Gamification For Digital Marketing: A Bibliometric Analysis and Theories, Contexts, Characteristics and Methodologies Analysis

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Abstract

The objectives of this review are twofold. Firstly, it aims to provide a comprehensive overview of the emerging field of gamification in digital marketing, synthesizing existing knowledge in a structured manner. Secondly, it offers valuable insights that will guide future research specifically related to digital marketing. This study presents bibliometric and TCCM analyses. The review analyzed 110 articles on digital marketing, with data sourced from the Scopus scientific database. The literature review revealed a need for continued research on the use of gamification in digital marketing, particularly for small and medium-sized businesses that are not yet widely familiar with this approach. The TCCM analysis highlighted key theories and methodological approaches used in the published articles, with a notable emphasis on quantitative methods and primary data collected through online surveys. Additionally, the review provides future research directions to advance scientific knowledge and contextual relevance, and it supports strategic decision-making.

Keywords: *Gamification, Digital Marketing*

INTRODUCTION

In recent years, gamification has gained prominence across various fields and has seen growing and widespread application in digital marketing (Berger et al., 2017), (Eppmann et al., 2018), (Mishra & Malhotra, 2020). This is evident in the fact that leading companies like Nike, Amazon, and Starbucks are increasingly incorporating gamification into their digital marketing strategies (Huotari & Hamari, 2017), (N. Xi & Hamari, 2019), (Lin et al., 2023). Gamification, described as the integration of game-like elements into a service to facilitate enjoyable experiences aimed at aiding users in creating value, has emerged as a powerful tool for bolstering marketing efforts (Deterding et al., 2011), (Huotari & Hamari, 2017).

With the rapid advancement of digital marketing, gamification has become widespread on digital marketing, serving as a tool for mobile marketing (Hofacker et al., 2016). Major brands like Starbucks and Nike have integrated gamification elements into their digital marketing, effectively boosting customer engagement. Additionally, specific mobile applications like Foursquare offer gamification services tailored for brand marketing. Research indicates that gamification on digital marketing contributes to enhancing customer brand loyalty and connection (Berger et al., 2017), (Whittaker et al., 2021). Effective gamification design should prioritize creating enjoyable experiences rather than solely focusing on behavior modification. Therefore, firms aiming to achieve digital marketing objectives should invest in improving consumer enjoyment of digital marketing through superior gamification design (Hofacker et al., 2016), (Huotari & Hamari, 2017), (Liu et al., 2016).

Digital marketing (DM) involves leveraging electronic platforms and technological devices for marketing purposes (A. S. Krishen et al., 2021). The integration of innovative devices and techniques in digital advertising has enhanced convenience, expanded reach, reduced costs, and overcome geographical and temporal barriers. DM employs a range of technologies, including artificial intelligence (AI) and the Internet of Things (IoT), to achieve marketing goals in both consumer-to-consumer and business-to-consumer (Buhalis & Volchek, 2021), (Dwivedi et al., 2015), (Herhausen et al., 2020), (Petrescu et al., 2020), (A. Krishen et al., 2016). Consequently, DM is a dynamic, interdisciplinary field that not only applies electronic technology to marketing but also evolves

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with new developments in information and communication technology (ICT) tools and platforms (Das et al., 2019).

Gamification involves incorporating game elements, dynamics, and mechanics into contexts that are not traditionally associated with games (Behl et al., 2022), to make an application, product, or service more enjoyable, motivating, and engaging (Deterding et al., 2011). It can also be described as a collection of activities and processes used to address problems by employing or integrating characteristics of game elements (Deterding et al., 2011), (Behl et al., 2022), (Spanellis et al., 2020). "The term 'gamification' gained widespread popularity in 2010, when researchers and practitioners began exploring the possibility of integrating game elements into everyday processes to make them more game-like" (Spanellis et al., 2020). Globally, gamification has emerged as a significant industry in its own right. In 2020, the global gamification market was valued at $10.19 billion, and it is projected to grow to $38.42 billion by 2026 (Li et al., 2024). This growth is largely due to gamification's ability to stimulate and enhance customer engagement (Leclercq et al., 2018). This is a key factor in promoting positive consumption behaviors among consumers toward companies and brands (Wolf et al., 2020), (Hsu & Chen, 2018), (Whittaker et al., 2021), (Yang et al., 2017).

In the realm of digital marketing research, gamification is currently undergoing rapid expansion. However, our understanding of this phenomenon remains fragmented, consisting of scattered pieces of knowledge. The existing body of knowledge lacks structure and cohesion, necessitating a thorough review and synthesis of the literature on this topic. Such a review is essential in any academic field. Despite the burgeoning interest in gamification, there has been no investigation, to the best of the authors' knowledge, utilizing scientific mapping or TCCM analysis to scrutinize published research concerning the application of gamification in marketing. Existing bibliometric studies examining gamification encompass its diverse applications across various domains (Rodrigues et al., 2019), (Trinidad et al., 2021). Alternatively, they may concentrate on domains outside of digital marketing, such as education or health (Martinez-Garcia et al., 2023), (Dias et al., 2017). Therefore, the aim of this study is to address this void by offering a thorough and organized examination of the evolving landscape of gamification in digital marketing. Additionally, it seeks to propose a roadmap for future research endeavors in this area.

