

CONSUMER BEHAVIOR AND MARKETING STRATEGIES IN BLIND BOX COMMERCE: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

The blind box commerce phenomenon is rapidly growing as an uncertainty-based marketing strategy that combines elements of surprise, gamification, and collectibility value. This model has been proven to trigger curiosity, emotional arousal, and impulsive buying, especially among Gen Z, who are highly responsive to hedonistic experiences and visual branding. Although research on blind boxes is increasing, there has been no systematic review that integrates various theoretical and empirical perspectives to understand the psychological mechanisms and effectiveness of this marketing strategy. This study conducted a Systematic Literature Review (SLR) of 30 studies published between 2020 and 2025 to map the determinants of consumer behavior, the role of uncertainty, perceived value, scarcity, and social dynamics in blind box consumption. The analysis results show four main findings: (1) uncertainty drives curiosity, instant gratification, and cognitive biases such as gambler's fallacy; (2) perceived value, including emotional, symbolic, and social value, is a strong mediator in purchase and repurchase intention; (3) marketing strategies such as scarcity, IP licensing, and gamification increase engagement and urgency to purchase; and (4) there are ethical risks such as overspending, anxiety, and potential addiction in vulnerable groups. This study offers an integrated conceptual framework based on SOR, Uncertainty Curiosity Theory, Perceived Value Theory, and Scarcity Theory, and provides practical implications for brands and regulators to develop more ethical, effective, and sustainable blind box marketing.

INTRODUCTION

The blind box commerce phenomenon is rapidly growing as a modern marketing strategy that combines elements of surprise, uncertainty, and collectability. This sales model with random product contents creates a hedonic and experiential consumption experience, especially for Gen Z who are responsive to new sensations. The element of

uncertainty has been proven to trigger curiosity and emotional arousal, thereby increasing purchase interest and repurchase tendency. Thus, blind boxes represent not only economic transactions, but also the search for emotional experiences inherent in the consumption process.

From a marketing perspective, the appeal of blind boxes is reinforced through the use of IP characters, immersive visual designs, and experiential marketing strategies. Various studies show that these marketing stimuli influence consumers' perception of value, emotional involvement, and purchasing decisions. The Stimulus–Organism–Response (SOR) framework is widely used to explain how external stimuli such as uncertainty, scarcity, and visual branding affect consumers' cognitive and affective states before generating behavioral responses. At the organism stage, perceived value and emotional responses play an important role, whether through economic or symbolic value, or emotional satisfaction when obtaining a rare item.

Beyond psychological factors, recent research has begun to highlight the role of environmental awareness, brand trust, and sustainable lifestyles in shaping blind box consumption behavior, particularly among younger generations. Digital transformation and Gen Z's high technological readiness have also expanded the blind box ecosystem through digital platforms, social media, and gamification, further strengthening interactions between brands and consumers.

Although the literature on blind box commerce continues to grow, most studies are still partial and fragmented, and tend to use a single theoretical framework. The integration of psychological mechanisms such as uncertainty, curiosity, value evaluation, and scarcity is still limited. In addition, the dominance of studies in China and East Asia leaves a contextual gap, especially for the Indonesian market. Therefore, this study aims to present a comprehensive Systematic Literature Review to map scientific findings, integrate various theoretical perspectives, and formulate more contextual and holistic blind box research directions and marketing strategies.

METHOD

Search Strategy

The search strategy in this study was designed to identify, collect, and filter relevant literature on consumer behavior and marketing strategies in the context of blind box commerce. The search process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines, so that all stages were conducted transparently, structurally, and replicably. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines are essential for ensuring the transparency, completeness, and reproducibility of systematic reviews and meta-analyses (Alharbi et al., 2024). These guidelines provide a structured approach to reporting, which is crucial for various fields. To obtain comprehensive literature coverage, searches were conducted on several reputable international databases, namely Scopus, Web of Science, ScienceDirect, and Google Scholar as complementary sources. The selection of these databases considered the relevance, quality, and completeness of publications in the fields of marketing, consumer psychology, and economic behavior.

