


Chapter 6


A Comprehensive Literature Review on the Influence of Artificial Intelligence on Consumer Engagement and Brand Loyalty in Digital Marketing

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ABSTRACT

This literature review synthesizes key findings from recent studies examining the impact of artificial intelligence (AI) technologies on consumer engagement, brand loyalty, and digital marketing strategies. Utilizing frameworks such as affordance theory, social identity theory, and delegation theory, these studies reveal how AI influences brand perception, consumer trust, and purchase behavior across various sectors, including finance, retail, and tourism. The review highlights how specific AI features, such as anthropomorphism, interactivity, and personalization, enhance

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user experience, fostering brand identification and loyalty. However, ethical concerns regarding data privacy, customer manipulation, and authenticity are also noted as challenges within the AI-driven marketing landscape. By consolidating these insights, this review provides a theoretical and practical foundation for future research on AI's role in consumer behavior and offers strategic considerations for marketing professionals in the digital age

INTRODUCTION

The rapid advancement of artificial intelligence (AI) has transformed industries globally, positioning it as the foundation of innovation in the digital age. According to the National Qualifications Register's (n.d.) report, the global AI market was estimated at US \$119.78 billion in 2022 and is projected to reach US \$1,591.03 billion by 2030, growing at a CAGR of 38.1%, as shown in Figure 1. In addition, AI is projected to contribute approximately US \$15.7 trillion by 2030. This AI potential has led to its significant adoption in numerous industries and sectors, including marketing. For instance, Motamedi (2024) found that AI's capabilities have revolutionized business operations in marketing, from automating mundane tasks to driving sophisticated predictive analytics. Traditional marketing approaches are increasingly being augmented or replaced by AI-driven strategies that leverage big data, machine learning, and natural language processing. This transformation is especially evident in digital marketing, where AI technologies enable marketers to personalize consumer interactions at scale, optimize campaigns, and enhance decision-making processes (Gans, 2023). These advancements redefine how businesses communicate with their audience and elevate the overall efficiency and effectiveness of marketing efforts.

Consumer engagement and brand loyalty have emerged within digital marketing as critical determinants of long-term business success. Consumer engagement refers to the interactions between a brand and its audience that build meaningful relationships (Chen et al., 2022). Brand loyalty reflects a customer's consistent preference and commitment to a specific brand over its competitors (Rane, 2023). Customer engagement and brand loyalty are pivotal for achieving sustainable growth, increasing customer retention, and driving revenue. However, the competitive nature of the digital landscape demands innovative strategies to capture and maintain consumer attention (Bag et al., 2022). AI is a powerful tool for marketers to create highly personalized and immersive experiences, thus reshaping how engagement and loyalty are cultivated in the digital era.

AI influences consumer engagement through its ability to analyze vast amounts of consumer data, predict preferences, and deliver tailored content across multiple

channels. For instance, AI-driven algorithms in recommendation engines, chatbots, and predictive analytics allow brands to interact with consumers in a personalized and immediate manner (Suraña-Sánchez & Aramendia-Muneta, 2024). This level of customization strengthens the emotional connection between brands and consumers, resulting in higher engagement levels. Similarly, AI enhances brand loyalty by enabling seamless and consistent customer experiences, predictive retention strategies, and reward programs tailored to individual behaviors (Ziakis & Vlachopoulou, 2023). As consumers increasingly value convenience, personalization, and relevance, AI's role in addressing these demands becomes central to a brand's ability to build enduring relationships. This literature review examines AI's technological capabilities and strategic applications in digital marketing and their consequent impacts on consumer engagement and brand loyalty.

METHODOLOGICAL APPROACH

This study employs the PRISMA 2020 framework and a systematic bibliometric literature review to examine the influence of AI on consumer engagement and brand loyalty in digital marketing. According to Haddaway et al. (2022), the PRISMA guidelines ensure methodological transparency, reproducibility, and objectivity and reduce the risk of bias. On the other hand, the bibliometric literature review approach helped identify thematic patterns and trends in the literature.

The search process began with identifying specific keywords to capture the scope of the research. The primary terms “Artificial Intelligence” and “Marketing” were initially chosen to explore AI applications in marketing. These were expanded with additional terms such as “Digital Marketing,” “Consumer Engagement,” and “Brand Loyalty” to narrow the search to literature explicitly addressing AI's role in digital marketing and its impact on building consumer relationships and loyalty. This comprehensive approach ensured that the final selection included publications relevant to the study's focus.

