

DIGITAL CONSUMER BEHAVIOR: A SYSTEMATIC LITERATURE REVIEW



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Abstract

Digital consumer behavior is a marketing field that examines consumers' behavior in online environments on digital platforms. In this study, a systematic literature review method was employed, involving the search for the keywords "digital consumer behavior" and "digital consumer behaviour" within the titles, abstracts, and keywords of publications in the Web of Science (WoS) database. The research findings indicated that, in terms of methodological approaches, empirical studies outnumbered conceptual studies in the articles reviewed. The gaps in the field were discussed, and it was observed that internet search habits, online shopping trends, mobile application usage, and online content consumption came to the fore. The study investigates digital consumer behavior and the associated research comprehensively, analyzing the existing literature in this area. It is a pioneering study that conducts a systematic literature review on digital consumer behavior.

1. Introduction

Consumer behavior refers to the field that examines the psychological, social, and cultural factors influencing individuals' processes of researching, purchasing, and using products and services (Madhavan & Kaliyaperumal, 2015). This concept plays a significant role in marketing and business domains, aiming to understand consumers' preferences, shopping motivations, and purchase decisions. Digital consumer behavior is a specialized area focusing on consumers' processes of researching, purchasing, and using products and services in digital environments (Sağkaya Güngör & Ozansoy Çadırcı, 2022). This behavior manifests across multiple digital platforms, including the Internet, mobile devices, social media, and additional digital channels (Rogova & Matta, 2023). The goal is to guide marketing strategies by examining consumer interactions (Stephen, 2016). Technological progress and the widespread acceptance of digital marketing in recent years have propelled digital consumer behavior into a prominent position in research. The increasing number of academic studies on digital consumer behavior in the literature highlights the significance of this topic (Baiuk, 2023; Kamkankaew et al., 2022; Linkiewicz & Bartosik-Purgat, 2022; Petkovski & Mulic, 2023; Qadir et al., 2023; Rogova & Matta, 2023). This study aims to provide a detailed explanation of digital consumer behavior and identify how literature progresses.

Accordingly, the paper presents gaps in the literature and provides recommendations for future research.

Elements such as research and information gathering, online purchasing, social media interaction, personalized experiences, and mobile usage are prominent in digital consumer behavior. Consumers utilize the Internet to gather information about products and services, with online reviews, social media comments, and other online content shaping their decisions (Ebrahimi et al., 2023). A key element of digital consumer behavior involves buying products and services through the Internet. E-commerce platforms, online shops, and various digital channels augment or replace conventional retail shopping (Wagner et al., 2020). Social media platforms enable consumers to interact with brands, share their thoughts about products, and enhance brand loyalty (Aljuhmani et al., 2023). Digital consumers expect personalized content and recommendations on online platforms, enhancing brand loyalty by providing unique and engaging experiences (Felix & Rembulan, 2023). Mobile devices enable consumers to stay connected continuously, allowing them to shop and interact with brands from anywhere through mobile applications and websites (Luceri et al., 2022). Digital consumer behavior is a concept that helps marketers and businesses understand how consumers behave online, enabling

them to optimize marketing strategies and enhance customer satisfaction (Shafiq et al., 2022).

Previous studies on digital consumer behavior have focused on trust, virtual communities, electronic word-of-mouth communication, and consumer issues in marketing strategy (Laroche, 2010).

The study aims to answer the following questions to elucidate the topic of digital consumer behavior:

RQ1: What is the distribution of research on digital consumer behavior by year and type?

RQ2: How has the literature progressed in research focusing on digital consumer behavior, and what are the key topics?

RQ3: What gaps exist in the literature on digital consumer behavior, and what suggestions are made for future research?

More literature is still needed regarding how consumers interact, make decisions, and evaluate the digital world's new opportunities. To address this, a better understanding of digital consumer behavior requires focusing on ethnographic studies and online communities. Observing how consumers interact on digital platforms and how these interactions impact shopping decisions will shape future research more accurately.

2. Conceptual Framework

The evolution of digital technologies has turned consumer behaviors in the digital economy into a significant area of interest (Kalashnikova et al., 2023). Digital marketing has been shown to substantially impact consumer purchasing decisions (Qerimi & Qerimi, 2022). Furthermore, examining consumer behaviors in the digital age has been shaped by the impact of the COVID-19 pandemic, leading to changes in consumer behaviors in the digital environment (Rahmanov et al., 2021). Grasping the motives behind shifts in consumer behavior in the digital era has also emerged as an essential field of study (Zhou, 2021). The emergence of new consumer segments, such as the Zoomers generation, has been considered in the context of consumer behaviors in the digital space (Seleznova, 2022). Themes emerging in digital consumer behavior research include the Internet of Things, the sharing economy, and digital sensory marketing (Santos et al., 2020).

