Marketing Gamification - Concepts, Opportunities and Future Research Directions: Insights from a Systematic Literature Review

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ABSTRACT

This study examines the idea of marketing gamification using research publications screened between 2016 and 2024. Marketing gamification is the application of game design features in non-gaming circumstances, is gaining popularity as an instrument for increasing user engagement, motivation, and finally, purchasing decisions. The intent of this research is to contribute to a better comprehension of marketing gamification while developing marketing techniques to impact customer purchasing behavior. Additionally, this work advances the subject regarding its definition and mutual awareness, which are vital to the sustained growth of this specialized market segment. A systematic literature assessment of 59 existing papers was done, using data from two main databases: Google Scholar and Scopus. The time span of 2016-2024 was chosen for data gathering since it corresponds to when those papers were published. Marketing Gamification, albeit an emerging segment, is still in its infancy of business research. It is capable of being an appealing and niche consumer category when making purchasing selections. Current research focuses on the primary information pertaining to marketing gamification, major theories utilized in literature, publishing authors, journals, most cited articles, word cloud of well-known terms used in literature, year-wise publication trends, research characteristics, and holes in the literature for future investigation. At the end of this paper, recommendations are also made for future research directions. This study examines the possibilities and application of marketing gamification with a focus on conceptual development. The current study offers valuable contextual information and perceptive knowledge from an innovative perspective. The academic and management implications are thoroughly examined and discussed in this study.

Keywords: Marketing Gamification, Concepts, Opportunities, Systematic Literature Review, Future Directions
JEL Classifications: M15, M31

1. INTRODUCTION

Technology has become an indispensable part of our daily lives. It has brought in a constant evolution of methods for drawing in and keeping a specific consumer base, as it continues to offer a platform for every organization eager to participate in a variety of channels (Kim et al., 2020). E-commerce has experienced fast growth and is now universally recognized as an essential aspect of consumer life. All purchasing and selling activities carried out via electronic channels are referred to as e-commerce, or electronic commerce. The rising appeal of network technology has led to a steady change in the shopping methods used by consumers. In modern times, Online purchasing has gradually emerged as the primary method of shopping for the vast majority of consumers (Lim and Kim, 2020), particularly in light of the COVID-19 pandemic. It has several benefits over traditional offline shopping techniques, such as time, cost, and energy savings. As a result, Customers are become increasingly acclimated to and relying on online shopping. Furthermore, e-commerce has also become an essential component of many countries' economies (García-Jurado et al., 2021).

Recent years have seen a tremendous advancement in technology, more people are using the Internet, and technology has an impact

on people's lifestyles in many different manners (Mustikasari et al., 2022). As a result, information has become more widely available. In recent years, customer expectations have increased. Due to the growing requirement for innovative and exceptional value-based solutions that support dynamic growth and development, marketers now face more substantial obstacles. All of this has produced an atmosphere that seeks to produce ever-changing, enjoyable, and captivating client experiences. As a result, professionals and academicians are looking for solutions to these online shopping dilemmas. These limitations have been overcome with the emergence of Gamification, a new sort of marketing technique.

Gamification is "the use of game design elements in non-game contexts" to increase the enjoyment, curiosity, and motivation of a good, service, or application (Deterding et al., 2011). Nick Pelling first used the term "gamification" in 2002. Since 2010, gamification has received substantial interest and has been the subject of widespread research since 2011. Since 2017, gamification has developed from an innovative concept to a technique used by designers worldwide (Sundjaja et al., 2022). The size of the worldwide gamification market was estimated at USD 9520.42 million in 2022 and is projected to grow at a CAGR of 12.66% throughout the forecast period, reaching USD 19469.21 million by 2028 so the future of online shopping is marketing Gamification on e-commerce platforms. Applications, services, and products become more entertaining, exciting and inspiring when they are gamified (García-Jurado et al., 2019). There are various components involved in gamification implementation. Some examples of gamification components include challenges, leaderboards, feedback, countdowns, badges, levels, points, and competitive bidding systems (García-Jurado et al., 2021). Online retailers can apply these elements of gamification to their websites for a number of purposes, including content creation, boosts to conversion rates, and consumer loyalty (Bilgihan et al., 2016). Gamification, as used in business, is the process of creating experiences through games for goods and services for the purpose of contribute value and encourage more favorable responses (Hwang and Choi, 2020). The positive features of gamification, like lightning offers, quizzes, riddles, and treasure hunts, are being used by many online retailers, including eBay, Flipkart, Myntra, and Amazon to promote user engagement. Gamification marketing is a growing trend that affects not just business marketing strategy but also how consumers behave. Gamification may improve consumer engagement, product/brand identification, and customer loyalty in addition to boosting sales and profits (Hamari et al., 2014; Yang et al., 2017).

Academically, in the field of marketing and consumer behavior on e-commerce platforms, gamification is still relatively new concept, despite its enormous market potential. Further investigation is required to resolve the misconceptions around gamification. In recent years, the subject of marketing gamification research has expanded quickly, yet the knowledge that is currently available about the phenomena is often fragmented. Since the existing body of information is unstructured and dispersed, the objective of the this paper is to synthesize the available literature in order to identify the most recent studies on marketing gamification. Google Scholar and Scopus are the two main web-based databases

that were used for data collection. For further examination, a total of 225 documents were collected. During the initial search, the Scopus Database provided 39 relevant publications, whereas Google Scholar, using Harzing's Publish or Perish-8 tool (Annamalai and Varshney, 2018), provided 186 papers published between 2016 and 2024.