The search process used a combination of main keywords developed through the Boolean operators approach, including: "blind box", "mystery box," "surprise product," "collectible consumption," "random reward marketing," "consumer behavior," "purchase intention," "scarcity marketing," and other derivative terms such as "gamification" and "uncertainty in marketing." These keywords were tested through a pilot search to assess their sensitivity and initial coverage.

The search was limited to journal articles published between 2020 and 2025, considering the relevance of the blind box phenomenon's development over the past decade. Only English-language publications were included. In addition to the main database search, backward citation tracking and forward citation tracking strategies were used to find additional relevant research from the bibliographies of key articles. This procedure allowed for the identification of literature that may not have appeared in the initial search but was highly relevant.

Once all articles were collected, duplicates were removed using reference management features such as Mendeley. The articles then entered the initial screening stage based on their titles and abstracts. Publications relevant to the topics of blind box commerce, consumer behavior, and marketing strategies proceeded to the full-text assessment stage. This systematic search strategy ensured that the literature included in the analysis reflected a broad and representative scope of research.

Inclusion Criteria

Inclusion criteria were established to ensure that the articles analyzed were relevant and met scientific standards. Included studies had to be peer-reviewed academic publications (international journals or indexed proceedings) focusing on blind box commerce or similar concepts such as mystery boxes, surprise product marketing, and random reward mechanisms. Articles also had to discuss aspects of consumer behavior or marketing, such as curiosity, perceived value, uncertainty, scarcity, impulsive buying, and purchase intention. Studies can be empirical (quantitative, qualitative, or mixed) or conceptual as long as they provide clear theoretical/analytical contributions. Publications are limited to the period 2020–2025 to capture modern developments in blind boxes, including gamification and digital commerce. Only English-language articles with full-text access are included, with priority given to those presenting substantive findings such as behavioral determinants, relationships between psychological variables, predictive models, or marketing strategy evaluations.

Exclusion Criteria

Exclusion criteria are established so that the SLR only includes relevant and high-quality studies. First, articles that are not directly related to blind box commerce or similar concepts (e.g., mystery box, surprise product, random reward marketing, collectible consumption) are excluded; this includes studies on gambling, lotteries, or game mechanisms without a marketing/consumer behavior context. Second, non-peer-reviewed publications (industry reports, white papers, blogs, opinions) and abstracts/posters without complete data are excluded. Third, articles without full-text

access are excluded. Fourth, purely technical studies (e.g., algorithms/engineering) without consumer/marketing discussion are excluded. Fifth, publications prior to 2020 and non-English publications are excluded.

Study Selection (PRISMA)

The study identification process was conducted through a systematic search of several academic databases, which yielded a total of 476 articles. After the initial screening process, 146 articles were detected as duplicates and were subsequently removed, leaving 330 unique articles for the next screening process. At the screening stage, the titles and abstracts of the 330 articles were systematically reviewed to assess their suitability for the research focus, while 214 articles were excluded because they did not meet the criteria related to the context of blind box commerce, consumer behavior topics, or did not provide relevant empirical information. A total of 116 articles then entered the eligibility stage and underwent an in-depth full-text assessment. At this stage, 86 articles were eliminated because they were irrelevant, did not provide consumer behavior analysis, did not focus on blind box marketing strategies, or did not meet the established methodological quality. Ultimately, 30 studies met all criteria and were included in the final synthesis, forming the main basis for thematic analysis, conceptual framework development, and mapping of research contributions in blind box commerce.