Moreover, research on digital consumer behavior delves into digital consumer culture, reactions to digital advertisements, the influence of digital environments on consumer actions, and patterns of behavior in mobile settings (Stephen, 2016). Understanding consumer behavior in the digital economy is essential for businesses as it influences consumer decision-

making processes (Hamdani et al., 2022). The influence of digital technologies on consumers has resulted in the creation of data via devices and platforms, aiding in the progress of big data analytics and neuromarketing to comprehend consumer trends (Kuş & Šević, 2021). Furthermore, the digitization of retail has directly impacted consumer behavior by altering how digital technologies are utilized in retail practices (Hagberg et al., 2016).

In the last two decades, specific themes and topics have gained prominence in research on digital consumer behavior. The exploration of digital consumer behavior encompasses several key areas:

Interactive Technologies: This area examines how interactive technologies like augmented reality (AR) and virtual reality (VR) influence consumer decision-making. It covers motivations for AR and VR acceptance, the effects of artificial intelligence (AI), AR, and VR on consumer journeys, and the use of these technologies in fostering more robust customer relationships.

Pandemic-Related Uncertainties: The pandemic has introduced uncertainties for digital consumers, leading to changes in consumer behaviors on digital channels during COVID-19. This section investigates the factors that may sustain or alter digital consumer behaviors developed during the pandemic.

Mobile Technology: This aspect focuses on adopting mobile technology and its impact on digital consumer life. It examines how mobile technologies affect digital consumer behavior and marketing strategies.

Sustainable and Collaborative Consumption: This area delves into environmental issues, sustainability, welfare, and value creation in the context of consumption. Research here often explores the effects of green advertising skepticism on consumer purchase intentions and perceptions towards online fashion rentals based on environmental significance and cultural fit.

These domains collectively enhance our comprehension of digital consumer behavior, showcasing the intricate relationship among technological advancements, societal shifts, and environmental factors in determining how consumers engage with digital platforms and make buying choices (Sağkaya Güngör & Ozansoy Çadırcı, 2022). These themes and topics reflect the increasing importance of understanding digital consumer behavior in research.

The concept of the savvy consumer in the digital age emphasizes the challenges and disruptions in the digitization process, noting that digitized savvy consumers only sometimes succeed in their efforts (Fuentes, 2019). Additionally, the impact of the virtual

environment on consumer preferences and purchasing behavior has been explored, revealing that psychological distance influences consumer information processing and product preferences (Park, 2019).

Examining digital user behavior allows for a better understanding of consumers who engage in online shopping (San Miguel & Sádaba, 2020). In this context, the consumer choice process in the online environment becomes more apparent (Da Silva Neto, 2021). Saura et al. (2020) highlighted changes in consumer behavior resulting from digital developments. They emphasized the importance of strategies such as content marketing and user-generated content in engaging with customers online. Masouras and Papademetriou (2018) investigated reasons that encourage consumers to take digital steps and distinguished between internet consumers and digital users. Ghazie and Dolah (2018) focused on understanding consumer behavior in digital marketing and the effectiveness of digital marketing in creating brand awareness.

Intensive research on digital consumer behavior typically occurs in countries with advanced digital infrastructure, high technology usage, and widespread e-commerce, including the United States, the United Kingdom, and Australia (Sağkaya Güngör & Ozansoy Çadırcı, 2022). Additionally, research on digital consumer behavior is conducted using methods such as online consumer information processing in countries like China and Japan (Laroche, 2010). In Russia, studies have investigated qualitative changes requiring artificial intelligence tools, data processing, and multi-channel communication in marketing practices (Maltseva & Danilova, 2019).

The literature on digital consumer behavior has addressed various topics, including the increasing interest in financial needs, consumer independence, the shift from image advertising to product advertising, and the growing interest in the quality features of financial products (Korobov, 2020). Furthermore, studies on digital consumer behavior have explored trust in public authorities, media, and social networks, the transformation of consumer preferences, and the shift from long-term to short-term consumption (Pereverzieva & Hubar, 2021). Digital consumer behavior encompasses using sophisticated technological tools, performing market analysis, interacting with fellow consumers,

and steering the entire process from product conception to after-sales support (Musavi, 2021). Therefore, this behavior transforms power from marketers to consumers through demand, information, networks, and crowd-based resources in Internet and social media contexts (Labrecque et al., 2013). This transformation encompasses the search, selection, and purchase of products and services by modern technology enthusiasts, leading to multi-channel marketing (Ovodenko et al., 2020).

3. Research Methodology

The study utilized a systematic literature review approach, a widely recognized research method that meticulously scrutinizes and analyzes existing literature on a subject (Yavuz, 2022). The systematic literature review approach is regarded as a scientific and profoundly informative method for methodically gathering, examining, and synthesizing research findings on a specific topic (Paul et al., 2021). This review method identifies, selects, critically evaluates, analyzes, interprets, and presents existing research. Therefore, the method is a repeatable, planned, and structured approach (Fisch & Block, 2018).