This study employs bibliometric analysis and the TCCM framework to address the following research questions: RQ1. Who are the most significant and influential authors, articles, journals, and countries contributing to gamification research in marketing? RQ2. How are gamification and marketing articles categorized, and what are the current research streams? RQ3. What theories, contexts, characteristics, and methods are predominantly used in gamification research applied to marketing? RQ4. What future research directions are suggested by the gaps identified in the existing literature?

In this study, we opted for a hybrid review approach because we believe it provides complementary insights into the field. Bibliometric analysis offers several notable advantages: (1) it reveals the intellectual structure of the topic, identifying the most influential authors, countries, and journals, as well as networking patterns; (2) it identifies dominant research topics and clusters; (3) it provides essential insights into the evolution of the literature, highlighting mature and emerging areas; and (4) it helps establish a foundation for future research by identifying gaps and future research paths (Trinidad et al., 2021), (Saini et al., 2022). Compared to traditional literature reviews, bibliometric analysis is more objective and less biased (Baumgartner & Pieters, 2003). The large volumes of scientific data, such as citation counts and keyword occurrences, facilitate a deeper understanding of a subject area. However, bibliometric analysis alone does not account for the theories, contexts, characteristics, and research methods in the selected data (Paul et al., 2021). Therefore, we also employed the TCCM (theories, contexts, characteristics, and methods) framework, developed by Paul and Rosado-Serrano (Paul & rosado-serrano, 2019). Reviews based on frameworks are often informative, insightful, and impactful (Paul et al., 2021). Additionally, the TCCM framework enhances the understanding of the gamification and marketing field by increasing the breadth, rigor, and relevance of the literature review (Singh & Dhir, 2019).

Nowadays, there is an increasing tendency for people to engage with gamification. Additionally, the application of gamification in marketing has expanded considerably in recent years (N. Xi & Hamari, 2021). Consequently,

having a visual summary of the cumulative scientific progress in this area is essential. It helps researchers trace the origins and current significance of gamification and aids in planning future research. By compiling, organizing, and analyzing existing knowledge on the subject and presenting it systematically, this review can also benefit professionals seeking to enhance their understanding of gamification implementation.

LITERATURE REVIEW

In recent years, gamification has become a prominent trend in business, especially within digital marketing (Nannan Xi, 2020), (Xu et al., 2017). Marketers are particularly excited about gamification because games capture and maintain people's engagement over time (Lin et al., 2023), (Hsu & Chen, 2018). This has led to a positive outlook on incorporating game design elements into digital marketing strategies (Zichermann & Linder, 2010), (Högberg et al., 2019). However, it's important to note that many game mechanics used in marketing aren't entirely new (Hsu & Chen, 2018). For example, loyalty programs, which have been a staple in digital marketing for decades, share similarities with game mechanisms. While the objectives of loyalty programs and gamification may overlap, they are not the same. (Riar et al., 2022) Loyalty programs primarily focus on providing economic benefits, such as redeemable points, to encourage ongoing service use. In contrast, gamification aims to drive consumer engagement by offering not only economic rewards but also motivational and social benefits (Riar et al., 2022). In summary, within the realm of marketing, gamification involves using game design elements to enhance non-game products and services, thereby boosting customer value and encouraging behaviors like increased consumption, loyalty, engagement, and product advocacy (Hofacker et al., 2016). Gamification elements on digital marketing websites can be used to promote the generation of content and user loyalty. Due to gamification, users comment on products, provide reviews and share content. If we consider the specific ratios, gamification can lead to an increase in the number of comments on products, shared content, questions and answers, active users and repeat visits.

Overall, most published definitions agree that gamification involves the use of game-like strategies to engage consumers and generate perceived value (Huotari & Hamari, 2017), (Eisingerich et al., 2019). Gamification experiences foster three types of user engagement outcomes: cognitive, emotional, and behavioral (Thomas et al., 2020). The cognitive dimension pertains to the degree of customer focus on the engagement object, such as a product or brand. The emotional dimension encompasses the customers' sense of belonging to the brand, company, or community. The behavioral dimension relates to the customers' energy and mental resilience in engaging with the focal object, as well as the intensity of their interactions, which is evident in the two-way communication (Thomas et al., 2020). Additionally, it has been discovered that incorporating gamification into a marketing environment can enhance a system's ability to meet consumers' intrinsic needs, such as autonomy, competence, and achievement, thereby increasing consumer engagement with the brand (Bitrián Arcas et al., 2021). Most current marketing studies on gamification have concentrated on branding, highlighting the advantages of using gaming mechanisms, and concluding that gamification helps strengthen the relationship between consumers and brands (Berger et al., 2017). Gamification was discovered to have a positive correlation with various aspects of brand engagement, including emotional, cognitive, social, and behavioral dimensions (Berger et al., 2017), (Högberg et al., 2019), (Bitrián Arcas et al., 2021) as well as with brand attitude (Yang et al., 2017), brand co-creation experiences (Thomas et al., 2020), (Nobre & Ferreira, 2017), (Mileva et al., 2021), brand awareness (Abou-Shouk & Soliman, 2021), brand love (Hsu & Chen, 2018) and brand equity (Hsu & Chen, 2018), (Nannan Xi, 2020). Additionally, it has been demonstrated that incorporating game design elements in marketing contexts can lead to increased customer loyalty (Hsu & Chen, 2018), (Mileva et al., 2021), (Abou-Shouk & Soliman, 2021), willingness to pay more (Wolf et al., 2019), positive word-of-mouth (Hsu & Chen, 2018), (Bitrián Arcas et al., 2021) and purchase intention (Rialti et al., 2022), (Eisingerich et al., 2019), (Jang et al., 2018). Moreover, gamification helps enhance consumer interaction, increase visits to websites or applications, boost positive recommendations, and drive sales (Wolf et al., 2019), (Eisingerich et al., 2019), (Bitrián Arcas et al., 2021), (Harwood & Garry, 2015). Therefore, gamification tools can be utilized in e-commerce to drive conversions, generate content, foster loyalty, and simultaneously enhance business profitability (Behl et al., 2020).