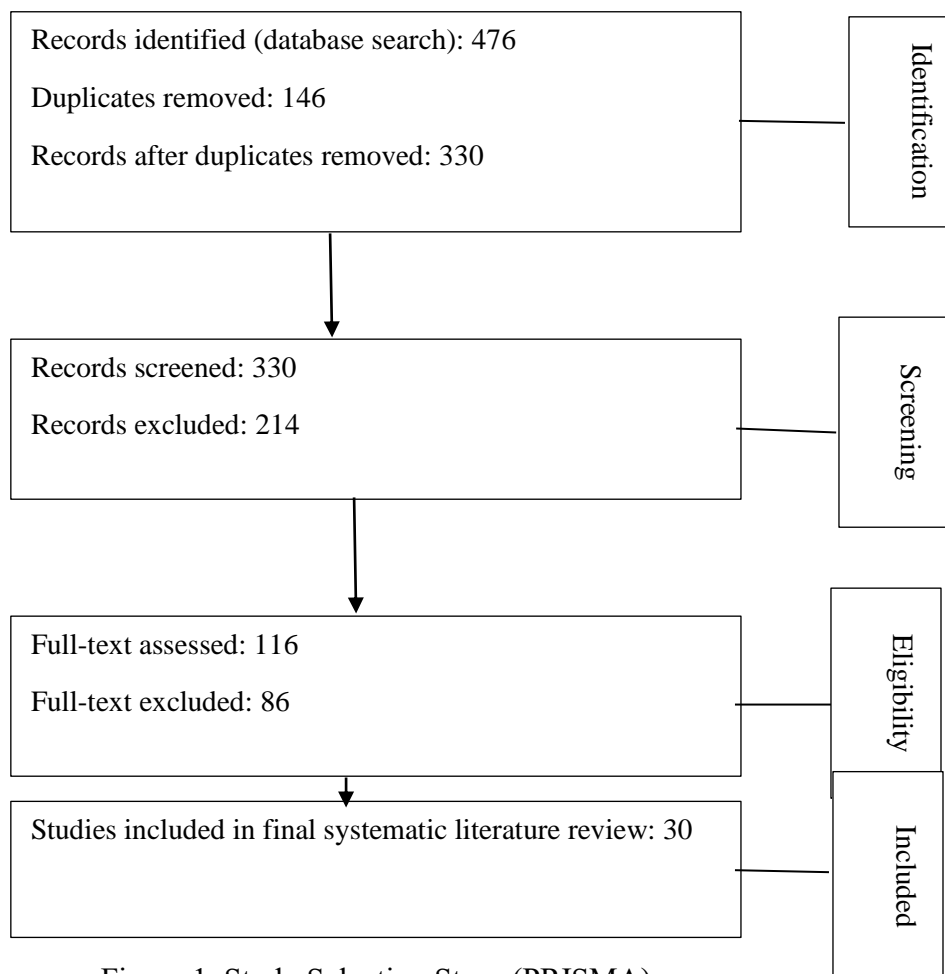


Figure 1. Study Selection Steps (PRISMA)

Data extraction

The data extraction process in this study was conducted systematically to ensure that each study included in the SLR was analyzed consistently and comprehensively. This stage began after all articles that met the inclusion and exclusion criteria were determined through the PRISMA process. Each article was extracted using a data extraction form developed specifically for this study. The form covered several core elements, namely: bibliographic information (author, year of publication, country), study characteristics (type of research, data collection methods, sample size), research context (retail, e-commerce, collectible market, gamification), and the main variables studied.

In addition, the extracted data included the analytical focus of each study, such as the determinants of consumer behavior, the psychological mechanisms involved (e.g., curiosity, perceived value, emotional arousal), and the marketing strategies examined (uncertainty-based marketing, IP design, scarcity tactics, gamification). The main findings of each study are recorded in detail to enable the identification of patterns, gaps, and inconsistencies at the thematic analysis stage. Theoretical elements such as conceptual models, analytical frameworks, or theories used (SOR, Hedonic Consumption, Prospect Theory, etc.) are also noted to map the dominant theoretical foundations in the blind box commerce literature.

To ensure reliability, the extraction process was conducted using a double-checking approach, in which each entry was re-verified to avoid recording errors or loss of important information. If ambiguity or incomplete information was found in an article, special notes were made for analysis at the interpretation stage. This structured data extraction process ensures that all synthesized literature has consistent comparative documentation, thereby supporting the quality of the analysis and overall SLR findings.