In addition to attempting to comprehend the numerous facets of marketing gamification through published literature from reputable journals, this study provides information about the present level of knowledge about gamification in marketing. Which definitions and theories currently exist about gamification? Which research trends are there? And what are the gaps in the current accumulation of information on gamification and the areas that require further investigation? This comprehensive review of the literature aims to address these research questions. This research is divided into several sections, the introduction comes first, then the methodology used, the numerous definitions of gamification found in current literature, and finally the analysis of literature. As a result of this synthesis, we have drawn certain findings, identified certain limitations, and offered suggestions for further study on this topic. As a result, it provides a road map for scholars and practitioners interested in leveraging the power of marketing gamification to transform e-commerce tactics.
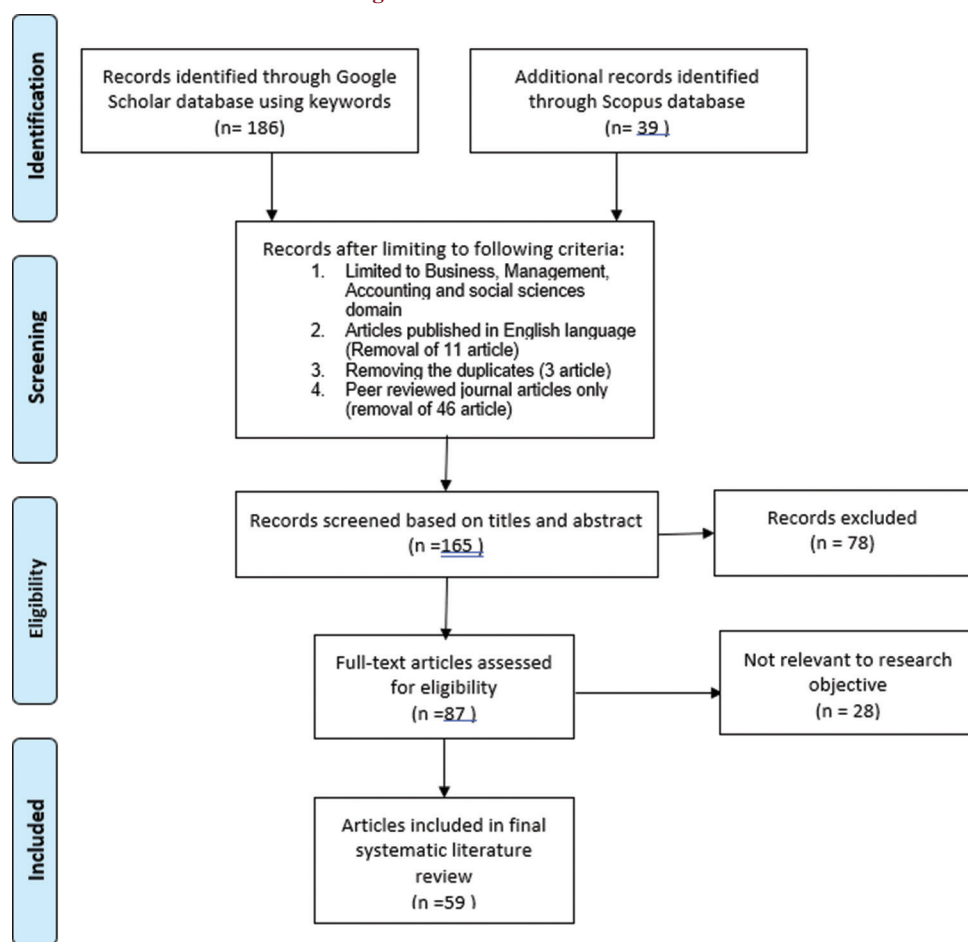
2. METHODOLOGY

Moreover to offering guidance for future research, the present work attempts to explore the present stage of knowledge about gamification within the marketing/management industry. The systematic literature review approach is widely acknowledged in management literatures (Talwar et al., 2020) because it produces information based, verifiable research (Durach et al., 2017). According to Briner and Walshe (2015), this kind of systematic methodology enables researchers to readily imitate the research in the future, supporting the continual and gradual growth of the pertinent literature. A set of inclusion/exclusion criteria was used to select research publications, which are following the conventional method for conducting a procedure of systematic evaluation of the literature (Table 1).

225 articles were found using the internet-based databases Scopus and Google Scholar after applying the selection parameters. Three duplicate articles were found in the collected data. By examining each title and abstract, the identified literature's inclusion and exclusion criteria were observed and synthesized. The final

Table 1: Inclusion and exclusion criteria

Inclusion	Exclusion
Journal articles	Conference papers, book chapters, commentary, notes, editorials
Language: English	All other language
Articles containing indentified keywords	All other articles not containing the identified keywords
Published between 2016-2024	Published articles outside of inclusion range
Database: Scopus and Google scholar	All other databases

Source: Own elaboration

Figure 1: PRISMA flow chart

Source: Moher et al., (2009)

review did not include any articles that were deemed unnecessary. Consequently, the final analysis was based on 59 paperwork in all (refer to Figure 1).

Table 2 shows numerous definitions of gamification. Table 3 displays the methodological contribution of the literature on this topic. Table 4 indicates the author's top 20 total citations. Table 5 describes the theoretical stances used in order to study the idea of gamification in marketing. Table 6 reveals the literature distribution by journal. Table 7 demonstrates the way the published material is distributed by country. Table 8 presents a list of annual publications. Table 9 highlights the most common gamification the elements and how they effect consumer behavior. Table 10 summarizes the main research gaps identified in the literature on marketing gamification. Table 11 lists the research features, whereas Table 12 highlights the synthesis research characteristics.

3. LITERATURE REVIEW

This section contains a comprehensive analysis of research regarding gamification in the context of marketing and consumer behavior. We present a review of the available literature by defining key terms related to gamification from the existing literature, analyzing the dominant theories, looking at the journals that publish articles on gamification with relation to consumer behavior

Table 2: Definition of gamification

References	Definition
Zichermann and Linder, 2010	"(…) the art and science of turning your customer's everyday interactions into games that serve your business purposes"
Deterding et al. 2011	"The use of game design elements in a non-game context"
Bittner and Schipper, 2014	"Gamification is an emerging technology that uses elements from digital games to motivate people to act in a certain way in non-gaming environments"
Hamari and Koivisto, 2015	"Gamification is a manifold socio-technological phenomenon with claimed potential to provide a multitude of benefits such as enjoyment as well as social benefits through communities and social interaction"
Yang et al., 2017	"System applying game design elements to a non-game context in order to generate playful experiences and influence users' attitude and/or behaviour"

Source: Own elaboration

Table 3: Methodological input

Methodology	Total articles (%)
Quantitative	41 (69.49)
Qualitative	12 (20.33)
Mixed method approach	06 (10.16)
Total	59