The Scopus database was selected for this review due to its extensive coverage of peer-reviewed literature across diverse fields. Baas et al. (2020, p.377) describe Scopus as one of the “largest curated abstract and citation databases.” In addition, this database provides comprehensive indexing of high-quality publications, from books and scientific journals to conference proceedings. This makes it an ideal resource for exploring interdisciplinary topics such as AI and marketing. Its advanced search functionalities also facilitate precise results filtering to align with the study's objectives.

The Scopus database served as the primary tool for identifying and selecting relevant materials, adhering to the methodologies outlined by Rosário et al.,

(2020,2021)andRosário and Dias (2024). The platform maintains exceptional data quality through the oversight of its independent Content Selection and Advisory Board, which applies rigorous selection criteria and conducts regular re-evaluations.

In contrast to traditional literature reviews, the Systematic Bibliometric Literature Review (LRSB) method offers a more structured and in-depth exploration of a specific research domain, as emphasized by Rosário et al., (2020,2021) and Rosário and Dias (2024). This approach prioritizes a refined selection process to include only studies that are directly pertinent to the research question. Moreover, it establishes a transparent audit trail, allowing readers to critically assess the methodology, findings, and overall quality of the selected studies.

The LRSB methodology employs a meticulous protocol to screen and select sources, ensuring data reliability and relevance. This protocol is systematically organized into three phases and six distinct steps, as illustrated in Table 1 and detailed by Rosário et al., (2020,2021) and ; Rosário and Dias (2024).

Table 1. Process of systematic LRSB.

Fase	Step	Description
Exploration	Step 1	formulating the research problem
	Step 2	searching for appropriate literature
	Step 3	critical appraisal of the selected studies
	Step 4	data synthesis from individual sources
Interpretation	Step 5	reporting findings and recommendations
Communication	Step 6	Presentation of the LRSB report

Source: adapted Rosário et al., (2020,2021) and Rosário and Dias (2024).

The researchers utilized the Scopus database to identify and select reliable sources, widely acknowledged by the academic and scientific community. However, a notable limitation of this study is its exclusive reliance on the Scopus database, excluding other academic and scientific databases. Additionally, the search was confined to publications available up to December 2024. The search strategy prioritized peer-reviewed academic and scientific works to ensure the credibility and rigour of the selected materials. Parte superior do formulário

The literature search was conducted using a tiered query system within the Scopus database. The initial query, TITLE-ABS-KEY “Artificial Intelligence,” retrieved 613,931 documents. Adding the keyword “Marketing” refined the results to 4,899 documents. To narrow the focus further, TITLE-ABS-KEY “Digital Marketing” was incorporated, and the query was limited to the exact keywords “Consumer Behavior” and “Brand Loyalty,” resulting in 106 relevant documents. These documents were screened using inclusion criteria such as relevance to consumer engagement and

brand loyalty, peer-reviewed status, and publication in English. Exclusion criteria ensured a curated selection, including a lack of focus on digital marketing contexts and duplicates.

Specific inclusion and exclusion criteria were established to guarantee the relevance and rigour of the documents analyzed in the final report (Table 2). The researchers included only peer-reviewed journal articles that explored the intersection of marketing strategy and brand development. To maintain a focused dataset, publications outside the fields of business, marketing, or branding were excluded. This systematic selection process ensured that the final set of literature was of high quality and closely aligned with the study's objectives. A detailed summary of the search process is provided in Table 2.

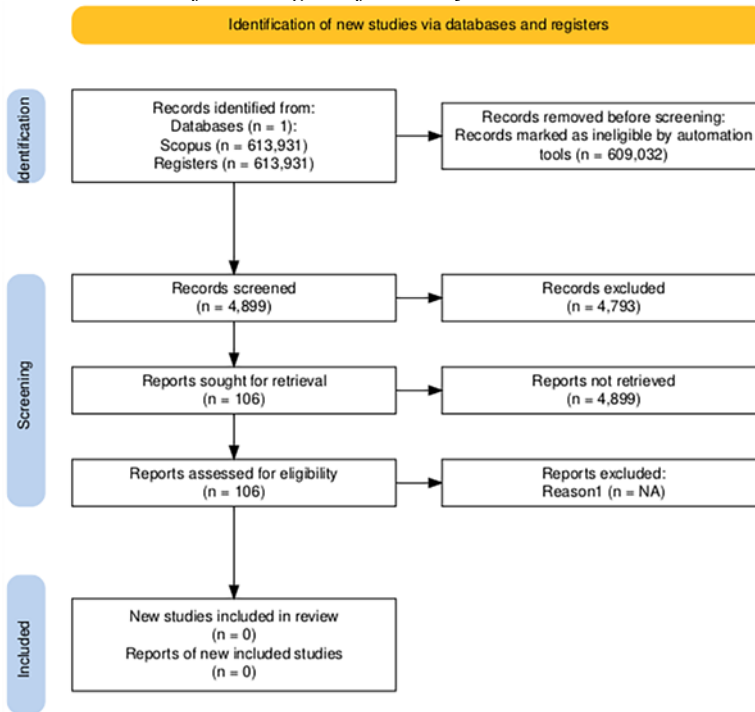
Table 2. Screening Methodology.