Data Analysis

Table 1 Data Analysis

Analysis Stage	Process Performed	Output / Generated Code	Themes / Categories Formed
Open Coding	Reading all articles in depth; identifying recurring concepts; assigning initial codes to variables related to consumer behavior, psychology, and marketing strategies.	Uncertainty, curiosity, instant gratification, perceived value, scarcity, emotional arousal, social interaction, repeat purchase intention, gamification, risk perception, identity, community.	Not yet formed; still in the form of fragmented initial codes from various studies.

Axial Coding	Grouping codes based on conceptual relationships; connecting stimulus to organism to response; establishing relationships between variables to build categories.	Combining codes into categories: psychological mechanisms, value formation, risk–reward evaluation, scarcity strategies, social–community drivers, marketing stimuli.	<ol style="list-style-type: none"> 1. Psychological Drivers (uncertainty to curiosity to emotional engagement) 2. Perceived Value (emotional, social, symbolic, functional) 3. Marketing & Scarcity Strategies 4. Social Influence & Community Dynamics
Selective Coding	Combine categories into main themes; develop a core narrative; select the dominant themes that best describe the phenomenon of blind box commerce.	Identify core themes across studies: (1) psychological mechanism, (2) value mediation, (3) scarcity effectiveness, (4) consumer identity & digital culture.	SLR Core Themes: <ol style="list-style-type: none"> 1. Mechanisms linking uncertainty–curiosity–emotion 2. Role of perceived value in purchase intention 3. Strategic impact of scarcity & gamification 4. Consumer identity, community, and digital culture
Iterative Validation	Recheck coding with original articles; ensure consistency; refine relationships between themes; develop conceptual model.	Code refinement, theme consolidation, research gap identification.	Final thematic structure for Results, Discussion, and Conceptual Framework.

The data analysis stage in this study was conducted using a qualitative approach based on thematic synthesis to identify patterns, relationships, and conceptual constructs from the extracted literature. After the data from each article was compiled in an extraction table, all information was analyzed systematically using open coding, axial coding, and selective coding techniques. In the first step, open coding was performed by rereading each article to identify key concepts that emerged, such as consumer behavior

dimensions, psychological mechanisms, and marketing strategies in blind box commerce. These initial codes covered topics such as uncertainty, curiosity, perceived value, scarcity, emotional arousal, repeat purchase intention, and gamification.

Next, in the axial coding stage, the codes were grouped into larger categories based on theoretical and empirical relevance. For example, codes related to uncertainty and curiosity were grouped under psychological themes, while variables such as limited edition, rarity, and probability allocation were categorized as scarcity-based marketing strategies. This stage also involves mapping the relationships between categories to identify how marketing stimuli (e.g., IP design, scarcity strategies, and surprise elements) interact with consumers' internal responses (perceived value, emotions, risk assessment).

In the selective coding stage, main themes are formulated to build a more comprehensive thematic narrative. From this process, several core themes emerged, such as: (1) psychological mechanisms that link uncertainty with curiosity and emotional engagement; (2) the role of perceived value in mediating purchase interest; (3) the effectiveness of scarcity-based marketing strategies; and (4) the characteristics of blind box consumers in the digital and collector culture contexts. To ensure validity and consistency, the analysis was conducted iteratively by comparing the coding results with the original text. This thematic approach allowed researchers to develop a comprehensive understanding of consumer behavior and marketing strategies in blind box commerce, while identifying unanswered research gaps.

RESULTS

Descriptive Analysis

This descriptive analysis provides an overview of the characteristics of publications based on Scopus, ScienceDirect, and Google Scholar data related to blind box commerce, consumer behavior, and marketing strategies. From the 476 documents identified in the initial stage, systematic screening was carried out to obtain 30 studies for further analysis. The search results show that blind box studies developed slowly in the early period, with very limited publications before 2018. At this stage, blind boxes were not yet positioned as a prominent consumption phenomenon in academic literature.