Source: Own elaboration

Table 4: The top 20 total citations by author

Total no. of citation	Name of the title	Source name	References
648	Examining the impact of gamification on intention of engagement and brand attitude in the marketing context	Computers in Human Behavior	(Yang et al., 2017)
564	Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based …	Computers in Human Behavior	(Krath et al., 2021)
401	How gamification marketing activities motivate desirable consumer behaviors: Focusing on the role of brand love	Computers in human behavior	(Hsu and Chen, 2018)
397	Does gamification affect brand engagement and equity? A study in online brand communities	Journal of Business Research	(Xi and Hamari, 2020)
221	Gamification and online consumer decisions: Is the game over?	Elsevier-Decision Support Systems	(Tobon et al., 2020)
214	How does gamification improve user experience? An empirical investigation on the antecedences and consequences of user experience and its mediating …	Technological Forecasting and Social Change	(Hsu and Chen, 2018)
207	The impact of gamification adoption intention on brand awareness and loyalty in tourism: The mediating effect of customer engagement	Journal of Destination Marketing and Management	(Abou-Shouk and Soliman, 2021)
186	Gamification and online impulse buying: The moderating effect of gender and age	International Journal of Information Management	(Zhang et al., 2021)
159	The engagement process during value co-creation: Gamification in new product-development platforms	International Journal of Electronic Commerce	(Leclercq et al., 2017)
150	Smart technologies and shopping experience: Are gamification interfaces effective? The case of the Smartstore	Technological Forecasting and Social Change	(Poncin et al., 2017)
135	Gamification and reputation: key determinants of e-commerce usage and repurchase intention	Heliyon	(Aparicio et al., 2021)
119	Enhancing consumer online purchase intention through gamification in China: Perspective of cognitive evaluation theory	Frontiers in Psychology	(Xu et al., 2020)
95	Evaluating the role of gamification and flow in e-consumers: Millennials versus generation X	Kybernetes	(García-Jurado et al., 2019)
72	Examining the importance of gamification, social interaction and perceived enjoyment among young female online buyers in India	Young Consumers	(Raman, 2020)
70	Gamification in OTA platforms: A mixed-methods research involving online shopping carnival	Tourism Management	(Shi et al., 2022)
51	Effective online engagement strategies through gamification: A systematic literature review and a future research agenda	Journal of Global Information Management	(Jayawardena et al., 2021)
49	The unobserved heterogeneous influence of gamification and novelty-seeking traits on consumers' repurchase intention in the omnichannel retailing	Frontiers in Psychology	(Kim et al., 2020)
45	Impact of gamification on perceptions of word-of-mouth contributors and actions of word-of-mouth consumers	MIS Quarterly	(Wang et al., 2020)
38	The perils of gamification: Does engaging with gamified services increase users' willingness to disclose personal information?	Computers in Human Behavior	(Trang and Weiger, 2021)
37	Gamification of mobile money payment for generating customer value in emerging economies: The social impact theory perspective	Technological Forecasting and Social Change	(Dzandu et al., 2022)

Source: Google scholar

Table 5: Prominent theories utilized in literature

Theory	References
TAM theory	(Aparicio et al., 2021), (Bayır and Akel, 2024), (Dhahak and Huseynov, 2020), (Raman, 2020), (Sari, 2022), (Tony et al., 2020), (Yang et al., 2017), (Fitriana and Abidin, 2023), (García-Jurado et al., 2019)
S-O-R theory	(Aprilia and Alfansi, 2024), (Raza et al., 2023), (Sun et al., 2022)
Self-determination theory	(Shahzad et al., 2023), (Tandon and Ertz, 2023), (Fitriana and Abidin, 2023)
Affordance theory	(Shi et al., 2022), (Xu et al., 2023)
UTAUT	(Abou-Shouk and Soliman, 2021), (Minh et al., 2023)
Flow theory	(Yildiz, 2023), (García-Jurado et al., 2019)

Source: Own elaboration

and marketing, identifying the authors as well as nations who publish the most papers on the subject of the present research, and conducting content and citation analyses.

The findings reveal a number of possible areas for debate, but we divided them into distinct sections for the sake of clarity in the present discussion, which are discussed in the sections that follow. It is necessary to investigate various gamification strategies and evaluate how they affect various facets of user behavior (Wang et al., 2020). When extrapolated to a broader population, samples drawn from a smaller one may yield deceptive results and may not accurately represent the behavioral intention. Additionally, interviewing them to learn about their emotional and social connections proved difficult (Banerjee and Bhattacharya, 2022). Therefore, in order to improve the validity of study findings, it is imperative to broaden the sampling frame to include other issues (Hsu and Chen, 2018).

The vast majority of previous research (69.49%) is quantitative in nature (Hsu et al., 2017; Ilham and Fajar, 2020; Aparicio et al., 2021; Minh et al., 2023; Bayır and Akel, 2024). Fewer studies (20.33%) used a qualitative approach than a quantitative one

(Krath et al., 2021; Sheetal et al., 2022; Ligorio et al., 2023), and only 10.16% of researchers employed a mixed method in their research (Leclercq et al., 2017; El Shoubashy et al., 2020). As per Abou-Shouk and Soliman (2021), both quantitative as well as qualitative approaches are solid in their own right, applying them together lessens the drawbacks of utilizing merely one of them.

3.1. What is Marketing Gamification?

The word "gamification" was first used by Nick Pelling in 2002 while working on a game-inspired user interface for commercial electronic products. Gamification is currently a popular marketing concept which seeks to increase favorable patterns and promote consumer interaction (Hamari et al., 2014). Marketing gamification is the process of using game-like concepts, elements, and components in marketing strategies in order to boost customer loyalty. Considering multiple causes such as the creation of content, increased transition rates, customer engagement, online shops can incorporate gamification components like points, badges, and awards into their websites (Bilgihan et al., 2016). The technique of developing experiences for goods and services using games in order to add value and encourage more positive feedback is known as "gamification" in the commercial world (Hwang and Choi, 2020). Gamification is a potent technique for customer retention since it encourages users to doodle on websites, keeping them engaged and up to date on the latest trends.

3.2. Content Analysis

Uninformative terms like use, impact, research, data, purpose, effect, or theoretical, as well as broader terms like study, results, model, or aims, were removed during the process of determining the important terms. Furthermore, for further evaluation, only relevant terms with a frequency of occurrence of 15 or above were kept. This procedure determined the 49 gamification-related terms which used mostly in the literature. The study aims to comprehend the meaning of these terms in relation to consumption and marketing. Figure 2 illustrates a word cloud created from selected articles.

Considering the word cloud, some renowned keywords, such as online, engagement, intention, loyalty, brand, experience,

Figure 2: Word cloud of widely used terms in literature

Source: WordItOut

elements, e-commerce, shopping, and gamification, were deemed to intuitively reflect the study's goal or its fundamental impact. In this scenario, the underlying influence is connected to the current study topic, whereas the study objective reflects the broad concept. This made it easier to pinpoint the main gamification-related aspects in relation to marketing and consumer behavior.

3.3. Author-Wise Analysis

In the context of journal-wise classification, a citation analysis was carried out to identify the authors who had the most impact on the area. According to Shabbir Husain (2020), citation analysis has been widely employed in research to determine the most significant authors in the subject. Citation analysis was used to look at the effects of particular publications on the gamification of marketing and customer behavior. With a total count of 648 citations, Yang et al. (2017) had the most citations in the journals under consideration, taking into account that citations are influenced by the article's age. The top 20 publications with the highest number of citations are displayed in Table 4.

3.4. Dominant Theories

Researchers have included a number of theories into their efforts to synthesize the research about gamification in the domain of marketing and consumer behavior. In these reviewed literature, fifteen theories were found to be frequently used frameworks. An explanation of these often used theories is given in the following paragraph.

