

The Impact of Gamified Reward Systems on Purchase Intention in E-Commerce Platforms

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DOI: <https://doi.org/10.47772/IJRISS.2026.100800830>

Received: 2 September 2026; Accepted: 7 September 2026; Published: 18 September 2026

ABSTRACT

The rapid development of e-commerce has prompted online platforms to adopt gamified reward systems as an effective marketing strategy to attract and retain consumers. Gamified features such as loyalty points, badges, challenges and rewards are increasingly being used to enhance the user shopping experience and stimulate purchasing intent. However, existing research has yielded inconsistent conclusions regarding the factors influencing consumer purchasing intent on gamified e-commerce platforms. Consequently, this review aims to explore the relationship between three factors which are perceived value of rewards, interaction with gamified features and perceived fairness of the reward system with purchase intention. Based on a review of the existing literature, this paper argues that these three factors play a significant role in shaping consumer purchase intention. The review contributes to a deeper understanding of existing research and provides practical guidance for researchers and e-commerce practitioners in designing more effective gamified reward systems to enhance consumer purchase intention.

Keywords: Gamified Reward Systems, Purchase Intention, Perceived Value of Rewards, Interaction with Gamification Features, Perceived Fairness of Reward Systems

INTRODUCTION

Rapid advances in digital technology have significantly transformed consumer shopping behavior while propelling e-commerce to become one of the world's most rapidly growing industries (Statista, 2025). In Malaysia, the rise in smartphone penetration, improved internet accessibility and the widespread adoption of digital payment systems have collectively driven the rapid development of e-commerce platforms. These developments have enabled consumers to purchase goods and services conveniently without constraints of time or location (Statistics Malaysia, 2024). As competition among e-commerce platforms intensifies, businesses are increasingly adopting innovative marketing strategies to attract consumers, enhance customer engagement and encourage repeat purchases (Ting et al., 2022; Xi and Hamari, 2020).

The most common strategy adopted by e-commerce platforms is the implementation of gamified reward systems (Hofacker et al., 2016). Gamification refers to the use of game design elements such as points, badges, leaderboards, challenges and rewards in non-game contexts to motivate users and encourage desired behaviors (Hamari et al., 2014). Many leading e-commerce platforms have integrated gamified reward systems into their applications to create an enjoyable shopping experience while enhancing customer engagement and purchase intent (Tobon et al., 2020). Existing research indicates that gamification can positively influence consumers' attitudes, engagement and behavioral intentions by enhancing the interactivity and enjoyment of online shopping (Koivisto & Hamari, 2019; Xi & Hamari, 2020).

Although gamified reward systems are becoming increasingly prevalent, consumers' willingness to purchase is still influenced by a variety of psychological and behavioral factors (Xi & Hamari, 2020). Notably, the perceived value of rewards, interaction with gamified features and perceived fairness of the reward system have received extensive attention in recent research (Peña-García et al., 2020; Chiu et al., 2021; Wang et al., 2022). When consumers perceive the offered rewards as valuable, actively engage with gamified features and trust that the reward system is fair and transparent, they are more likely to purchase products (Peña-García et al., 2020; Chiu et al., 2021; Wang et al., 2022). However, previous studies have primarily examined these variables in isolation and rarely have systematically explored their combined impact on purchase intention in the context of e-commerce gamified reward systems, especially targeting young adults (e.g., Gouw et al., 2024).

Therefore, this review aims to synthesize existing research on the relationship between the perceived value of rewards, interaction with gamified features, the perceived fairness of reward systems and purchase intention. Based on a review of previous empirical studies, this paper provides a comprehensive explanation of these variables and highlights their crucial role in designing effective gamified reward systems (e.g., Koivisto & Hamari, 2019; Tobon et al., 2020). The findings of this review are expected to provide valuable insights for researchers and e-commerce practitioners, while also serving as a reference for future research in the fields of digital marketing and consumer behavior.

LITERATURE REVIEW

Purchase Intention

In consumer behavior research, purchase intention is often used as a key indicator to measure consumer behavioral responses and future purchasing decisions (Ajzen, 1991; Morwitz et al., 2007). In an e-commerce context, purchase intention may be influenced by factors such as consumers' perceptions, attitudes, experiences and interactions with online platforms (Peña-García et al., 2020). Purchase intention refers to the likelihood or willingness of a consumer to purchase a particular product or service in the future (Fishbein & Ajzen, 1975; Zeithaml, 1988).