The literature review was conducted from October 5 to October 20, 2023. The WoS database was utilized to perform a systematic literature review, and the keywords "digital consumer behavior" and "digital consumer behaviour" were searched in titles, abstracts, and keywords. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standard was also followed for systematic screening. The inclusion and exclusion procedure was aligned with the study's research questions. Systematic literature reviews are carried out in three main stages: planning, execution, and reporting (Kitchenham & Charters, 2010; Xiao & Watson, 2019).

No retrospective time limit was set during the systematic literature review. Only scientific peer-reviewed publications with full texts accessible were included in the study scope. A total of 18 studies were found in the WoS databases. Three studies were excluded after applying inclusion and exclusion criteria, and 15 research studies were included in the analysis. Inclusion and Exclusion Criteria are shown in Table 1.

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria	Reason
Web of Science database	Other databases	Reliability of the database
SSCI, SCI, SCI-E, ESCI indexed studies	Studies scanned in indices other than SSCI, SCI, SCI-E, ESCI and SCI-E	Screening of qualified studies by SSCI, SCI, SCI-E, ESCI

Research focusing on Digital Consumer Behavior in the field of marketing	Research in the field of marketing that does not focus on Digital Consumer Behavior.	Being outside the scope of work
Contain the keywords "Digital Consumer Behavior" and "Digital Consumer Behaviour" in the title, abstract and keywords	Not include the keywords "Digital Consumer Behavior" and "Digital Consumer Behaviour" in the title, abstract and keywords	Going beyond the purpose of the research

4. Findings

Research often underscores the demand for investigations into digital consumer behavior, explicitly accentuating the significance of social, situational, and cultural influences. Secondly, many studies have observed the impact of technological developments such as augmented reality and deep learning, demonstrating the importance of keeping up with technological trends in understanding and shaping consumer behaviors. Additionally, these studies underscore the importance of adapting marketing strategies to the evolution of the digital landscape, emphasizing the necessity of tailoring approaches, especially for specific sectors like sports marketing, gastronomy tourism, and online supermarkets. Cultural differences covering

various countries are highlighted, showcasing the importance of context-specific information in forming marketing and advertising strategies. Moreover, the effects of external factors, such as the COVID-19 pandemic emphasized in various studies, underscore the dynamic nature of digital consumer behavior and the necessity for adaptation in response to external stimuli. These studies contribute to an in-depth grasp of the complex and ever-evolving domain of digital consumer behavior. Within the scope of the research, essential findings based on a comprehensive review of the existing literature are presented. Table 2 presents the years the research was published, authors, publication titles, and sources.

Table 2. The Researches Included in the Study

Year	Authors	Publication Title	Source
2010	Williams, P; Nicholas, D; Rowlands, I	The Attitudes and Behaviours of Illegal Downloaders	Aslib Proceedings
2016	Onete, CB; Teodorescu, I; Vasile, V	Analysis Components of The Digital Consumer Behavior in Romania	Amfiteatru Economic
2017	Tang, AKY	Key Factors in The Triumph of Pokemon GO	Business Horizons
2018	Chivu, RG; Stoica, I; Orzan, MC; Radu, AV	New Trends in Marketing Mix Strategies for Digital Consumer Behaviour	Selected Papers of 7th World Conference on Business, Economics and Management (Bem-2018)
2019	Ozturkcan, S; Kasap, N; Tanaltay, A; Ozdinc, M	Analysis of Tweets About Football: 2013 And 2018 Leagues in Turkey	Behaviour & Information Technology
2019	Errmann, A; Seo, Y; Choi, YK; Yoon, S	Divergent Effects of Friend Recommendations on Disclosed Social Media Advertising in The United States and Korea	Journal of Advertising
2021	Hasan, MR; Abdunurova, A; Wang, WW; Zheng, JW; Shams, SMR	Using Deep Learning to Investigate Digital Behavior in Culinary Tourism	Journal of Place Management and Development
2021	Jílková, P; Králová, P	Digital Consumer Behaviour and Ecommerce Trends During The COVID-19 Crisis	International Advances in Economic Research

2021	Tupikovskaja-Omovie, Z; Tyler, D	Eye Tracking Technology to Audit Google Analytics: Analysing Digital Consumer Shopping Journey in Fashion M-Retail	International Journal of Information Management
2021	Rúa-Hidalgo, I; Galmes-Cerezo, M; Cristofol-Rodríguez, C; Aliagas, I	Understanding The Emotional Impact of Gifs on Instagram Through Consumer Neuroscience	Behavioral Sciences
2022	Morales-Solana, D; Esteban-Millat, I; Cotas, AA	Experiences in Consumer Flow in Online Supermarkets	Electronic Commerce Research
2022	Ivanova, N; Popelo, O; Avhustyn, R; Rusak, O; Proshchalykina, A	Marketing Strategy of The Small Business Adaptation to Quarantine Limitations in The Sphere of Trade Entrepreneurship	International Journal of Computer Science and Network Security
2022	Sağkaya Güngör, A; Ozansoy Çadırcı, T	Understanding Digital Consumer: A Review, Synthesis, and Future Research Agenda	International Journal of Consumer Studies
2022	Yoon, G; Li, C; Choi, JJ	In Search of Time to Bring The Message on Social Media: Effects of Temporal Targeting and Weather on Digital Consumers	Frontiers In Psychology
2023	Rangaswamy, E; Yong, WS; Joy, GV	The Evaluation of Challenges and Impact of Digitalization on Consumers In Singapore	International Journal of System Assurance Engineering and Management