Davis created the technology acceptance model (TAM), which depends upon the theory of reasoned action (TRA) (Ajzen, 1980) and the theory of planned behavior (TPB) (Ajzen, 1985). It is a widely used framework for explaining technology adoption behaviors, emphasizing on two main facets: Perceived usefulness (PU) and perceived ease of use (PEOU) (Wilkins et al., 2007; Aparicio et al., 2021). The SLR demonstrates that research that employ TAM frequently explore the effectiveness of specific gamified components, such as badges or rewards systems, in promoting user engagement and purchase intentions. Mehrabian and Russell (1974) introduced the the stimulus-organism-response (S-O-R) theory to examine the relationships between outside variables that influence people's behavior. It includes a process by which external factors shape customer behavior and produce the intended outcome (Basu et al., 2023; Shankar, 2022). In light of the findings, the stimulus-organism-response (S-O-R) theory is commonly utilized to delves into the connection among gamification and intentions to make purchases on the internet (Hwang and Choi, 2020). Self-determination theory, or SDT, focuses on understanding the elements that affect action and motivation among people. People have basic psychological requirements that lead to innate drive, individual fulfillment, and high performance, according to SDT theory, which was created by Edward Deci and Richard Ryan (Tobon et al., 2019). But when it comes to sustainable consumption and gamification, Self-determination theory is a useful tool since it focuses on how gamification components impact people's degree of inspiration and that consequently influence their sustainable preferences (Shahzad et al., 2023). The concept of affordability is the various alternative actions that a person can take in certain circumstances

Table 6: Journal-wise evaluation of published works

Name of the journal	Total no. of articles	Name of the journal	Total no. of articles
Computers in human behavior	4	International Journal of Mobile Communications	1
Frontiers in Psychology	2	Journal of Consumer Behaviour	1
Technological Forecasting and Social Change	2	Frontiers in Sustainability	1
Journal of Destination Marketing and Management	1	Journal of Global Information Management	1
Young Consumers	1	Heliyon	1
Kybernetes	1	Journal of Management Information and Decision Sciences	1
ASEAN marketing Journal	1	ICIC express letters, Part B: Applications	1
INTERNATIONAL JOURNAL OF TOURISM CITIES	1	Journal of theoretical and applied electronic commerce research	1
Asian Journal of Business Ethics	1	IEEE access	1
Journal of System and Management Sciences	1	Journal of Information Systems Engineering and Business Intelligence	1
Australian Journal of Basic and Applied Sciences	1	INOVASI	1
Pazarlama ve Pazarlama Araştırmaları Dergisi,	1	MIS quarterly	1
Business and Economics Research Journal	1	International Journal of Advanced Computer Science and Applications	1
International Journal of Management Studies	1	Pacific Asia Journal of the Association for Information Systems	1
Cardiometry	1	International Journal of Business and Management Studies	1
Journal of Business Research	1	Scientific reports	1
Cogent Business and Management	1	Social Behavior and Personality: an international journal	1
Journal of Management and Organization	1	Wireless Communications and Mobile Computing	1
RAM, São Paulo,	1	Technological Forecasting and Social Change	1
Journal of Yasar University	1	International Journal of Economic Behavior	1
Current Psychology	1	Tourism Management	1
Multimedia Tools and Applications	1	International Journal of Education, Information Technology and Others	1
Decision Support Systems	1	International Journal of Social Service and Research	1
Shirkah: Journal of Economics and Business	1	International Journal of Electronic Commerce	1
Elsevier-Decision Support Systems	1	Enrichment: Journal of Management	1
International Journal of Information Management	1	International Journal of Procurement Management	1
Journal of Advances in Information Systems and Technology	1	Formosa Journal of Multidisciplinary Research	1
		Grand total	59

Source: Own elaboration

Table 7: Total publications by country

Country name	Total publication	Country name	Total publication
Indonesia	10	U.S.A.	1
China	8	Iran	1
India	6	Vietnam	1
Taiwan	5	South Korea	1
U.K	3	Egypt	1
Turkey	3	Samarinda	1
Spain	3	Canada	1
Belgium	2	United Arab Emirates	1
Germany	2	Australia	1
Malaysia	2	France	1
Portugal	2	Finland	1
Italy	2	Grand total	59

Source: Own elaboration

Table 8: List of annual publication

Year	Total publications	Year	Total publications
2016	1	2021	11
2017	4	2022	11
2018	4	2023	16
2020	10	2024	2
		Grand total	59

Source: Own elaboration

interdependence theory, goal-setting theory, self-congruity theory, and cognitive evaluation theory.

3.5. Journal Wise, Country Wise and Year Wise Analysis

Tables 6 and 7 categorize publications based on the journals that published them and the countries that contributed to the research on gamification in marketing and consumption. The table lists the leading articles in journals based on the quantity of articles published. The greatest number of articles about marketing gamification and management are found in the Journal of Computer in Human Behavior, with four papers in total. Other journals with substantial contributions include Frontiers in Psychology, Technological Forecasting, and Social Change, each with two publications. The selection of publications using the screening criteria outlined in the previous sections of the study means that at most one publication is ascribed to the

or in connection to specific qualities or applications for a tangible item (Gibson, 1979). Another definition of gamification is a collection of actions that provide opportunities for gamified events, strengthening the whole procedure of creating value for customers (Huotari and Hamari, 2012; Shi et al., 2022). Several alternative theories were also employed by the researchers, including mean-end chain theory, flow theory, UTAUT, social cognition theory, planned behavior theory, social influence theory, use and gratification theory, experiential marketing theory, social

Table 9: Most used gamification elements and their impact on consumer behavior

Author	Elements	Impact
(Saidon et al., 2016)	Economic rewards, Social rewards	Positive WOM, Purchase Intention
(Poncin et al., 2017)	Challenge, Fantasy	Behavioural intention
(Wang et al., 2020)	Points, Badges	Behavioral outcomes
(Raman, 2020)	Points, Badges, Rewards	Behavioural intention
(Xu et al., 2020)	Rewards, Absorption, Autonomy, Competition	Purchase intention
(Zhang et al., 2021)	Rewards giving, Badges upgrading	Impulse buying
(Aghdaie et al., 2022)	Reward, Status, Self-expression, Altruistic, Competition, Achievement	Urge to impulsive buying
(Tarmidi and Setiawan, 2022)	Price discount	Impulse buying
(Xu et al., 2023)	Monetary rewardability, Connectiveness, Playfulness, Novelty	Purchase intention
(Rahmadhan et al., 2023)	Rewards, Points, Badges, Leaderboards, Avatars, Fantasy	Consumer loyalty, Consumer engagement, User behavior
(Chang and Yu, 2023)	Reward, Competition	Purchase intention
(Raza et al., 2023)	Reward timing	Purchase intention
(Aprilia and Alfansi, 2024)	Membership level, Rewards, Visual design	Impulse buying

Source: Own elaboration

remaining journals. The most prominent journal publications are listed in Table 6 based on the total number of articles published. Furthermore, it's pertinent to note that Indonesia has the most publications, presenting nine of the total studies examined for this research, followed by China with 8 publications, India with 6 publications, and Taiwan with 5 publications, among other nations. The availability of accessible material is significant, as it emphasizes the significance of undertaking more influential research that includes the concept of Gamification into marketing and managerial decision it is worth noting -making and tactics. Over over the last decade, gamification's use in e-marketing has increased steadily, as seen in Table 8. This growth illustrates how crucial gamification is in a number of marketing domains.

