour more attractive. This creates a sense of excitement and uncertainty so that the individual may continue to engage in a behaviour, creating an addiction in the expectation of a reward. Even if there are not enough rewards in the blind box, the consumer's anticipation of a possible reward is sufficient for the person to engage in the behaviour again and again. Over time, this intermittent reinforcement can lead to the development of a gambling addiction, in which the consumer becomes increasingly preoccupied with the reward and increasingly unable to control his or her behaviour.

In the blind box purchase process, visual and quality information about the product is not directly presented to the consumer because of the uncertainty caused by the non-transparent packaging. Uncertainty is a state that stimulates consumers' curiosity and imagination. Since the contents are randomized, each unboxing becomes a one-of-a-kind experience. This exclusivity factor drives consumers to engage in multiple blind box purchases, hoping to obtain rare or highly sought-after items. The element of surprise and the potential for obtaining valuable or limited-edition products contribute to the addictive nature of blind box culture. According to uncertainty dissipation theory, players can resolve uncertainty as a psychological reward after opening the box [12]. This sense of reward is often amplified by the element of surprise, as consumers have no prior knowledge of what they will receive. Blind box purchases have gained significant popularity in recent years, especially in the realm of toys and collectibles. The phenomenon of the blind box is overly permeated in young male and female populations and is strongly associated with suicide risk [13]. This association is not coincidental but results from the psychological and social stresses triggered by the over-consumption of blind boxes. The association persists and even deepens even after the influence of related factors.

The brains evolved to prioritize the avoidance of danger and the protection of resources, as these were essential for survival in the ancestral environment. As a result, the brains have developed a stronger emotional response to losses because they represent a threat to resources and survival. Blind box participation may be similar in nature to gambling, increasing the risk of suicide by inducing mental health problems such as anxiety and depression [14]. In the context of gambling, loss aversion can lead individuals to continue gambling even after suffering a loss, as they may have a strong need to make up for the loss and avoid the pain of the loss. Since the items in the blind box are randomly selected, it may contain some rare or limited-edition items. Consumers feel loss aversion when they

miss out on these rare items. This is what drives them to keep buying blind boxes to avoid missing out on potentially valuable items. Consumers feel that if they do not buy a blind box, they will miss out on a rare item, so loss aversion drives them to act. This can lead to some problematic behaviours, where losses are more likely than gains to encourage consumers to repurchase blind boxes when they do not meet expectations, thus increasing the risk of compulsive buying tendency.

Companies can reduce their marketing expenses by using uncertainty marketing. Uncertainty marketing techniques can stimulate consumers' sense of reward and anticipation Goldsmith argue that a technique to cut marketing expenses and keep consumer attention with positive marketing results is to take uncertainty into consideration. However, this uncertainty is mostly focused on the design of promotional campaigns, whereas blind boxes are sold on the uncertainty factor itself. The core feature of blind boxes is that the contents of the items within them are chosen at random and consumers cannot provide prior knowledge of what is contained within the blind box. This uncertainty stimulates curiosity and waiting, and consumers may chase rare items or limited editions in a particular range, and by this shape constitute a strong buying behaviour for blind boxes. They believe that buying more blind boxes will increase their chances of acquiring rare items and cannot control their desire to buy.

4. Suggestions

In the context of market strategy, companies in the blind box industry are faced with the challenge of balancing consumer excitement with the mitigation of potential negative impacts associated with their product. As consumer psychology plays a significant role in the success of these companies, they must strike a balance between maintaining the thrill of uncertainty that blind boxes provide and ensuring ethical practices that prevent harmful consequences for their consumers. This balance is increasingly crucial as companies navigate the unique "blind box economy," operating on non-traditional economic principles and relying heavily on consumer excitement and impulsivity.

A recent study underscores the importance of this balance, suggesting that implementing stricter regulations on the contents of blind boxes is crucial for preventing unethical practices and preserving the value of life. The study highlights the existing grey area in regulations surrounding blind boxes, urging the necessity for more explicit guidelines to ensure that businesses adhere to ethical standards [15]. This tie into the broader concept of Corporate Social Responsibility (CSR), wherein companies are expected to conduct business in a way that is ethically sound, considers their social impact, and upholds a duty of care to their consumers. As the blind box industry continues to grow, integrating CSR principles into their business strategies such as Content guidelines, Responsible marketing and advertising and Collaboration with regulatory bodies, will be key to ensuring the long-term success and ethical conduct of these companies. By collectively implementing these solutions, the blind box industry can create an ethical and sustainable environment while preserving consumer excitement.

A brand must formulate a strategic outline for a product launch to ascertain the upcoming year's featured products and brand collaborations. The advertisement of limited-edition items or partnership-based brand initiatives should consistently resonate across all marketing and public relations platforms, thereby ensuring a uniform consumer message. This approach should integrate the deployment of paid social media strategies and customer relationship management initiatives, coupled with fostering pre-launch enthusiasm for the products to be released.

The final suggestion is to gamify purchases, introducing an element of chance and reward in the buying process. Game Reward Systems theory indicates that integrating game-like elements into non-game contexts can stimulate engagement [16]. This approach presents in the collecting and randomness elements of blind box, and it has been archived a great success in the mobile gaming industry, these game mechanics offer players randomized rewards

Gamification operates gaming principles such as points, leader boards or rewards in a non-gaming setting is seen to encourage behavioural change and engagement. These principles can be applied to other industries to incentivise purchasing. For example, businesses can gamify the purchasing process, introducing an element of chance and reward. A grocery store could offer a "scratch-off" ticket with each purchase, providing customers with a chance to win discounts or free items. This addition of a game layer to the purchasing process could potentially stimulate buying tendencies.

5. Conclusions

In summary, this paper is a literature review method to verify the negative consumer psychology generated by blind boxes and how the uncertainty attribute of blind boxes affects the compulsive buying tendency. The expected results were to identify the underlying mechanisms of blind boxes and to provide empirical evidence of the impact of uncertainty on consumer behavior.

The findings suggest that the uncertainty attribute of blind boxes indeed contributes to compulsive buying tendencies, as it creates a sense of excitement and anticipation that can be addictive. Additionally, the study highlights the role of consumer personality traits in moderating the effects of uncertainty on compulsive buying tendencies.

The attribution of this research can be applied to the retail industry to help businesses better understand consumer behaviour and design more effective marketing strategies. Retailers can use the findings to develop more responsible sales practices and improve consumer welfare.

This study verifies that the uncertainty characteristic of blind boxes can trigger a strong desire to purchase for some consumers, which may lead to overconsumption and economic waste. Therefore, both governments and companies must strengthen consumer protection to mitigate the risk of deception and manipulation by unscrupulous traders.

To curb the intense demand for mystery boxes, it is essential to intensify consumer education. Consumers need to comprehend the mechanics and inherent uncertainty of mystery boxes to avoid being misled by false advertisements and promotions.

The limitation of this research is that the characteristics and negative psychology of blind boxes are not only limited to uncertainty and compulsive buying psychology, However, this paper mainly focuses on these two points, while not much research has been conducted on other characteristics. Therefore, other characteristics of blind boxes can be further explored in the future to explore the mechanisms of their influence on consumer decision-making behaviour and the differences in attitudes and behaviours of consumer groups.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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