An increase in publications began to be seen strongly since 2020, in line with the strengthening popularity of blind boxes in the global market. This trend peaked in the 2023–2025 period, indicating that blind boxes have transformed from a niche marketing practice into an increasingly established academic topic. The surge in research also indicates growing attention to the psychological and social implications of uncertainty-based purchasing mechanisms, including emotional drives, value evaluations, and repurchase patterns. Based on publication sources, blind box research is spread across various reputable international journals and conference proceedings. Its consistent appearance in marketing, psychology, and consumer behavior outlets confirms that this phenomenon is cross-disciplinary, understood not only as a commercial strategy but also as a cognitive and social issue.

Geographically, publications are dominated by China as the main contributor, in line with its position as the global center of the blind box industry and its strong popular

culture consumption ecosystem. Other contributors come from developed countries such as the United States, Australia, and several European countries, but in smaller numbers. The lack of publications from Southeast Asia, including Indonesia, indicates that there are still vast opportunities for contextual research. In terms of subject areas, blind box studies are also multidisciplinary, covering business, psychology, computer science, as well as sustainability and mental health issues.

Thematic Findings

Table 2 Thematic Findings				
Main Themes	Researchers (Examples)	Focus / Core Contribution	Dominant Method	
Psychological Mechanisms of Blind Box Consumption	(Feng, 2025; Tian, 2025; Xia et al., 2025; Y. Zhang et al., 2022)	Explaining the role of uncertainty, curiosity, instant gratification, loss aversion, perceived luck, and repurchase anxiety in driving impulsive buying & irrational consumption.	Quantitative	SEM, experiments, correlations
Perceived Value, Emotions, Sustainable/Continuous Purchase Behavior	(L. Zhang & Phakdeephrot, 2023; Y. Zhang & Zhang, 2022; Z. Zhang, 2021; J. Zhou et al., 2025)	Testing functional, emotional, social, and symbolic value; dual-driven value-need model; loyalty & satisfaction; sustainable blind box consumption.	SEM	(AMOS/SmartPLS), quantitative survey
Curiosity, Gamification Store/Platform Stimuli	Surprise, & (Gong et al., 2024; Sun & Miao, 2022; Tian, 2025)	Identifying the effects of surprise, novelty, gameful experience, reward mechanism, and social presence on engagement & purchase intention.	SEM,	factorial experiments, platform surveys

Main Themes	Researchers (Examples)	Focus / Core Contribution	Dominant Method
Consumer Identity, Journey, & Social Interaction	(Lee et al., 2025; Whyke et al., 2023; Wu & Feng, 2015)	Developing a 5-stage customer journey; emotional energy; prosumption; social identity; cultural flow within the blind box community.	Qualitative (FGD, interviews, ethnography)
Marketing Strategies & Brand Management	(Chen, 2021; Qi, 2022; Fan, 2025)	Analyzing omnichannel marketing, IP licensing, scarcity, hunger marketing, co-branding, and brand differentiation strategies.	Case studies, literature, descriptive qualitative
Ethical, Mental Health & Risk Perspectives (Dark Side)	(Inaguma et al., 2024; Liu et al., 2025; Shuran, 2025)	Explaining addiction risks, gambling-like mechanisms, anxiety, overspending, and suicidal risk mediated by depression-anxiety.	Large-scale surveys; clinical case reports; conceptual reviews

The appendix table summarizes the 30 studies analyzed in this SLR, presenting four main components of each study: authors and year of publication, research objectives, methods, and main findings or contributions. In general, this table shows that research on blind box commerce has developed rapidly in the last five years and is dominated by quantitative approaches based on SEM-PLS, SEM-AMOS, and experiments, as well as qualitative approaches such as focus groups, interviews, and cultural ethnography. Most studies examine consumers' psychological motivations, the effects of uncertainty, perceived value, and emotional/hedonic mechanisms in blind box purchasing behavior.