The intensifying competition in online shopping makes understanding the factors that influence consumer purchase intention particularly important for e-commerce businesses seeking to attract and retain customers (Grewal et al., 2020). Previous studies have examined various factors that may influence purchase intention in digital and e-commerce environments (e.g., Hajli, 2014; Gefen et al., 2003; Tobon et al., 2020). Peña-García et al. (2020) found that consumer attitudes and self-efficacy are positively correlated with online purchase intention, highlighting the importance of consumers' perceptions and confidence in online shopping. Similarly, perceived value is also regarded as a key factor shaping consumer behavioral intentions, as consumers are more likely to make a purchase when they perceive the benefits they receive to be worth the cost incurred (Chiu et al., 2021). These findings suggest that purchase intention is influenced not only by factors related to the product itself but also by consumers' holistic evaluation of the overall online shopping experience (e.g., Lemon & Verhoef, 2016; Rose et al., 2012).

Perceived Value of Rewards

Perceived value refers to the overall evaluation formed by consumers after weighing the benefits derived from a product, service or experience against the costs or sacrifices required. It implies that when the benefits exceed the costs incurred, consumers tend to perceive higher value (Zeithaml, 1988). In consumer behavior research, perceived value is widely regarded as a multidimensional concept encompassing value and quality dimensions, emotional dimensions and social dimensions (Sweeney & Soutar, 2001; Han et al., 2020). Therefore, perceived value plays a critical role in shaping consumer attitudes and subsequent behavioral intentions in digital contexts (Gouw et al., 2024; Tumewu et al., 2021).

In the context of gamified reward systems, the perceived value of rewards refers to the extent to which consumers believe the rewards offered by e-commerce platforms are useful, beneficial, enjoyable or worth obtaining (Xi & Hamari, 2020). Rewards such as discounts, coupons, loyalty points, cashback and exclusive benefits can provide consumers with functional, economic and hedonic value (Lim et al., 2023). Existing research indicates that perceived value can positively influence consumers' behavioral intentions because valuable benefits enhance consumers' overall evaluation of the shopping experience (Chiu et al., 2021). Therefore, when consumers perceive gamified rewards as valuable and beneficial, they are more likely to develop a positive intention to purchase products on that platform (Gouw et al., 2024; Nyström et al., 2022).

Interaction with Gamification Features

Gamification is increasingly being used to encourage user engagement and create more compelling digital experiences (Xi & Hamari, 2020). Interaction with gamification features refers to the extent to which users actively engage with and participate in game-related elements in nongaming contexts (Sailer et al., 2017). In the e-commerce sector, these features may include challenges, achievement systems, social interactions, competitive mechanisms and immersive experiences (Lim et al., 2023). When interacting with gamified features, consumers tend to spend more time on e-commerce platforms and become more deeply immersed in the shopping process (Deng et al., 2023). Xi and Hamari (2020) categorized gamification experiences into different dimensions based on achievement-related, social-related and immersion-related features, which can influence user engagement and experience. Achievement-related features encourage users to complete goals and earn rewards. Social-related features promote interaction and competition among users, while immersion-related features provide enjoyable and engaging experiences that allow users to deeply immerse themselves in the digital environment (Tandon et al., 2021). These features collectively enhance consumer engagement and create a positive shopping experience, which in turn fosters positive behavioral intentions among consumers in e-commerce contexts (Deng et al., 2023; Gouw et al., 2024).

Perceived Fairness of Reward Systems

Fairness is a key factor in shaping consumers' trust in and evaluation of an organization. It is particularly important when consumers need to participate in systems involving rewards or benefits. Colquitt (2001) defined perceived fairness as consumers' overall judgment of whether the treatment, procedures, outcomes and information provided by an organization are fair and reasonable. In addition, Colquitt (2001) conceptualized organizational fairness as four dimensions including procedural fairness, distributive fairness, interpersonal fairness and informational fairness. These dimensions provide a solid theoretical foundation for understanding how individuals evaluate fairness in diverse digital and consumer contexts (Srivastava et al., 2023).