As mentioned in this topic, extensive research has been carried out to determine whether gamification produces

significant benefits in digital marketing. Despite the considerable evidence available, the field continues to be both popular and promising. However, no published work has yet provided a thorough overview of the diverse theoretical perspectives. Consequently, this paper seeks to synthesize the literature on gamification and digital marketing, offering insights into the current landscape and future trends in this area.

METHODOLOGY

In this study, we perform a bibliometric analysis and a framework-based systematic review (using the TCCM framework) to examine the current state of the art, identify existing gaps in the literature, and suggest potential avenues for future research (van Eck & Waltman, 2010), (L. Hollebeek et al., 2021). These analyses were conducted using the Scopus scientific database, recognized as the most comprehensive source of peer-reviewed literature (Norris & Oppenheim, 2007). Scopus is highly esteemed and provides significant publications from prominent journals and renowned research scholars (van Eck & Waltman, 2010). As reported on the Elsevier website, in 2023, Scopus includes over 26,000 journals, approximately 84 million publications, and more than 1.8 billion citations. Compared to Web of Science, another widely-used multidisciplinary database, Scopus provides superior coverage (Srivastava & Sivaramakrishnan, 2022). Additionally, numerous authors utilize this database for bibliometric analysis (Srivastava & Sivaramakrishnan, 2022), (Donthu et al., 2021).

Our objective was to identify articles focusing on the application of gamification in digital marketing. We based our search on the presence of both terms ("gamification" and "digital marketing") appearing together in a document's title, abstract, or keywords. Therefore, the search in Scopus used the following criteria: TITLE-ABS-KEY ("gamif*" AND "digital marketing"). The asterisk (*) enabled us to include articles using the term "gamification" or any of its variations (e.g., "gamified" and "gamifying"). We deliberately chose broader keywords instead of more specific ones to obtain a comprehensive overview and general profile of the theme, as the intersection of these two areas is a relatively recent development.

The initial dataset obtained from Scopus, before applying any additional filters, comprised 303 documents. These documents were extracted on 30-05-2023. To ensure that only publications meeting the inclusion and exclusion criteria were analyzed and to eliminate the noise from relying solely on keyword searches, it was deemed important to define a set of filters. Figure 1 outlines the inclusion and exclusion criteria using the PRISMA flowchart as proposed by Moher et al. (Moher et al., 2009). The PRISMA protocol, which consists of four stages identification, screening, eligibility, and inclusion provides a clear guideline for the review process. (ter Huurne et al., 2017).

Initially, we identified 303 documents. During the screening stage, we selected only studies published between 2016 and 2024. In the eligibility stage, all articles were read and assessed to ensure they focused on gamification applied to digital marketing. After this stage, 193 documents were excluded for not fitting the intended purpose. Ultimately, 110 articles were included for analysis.

In this research, aside from utilizing the performance analysis tools accessible in Scopus, the study also incorporated VOSviewer for scientific mapping. VOSviewer, a software tool devised by Van Eck and Waltman, was employed for this purpose (van Eck & Waltman, 2010) This tool facilitates the creation, visualization, and exploration of bibliometric networks. Additionally, VOSviewer has gained popularity as a means for analyzing and assessing scholarly work, being extensively utilized to examine various bodies of literature across scientific disciplines in recent years (Markoulli et al., 2017). Searching for "TITLE-ABS-KEY (VOSviewer)" on Scopus returned 3340 documents up to March 2024. If we narrow our focus to the past five years (2020–2024), VOSviewer has been referenced in 4221 articles, underscoring its increasing acceptance among bibliometric researchers. The upcoming sections will detail the findings from the bibliometric and TCCM analyses, along with the conclusions regarding potential gaps in the literature, highlighting opportunities for future research directions.

Table 1. Tabel of the papers selection process using the PRISMA protocol

Indentification	Documents indentified through Scopus Data Base Searching (n = 193)	Based on the words "gamif*" and "digital marketing" in the title, abstract and keywords of the document
Screening	Papers retained after screening search results (n= 150)	Screened and excluded: -　　Papers published before 2020 and after 2023
Eligibility	Paper retained after eligibility assessment (n= 110)	Eligibility assessed and excluded: -　　Papers published in other areas, such as arts and humanities. -　　Papers not executed in the domain of gamification and digital marketing.
Incusioan	Studies included in the review for content analysis (n =110)	

DISCUSSION OF RESULTS

Bibliometric analysis

This section will present the key findings from the bibliometric study. Firstly, a performance analysis based on Scopus will be showcased, highlighting the research's production and development. This analysis will identify the most cited and influential publications, the leading authors and countries in this field, and the journals that host the majority of these publications (Donthu et al., 2021). Next, the findings from the science mapping will be presented and interpreted, using bibliometric maps of co-keyword, co-authorship, and co-citation. Finally, various network metrics will be introduced.