Table 11 provides a detailed breakdown of the research characteristics presented in each article. It categorizes the variables from each research paper into antecedents, mediators, moderators, and outcomes, showing how these variables are utilized in the models of the respective studies. To synthesize and streamline the findings, Table 12 consolidates the variables across all studies. In this synthesis, repeated variables are excluded, ensuring that only unique variables are displayed. This provides a clearer view of the comprehensive set of variables used across the reviewed literature.

3.6. Research Characteristics

Characteristics refer to antecedents, mediators, moderators, and outcomes. According to Risso and Paesano, (2021), antecedents essentially explain why a particular behavior is performed or not performed, the mediator serves as a conduit or mechanism through which the dependent variable is impacted by the

Table 10: List of future research gaps

Gaps	References
Need to do a longitudinal study using diverse methodologies and samples	(Leclercq et al., 2017); (Hsu et al., 2017); (Hsu and Chen, 2018); (La Cuadra et al., 2019); (Tobon et al., 2020); (Dhahak and Huseynov, 2020); (Tony et al., 2020); (Raman, 2020); (Zhang et al., 2021); (Jayawardena et al., 2021); (Abou-Shouk and Soliman, 2021); (Heksarini and Putri, 2022); (Sheetal et al., 2022); (Suryavanshi et al., 2022); (Sun et al., 2022); (Shi et al., 2022); (Malik and Singh, 2022); (Banerjee and Bhattacharya, 2022); (Minh et al., 2023); (Yildiz, 2023); (Jesslyn et al., 2023); (Shahzad et al., 2023); (Tian, 2023); (Raza et al., 2023); (Bayır and Akel, 2024)
Extend this study to other nations	(Hsu et al., 2017); (La Cuadra et al., 2019); (Raman, 2020); (Abou-Shouk and Soliman, 2021); (Zhang et al., 2021); (Shi et al., 2022); (Jesslyn et al., 2023); (Raza et al., 2023); (Tandon and Ertz, 2023)
To Investigate various gamification elements to evaluate their effects on different facets of user behavior	(Leclercq et al., 2017); (García-Jurado et al., 2019); (Tobon et al., 2020); (Wang et al., 2020); (Demir and Demir, 2020); (Raman, 2020); (Jayawardena et al., 2021); (Zhang et al., 2021); (Tarmidi and Setiawan, 2022); (Chang and Yu, 2023); (Yildiz, 2023); (Rahmadhan et al., 2023); (Aprilia and Alfansi, 2024)
Need to expand the generalizability of gamification to other service contexts	(Leclercq et al., 2017); (Yang et al., 2017); (Hsu and Chen, 2018); (Hsu and Chen, 2018); (Raman, 2020); (Xi and Hamari, 2020); (Naqvi et al., 2021); (Abou-Shouk and Soliman, 2021); (Rodrigues et al., 2021); (Trang and Weiger, 2021); (Sari, 2022); (Malik and Singh, 2022); (Chang and Yu, 2023)
To examine new variables in relation to gamification	(Hsu et al., 2017); (Naqvi et al., 2021); (Abou-Shouk and Soliman, 2021); (Malik and Singh, 2022); (Sari, 2022); (Heksarini and Putri, 2022); (Tandon and Ertz, 2023); (Minh et al., 2023); (Raza et al., 2023); (Shahzad et al., 2023); (Bayır and Akel, 2024)
Need to explore the effect of gamification on sustainable consumer behavior	(Raman, 2020); (Sun et al., 2022); (Shahzad et al., 2023);
Need to analyse the impact of psychological and socio-demographic differences on user perceptions of gamified websites	(Hsu and Chen, 2018); (La Cuadra et al., 2019); (Tobon et al., 2020); (El Shoubashy et al., 2020); (Kim et al., 2020); (Abou-Shouk and Soliman, 2021); (Suryavanshi et al., 2022)
Need to explore AI and gamification	(Jayawardena et al., 2021); (Yildiz, 2023); (Rosli and Omar Zaki, 2023)
Need to explore other scales of gamification in future studies	(Leclercq et al., 2017); (La Cuadra et al., 2019)

Source: Own elaboration

Table 11: Research characteristics

Author	Antecedents	Mediator/moderator	Outcomes
(Ilham and Fajar, 2020)	System Quality, Information Quality, Service Quality	Trust, Intention to Use, User Satisfaction, Use, Advertising	Net Benefit
(Saidon et al., 2016)	Economy rewards, Social rewards	Gamification pathology, Utilitarian value, Hedonic value	Positive word of mouth, Purchase Intention
(Bayır and Akel, 2024)	Gamification of mobile app	Perceived ease of use, Perceived usefulness	Behavioral intention to use, Attitude towards using
(Aparicio et al., 2021)	Perceived ease of use, Perceived usefulness, Reputation, Gamification	Trust in vendor, Intention to use, Use	Buy frequency, Repurchase intention
(Minh et al., 2023)	Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions	Gender, Age, Experience, Voluntariesness to use	Gamification Adoption Intention, Online Buying Behavior
(Dhahak and Huseynov, 2020)	Perceived ease of use, Perceived usefulness, Perceived Social Influence, Perceived Enjoyment, Trust	Attitude	Purchase Intention
(Wang et al., 2020)	Gamification	Perceived competence, Review usefulness	Behavioral outcomes
(Naqvi et al., 2021)	User Experience	Hedonic Features, Utilitarian Features, Monetary Value, Experiential Value, User Satisfaction	Intention to Use, Recommendation
(Fitriana and Abidin, 2023)	Relatedness, Autonomy, Competence	Attitude toward using, Perceived ease of use, Perceived usefulness	Behavioral Intention to Use
(Hsu and Chen, 2018)	The experience of gamification marketing activities	Hedonic value, Utilitarian value, Satisfaction	Brand love, Brand loyalty, Positive word of mouth, Resistance to negative information
(Aprilia and Alfansi, 2024)	Membership Level, Rewards, Visual design	Immersion	Impulse buying
(Tarmidi and Setiawan, 2022)	Gamification, Price discount		Impulse buying
(Hsu and Chen, 2018)	Perceived mobility, Utilitarian features, Hedonic features	User experience	Perceived quality, Brand loyalty, Brand associations, Brand trust, Information value, Experiential value, Social value, Transaction value, Social benefits, Self-benefits
(Willis and Tjhin, 2021)	Immersion, Achievement, Social Development, Social Influence, Purpose, Ownership, Avoidance	Brand engagement	Purchase intention
(Demir and Demir, 2020)		---	Brand loyalty
(Raman, 2020)	Points, Badges, Leaderboard	Perceived ease of use, Perceived usefulness, Social interaction, Perceived enjoyment	Behavioral intention
(Kim et al., 2020)	Hedonic value (Adventure, Gratification, Role, Best deal, Social, Idea), Social comparison, Goal setting	Novelty-seeking	Repurchase intention
(Prastiwi et al., 2022)	Online Consumer Reviews, Ratings, Gamification	Trust	Online Purchasing Decisions
(Xu et al., 2023)	Monetary rewardability, Connectiveness, Playfulness, Novelty	immersive experience	Purchase intention
(Xu et al., 2020)	Rewards, Competition, Autonomy, Absorption	Enjoyment	Online purchase intention
(Jesslyn et al., 2023)	Gamification	Perceived behavior control, Attitude, Subjective norms	Continuance intention to use
(El Shoubashy et al., 2020)	User Experience, Competition, Badges, Points System, Goals, Achievement, Leaderboards, Teams, Rewards	Hedonic Motivation, Utilitarian Motivation, Player Personality	Gameful Experience, Targeted Customer Attitude, Customer Brand Engagement
(Shahzad et al., 2023)	Gamification	Virtual CSR, Technological awareness, Hedonic motivation	Green consumption behavior
(Suryavanshi et al., 2022)	Attention to gamification	Reward Satisfaction	User engagement
(Chang and Yu, 2023)	Reward, Competition	Immersion, Sense of presence	Purchase intention
(Dzandu et al., 2022)	Gamification of mobile money payment	Identification, Internalisation, Compliance	Customer engagement, Loyalty, Satisfaction