In the context of gamified reward systems, perceived fairness of the reward system refers to consumers' assessment of whether the process of earning and redeeming rewards is fair, transparent and consistent. Consumers evaluate whether rewards are distributed fairly, whether the rules for earning rewards are reasonable, whether they are treated with respect and whether they have received sufficient information about the system (Colquitt, 2001; Srivastava et al., 2023). When consumers perceive a rewards system as fair, they are more likely to place greater trust in e-commerce platforms and provide positive evaluations. Conversely, perceived unfairness undermines consumer trust and willingness to participate (Shin & Shin, 2021). Hence, fairness is a critical design consideration when implementing gamified rewards systems aimed at fostering positive consumer responses (Deng et al., 2023).

Based on the literature review above, the proposed conceptual framework is shown in Figure 1 below.

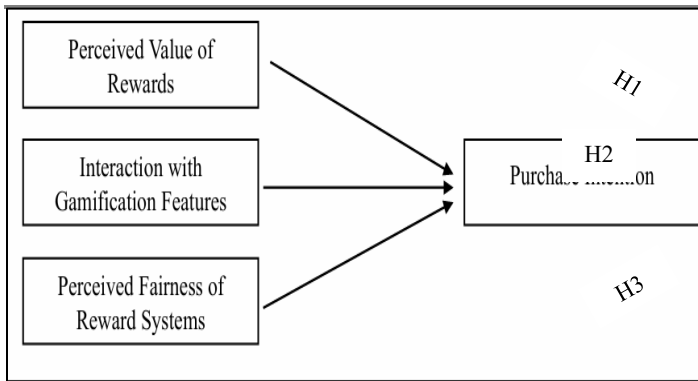


Figure 1: Conceptual Framework of the Study

Figure 1 presents the conceptual framework proposed in this study, which links the perceived value of rewards, interaction with gamification features and perceived fairness of the reward system to consumers' purchase intentions on gamified e-commerce platforms. This framework is constructed based on the theoretical relationships identified in the reviewed literature and lays the foundation for the formulation of three research hypotheses.

In this study, the perceived fairness of reward systems is conceptualized as an independent variable that directly influences consumers' purchase intentions. This positioning assumes that consumers' perceptions of fairness in reward allocation, procedures, interpersonal treatment and information can independently shape their evaluations of e-commerce platforms and their purchase intentions. Although perceived fairness may potentially moderate the effects of reward value or gamified interactions on purchase intention, examining its moderating or mediating role falls outside the scope of this conceptual paper. Therefore, within the framework proposed in this paper, perceived fairness is positioned as a direct predictor of purchase intention.

Hypotheses Development

Perceived Value of Rewards and Purchase Intention

In a gamified e-commerce context, when consumers perceive rewards as valuable, useful and beneficial, their overall evaluation of the platform may improve, thereby encouraging them to make future purchases (Chiu et al., 2021; Gouw et al., 2024). This indicates that, perceived value plays a significant role in shaping consumers' evaluations of products and services (Zeithaml, 1988; Sweeney & Soutar, 2001). Existing research also indicates that perceived value is positively correlated with consumer behavioural responses in digital commercial environments (Sweeney and Soutar, 2001; Gouw et al., 2024). Therefore, this study posits that the higher the perceived value of gamified rewards, the stronger the consumers' willingness to purchase.

H₁: Perceived value of rewards positively influences purchase intention.

Interaction with Gamification Features and Purchase Intention

Interaction with gamified features can enhance consumer engagement with e-commerce platforms by providing a sense of achievement, social interaction and immersion (Xi & Hamari, 2020; Sailer et al., 2017). When consumers actively participate in gamified activities such as completing challenges, competing with others or experiencing personalised game features, they are likely to spend more time interacting on the platform and develop more positive behavioural intentions (Deng et al., 2023; Tandon et al., 2021). Existing research has shown that gamification can boost user engagement and influence consumers' behavioural responses in digital environments (Xi and Hamari, 2020; Deng et al., 2023). Consequently, the higher the level of interaction with gamification features, the greater the expected enhancement of consumers' willingness to purchase.