The earliest articles were published in 2013. One of these articles investigates whether gamification goes beyond being merely a digital marketing tool for manipulating consumer behavior (Irina, 2013). From 2013 to 2022, there were a total of 2,993 citations. On average, each publication received 26.25 citations, with an annual average of 299.3 citations. However, citations were not evenly distributed among the publications. Out of 114 documents, 92 were cited at least once, indicating that 80.7% of the researchers' work had some impact on the gamification research community in marketing. Among these, 53 publications were cited more than 10 times. Some studies are widely recognized and have a significant impact on the literature, while others, despite their potential, have fewer citations, possibly due to being more recent.

Table 2. Most cited articles in the field of gamification in marketing.

Ref	Title of Article	Journal	TC	C/Y
(N. Xi & Hamari, 2021)	Transforming homo economicus into homo ludens: A field experiment on gamification in a utilitarian peer-to-peer trading service	utilitarian peer-to-peer trading service Electronic Commerce Research and Applications	462	46.2
(Huotari & Hamari, 2017)	A definition for gamification: Anchoring gamification in the service marketing literature	Electronic Markets	413	68.8
(Hofacker et al., 2016)	Gamification and mobile marketing effectiveness	Journal of Interactive Marketing	209	29.9
(Xu et al., 2015)	Tourists as mobile gamers: Gamification for tourism marketing	Journal of Travel and Tourism Marketing	126	18.0
(Eppmann et al., 2018)	Gameful experience in gamification: Construction and validation of a gameful experience scale [GAMEX	Journal of Interactive Marketing	101	20.2
(N. Xi & Hamari, 2021)	Does gamification affect brand engagement and equity? A study in online brand communities	Journal of Business Research	91	30.3
(Berger et al., 2017)	Gamified interactions: Whether, when, and how games facilitate self–brand connections	Journal of the Academy of Marketing Science	59	11.8
(Conaway & Garay, 2014)	Gamification and service marketing	SpringerPlus	56	7.0
(Nobre & Ferreira, 2017)	Gamification as a platform for brand co-creation experiences	Journal of Brand Management	49	6.2
(Jang et al., 2018)	The effects of gamified customer benefits and characteristics on behavioral engagement and purchase: Evidence from mobile exercise application uses	Journal of Business Research	48	9.6

Note: TC = total citations; C/Y = cites per year.

**Table 3. Number of publications and citations of major journals.**

Journal	Total publications	Total citations
Journal of Business Research	6	283
Journal of Social Marketing	4	27
European Journal of Marketing	3	36
Sustainability	3	63

Source: Scopus

This study utilizes VOSviewer scientific mapping techniques, including co-keyword analysis, co-authorship analysis, and co-citation analysis, to offer a clearer understanding of how the field of gamification and digital marketing has been researched and developed. Co-keyword analysis provides valuable insights for the literature by identifying the most popular and trending keywords, as well as the dominant research paths in the field. This technique examines the content of publications and assumes that keywords that frequently appear together share a thematic relationship (Donthu et al., 2021). This approach helps visualize the interconnections between different research topics. VOSviewer analyzes document content and suggests keywords that appear in a minimum number of publications. These keywords form nodes in a network, illustrating their relationships. Essentially, a bibliometric map is a network where each node represents a keyword, and nodes are linked if the keywords appear together in at least one publication.

Thus, this analysis relied on the co-occurrence of keywords identified by the software (similar examples can be found in references such as Refs) (Trinidad et al., 2021). The terms were derived from all keywords, utilizing the binary counting method. A minimum threshold of 2 occurrences was set, meaning a keyword must appear in at least two different publications within the sample to be included in the network. This approach aims to identify themes that are more recently explored. The conceptual framework was based on the work of Brinberg and McGrath (Lynch et al., 1986).