Database Scopus	Screening	Publications
Meta-search	Keyword: Artificial Intelligence	613,931
First Inclusion Criterion	Keyword: Artificial Intelligence, Marketing	4,899
Second Inclusion Criteria	Keyword: Artificial Intelligence, Marketing Exact Keyword: Consumer Behavior	106
Screening	Keyword: Artificial Intelligence, Marketing Exact Keyword: Consumer Behavior Until December 2024	

Source: own elaboration

Content and thematic analysis methods were employed to identify, evaluate, and present the range of documents, following the framework established by Rosário et al., (2020,2021) and Rosário and Dias (2024). Rigorous selection criteria were applied to ensure the inclusion of only high-quality and relevant academic sources. The researchers focused on studies specifically addressing luxury brands and consumer behavior. Eligibility was determined based on the studies' alignment with the research topic, methodological rigor, and publication in peer-reviewed journals (refer to Figure 1).

Figure 1. PRISMA 2020 flow diagram for the systematic literature search.



A total of 106 scientific and academic documents indexed in Scopus were analyzed using a blend of narrative and bibliometric approaches, as outlined by Rosário et al., (2020,2021); Rosário and Dias (2024). These methodologies were employed to thoroughly examine the content of the documents and identify recurring themes closely aligned with the research questions.

Of the 106 documents selected, 40 were journals, 39 were conference proceedings, 25 were book series, and 2 were books.

PUBLICATION DISTRIBUTION

Peer-reviewed articles on a Comprehensive Literature Review on the Influence of Artificial Intelligence on Consumer Engagement and Brand Loyalty in Digital Marketing, December 2024. The year 2024 has the highest number of peer-reviewed publications, reaching 26. Figure 2 summarises the peer-reviewed literature published until December 2024.

Figure 2. Documents by year

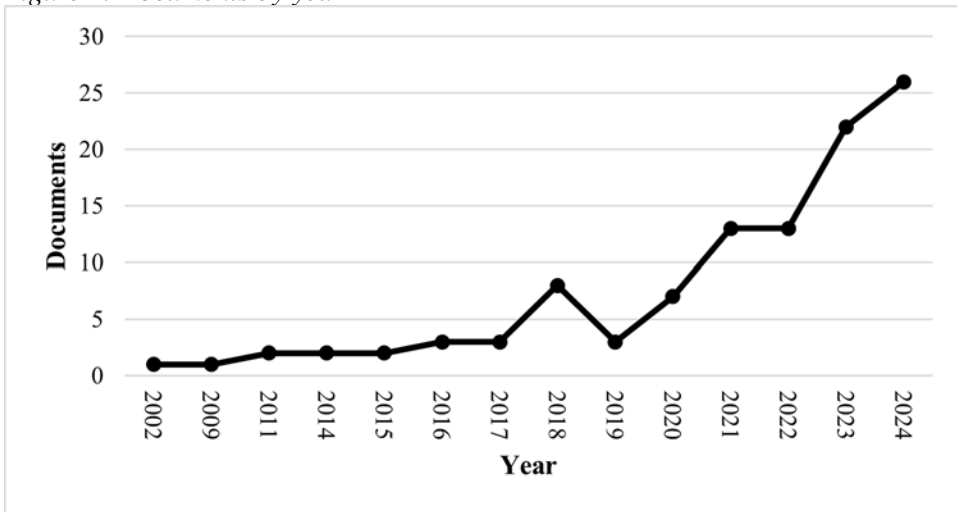


Figure 3 displays the countries exhibiting the highest levels of scientific output in specific research areas, with particular emphasis on India, China, the USA, and Indonesia, which boast the most significant number of publications.

Figure 3. Scientific production by country.