H_2: Interaction with gamification features positively influences purchase intention.**Perceived Fairness of Reward Systems and Purchase Intention**

Perceived fairness influences consumers' evaluations of reward systems and their responses to the platform (Colquitt, 2001). When consumers perceive the distribution of rewards, procedures, interpersonal treatment and information to be fair and transparent, they are likely to develop greater trust in the platform and adopt a more positive attitude towards it (Colquitt, 2001; Srivastava et al., 2023). Conversely, perceived unfairness may undermine consumers' willingness to participate in the reward system and to make purchases via the platform (Shin & Shin, 2021). Previous research on fairness and gamified or digital reward environments supports the importance of fair reward practices in shaping consumer responses (Colquitt, 2001; Srivastava et al., 2023). Therefore, this study posits that the higher the perceived fairness of a reward system, the stronger the consumer's willingness to purchase.

H_3: Perceived fairness of reward systems positively influences purchase intention.**Method**

This conceptual paper examines the relationships between gamified reward systems and consumer purchase intention in e-commerce contexts from a theoretical perspective. This study employs a structured literature search strategy to identify and synthesize existing academic literature related to gamification, perceived value, consumer interaction, perceived fairness and purchase intention.

Relevant literature was retrieved from academic databases such as Scopus, Web of Science and ScienceDirect. The search utilized combinations of keywords, including 'gamification' combined with 'e-commerce' and 'purchase intention', 'gamified reward systems' combined with 'perceived value', 'gamification' combined with 'consumer interaction', and 'gamification' combined with 'perceived fairness'.

Study inclusion criteria were research examining gamification or gamified reward systems in digital environments, online platforms or e-commerce contexts that provided theoretical or empirical evidence relating to consumer perceptions, engagement or behavioral intentions. Priority was given to articles published in peer-reviewed journals that directly contribute to the conceptual relationships proposed in this paper, as well as established theoretical or empirical studies. Studies unrelated to e-commerce, gamification, consumer behavior or the constructs examined in this research are excluded. Similarly, duplicate literature and materials lacking sufficient theoretical or empirical relevance are excluded.

The selected literature was synthesized thematically based on four key constructs which are perceived value of rewards, interaction with gamification features, perceived fairness of the reward system and purchase intention. The findings of the reviewed studies were compared and integrated to identify the theoretical relationships between these constructs, and a conceptual framework and research hypotheses were developed accordingly.

Measurement and Operationalization of Constructs**Purchase Intention**

Purchase intention is operationalized as the dependent variable, representing consumers' future willingness and likelihood to make purchases from e-commerce platforms that offer gamified reward systems. In future empirical research, this can be assessed using multiple measurement items designed to gauge purchase intention, likelihood and willingness (Fishbein & Ajzen, 1975; Zeithaml, 1988). These items may be adapted from existing, well-established scales such as those used in the study by Peña-García et al. (2020).

Perceived Value of Rewards Measurement

In this conceptual paper, perceived value is operationally defined based on the multidimensional perceived value framework proposed by Sweeney and Soutar (2001), encompassing four dimensions which are price value, quality value, emotional value and social value. These dimensions capture, respectively, consumers' perceptions of the economic benefits, quality and utility, emotional benefits and social benefits associated with gamified rewards. In this manner, perceived value of rewards refers to consumers' overall assessment of the benefits derived from gamified rewards relative to the effort required to obtain them (Zeithaml, 1988; Xi & Hamari, 2020).

Table 1

Operationalization of Perceived Value of Rewards

Construct	Dimensions	Potential Indicators
Perceived Value of Rewards	Price Value	Cost-effectiveness, economic benefits, value relative to effort
	Quality Value	Quality, usefulness, reliability of rewards
	Emotional Value	Enjoyment, excitement, positive feelings
	Social Value	Social approval, social benefits, social interaction

Interaction with Gamification Features

Interaction with gamification features refers to the extent to which consumers actively engage with and participate in gamification elements embedded within e-commerce platforms (Sailer et al., 2017; Xi & Hamari, 2020). In the present conceptual paper, this construct is operationally defined based on the three-dimensional framework proposed by Xi and Hamari (2020), encompassing characteristics across three dimensions related to achievement, social interaction and immersion. Potential measures include participating in challenging activities, using points and badges, engaging in competition and social interaction and experiencing personalized or immersive gamified content.