Figure 1. presents the map generated from this analysis. To aid in visual data analysis, each node in this network represents the total number of occurrences of a word in the documents (its weight). A higher number of occurrences results in a larger node and a bigger caption for the corresponding word. The distance between words, calculated by the shortest path between them (based on the number of arcs that separate them), indicates the degree of correlation between the words, considering the articles in the sample.
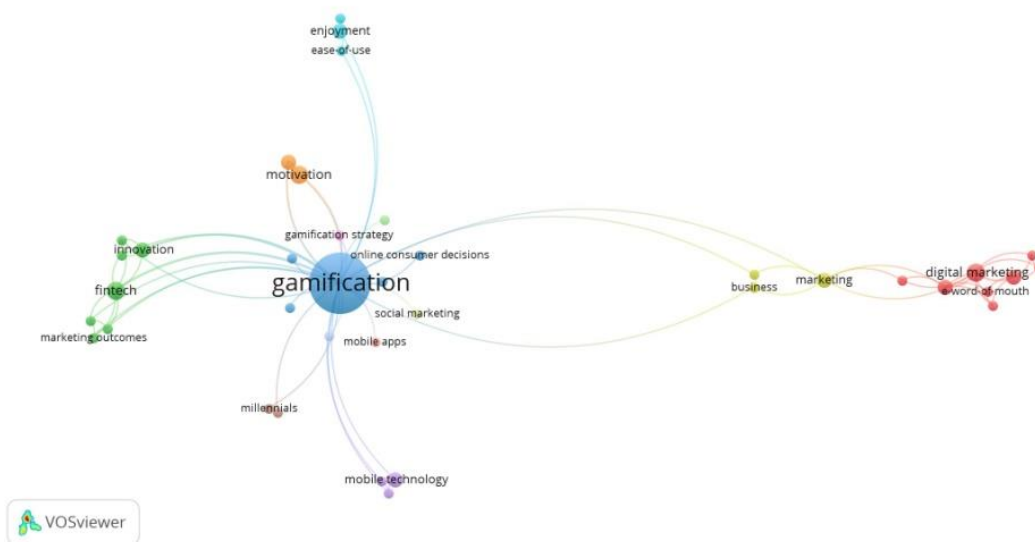
Source: own study.

FIGURE. 1. Network visualization map of keywords revolving around the topic Gamification, Digital Marketing.

Thus, the larger the circle representing the node, the more extensively the subject or concept associated with that word has been studied. Words within the same cluster exhibit a stronger relationship with each other. The different clusters identified are represented by distinct colors. In the following paragraphs, we describe the content of each of the eight topic areas of gamification applied to digital marketing, corresponding to the eight clusters identified in the network. Each cluster is named based on the prevalent themes within them. To ensure the names are appropriate and informative, we examined the most frequent keywords in the documents comprising each cluster, as well as the titles and abstracts of these documents.

Besides forming clusters based on the distance between words, clusters can also be created by considering the year of the respective publications. This analysis results in a new figure (Figure 2), utilizing the same base network. This figure makes it easier to visualize the timeline of keyword usage. The colors represent the average publication dates of the documents from which the words were extracted, with the most recent topics shown in yellow and the oldest in dark blue (van Eck & Waltman, 2014). Overall, the words that appear most frequently in older publications are grouped in cluster 5, primarily addressing themes related to game design, service marketing, and social commerce. In contrast, the results show that the most recent keywords are clustered in group 3, mostly focusing on topics related to tourism, co-creation, and virtual reality. Previous research aimed to conceptualize gamification in the marketing field (Huotari & Hamari, 2017) and focused primarily on implementing the gamification process, particularly in the context of services. Early publications concentrated on understanding which game design elements (such as progress paths, feedback, rewards, and badges) should be incorporated into a gamification platform (Conaway & Garay, 2014).
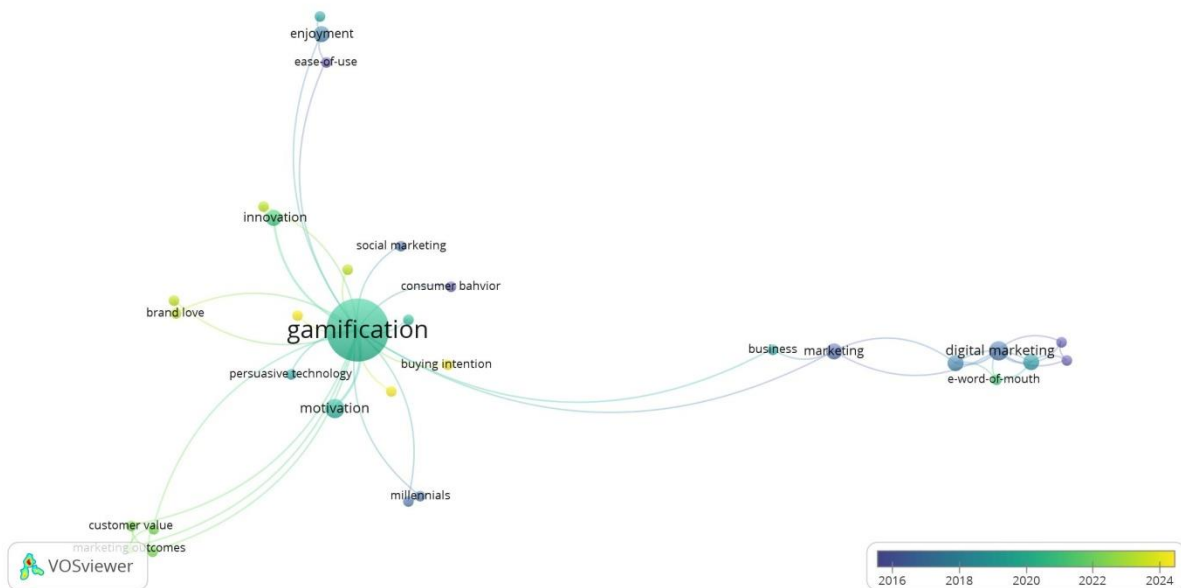