The studies discussed employ various research methodologies to explore digital consumer behavior. Williams et al. (2010) conducted a systematic review, synthesizing literature on digital consumer behavior and piracy, emphasizing the impact of social and situational factors. Onete et al. (2016) conducted research in Romania, correlating results with official data to identify the characteristics of digital consumers. Tang et al. (2017) investigate Pokémon GO's success factors using a three-stage method involving focus group discussions and surveys, applying telepresence and social capital theories. Chivu (2018) explores marketing mix trends using a survey method to identify practical elements in the online environment. Ozturkcan et al. (2019) analyze real-time streaming data in sports marketing, recommending post-match plans based on behavioral data. Ermann et al. (2019) compares friend recommendation effects in the U.S. and Korea, emphasizing cultural differences. Hasan et al. (2021) employ deep learning and image analysis in culinary tourism research. Jílková & Králová (2021) use survey data to

explore COVID-19's impact on digital consumer behavior in the Czech Republic. Tupikovskaja-Omovie & Tyler (2021) combines eye-tracking and Google Analytics in studying digital consumer behavior in the fashion m-retail sector. Using biometric tools, Rúa-Hidalgo et al. (2021) analyze GIFs' emotional impact on social media. Morales-Solana et al. (2022) utilize qualitative and quantitative techniques to understand the flow of online supermarket purchases. Ivanova et al. (2022) propose a marketing strategy for small businesses using digitization and vending machines. Sağkaya Güngör & Ozansoy Çadırcı (2022) examine digital consumer behavior through a bibliometric analysis of articles. Yoon et al. (2022) explore contextual factors' impact on mobile advertising effectiveness. Rangaswamy et al. (2023) critically evaluate retail consumer behavior post-digitization using various statistical analyses. The methodologies used in the research are shown in Table 3.

Table 3. Research Methods

Authors	Methodology or Research Methods
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Williams et al. (2010)	Systematic review and synthesis study
Onete et al. (2016)	Survey method and comparison with official data
Tang et al. (2017)	Focus group discussions and extensive survey studies
Chivu (2018)	Survey method, identification of effective elements in the marketing mix
Ozturkcan et al. (2019)	Analysis of real-time streaming data, behavioral data analysis
Ermann et al. (2019)	Comparative study between the U.S. and South Korea, considering cultural differences
Hasan et al. (2021)	Deep learning and image analysis, survey involving 125 participants
Tupikovskaja-Omovie & Tyler (2021)	Eye-tracking technology and Google Analytics data
Rúa-Hidalgo et al. (2021)	Experimental study using automatic biometric analysis and analysis of emotions in Instagram comments
Morales-Solana et al. (2022)	Mixed methods approach, combining qualitative and quantitative techniques
Ivanova et al. (2022)	Literature review, proposal of a new business model
Sağkaya Güngör & Ozansoy Çadırcı (2022)	Bibliometric analysis
Yoon et al. (2022)	Focus groups and extensive survey studies
Rangaswamy et al. (2023)	Cross-sectional analysis and inductive approach

Research collectively offers perspectives on different facets of digital consumer behavior, covering everything from the effects of piracy to what makes apps such as Pokémon GO successful, as well as how this landscape has changed during the COVID-19 pandemic. Common themes include the significance of cultural nuances, the need for innovative business models, and the exploration of advanced technologies like deep learning and eye-tracking to understand and adapt to changing consumer behaviors. Additionally, these studies highlight the role of factors such as social context, emotional connections, and the effectiveness of advertising under different circumstances.

The publications reviewed in the literature study were scrutinized in depth. Williams et al. (2010) conducted a comprehensive review and integration of research on digital consumer behavior and privacy. This body of work frequently highlights the constraints of existing research, which predominantly examines the behaviors and attitudes of younger demographics, urging more exploration into how these patterns vary across different groups and their long-term implications. The findings indicate that social and situational influences are more significant determinants in illegally acquiring digital content than ethical judgments. Anonymity in the digital world emerges as a powerful indicator that liberates individuals from traditional social constraints and promotes their "individualization."

The article questions the deterrent effect of punitive measures on digital piracy, emphasizing the necessity for innovative business strategies that reflect evolving perceptions of ownership, sharing, and content replication. Laws banning all unauthorized downloads might inadvertently categorize millions as violators. The authors assert that their systematic review has been pioneering since the advent of the Pirate Bay incident and the release of the Government's Digital Britain report. It focuses on behaviors and attitudes towards digital piracy and variations across demographics, underscoring the importance of additional studies on its long-term impacts.