Thematically, many studies place uncertainty as the main driver of consumption behavior. For example, (Xia et al., 2025) explains how uncertainty triggers instant gratification and gambler's fallacy, while (Y. Zhang & Zhang, 2022) finds that uncertainty can increase consumers' emotional and social value. Other studies such as (Y. Zhang et al., 2022) and (Sun & Miao, 2022) identify the mechanisms of curiosity, gamification, and

perceived luck as playing a major role in explaining impulsive purchase intentions and engagement with blind box products. This confirms that the psychological effects of uncertainty are the focus of attention in the literature.

Beyond psychological factors, several studies highlight value, needs, and customer experience as crucial components. For example, (L. Zhou et al., 2025) proposed a "dual-driven value & need" model that explains sustainable purchasing, while (Z. Zhang, 2023) and (L. Zhang & Phakdeephirot, 2023) emphasized that symbolic, emotional, and social values play a stronger role than utilitarian values in shaping customer loyalty. These studies show that blind box consumers are not only looking for products, but also the emotional, symbolic, and community experiences that accompany them.

A qualitative approach reinforces this picture by showing the social and cultural dimensions of blind box consumption. (Lee et al., 2025) maps a five-stage customer journey that reveals the dynamics of consumers' emotions, mild addiction, and reflections on the "mystery" of the product. (Wei & Yu, 2025) explain the role of group interaction and emotional energy as triggers for purchasing behavior, while (Whyke et al., 2023) show how blind boxes have become a medium for identity and presumption in Chinese digital culture. These studies enrich our understanding that blind box behavior is not only individual, but also social and cultural.

Several other studies highlight the negative aspects of blind box consumption, such as anxiety, overspending, loss aversion, and the risk of addiction. (Tian, 2025) identifies three types of repurchase anxiety, while (Feng, 2025) shows the role of loss aversion, FOMO, and the Zeigarnik effect in increasing repurchases. The most extreme finding is shown by (Duan et al., 2022), who found that excessive involvement in blind boxes is associated with an increased risk of suicide in young populations, mediated by depression and anxiety. This shows the dark side of blind box consumption that is rarely discussed in traditional marketing research.

Overall, the appendix table shows that blind box commerce research is rich, covering psychological aspects, consumer behavior, customer experience, marketing strategies, technology (gamification & livestreaming), and ethical and mental health issues. The variety of methods and contexts shows that the blind box phenomenon is multidimensional and requires a cross-disciplinary approach. This appendix serves as an important foundation for building a thematic synthesis and designing a conceptual framework in this SLR research.

DISCUSSION

Psychological Mechanisms of Blind Box Consumption

The SLR results show that psychological mechanisms are the main foundation that explains how consumers process and respond to the blind box sales model. Uncertainty as a key feature of the product has been proven to trigger intense emotional and cognitive responses. A study by Xia et al. (2025) shows that uncertainty produces instant gratification and cognitive biases such as the gambler's fallacy, where consumers believe that subsequent purchases provide a greater chance of obtaining the desired figure. This phenomenon reflects an unexpected reward mechanism that resembles the

reinforcement pattern in gambling behavior. Findings by Zhang et al. (2022) also confirm that uncertainty strengthens curiosity, which is an important mediator between probabilistic stimuli and impulsive purchase intention. This curiosity- s creates an internal drive to "resolve uncertainty," making consumers more impulsive in purchasing additional products.

The near-miss phenomenon further reinforces this urge, where failure that comes close to success actually motivates retries. Feng et al.'s (2025) study also found that anxieties such as fear of missing out on trends, concern about not getting a favorite figure, or fear of buying counterfeit products, also increase purchase urgency. This pattern shows that blind box commerce is not merely a rational transaction, but rather the result of an interaction between emotions, curiosity, anxiety, and cognitive biases. Thus, the psychological mechanisms that accompany blind box consumption can form a behavioral loop that encourages repeat purchases even when previous results are disappointing.

Perceived Value and Emotional Factors in Purchase and Repeat Purchase Behavior

In addition to psychological mechanisms, perceived value is an important factor explaining why consumers are willing to continue purchasing blind boxes. Research by Zhang et al. (2023) shows that uncertainty can reduce functional value, but it actually increases emotional value and social value, especially when consumers view the unboxing experience as entertainment or a form of self-expression. Symbolic values such as identity as a collector, pride in obtaining rare figures, and recognition from the community play a strong role in driving loyalty.