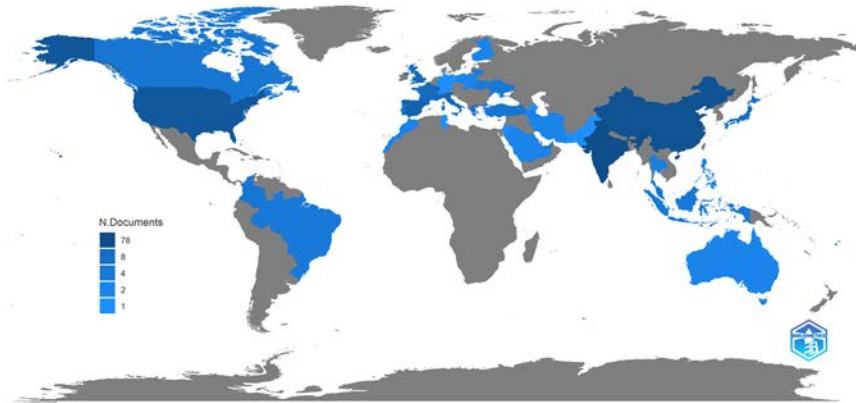


Table 3 and Figure 3 visually illustrate the top 10 nations making notable scientific contributions in the examined domains. This investigation aims to identify countries that prioritise studying luxury brands and their consumption.

Table 3. Top 10 countries by number of publications.

Country	Number of Publications
INDIA	78
CHINA	54
USA	38
SPAIN	18
ITALY	12
UK	12
FRANCE	10
GREECE	8
JAPAN	8
PORTUGAL	7

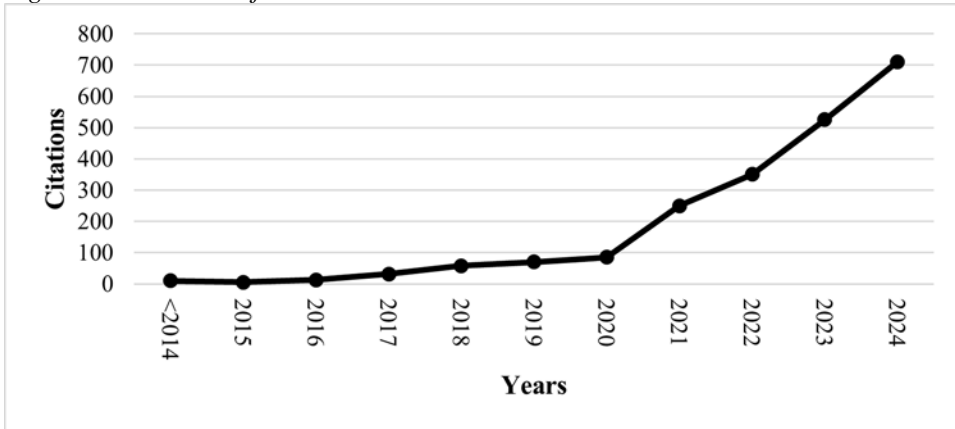
Source: own elaboration

The publications were sorted out as follows: Lecture Notes In Computer Science Including Subseries Lecture Notes In Artificial Intelligence And Lecture Notes In Bioinformatics (6); ACM International Conference Proceeding Series (5); Lecture Notes In Networks And Systems (4); Lecture Notes In Electrical Engineering (3); with 2 documents (Technological Forecasting And Social Change; Studies In Computational Intelligence; Smart Innovation Systems And Technologies; International Journal Of Information Management; IEEE Access; Electronic Commerce Research; Advances In Intelligent Systems And Computing; 2023 International Conference On Sustainable Emerging Innovations In Engineering And Technology Iccseiet 2023; and the remaining publications with 1 document. The subject areas covered by the 106 scientific or academic documents were Computer Science (70); Engineering (38); Business, Management and Accounting (22); Decision Sciences (20); Mathematics (19); Economics, Econometrics and Finance (9); Social Sciences (8); Psychology (7); Energy (7); Physics and Astronomy (6); Materials Science (6); Medicine (5); Agricultural and Biological Sciences (4); Multidisciplinary (3); Environmental Science (3); Neuroscience (2); Chemical Engineering (2); Earth and Planetary Sciences (1); Biochemistry, Genetics and Molecular Biology (1); and Arts and Humanities (1).

The most quoted article was “Setting the future of digital and social media marketing research: Perspectives and research propositions” by Dwivedi et al. (2021), with 986 quotes published in the International Journal of Information Management 5,780 (SJR), the best quartile (Q1), and with H index (177). In this article, “This article brings together the collective insight from several leading experts on issues relating to digital and social media marketing.”