FIGURE. 2. Network visualization map of keywords revolving around the topic Gamification, Digital Marketing.
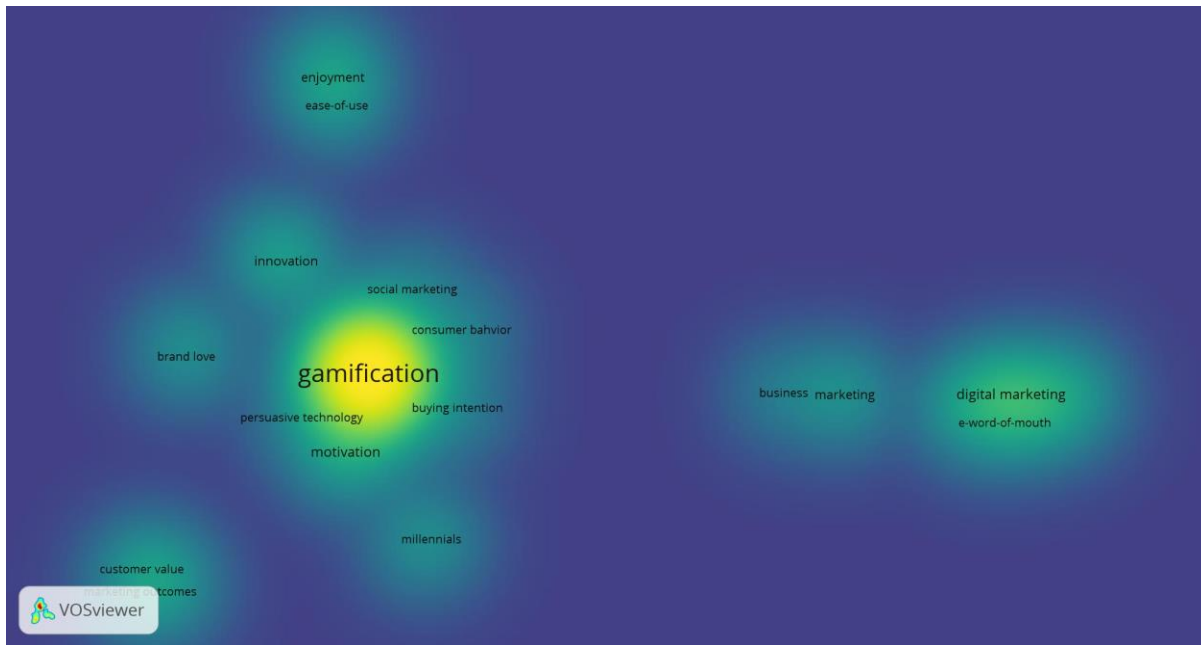
FIGURE. 3. Density Visualization map of keywords revolving around the topic Gamification And Digital Marketing.

Currently, the literature is more focused on the consequences of implementing gamification. This shift demonstrates that scientific interest in gamification and digital marketing has successfully broadened and expanded. Researchers are moving beyond understanding what gamification is and how to implement it, to examining its effects on consumer behaviors and business outcomes, indicating progress in the field. The keywords "tourism" and "co-creation" are particularly notable, with an average publication date of 2021.5. Additionally, terms in yellow, such as "mobile platform," "mobile apps," "mobile phone," and "m-commerce," reveal that recent studies are especially focused on mobile. The originality of the findings from the Systematic Literature Review, utilizing the Bibliometric Analysis method, helps upcoming researchers identify relevant subjects based on issues that have received limited attention in previous studies. Consequently, the Bibliometric Analysis method serves as a guide for future research endeavors by highlighting both commonly researched topics and those that have been comparatively overlooked.

TCCM analysis

Using content analysis, this section presents an overview of the theories, contexts, characteristics, and methodologies (TCCM) utilized by earlier researchers to reveal previous findings. The analysis was conducted on a consistent database of 110 journal articles listed in the Scopus database.

Theory

Using content analysis, this section presents an overview of the theories, contexts, characteristics, and methodologies (TCCM) utilized by earlier researchers to reveal previous findings. The analysis was conducted on a consistent database of 110 journal articles listed in the Scopus database. Theories represent the viewpoints that researchers use to direct their studies (Lim et al., 2021). Besides facilitating academic progress, theories help researchers find answers to their research questions (Lim et al., 2021). In the field of gamification in digital marketing, the literature highlights the frequent use of self-determination theory (13 articles), technology acceptance model (10 articles), and flow theory (6 articles) (Marisa et al., 2021), (Koivisto & Hamari, 2019). Table 4 enumerates all the theories employed to guide gamification research and digital marketing research.