The study by Zhou et al. (2025) introduces the "value-need" mechanism, in which emotional and personal needs such as the need for novelty, excitement, or escapism are more dominant than utilitarian needs in influencing purchase intent. This shows that blind boxes are not only valued as physical products but also as meaningful emotional experiences. Emotions such as excitement, anticipation, and joy become psychological reinforcements that keep consumers buying even when previous results have been unsatisfactory. Thus, perceived value in the context of blind boxes is multidimensional, encompassing emotional, symbolic, aesthetic, and social aspects that reinforce purchase intention and repurchase intention.

Curiosity, Surprise, and the Gamification Effect

The elements of surprise and gamification are factors that maintain the appeal of blind boxes. Research by Gong et al. (2024) shows that novelty and surprise increase curiosity, which is the main trigger for impulsive buying. In the context of physical stores, display design, ambience, and the level of product mystery can create immersion for consumers. However, this phenomenon is even stronger in the digital ecosystem.

Tian et al. (2025) found that live-stream shopping with real-time interaction features, reward mechanisms, and social presence can increase pleasure, perceived interaction, and satisfaction. In gamification mechanisms such as rarity levels, points, booster events, and reveal animations, consumers feel an experience similar to gaming,

thereby increasing purchase intention. Sun & Miao (2022) emphasized that enjoyment, absorption, and activation are important psychological mediators between product design and purchasing decisions. This gamification model makes blind boxes a narrative and interactive experience, not just a transaction of goods. Therefore, the elements of curiosity and gamification play a strategic role in driving sustainable engagement.

Social Interaction, Identity, and Community Culture

Beyond individual aspects, blind box consumption is significantly influenced by social and cultural community factors. A qualitative study by Lee et al. (2025) identified five stages of the customer journey: impulsive purchase, anticipation, mystery reveal, collection-driven repeat purchase, and reflective evaluation. Each stage shows strong emotional dynamics, especially feelings of excitement, disappointment, or pride. Wei & Yu (2025) highlight that social interaction through communities, shared symbols, and emotional energy encourage more intense purchases. Blind boxes often become a "symbolic language" that strengthens a sense of togetherness and social identity. Meanwhile, Whyke et al. (2023) found that blind boxes function as a means of prosumption, where consumers become buyers as well as resellers or content creators in the digital ecosystem. Thus, blind box consumption is not only influenced by psychological motivations but also reflects the dynamics of community, social networks, and collector culture.

Marketing Strategies and Brand Experience

Marketing strategies play a central role in shaping the blind box consumption experience. Qi et al. (2022) show that the success of Pop Mart and similar brands stems from the power of IP, storytelling, hype marketing, and emotionally appealing character designs. Scarcity, such as limited editions and secret rares, has been shown to increase purchase urgency, as noted by Chen et al. (2021). Fan et al. (2025) add that technologies such as AR/VR unboxing and blockchain authentication can increase consumer engagement and trust.

These marketing strategies exploit psychological biases such as FOMO, loss aversion, and social proof, especially among Gen Z, who tend to be responsive to trends and visual symbols. However, the literature points to an imbalance between marketing innovation and consumer protection, especially when strategies are used to encourage excessive consumption. Thus, blind box commerce stands at the crossroads between marketing creativity and potential ethical risks.

Ethical Risks and Mental Health Issues

The final theme highlights the psychological and ethical risks of blind box consumption. Duan et al. (2022) found that excessive engagement with blind boxes correlates with depression, anxiety, and even suicidal ideation in adolescents and young adults. These effects are mediated by psychological distress and financial problems resulting from overspending. Findings by Inaguma et al. (2024) also indicate that

purchasing loot boxes or digital blind boxes can trigger addictive patterns, particularly in individuals with vulnerabilities such as ADHD or ASD.