Table 2

Operationalization of Interaction with Gamification Features

Construct	Dimensions	Potential Indicators
Interaction with Gamification Features	Achievement-related Features	Points, badges, levels, leaderboards, challenges
	Social-related Features	Competition, cooperation, social networking
	Immersion-related Features	Customization, avatars, narrative or story

Perceived Fairness of Reward Systems

Perceived fairness in a reward system refers to consumers' overall assessment of whether the distribution, procedures, interpersonal treatment and information relating to gamified rewards are fair and reasonable (Colquitt, 2001). In this conceptual paper, perceived fairness is operationally defined based on Colquitt's (2001) four-dimensional framework of organizational justice, encompassing the four dimensions of procedural fairness, distributive fairness, interpersonal fairness and informational fairness.

Table 3

Operationalization of Perceived Fairness of Reward Systems

Construct	Dimensions	Potential Indicators
Perceived Fairness	Procedural Justice	Consistency, unbiased procedures, transparency, opportunity to appeal
	Distributive Justice	Rewards reflect effort, contribution and appropriate outcomes
	Interpersonal Justice	Polite, respectful and dignified treatment
	Informational Justice	Honest, clear, reasonable and timely information

CONCLUSION AND DISCUSSION

This conceptual paper reviews the relationships among perceived value of rewards, interaction with gamification features, perceived fairness of reward systems and purchase intention in e-commerce contexts (Deng et al., 2023; Gouw et al., 2024). Based on the literature review, consumers' perceptions of reward value, the extent of their interaction with gamified features and their perceptions of fairness all play significant roles in shaping purchase intention (Lim et al., 2023). The perceived value of rewards can provide multiple benefits across price, quality, emotional and social dimensions (Sweeney & Soutar, 2001; Han et al., 2020), while attractive gamification features encourage consumers to engage more actively with e-commerce platforms (Xi & Hamari, 2020; Tandon et al., 2021). At the same time, perceived fairness of reward systems helps reinforce positive consumer perceptions and foster favorable reactions toward the platform (Colquitt, 2001; Srivastava et al., 2023). In summary, the literature review indicates that these three factors are critical dimensions that must be considered when understanding consumer purchase intention in gamified e-commerce environments (Gouw et al., 2024). From a practical perspective, e-commerce platforms should design reward systems that provide meaningful value, encourage active consumer engagement through achievement, social and immersion-related features, and maintain a fair and transparent reward process (Deng et al., 2023; Tandon et al., 2021). These management practices help businesses create more attractive shopping experiences and foster consumer purchase intent (Gouw et al., 2024). From a theoretical perspective, this conceptual paper contributes to the existing literature by integrating perceived value of rewards, interaction with gamification features and perceived fairness of reward systems into a single conceptual framework, thereby providing a more comprehensive perspective for understanding purchase intention in gamified e-commerce environments (Lim et al., 2023). The proposed framework can also serve as a useful reference for future researchers and e-commerce practitioners interested in consumer behavior and gamification. In this conceptual framework, the perceived fairness of reward systems is positioned as an independent variable that directly influences consumers' purchase intentions. Although perceived fairness may serve as a moderating or mediating variable in future empirical research, an examination of its moderating or mediating effects falls outside the scope of this conceptual paper. Consequently, this framework

focuses solely on its direct relationship with purchase intention. Further research may examine whether perceived fairness enhances, weakens or mediates the relationship between gamification-related factors and purchase intention.

ACKNOWLEDGMENT

We would like to express our deep appreciation to Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT) Universiti Teknikal Malaysia Melaka (UTeM) for their tremendous support and encouragement in conducting this research. Kami ingin menyatakan penghargaan mendalam kepada Fakulti Pengurusan Teknologi dan Teknousahawanan (FPTT), Universiti Teknikal Malaysia Melaka (UTeM) atas sokongan dan galakan yang luar biasa dalam menjalankan penyelidikan ini.