Table 4 List of theories

Theory	N articles	Theory	N articles
Affect-as-information theory	1	Psychological ownership theory	1
Cognitive evaluation theory	1	Psychological reactance theory	1
Diffusion theory	1	Regulatory fit theory	1
Effort justification theory	1	Self-construal theory	1
Elemental game tetrad model	2	Utility theory	1
Expected utility theory	1	Uses and gratifications theor	3
Experiential economy theory	1	Unified theory of acceptance and use of technology	3
Flow theory	6	Uncertainty reduction theor	1
Fogg's behavior model	1	Theory of reasoned action	3
Goal orientation theory	1	Theory of planned behavior	4
Goal setting theory	2	Theory of holistic experience	1
Motivation theory	2	Theory of consumption value	1
Objective self-awareness theory	1	Theory of cognitive dissonance	1
Perceived value theory	1	Technology acceptance model	10
Sales management model	1	Symbolic interaction theory	1
Schema theory	1	Social proof theory	1
Social presence theory	1	Social impact theory	1
Social comparison theory	1	Social cognitive theory	3
Service package model	1	Self-system model of motivational development	1

It can be concluded that a significant portion of existing research is well-founded on the application of diverse and established theories. Nevertheless, 67 out of 114 articles (58.8%) did not employ any theory. In total, 39 different theories have been applied to gamification and marketing research across 47 articles. The variety of theories used suggests a broad theoretical landscape, indicating a lack of depth in scholarly insights. Much of the research relies solely on literature reviews to guide academic investigations. This gap can be addressed by this study, which provides a comprehensive list of theories that can serve as a foundation for future research (Table 6). Additionally, new theoretical perspectives, such as the expectation-confirmation theory and the expectancy-value theory, can be applied to explore unexplored areas and evaluate the impact of consumers' expectations on their actual behavior (Merhabi et al., 2021).

Context

Contexts refer to the specific circumstances involved in an investigation, Inspired by (Lim et al., 2021), this review focuses on two primary contexts characterizing the articles under study: countries and population (see Table 5). While (Lim et al., 2021) also included "platform" as a contextual factor, we do not find it applicable to the current study.

Regarding countries, the majority of research on gamification in marketing has been conducted in Australia, China, and the United States. Most studies have utilized data collected from Asian and European Union countries. Africa and South America are underrepresented, indicating a need for future research in these regions. This presents an opportunity to study gamification in marketing across diverse regions to ensure broader generalization of results. Additionally, performing a cross-country analysis could provide valuable insights by considering different contexts.

Table 5. Contextual coverage.

Context (Countries)	N articles	Context (Countries)	N articles
Australia	8	Greece	1
China	8	United States of America	7
Jordan	1	India	5
Korea	3	Lithuania	1
Pakistan	2	Iran	2
Spain	2	United Kingdom	2
Germany	1	Findal	1
Sweden	1	Thailand	1
Germany	1	Egypt	1
Portugal	1	Taiwan	2

In terms of population, the research in this field has been varied and widespread. Most participants in gamification studies are users of gamified systems (such as websites, applications, or branded communities),

along with students and young people (Rahi & Ghani, 2018), (Kamboj et al., 2020). Younger consumers tend to adopt and use new technology more readily than older generations, potentially influencing their reactions. Therefore, future studies should consider using different sample groups. Besides examining consumers' interactions with gamified systems, it would be valuable to gather perspectives on gamification from other stakeholders, such as suppliers, store sellers, legal teams, and others.

Characteristics

Characteristics are linked to both antecedents and outcomes (Paul & rosado-serrano, 2019)]. Essentially, antecedents explain the motivations behind engaging or not engaging in a specific behavior, while outcomes represent the results that follow the social marketing, whether it occurs or not (Lim et al., 2021). Research on gamification in digital marketing has identified several key features, including these antecedents and outcomes. To contextualize the field, identify patterns, and highlight less-studied variables that could inspire new research hypotheses, the authors manually reviewed 110 articles from their database to pinpoint the antecedents and outcomes discussed by other researchers. However, the existing literature is highly fragmented, diverse, and sometimes inconsistent in its empirical findings, making it challenging to draw definitive conclusions about these key features. For instance, despite the growing body of research on gamification in marketing over the past decade, there is still no consensus on which game elements are most effective for specific marketing activities.

However, regarding game elements, the most frequently studied antecedents in the literature are online consumer decisions (6 articles), social marketing (5 articles), gamification strategy (5 articles), ease of use (5 articles), fintech (4 articles), and innovation (4 articles) (Conaway & Garay, 2014), (Xu et al., 2015), (Bitrián Arcas et al., 2021), (Baumgartner & Pieters, 2003), (Dwivedi et al., 2015), (Wolf et al., 2020). Empirical studies indicate that using these gamification elements positively influences digital engagement and marketing, offering several advantages for companies. Theories on technology acceptance and adoption suggest that these factors are crucial determinants for the ongoing use of various systems. Future research could investigate other antecedents, such as perceived risk, perceived value, perceived mobility, personal innovativeness, personal experience, and more.

The range of antecedents and outcomes is extensive, owing to the diverse research models utilized. This diversity aligns with the wide array of theories. Analyzing the results shows that empirical research primarily focuses on how customers perceive and experience gamification implementations, particularly whether they find them enjoyable or useful and whether these features motivate and engage them. Future studies are anticipated to uncover additional antecedents and outcomes that could significantly impact the application of gamification in marketing.

Methods

Methods describe the nature of the empirical evidence used to conduct the investigation (Santos et al., 2024). The research approaches in the field of gamification and digital marketing can be categorized into four types: conceptual, qualitative, quantitative, and experimental. Approximately 42% of the articles in this review employed quantitative methodologies (48 articles), with structural equation modeling (37 articles) being the most common method of analysis. Twenty-two articles used field experiments, with single (10) and multiple (6) experiments being the most frequent. Qualitative and conceptual methods were the least utilized. The initial articles were primarily exploratory, focusing on conceptual and qualitative methods. As the field developed, researchers began using more quantitative methodologies, and in the past two years, there has been a shift towards adopting hybrid methodologies. Future challenges include developing more mixed-method approaches, which could include the use of meta-analysis or other econometric tools to enhance methodological rigor in gamification and digital marketing research.