Onete et al. (2016) investigated consumer behavior within the realm of online shopping in Romania, aiming to delineate the attributes of the contemporary consumer and to decipher the dynamics between Romanian electronic market users and online retailers. Additionally, their study offered explanations for consumers' preferences for products and services from international markets accessed online. By correlating research results with official data, the study revealed the characteristics of digital consumers in Romania. It found that Romanian consumers are different from typical European consumers, showing interest in online shopping from abroad and being influenced by quality and price. The research indicated a nearly threefold higher representation of women in online orders in Romania, suggesting higher female participation in online shopping. Interest in online shopping is increasing among young individuals in Romania,

with 95% of participants reporting online purchases in the last 12 months. Romanians order products or services both from Romanian websites (53% of participants) and European Union countries (38% of participants), with a minor percentage ordering from Asian countries (6% of participants). The main reasons Romanians purchase from foreign sellers online are the unavailability of the product in the country and price considerations. The most purchased products online from foreign merchants by Romanians are clothing and shoes, electronics, watches and jewelry, and cosmetic products.

Tang et al. (2017) set out to elucidate the critical factors behind Pokémon GO's success, offering valuable insights to professionals in the app gaming industry. Their research examines players' behaviors in mobile app games through a three-pronged approach, including focus group discussions and comprehensive surveys. The study highlights Pokémon GO's extensive media coverage and prominent presence across digital and physical spaces. The study seeks to dissect the factors that lead to the effectiveness of Pokémon GO by applying concepts from telepresence and social capital theories. One identified vital success factor is the game's ability to evoke childhood memories for many young adults. Overall, the article offers insights into the success factors and consumer behaviors of Pokémon GO, providing valuable information for those interested in the application game market. The study pinpoints nostalgic childhood memories as a crucial element of success, striking a chord with young adults with a sentimental attachment to the game. Additionally, using augmented reality (AR) and global positioning systems (GPS) is identified as another key factor contributing to Pokémon GO's success, leveraging technologies employed in earlier games.

Chivu (2018) delves into the evolving trends in marketing mix strategies tailored to digital consumer behaviors. The paper outlines the benefits provided by online stores, including a wide array of products and offers personalized to fit customer preferences. It underscores the criticality of grasping consumer needs and aspirations to outperform competitors by offering superior service. Furthermore, the discussion sheds light on the significance of time in consumer decision-making, pointing to the demand for solutions that conserve time in the digital realm.

The article conducts research with 100 participants through a survey method to identify the most effective marketing mix elements in the online environment. It also addresses the emergence of a new consumer model, the digital consumer, with different needs and behaviors than traditional consumers. Overall, the article contributes to understanding marketing strategies and consumer behavior in the digital environment.

Ozturkcan et al. (2019) significantly contribute to the nascent domains of sports marketing literature, social media analytics, and digital consumer behavior. Their work features an in-depth real-time streaming data analysis, adopting a longitudinal perspective that spans the 2013 and 2018 Turkish football leagues. The research provides pivotal insights for sports managers and marketers. It suggests incorporating the outcome context of wins or losses into post-match marketing strategies, highlighting the relevance of weekdays and weekends, and recommends targeting after-work hours for social media engagements. The research analyzes behavioral data more accurately by collecting streaming data compared to survey data, reflecting user behavior. The article also highlights the significance of Turkey hosting valuable football clubs in Europe and the widespread use of Twitter.

Ermann et al. (2019) delves into how friend recommendations on social media influence advertising effectiveness differently in the United States and South Korea. Their findings reveal that while friend recommendations tend to diminish the impact of advertisements in the U.S., they enhance it in Korea. This discrepancy underscores the cultural divergences between Western and Asian consumer perceptions regarding friend recommendations and advertising disclosures. The study enriches the understanding of the role of friend recommendations in social media advertising across diverse cultural landscapes, particularly between the U.S. and Korea. Highlighting the critical need to account for cultural nuances when evaluating the influence of friend recommendations and advertising disclosures on social media, the research advises advertisers to meticulously consider how various functions and their combinations are perceived across different cultural contexts. The research delves into theoretical and practical implications, examining how trust, reliability, and persuasive information influence the effectiveness of friend recommendations and disclosed advertisements on social media platforms. For practitioners and managers focusing on social media marketing, it signals the complex interplay of friend recommendations and disclosures, emphasizing the importance of cultural sensitivity. Specifically, it points out the diminished effectiveness of combining friend recommendations with disclosed advertisements in the U.S. due to reduced perceived reliability, brand attitude, and purchase intention.

Conversely, in Korea, friend recommendations embedded in advertisements significantly boost advertising effectiveness by increasing consumer trust and reliability. The research calls for advertisers to approach friend recommendations cautiously, particularly in the United States, while suggesting their strategic use in Korea to leverage cultural tendencies towards trust and

reliability in friend networks. Hasan et al. (2021) focus on deciphering digital consumer behaviors toward Chinese restaurants by analyzing visual content on the TripAdvisor platform. The study employs deep learning techniques and image analysis to examine user-generated content and identify the most frequently recurring keywords. Specifically, the research employs image recognition through Inception V3 and Google's deep learning framework to analyze 4,000 photographs from nine Chinese restaurants, identifying 12 hierarchical image clusters.