(Contd...)

Table 11: *(Continued)*

Author	Antecedents	Mediator/moderator	Outcomes
(Shi et al., 2022)96	Achievement affordance, Identity affordance, Competition affordance, Self-expression affordance	Functional value, Social value, Emotional value	Purchase intention
(Malik and Singh, 2022)	Performance Expectancy, Effort Expectancy, Facilitating Conditions, Social Influence, Hedonic Motivation, Price Value, Habit, Information Quality, System Quality, behavioral intention	Use, Trust, Gamified features	Continuance usage
(Tian, 2023)	Human-computer interaction, Interpersonal interaction	Perceived playfulness, Involvement	User loyalty
(Xi and Hamari, 2020)	Immersion, Achievement, Social interaction	Emotional brand engagement, Cognitive brand engagement, Social brand engagement, Tenure, Weekly use	Brand awareness, Brand loyalty
(Yang et al., 2017)	Behaviour intention of engagement	Perceived Usefulness Perceived Ease of Use, Perceived Social Influence, Perceived Enjoyment	Brand attitude
(Abou-Shouk and Soliman, 2021)	Gamification's adoption intention	Customer engagement	Brand awareness, Brand loyalty, Performance expectancy, Effort expectancy, Social influence, Facilitating conditions
(La Cuadra et al., 2019)	Experiences	Emotions	Loyalty, Complaints
(Tony et al., 2020)	Mobile device self-efficiency	Attitude, Perceived usefulness, Perceived ease of use, Perceived Playfulness, social influence	Behavioural intention
(Heksarini and Putri, 2022)	Gamification		Customer Engagement, Customer Loyalty
(Sari, 2022)	Perceived usefulness, Perceived social influence, Perceived enjoyment, Perceived ease of use	Brand attitude, Intention to engage	Brand Loyalty
(Raza et al., 2023)	Accomplishment, Challenge, Competition, Guided, Immersion, Playfulness, Social experience	Customer experience, Customer engagement, Reward timing	Purchase intention
(Trang and Weiger, 2021)	Gamification, Privacy Benefits, Privacy Risks, Privacy Concerns	Cognitive Absorption	Personal Information Disclosure
(Zhang et al., 2021)	Rewards Giving, Badges Upgrading	Gender, Age, Perceived Enjoyment, Social Interaction	Impulse buying
(Tandon and Ertz, 2023)	Gamification, E-Logistics Service Quality, Virtual-try-on technology	Customer Satisfaction, POD mode of payment	Repurchase Intention

Source: Own elaboration

independent variable, The moderator alters the path or strength of the independent variable's impact on the dependent variable, and the outcomes summarize the results that follow Action or inaction. Studies on marketing gamification has made it possible to identify a number of important characteristics, such as antecedents, mediations, moderations, and outcome (Table 11). To put the field of research in context, discover possible trends and pinpoint variables that haven't gotten as much attention, the 59 publications in the database were carefully reviewed by the authors to identify the antecedents and effects that the researchers employed. This assists to develop new hypotheses for future research.

The extensively studied antecedents in the literature concerning game elements are gamification (10 articles), competition (7 articles), reward (5 articles), badges (4 articles), achievement (3 articles), immersion (3 articles), points (3 articles), social influence (3 articles), and leaderboard (2 articles) (Wang et al., 2020; Heksarini and Putri, 2022; Chang and Yu, 2023; Raman, 2020; Raza et al., 2023; Demir and Demir, 2020). Empirical research findings demonstrated that the application of these gamification components improved customer engagement and behavior, which can benefit businesses in a number of ways. However, additional game elements like avatars, customisation, time pressure, stages, 3D environments, and prompts can be the subject of future research. Furthermore, other antecedents were analyzed in the articles of this review, as shown in Table 11, with the majority researched being perceived ease of use (3 articles), perceived usefulness (3 articles), perceived social influence (2 articles), and perceived enjoyment (2 articles) (Sari, 2022; Dhahak and Huseynov, 2020; Aparicio et al., 2021). According to technology acceptance and adoption theories, these factors are important predictors of the continuous usage of diverse systems. Other, less-studied antecedents, like privacy concerns, trust, virtual