REFERENCE

1. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
2. Chiu, W., Cho, H., & Chi, C. G. (2021). Consumers' perceived value and intention to use e-commerce platforms: A multidimensional perspective. *Journal of Retailing and Consumer Services*, 60, 102432.
3. Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386–400.
4. Deng, X., Yang, Y., & Zhang, J. (2023). How gamification interaction enhances consumer stickiness and continuous purchase intention in e-commerce apps. *Journal of Retailing and Consumer Services*, 73, 103321.
5. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Addison-Wesley.
6. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90.
7. Gouw, M. A., Setiawan, R., & Widjaja, F. (2024). The influence of gamification and perceived value on purchase and continuance use intention towards e-commerce platforms. *Journal of Retailing and Consumer Services*, 78, 103720.
8. Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. *Journal of the Academy of Marketing Science*, 48(1), 1–8.
9. Hajli, M. N. (2014). A study of the impact of social media on consumers. *International Journal of Market Research*, 56(3), 387–404.
10. Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? — A literature review of empirical studies on gamification. In *2014 47th Hawaii International Conference on System Sciences* (pp. 3025–3034). IEEE.
11. Han, H., Lee, S., & Kim, W. (2020). Role of multidimensional perceived value in shaping consumer responses in modern service and retail settings. *International Journal of Hospitality Management*, 89, 102555.
12. Hofacker, C. F., de Ruyter, K., Lurie, N. H., Manchanda, P., & Fombelle, P. W. (2016). Gamification and mobile marketing applications. *Journal of Interactive Marketing*, 34, 25–36.
13. Koivisto, J., & Hamari, J. (2019). The rise of motivation: A review of gamification research. *International Journal of Information Management*, 45, 191–210.
14. Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience along the customer journey. *Journal of Marketing*, 80(6), 69–96.
15. Lim, X. J., Ng, C. H., & Cheah, J. H. (2023). Playing to buy: Understanding the impact of gamification on consumer purchase intention in Southeast Asian e-commerce platforms. *Journal of Retailing and Consumer Services*, 75, 103456.
16. Morwitz, V. G., Steckel, J. H., & Gupta, A. (2007). When do purchase intentions predict sales? *International Journal of Forecasting*, 23(3), 347–364.

17. Nyström, A. G., Frank, L., & Lu, S. (2022). Value perception of rewards in digital platforms. *Computers in Human Behavior*, 128, 107089.
18. Peña-García, N., Gil-Saura, I., Rodríguez-Orejuela, A., & Siqueira-Junior, J. R. (2020). Purchase intention and purchase behavior online: A cross-cultural approach. *Heliyon*, 6(6), e04284.
19. Rose, S., Clark, N., Samouel, P., & Hair, N. (2012). Online customer experience in e-retailing: An empirical model of antecedents and outcomes. *Journal of Retailing*, 88(2), 308–322.
20. Sailer, M., Hense, J. U., Mayr, S. K., & Mandl, H. (2017). How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. *Computers in Human Behavior*, 69, 371–380.
21. Shin, S., & Shin, J. (2021). The role of perceived fairness and platform trust in user engagement with gamified digital services. *Telematics and Informatics*, 60, 101581.
22. Srivastava, A., Singh, L. B., & Kumar, P. (2023). Examining organizational justice dimensions in digital service platforms: Impacts on customer trust and platform engagement. *Journal of Retailing and Consumer Services*, 72, 103289.
23. Statista. (2025). *E-commerce worldwide: Statistics & facts*. Statista Research Department.
24. Statistics Malaysia. (2024). *Usage of ICT and e-commerce by establishment 2024*. Department of Statistics Malaysia.
25. Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203–220.
26. Tandon, A., Dhir, A., Almugren, I., Alalwan, A. A., & Mäntymäki, M. (2021). Gamified elements in e-commerce: A systematic review and future research agenda. *Computers in Human Behavior*, 124, 106918.
27. Ting, D. H., Wong, K. L., & Teo, C. P. (2022). Consumer engagement and adoption of e-commerce platforms: A digital ecosystem perspective. *Journal of Consumer Behaviour*, 21(4), 812–826.
28. Tobon, S., Ruiz-Alba, J. L., & García-Madariaga, J. (2020). Customer journey and gamification in e-commerce: A systematic review. *Journal of Retailing and Consumer Services*, 54, 102041.
29. Tumewu, F. J., Soepeno, D., & Wangke, S. J. (2021). Perceived value and digital engagement in e-commerce environments. *Journal of Business and Behavioral Sciences*, 13(2), 45–58.
30. Wang, Y., Lu, X., & Tan, Y. (2022). Perceived fairness and consumer trust in reward distribution mechanisms on online shopping platforms. *Information & Management*, 59(5), 103640.
31. Xi, N., & Hamari, J. (2020). Does gamification affect brand engagement and equity? A study in online brand communities. *Journal of Business Research*, 109, 449–460.
32. Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2–22.