Furthermore, a survey with 125 Chinese participants delves into their informational prerequisites before dining at a restaurant and their motivations for sharing experiences post-visit. Introducing an innovative analytical approach that combines deep learning and image analysis, the study examines visual content and associated keywords about Chinese restaurants on TripAdvisor. This investigation offers novel insights into digital consumer behavior within culinary tourism, shedding light on the keywords and imagery shared online. The research broadens the academic discourse on user-generated visual content by presenting a new methodological avenue for analyzing image marketing management in the culinary tourism sector. It provides practical guidance for marketing strategies in the culinary industry. Through a blend of image analysis, clustering, and text mining, the study enhances our understanding of digital consumer behavior, offering valuable implications for developing marketing strategies in the culinary field.

Jílková & Králová (2021) delve into the effects of the COVID-19 crisis on digital consumer behavior and the evolution of e-commerce trends within the Czech Republic. Their study concentrates on identifying the drivers of digital consumer behavior and pinpointing the most current trends in online shopping, shedding light on how the pandemic has reshaped the landscape of digital commerce in the region. The research utilizes data from two surveys conducted before and during the pandemic, involving 200 participants from different generations. The results indicate a significant increase in digital purchases and a shift in spending patterns, leading to higher online shopping frequency and changes in the types of products purchased. The study also highlights changes in devices used for online shopping and emphasizes shifts in consumer preferences for payment methods during the pandemic. Therefore, the research explores factors influencing digital consumer behavior that increase online transactions and changes in online searches, payments, and delivery methods due to fear of the pandemic and the desire for home security.

Additionally, the study underscores changes in spending patterns, with a decrease in non-food categories and an increase in online

food and non-alcoholic beverage consumption. The preference for personal computers over smartphones and tablets for online shopping is also investigated. Overall, the research contributes new insights into digital consumer behaviors and e-commerce trends during the COVID-19 crisis, enhancing understanding of the changing landscape of online shopping.

Tupikovskaja-Omovie & Tyler (2021) explore digital consumer behavior in the fashion mobile retail (m-retail) sector by integrating eye-tracking technology with Google Analytics data. The research demonstrates how eye-tracking technology captures interactions with all website elements and can provide a more comprehensive understanding of consumer behavior than relying solely on Google Analytics. Google Analytics records only about half of digital user activities. This combination of methodologies provides deeper insights into the customer's online shopping journey, enhancing the value of Google Analytics data for marketing decisions. The study highlights the importance of adopting more advanced analytics techniques in m-commerce to keep pace with evolving consumer expectations and behaviors, especially in the fashion retail sector.

Rúa-Hidalgo et al. (2021) delve into the effectiveness of GIFs in forging emotional connections through social media marketing strategies, utilizing neuroscience research techniques to deepen the analysis of emotions on social platforms. The research is conducted in two phases: the first involves an experimental study with automatic biometric analysis to gauge emotions, while the second assesses emotions expressed in Instagram comments. Findings reveal that the direct measurement of emotional value from user feedback is more positive and higher than indirect biometric indicators, with this positivity being influenced by user engagement and the prevalence of emojis in comments. The study advocates integrating neuromarketing insights to measure user emotions in social media campaigns accurately. It proposes a multifaceted approach to emotion measurement, combining emotional value, basic emotions, and engagement levels to assess the impact of GIFs on creating emotional experiences online. By incorporating neuroscience techniques like automatic biometric analysis, this research underscores the enhanced capacity to analyze emotions in social media marketing, offering a more nuanced understanding of how GIFs influence user emotions on platforms such as Instagram.

Morales-Solana et al. (2022) explore the concept of flow in purchasing bulk consumption products at online supermarkets, employing qualitative and quantitative research methods. Their findings identify concentration and personalization as the chief immediate precursors to experiencing flow during online supermarket shopping. In contrast, elements such as perceived

risk and variety are found to impede this state of flow. Notably, the research establishes that achieving a flow state favors consumers' intent to purchase and loyalty to the e-commerce platform (e-loyalty). This study enriches the understanding of digital consumer behavior, particularly in the realm of bulk consumption products in Spain, by illuminating the influence of flow on the online buying process. It delineates the primary factors facilitating flow in these settings and highlights the obstacles to achieving such a state.