Table 12: Synthesize research characteristics

Antecedents			Mediator/moderator		Outcomes	
Absorption	Habit	Price discount	Advertising	Perceived ease of use	Attitude towards using	Loyalty
Accomplishment	Hedonic features	Price Value	Age	Perceived Enjoyment	Behavioral intention	Net Benefit
Achievement	Human-computer interaction	Privacy Benefits	Attitude	Perceived Playfulness	Behavioral outcomes	Online Buying Behavior
Affordance	Immersion	Privacy Concerns	Cognitive Absorption	Perceived Social Influence	Brand associations	Perceived quality
Attention to gamification	Information Quality	Privacy Risks	Compliance	Perceived usefulness	Brand attitude	Performance expectancy
Autonomy	Interpersonal interaction	Purpose	Emotions	Player Personality	Brand awareness	Personal Information Disclosure
Avoidance	Leaderboard	Ratings	Engagement	POD mode of payment	Brand loyalty	Positive word of mouth
Affordance	Membership Level	Relatedness	Enjoyment	Review usefulness	Brand trust	Purchase intention
Badges	Mobile device self-efficiency	Reputation	Experience	Reward timing	Buy frequency	Recommendation
Behavioral intention	Monetary rewardability	Reward	Functional value	Satisfaction	Complaints	Repurchase intention
Behaviour intention of engagement	Novelty	Self-expression	Gamification pathology	Sense of presence	Continuance intention to use	Resistance to negative information
Challenge	Online Consumer Reviews	Service Quality	Gamified features	Social interaction	Customer engagement	Satisfaction
Connectiveness	Ownership	Social System Quality	Gender	Social value	Effort expectancy	Self-benefits
Development	Perceived ease of use	Teams	Hedonic value	Subjective norms	Experiential value	Social benefits
Effort Expectancy	Perceived enjoyment	Trust	Identification	Technological awareness	Facilitating conditions	Social influence
E-Logistics Service Quality	Perceived mobility	User experience	Immersion	Tenure	Gameful Experience	Social value
Experiences	Perceived Social Influence	Utilitarian features	Intention to use	Trust	Gamification Adoption Intention	Targeted Customer Attitude
Facilitating Conditions	Perceived usefulness	Virtual-try-on technology	Internalisation	Use	Green consumption behavior	Transaction value
Gamification	Performance Expectancy	Visual design	Involvement	Utilitarian value	Impulse buying	User engagement
Goal setting	Playfulness		Monetary Value	Virtual CSR	Information value	User loyalty
Guided	Points		Novelty-seeking	Voluntariesness to use	Intention to Use	
			Perceived behavior control	Weekly use		
			Perceived competence			

Source: Own elaboration

try-on technology, service quality, habit, and reputation, can be examined in future research.

This systematic review reveals that the most studied variables that act as moderators/mediators are perceived ease of use (5 articles), perceived usefulness (5 articles), attitude (4 articles), trust (4 articles), emotions (4 articles), perceived enjoyment (3 articles), and use (3 articles) (Yang et al., 2017; Fitriana and Abidin, 2023; Malik and Singh, 2022; La Cuadra et al., 2019). More study is needed on less concentrated mediator/moderator variables such cognitive absorption, compliance, identification, involvement, and novelty-seeking. According to this review Purchase Intention (7 articles) was also nearly all researched outcomes in the review, Afterward brand loyalty (6 articles), impulse buying (3 articles), repurchase intention (3 articles), online buying behavior (2 articles), and positive wom (2 articles) (Saidon et al., 2016); Hsu and Chen, 2018; Zhang et al., 2021; Xu et al., 2020; Tandon and Ertz, 2023; Kim et al., 2020).The review clearly indicates a connection between gamification and user behavior, consumer engagement, and loyalty (Rahmadhan et al., 2023).

Because the research models are widely distributed, there is a great diversity of antecedents and outcomes. The wide variety of theories is reflected in this breadth. According to the results analysis, the empirical research is primarily concerned with how customers perceive and experience gamification implementations, whether they are entertaining or helpful, and whether the features of the system inspire and engage customers. We anticipate that more

research will identify other antecedents, moderators, mediators, and outcomes that could significantly influence the application of gamification in marketing.

4. FINDINGS

As stated by Deterding et al. (2011), gamification is "the use of game design elements in non-game contexts" for the purpose of enhance user commitment. To improve consumer interactions on digital platforms, e-commerce entails developing engaging and interactive experiences. The analysis identifies a number of ways that gamification might improve consumer interaction, including through virtual awards, loyalty programs, and interactive shopping experiences. Studies have revealed that gamification features such as reward, competition, connectiveness, playfulness, and novelty positively influence consumers' intentions to make purchases (Saidon et al., 2016; Xu et al., 2023; Raza et al., 2023). Xu et al., (2020) found that he autonomy, game rewards, and absorption of gamification all enhance people's enjoyment and assist them in satisfying their psychological requirements, which in turn affects their propensity to make online purchases. Zhang et al., (2021) empirically confirmed that gamification features like Badge upgrades and reward systems show a favorable association with perceived enjoyment and social interaction, both of which influence consumers' impulsive purchases.

Significant findings reveals that Gamification have a significant impact on boosted buying intentions (Dhahak and Huseynov, 2020; Willis and Tjhin, 2021; Chang and Yu, 2023; Shi et al., 2022), brand loyalty (Demir and Demir, 2020; Hsu and Chen, 2018; Xi and Hamari, 2020; Abou-Shouk and Soliman, 2021), repurchase intentions (Aparicio et al., 2021; Tandon and Ertz, 2023; Hsu, 2023), favorable WOM (Saidon et al., 2016; Hsu and Chen, 2018), and impulse buying (Tarmidi and Setiawan, 2022; Aprilia and Alfansi, 2024; Ringo et al., 2023). Businesses can encourage customers to interact more deeply with their products and services by introducing game-like experiences into online purchasing. For instance, gamified features like badges and rewards can foster a sense of competition and achievement, which increases engagement and encourages customer loyalty.

In addition, the study highlights multiple domains for further study. Future studies ought to examine the effectiveness of various gamification elements, including badges, leader boards, levels, socialization, achievement, progression, virtual prizes, virtual goods, curiosity, control, and intrinsic interest, in developing consumer relationships over time (Chang and Yu, 2023; García-Jurado et al., 2019). Furthermore, studies on the moral implications of gamification are required, particularly with regard to data security and customer privacy (Raman, 2020; Abou-Shouk and Soliman, 2021; Malik and Singh, 2022). The review emphasizes that research about the Gamification's effects on sustainable consumer behavior are still its initial stages. Future studies could examine the viability of gamification as a long-term tactic to encourage environmentally friendly consumer behavior (Raman, 2020; Sun et al., 2022; Shahzad et al., 2023). Gamification has applications outside of marketing and should be investigated further in a number of other fields. There is room for more research and development in areas

including banking, healthcare, education, and entertainment that are yet understudied (Yang et al., 2017; Leclercq et al., 2017; Xi and Hamari, 2020; Trang and Weiger, 2021).

The COVID-19 epidemic has caused an uptrend in online buying. Gamification on e-commerce platforms is the future of online purchasing. As Leading companies and e-commerce sites employ gamification techniques to offer a thorough buying experience so it is a successful tactic used by e-commerce platforms to cultivate enduring customer relationships. Due to the highly technical knowledge needed and the uncertain efficiency of gamification methods, many brands and online shopping platforms are hesitant to implement them in an effort to improve the consumer experience. The review also indicates that consumer perceptions of gamification are uncertain and need to be investigated (Hsu and Chen, 2018; La Cuadra et al., 2019). It is critical to have a comprehensive grasp of how customers will perceive gamification, its effectiveness in promoting behavioral results, and customers' resistance to utilize gamification because of privacy and data issues. The current state of gamification in e-commerce is thoroughly reviewed in this systematic literature study, it also makes room for more research on how these tactics might improve digital marketing techniques. Academic studies on the efficacy and results of gamification tactics will be welcomed by marketers as it will enable them to take better educated, methodical, and successful gamification decisions.