Beyond clinical risks, several studies note phenomena such as compulsive buying, family conflicts, and emotional distress due to product uncertainty. Low probability transparency, engineered scarcity, and marketing targeting vulnerable groups exacerbate these risks. Therefore, stronger regulations are needed, including probability disclosure, purchase limits, and consumer education to minimize negative impacts.

LIMITATIONS

This systematic review has several important limitations. The majority of the studies analyzed originated from China, resulting in geographical bias and limiting the generalization of findings to other cultural contexts. In addition, most studies used cross-sectional quantitative designs, which are unable to capture long-term psychological dynamics or causal relationships. There was also a methodological imbalance between studies examining positive motivations and studies assessing negative risks such as anxiety or addictive behavior. Several articles were from proceedings with varying methodological quality. Therefore, more comprehensive cross-cultural and mixed-method studies are needed.

RECOMMENDATIONS

Future research needs to be expanded to cross-cultural contexts to test whether the psychological mechanisms found in studies dominated by China can be generalized to Southeast Asia, Europe, and North America. Cultural differences in hedonistic values, price sensitivity, community norms, and levels of regulation are likely to result in different consumption patterns. Additionally, longitudinal research is urgently needed to capture long-term dynamics related to uncertainty, curiosity, perceived value, and cognitive biases, given that cross-sectional approaches cannot trace the evolution of behavior from initial curiosity to potential addiction or changes in symbolic value within collector communities.

Future research directions include deeper exploration of ethical and mental health issues, including the risks of overconsumption, financial distress, and potential psychological impacts on vulnerable groups. Future studies also need to assess the role of increasingly dominant technologies such as live streaming, recommendation algorithms, augmented reality unboxing, and gamification in shaping impulsive purchasing behavior. Additionally, integrating sustainability perspectives, including packaging waste, overconsumption, and the circular economy, needs to be an important focus. Overall, future research should adopt a multidisciplinary approach that combines psychology, marketing, digital technology, and consumer ethics to understand the complexity of the blind box phenomenon more holistically.

CONCLUSION

This study synthesizes 30 indexed studies on the blind box commerce phenomenon to understand the psychological mechanisms, value dynamics, and

consumer behavior implications in the context of uncertainty-based products. The review results show that blind boxes are no longer just a surprise-based marketing strategy, but have evolved into a complex psychological consumption system, combining uncertainty, emotions, cognitive biases, social values, and community influence. Uncertainty plays a dual role: on the one hand, it triggers curiosity, excitement, and hedonic value, but on the other hand, it increases the risk of impulsive buying, sunk cost effect, fear of missing out (FOMO), and potential addictive behavior in vulnerable groups. A number of variables such as curiosity, perceived value (emotional, social, symbolic), instant gratification, and gambler's fallacy consistently emerge as mediating mechanisms that shape purchase intention and continuous buying behavior.

Furthermore, findings show that consumers are not only driven by emotional benefits, but also by symbolic value and social identity formed through collector communities, group interactions, and unboxing culture. On the other hand, the literature also highlights the "dark side" of blind box commerce, including anxiety, overspending, financial distress, and mental health risks in highly involved individuals. This confirms that blind boxes are a multidimensional phenomenon that requires a cross-disciplinary approach, encompassing psychology, marketing, behavioral economics, and digital ethics.

From a business strategy perspective, the blind box economy drives marketing innovation through IP licensing, scarcity tactics, gamification, and cross-branding. However, the effectiveness of these strategies is greatly influenced by the management of probability transparency, price design, and risk communication to consumers. Overall, this review confirms that blind box commerce is at the intersection of entertainment, emotional consumption, and behavioral risk, requiring a balance between marketing innovation, consumer protection, and transparency. Further research is recommended to adopt a longitudinal, cross-cultural, and multidisciplinary approach to capture long-term dynamics and formulate more appropriate interventions for vulnerable consumer groups. These findings are expected to serve as a conceptual and practical basis for the development of more responsible and sustainable blind box marketing.

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