Additionally, the positive implications of flow on purchase intention and e-loyalty are demonstrated, contributing to the discourse on digital shopping experiences. Consequently, the research introduces a detailed model of flow tailored to the mass consumption sector in online supermarkets. This model, validated through structural equation modeling, augments the knowledge surrounding flow in digital shopping contexts, providing a theoretical basis for examining digital consumer behavior in such environments. Ivanova et al. (2022) focus on crafting a marketing strategy that enables small businesses to navigate the constraints imposed by COVID-19 quarantine measures. They underscore the urgent need for these businesses to overhaul their existing marketing approaches, with digitization pivotal in hastening this adjustment. The study explores how vending machines can revolutionize sales processes by introducing automation and proposing a novel business model for the distribution of goods. Furthermore, it underlines the critical role of digital media in promoting products to boost small business activities and sales. The research notes the rising significance of small and medium-sized enterprises (SMEs) in national economies and recommends government support to ensure these businesses can sustain their presence in the market. It advocates for a recalibration of marketing strategies tailored to the contemporary landscape, aiming to secure the long-term viability of small businesses amidst evolving market conditions.

Sağkaya Güngör & Ozansoy Çadırıcı (2022) delve into the evolving dynamics of consumer behavior in the digital era, highlighting the importance of a thorough grasp of digital consumer profiles. Through an extensive analysis of 5,505 articles published in 66 marketing journals, they extracted 42 distinct topics, integrating current research themes, theories, and methodologies to address the demand for bibliometric insights within digital consumer studies. The investigation prominently uncovers how cultural, social, and economic elements shape digital consumer behavior, focusing on the pivotal function of recommendation systems. These systems aid consumers by simplifying their search processes and facilitating more informed decision-making. Additionally, the study points to the influence of social identity within online brand communities and its effect

on consumer engagement, further driving purchase intentions. This comprehensive review sheds light on the multifaceted aspects of digital consumer behavior and underscores the critical role of technological aids and community belonging in the digital shopping experience.

Yoon et al. (2022) investigated how contextual elements like time and weather conditions influence the success of mobile advertising campaigns on social media, especially for meal delivery and food ordering services. They proposed that advertisements displayed during the pre-decision phase (outside of mealtimes) increase consumer expenditure on meal services more effectively. Furthermore, the study revealed that poor weather conditions, characterized by reduced sunlight, significantly boost the impact of advertising on consumer spending in mobile app-based food delivery services. This research highlights the importance of timing and environmental factors in maximizing the efficiency of mobile advertising for food-related services.

Rangaswamy et al. (2023) conducted an in-depth evaluation of how digitization has transformed retail consumer behavior in Singapore, utilizing a cross-sectional and inductive analysis approach. They collected data from 200 participants via an online survey and applied various statistical techniques, including Descriptive Analysis, ANOVA, Pearson correlation, and simple linear regression tests. The research methodology is based on critical realism, which seeks to uncover causal structures and comprehend the complexities of digital consumer behavior. Their findings underscore the positive influences of perceived risk, values, and emotional factors on digital consumer behavior, suggesting that these elements significantly shape consumer interactions in digital retail. Additionally, the article points out the necessity for implementing safeguards to protect consumers from the potential risks associated with digitization, indicating a critical look at both the benefits and challenges of digital consumer markets.

4.1. Commonalities and Trends

The research covers various geographical contexts, including the United States, South Korea, Romania, Turkey, Spain, the Czech Republic, and Singapore. The global nature of the studies indicates a comprehensive exploration of digital consumer behavior in various cultural and regional settings. Below are some common points and trends in these studies.

- The impact of cultural, social, and economic factors on digital consumer behavior is a recurring theme.

- Recommendation systems, Augmented Reality (AR), and Global Positioning Systems (GPS) significantly contribute to success in various contexts.
- Understanding consumer needs, desires, and time-saving solutions is crucial for effective marketing strategies.
- The influence of contextual factors, such as time and weather, on advertising effectiveness is explored.
- The role of technology, including eye-tracking and deep learning, in understanding digital consumer behavior is emphasized.

5. Conclusions and Discussion

Digital consumer behavior encompasses the choices and actions consumers take within online settings, including activities like e-commerce transactions, social media interaction, and various other digital engagements. As consumers increasingly move their shopping and socializing online, it has become essential for marketers and researchers to comprehend these digital behaviors and interactions.

Recent studies have focused on various aspects of digital consumer behavior. These include topics such as the impact of digital technologies on legal relationships with consumers, especially in the online domain, and the necessity to protect consumer rights reasonably. Moreover, these investigations explore the mindsets and actions of online shoppers, tackling themes such as the evolution from conventional to digital consumers and the sway of digital surroundings on buying choices. Furthermore, they delve into consumers' encounters and influences within the digital sphere.

Digital consumer behavior encompasses areas like consumer digital culture, reactions to digital marketing, and the ramifications of social media on consumer conduct. Additionally, research delves into the consequences of digital marketing strategies and digital payment methods on consumer spending patterns. This involves examining factors influencing consumers' adoption of digital payment methods and contemplating the future trends of digital payment methods.