5. DIRECTIONS FOR FUTURE RESEARCH

In the sphere of research on gamification's impact on marketing and consumer behavior is still in its infancy and requires more investigation. Future studies could examine alternative gamification strategies and evaluate how they affect various facets of user behavior. The long-term sustainability of gamification is a crucial topic for further research. Gamification may initially engage consumers and promote repeat behavior, but it is unclear if these impacts would fade over time. This aspect needs more research and study. Furthermore, this study's results show that a mixed-methods strategy has been used in far less research.

The synthesis of the existing literature has indicated numerous bigger research gaps that must be addressed in subsequent investigations.
- Need to do a longitudinal study using diverse methodologies and samples: Most of the literature suggests that there is room for more research using a variety of approaches, sample sizes, and time periods.
- Extend this study to other nations: To obtain a more comprehensive and perceptive viewpoint, further studies on this present issue ought to be carried out in many nations. The researchers want to find patterns or insights that might change among areas because of cultural, economic, legal, or other contextual variables by extending the study to several country levels.
- To Investigate various gamification elements to evaluate their effects on different facets of user behavior: Future research should integrate different gamification aspects, carry out more thorough studies on them, and empirically evaluate how well they work to build relationships with customers over time.

- Need to expand the generalizability of gamification to other service contexts: More research may be done on how gamification is applied in fields other than marketing.
- To examine new variables in relation to gamification: Some of the important variables that need to be investigated in connection with gamification are computer self-efficacy, m-commerce knowledge, e-learning, virtual reality, advergames, and technology adoption.
- Need to explore the effect of gamification on sustainable consumer behavior: The study of how gamification affects sustainable consumer behavior is still in its early phases and needs more research.
- Need to analyse the impact of psychological and socio-demographic differences on user perceptions of gamified websites: Future research must comprehend how various sociodemographic characteristics (such as age, gender, or income) and psychological features (such as motivation or personality) impact users' perceptions of and interactions with gamified websites. With the aid of this analysis, these websites can be better adapted to the requirements and tastes of various user groups.
- Need to explore AI and gamification: To increase overall effectiveness in fields like marketing, education, and productivity, future research must look at how AI may be utilized to enhance user interactions, evaluate user behavior, and create more personalized and compelling game-like experiences.
- Need to explore other scales of gamification in future studies: Even though there are many gamification scales available, more gamification scales in the domain of marketing and consumer behavior need to be investigated.

6. IMPLICATIONS

This study has implications for academia and management. The present status of studies on the nexus among gamification and e-commerce platforms is summarized in this paper, which advances scholarly knowledge of how aspects of game design affect customer behavior, engagement, and purchase decisions. In e-commerce's settings, it provides an extensive structure for understanding the theoretical underpinnings of gamification, highlighting key definitions of gamification, methodologies, most cited articles, journal-wise analysis, country-wise analysis of published literature, year wise publications trend, a word cloud of frequently used terms in literary works, research characteristics and highlighting gaps for future research for instance explore the impact of gamification on sustainable consumer behavior (Raman, 2020; Sun et al., 2022; Shahzad et al., 2023), extend the generalizability of gamification to other service contexts (Leclercq et al., 2017; Hsu and Chen, 2018; Rodrigues et al., 2021; Chang and Yu, 2023) and ethical considerations (Raman, 2020) that will direct future investigations. The findings may act as a basis for researchers to design empirical investigations, develop theoretical models, and enhance knowledge in marketing, consumer behavior, and digital innovation.

The study's managerial implications emphasize the significance of incorporating gamification tactics into e-commerce platforms in order to improve overall buying experiences. By establishing engaging and rewarding interactions, gamification can help managers not only increase temporary sales but also cultivate long-term brand loyalty (Hsu et al., 2017; Raza et al., 2023). As stated by Xu et al., (2020), gamification aspects including autonomy, game incentives, and absorption can help people feel more happy and meet psychological needs, which in turn affects their tendency to make online purchases. Habib et al., (2023) discovered that gamification has an extensive and favorable impact on customer engagement, positive emotions, intrinsic motivation, and repurchase intention. People prefer to purchase online due to technological advancements, therefore managers must engage in data analytics to understand client preferences and habits and adjust gamification methods accordingly to make the shopping experience entertaining and engaging. Businesses will be able to keep a competitive edge in the variable e-commerce market by staying updated on new developments in gamification, including augmented reality and artificial intelligence (Jayawardena et al., 2021; Yildiz, 2023).

7. CONCLUSION AND LIMITATIONS

Gamification is a rapidly expanding area of study in both the scientific and commercial fields. This study sought to provide understanding on present and areas for future investigation in the topic of marketing gamification, through the application of a systematic literature review technique. The analysis identified the most prominent papers, authors, countries, and journals contributing to this field. Indonesia, China, and India are the most productive nations. Additionally, it has been verified that Yang Yang is the author with the most citations. It's also crucial to remember that the journal with the most publications on gamification in marketing was Computers in Human Behavior, and the articles in this journal had the most citations. The findings indicate that gamification in marketing is a developing field characterized by a diverse array of theoretical approaches, underscoring its nascent and interdisciplinary nature. This research provides a valuable resource for academic scholars in marketing, enabling them to identify key contributors in respect of publications and citations, while also offering a comprehensive overview of the evolution of this research field athwart various concepts, contexts, and techniques. Additionally, researchers can discover vital facts regarding current associations, the renowned and popular keywords and potential avenues for subsequent exploration. These insights contribute to the consolidation and advancement of gamification research within the marketing discipline.

However, the particular work, like all other research undertaking, has some limitations. The study is restricted to the Google Scholar and Scopus databases, despite efforts to incorporate all noteworthy substance. Although these databases were chosen because they are the most extensive peer-reviewed databases, it is possible that additional worthwhile and fascinating works in this field are not available on this platform. The present review is entirely based on the accessible secondary literature, therefore it excludes primary data. We support future research endeavors to adopt a mixed-methods strategy, given the dearth of empirical evidence in this emerging field (Abou-Shouk and Soliman,

2021). This approach seeks to create a deeper understanding and produce strong evidence about the intricate relationships between gamification and sustainability consciousness in the realms of marketing and consumption (Raman, 2020; Sun et al., 2022; Shahzad et al., 2023). In addition, the present review highlights a lack of longitudinal research (Tobon et al., 2020; Jayawardena et al., 2021; Suryavanshi et al., 2022), laying the groundwork for further research into this area and offering insights into the temporal dynamics of gamification.

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