The research data predominantly consisted of primary data. Only six studies opted to use proprietary secondary data, which included information from gamification platforms (such as apps or social networks) or online reviews of websites. In terms of primary data, online surveys were particularly popular, especially in quantitative research. Most qualitative studies relied on interviews and focus groups. There is a notable lack of diversity in

the data artifacts being utilized. Future researchers could benefit from using data collected directly from gamification systems to objectively measure their effectiveness, for instance, by accessing the website's backend database.

Future research agenda on gamification and Digital marketing

Regarding the potential for implementing gamification, there are several promising research topics. One possible avenue is to explore the relationship between gamification's influence on the sustainability of small and medium enterprises or its impact on the economy of small businesses (L. D. Hollebeek & Macky, 2019). Additionally, it could be valuable to investigate the potential of using gamification to promote the creation of small and medium enterprises. Finally, a crucial research direction is to analyze the role of demographic, cultural, economic, and psychographic characteristics, including personality and experiential factors, in customer engagement with gamification and its impact on the sustainability of small and medium enterprises. This could provide a deeper understanding of customer attitudes and behaviors towards using gamification to support small enterprises under various conditions (W. Xi et al., 2019). This insight can inform the development of business strategies for using gamification in targeted digital marketing practices (Humlung & Haddara, 2019).

A common limitation among most of the analyzed studies is their cross-sectional nature. Therefore, future research should aim to examine element preferences longitudinally, as these preferences may evolve over time as consumers become more experienced with gamification features. Additionally, researchers should employ a longitudinal design to observe the impact of gamification on the sustainability of small and medium enterprises. Methodologically, future research could benefit from integrating qualitative and quantitative approaches, enabling a more comprehensive and in-depth analysis of the effects of gamification in digital marketing. Additionally, the scarcity of research using secondary data highlights an opportunity to explore and analyze direct data from gamification systems within digital marketing contexts.

Most research on gamification in digital marketing emphasizes the positive aspects and strengths of this technology. However, like any technology, gamification has its flaws and weaknesses. These shortcomings can be viewed from two perspectives: those inherent to the nature of the technology and those related to design and implementation. Future research should focus on identifying both the inherent shortcomings and the weaknesses in the design of gamification, and then propose solutions to address these issues. To conclude, another suggestion for future research is to develop a more personalized approach to gamification, tailored to the diverse needs of consumers in digital marketing. To achieve this, it is essential to establish objective metrics to track, monitor, and empirically evaluate the outcomes of gamification experiences (Trinidad et al., 2021). If the gamification design process includes the collection of empirical data on the gamification experience, it will be possible to create personalized experiences for each consumer using machine learning and data mining techniques.

CONCLUSION

The objectives of this review are twofold. Firstly, it aims to provide a comprehensive overview of the emerging field of gamification in digital marketing, synthesizing existing knowledge in a structured manner. This helps to understand the development of gamification research within digital marketing and the knowledge that has been accumulated. Secondly, it offers valuable insights that will guide future research specifically related to digital marketing. This study presents a hybrid review, incorporating both bibliometric and TCCM analyses. The review analyzed 110 articles on digital marketing, with data sourced from the Scopus scientific database. The bibliometric analysis identified eight clusters, most of which represent current research areas. The literature review revealed a need for continued research on the use of gamification in digital marketing, particularly for small and medium-sized businesses that are not yet widely familiar with this approach. The TCCM analysis highlighted key theories and methodological approaches used in the published articles, with a notable emphasis on quantitative methods and primary data collected through online surveys. Additionally, the review provides future research directions to advance scientific knowledge and contextual relevance, and it supports strategic decision-making and business sustainability through the use of gamification in digital marketing.

The bibliometric map analysis reveals that gamification articles in digital marketing can be grouped into eight

categories: "fun customer experience in gamification," "social marketing in gamification," "gamification in tourism marketing mobile apps," "gamification in online consumer decisions," "gamification in fintech," "gamification in marketing strategy," "motivation to implement gamification," "innovation in gamification," and "gamification in word of mouth." The literature has primarily focused on identifying effective game elements for gamification and examining the effects of gamification experiences on business engagement in digital marketing strategies.

This research indicates that gamification in digital marketing is an emerging and evolving theme, yet to be fully consolidated, as evidenced by the diverse theories present in the sample articles. It aids academic researchers in the digital marketing field by identifying relevant publications and illustrating the growth of this research area across various topics, contexts, and methodologies. Additionally, scholars can access information on existing collaborations, popular and trending keywords, and future research directions. This study not only provides approaches for further exploration of the topic but also assists businesses in making more informed decisions. The bibliometric review uncovers current trends and emerging research directions. However, it is important to note the limitations of this scientific mapping study, particularly that it was restricted to the Scopus database. Despite Scopus being the most comprehensive peer-reviewed database, there may be other valuable works in the field not included in this platform.

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