Several factors influence the scientific research process of digital consumer behavior. These factors can be decisive in the planning, execution, and interpretation stages of researchers' studies. Digital consumer behavior undergoes continuous evolution due to rapidly changing technological landscapes. New digital tools, platforms, and applications can influence consumer behaviors, necessitating researchers to stay abreast of these technological developments. A significant portion of consumers' online interactions occurs on social media platforms. These platforms can impact interactions among consumers and influence

consumer behavior. Researchers must consider this factor to understand the role of social media platforms and examine interactions taking place on these platforms. Sensitivity to security and privacy issues in the digital realm is a crucial factor influencing digital consumer behavior. Researchers should address this topic to comprehend consumers' concerns and assess the impact of security measures on digital platforms. The increasing popularity of online shopping and mobile commerce affects consumers' purchasing behaviors. Researchers should strive to understand how consumers utilize e-commerce and mobile commerce platforms and how this usage influences digital consumer behavior by keeping track of e-commerce and mobile commerce trends. Artificial intelligence and big data analytics have enhanced the ability to analyze large datasets related to consumers. Researchers can conduct more in-depth analyses and evaluate these data by employing these technologies to understand consumer behaviors better. Digital marketing strategies of businesses shape consumers' online interactions. Researchers should focus on these strategies to evaluate the impact of businesses' digital marketing tactics on consumer behaviors. Consumers' geographical locations can influence digital behaviors, especially with location-based services and applications shaping consumers' online interactions. The digital economy has significantly transformed consumer behavior, requiring a deeper understanding of the impact of digital technologies, marketing, and virtual experiences on consumer decision-making processes.

5.1. Research Gaps and Limitations

Another proposal (Rúa-Hidalgo et al., 2021) involves investigating whether stimulus types, such as stories, photos, or videos, can achieve a similar emotional impact on social media networks as GIFs. Moreover, Morales-Solana et al. (2022) propose further research to examine how the quantity of products on supermarket websites influences the consumer flow experience. Such investigation aims to show how abundant choices can impact the flow state. Additionally, replicating the study with varied sub-dimensions of risk perception could offer empirical support regarding its influence on intentions and behaviors in online shopping. This methodological approach would enhance our understanding of the role of risk perception in the flow experience. Furthermore, exploring the connection between flow and brand loyalty in the context of online supermarkets holds significance for future inquiries. This will further enhance our understanding of the influence of flow on digital consumer behavior and its implications for retailers.

Sağkaya Güngör & Ozonsoy Çadırcı (2022) propose four avenues for future research within the realm of digital consumer studies, namely contextual, thematic, methodological, and theoretical

directions. The contextual direction advocates for investigating the impact of cultural, social, and economic factors on digital consumer behavior. Thematic directions involve exploring emerging subjects such as social identity, emotional decision-making, and the influence of influencers on digital consumer behavior. Methodological directions advocate using advanced techniques like topic modeling and bibliometric analysis to scrutinize and comprehend digital consumer research. Theoretical directions advocate for developing new theoretical models that consider both benefits and drawbacks in the digital milieu.

Yoon et al. (2022) emphasize the necessity for further exploration to comprehend subtle distinctions in the influence of weather on advertising, urging future studies to recognize the variability in subjective assessments of pleasant or unpleasant weather. They underscore the importance of delving into nuanced differences in assessing the impact of weather on advertising. Subsequent research endeavors should scrutinize these distinctions and investigate how varying weather conditions influence individuals' advertising information processing.

In another prospective research proposal (Rangaswamy et al., 2023), longitudinal studies are advocated to investigate how digitization and consumer behavior characteristics evolve over time. Moreover, conducting survey research with representative sampling data to capture and analyze information about digital phenomena from participants is recommended for comprehensive insights.

In forthcoming studies, there is merit in crafting novel theoretical behavior models to gauge digital consumption or assessing the efficacy of current theories in capturing various facets of digital consumer behavior. Simultaneously, investigations could delve into the impact and molding of digital consumer behavior by technologies such as artificial intelligence and machine learning. Such research avenues promise valuable insights into the evolving landscape of digital consumption. The impacts of personalized recommendations, chatbot interactions, and other artificial intelligence applications on consumer preferences can also be examined in this context. However, concerns about security and privacy are increasing in digital consumer behavior. Future research could explore how new security measures and privacy policies can be designed to ensure consumers feel secure in digital environments.

Furthermore, comprehending the ramifications of Virtual Reality (VR) and Augmented Reality (AR) technologies on digital consumer experiences and investigating their effects across commerce, entertainment, and other sectors is poised to become a significant focal point of research in the future. As social media

platforms continue to evolve, there is an opportunity for studies to delve into understanding consumer interactions and the sway of social media on decision-making processes. Moreover, with the increasing consumer sensitivity towards environmental impact and sustainability concerns, targeted research can be conducted on how consumers evaluate sustainability criteria when making digital product and service choices. Research endeavors in these domains hold the potential to offer vital insights into the trajectory of digital consumer behavior and how businesses can navigate and adapt to these evolving dynamics.

Like any academic research, this systematic literature review has its limitations. For example, this study used only the WoS database, while others could have expanded it. The included studies cover only digital consumer behaviors associated with marketing; they do not encompass other related research areas.

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