In Figure 4, we can analyse citation changes for documents published up to December 2024. The period ≤ 2014 -2024 shows a positive net growth in citations with an R2 of 7%, reaching 711 in 2024.

Figure 4. Evolution of citations between ≤ 2014 and 2024.



The h-index measures the productivity and impact of published works by identifying the highest number of articles each has received at least an equal number of citations. Nineteen of the documents considered for the h-index received at least 19 citations.

Citations of all scientific and academic documents from the period ≤ 2014 to December 2024, with a total of 2,153 citations; of the 106 documents, 34 were not cited. Using the main keywords “A Comprehensive Literature Review on the Influence of Artificial Intelligence on Consumer Engagement and Brand Loyalty in Digital Marketing,” the bibliometric analysis revealed key indicators of the evolving landscape of scientific and academic information within the documents, as shown in Figure 5. The researchers derived these insights using VOSviewer scientific software, focusing specifically on the primary search terms: “Artificial Intelligence”, “Marketing” and “Consumer Behavior”.

Figure 6. Three fields plot analysis (AU=authors, CR=references, DE=authors keywords)



In the Sankey diagram, the size of the boxes is proportional to the frequency of the theme's occurrences. The flows connect each box, showing the theme's evolution traces. The thicker the connecting line, the greater the connection between the two themes (Xiao et al., 2022). Figure 6 shows that the keywords most commonly used are “Artificial intelligence” (incoming flow count: 11; outgoing flow count: 0) and “machine learning” (incoming flow count: 7; outgoing flow count: 0), which are linked mainly to the most cited references.

Figure 7 provides a detailed examination of the interrelated keywords, highlighting the connections between critical terms across the academic articles. This analysis helps identify the topics covered in these studies and offers valuable insights into potential avenues for future research. Furthermore, Figure 8 illustrates a substantial number of co-citations and units, enhancing the analysis of the cited references and supporting the overall findings.

THEORETICAL PERSPECTIVES

AI has been widely adopted in digital marketing to enhance operational efficiency and improve the effectiveness of marketing strategies. This innovation empowers marketers to deliver highly personalized and context-aware interactions, influencing consumer engagement and brand loyalty (Ramirez et al., 2022). For instance, AI capabilities enable brands to create deeper connections and more dynamic interactions with their audiences through targeted marketing strategies. In addition, AI has reshaped the concept of brand loyalty by allowing companies to leverage AI-driven tools to create tailored loyalty programs, anticipate consumer needs, and ensure consistent, high-quality experiences across digital platforms (Ilapakurti et al., 2018b; Gkikas & Theodoridis, 2022). This literature review section explores existing research on how AI has transformed digital marketing practices, focusing on its impact on consumer engagement and brand loyalty.

Defining Key Concepts

Artificial Intelligence

Artificial intelligence (AI) is the simulation of human intelligence by machines and computer systems, enabling them to perform tasks that typically require cognitive functions such as learning, reasoning, problem-solving, and decision-making. Chintalapati and Pandey (2022, p.39) define this innovation as the “science and engineering of making intelligent machines, especially intelligent computer programs.” Although AI involves understanding human intelligence and using computers to carry out similar tasks, the authors explain that it does not have to limit itself to biologically observable methods. The core of AI lies in its ability to process vast amounts of data, identify patterns, and adapt its operations based on new information, often with minimal human intervention (Gupta et al., 2024; Kaponis & Maragoudakis, 2022). AI technologies encompass various methodologies, including machine learning (ML), natural language processing (NLP), computer vision, and neural networks, each tailored to specific applications. These capabilities have found practical uses in areas ranging from healthcare diagnostics and autonomous vehicles to financial forecasting and marketing (Lu & Boutilier, 2015). AI's evolution from rule-based systems to advanced deep learning frameworks has significantly enhanced its capacity to tackle complex tasks, making it a cornerstone of technological innovation in the modern era.

One of the defining characteristics of AI is its capacity for personalization and predictive analytics. Through machine learning algorithms, AI systems can analyze consumer behavior, predict future trends, and provide insights that help businesses

make data-driven decisions (Meepung & Kannikar, 2022). For example, recommendation engines in e-commerce platforms use AI to suggest products based on user preferences, purchase history, and browsing patterns. Similarly, AI-powered chatbots provide instantaneous customer support, mimicking human interaction to enhance user satisfaction (Mittal et al., 2023; Olan et al., 2024). These applications have had profound implications for digital marketing, where AI is used as a strategic tool to optimize campaigns, improve customer targeting, and deliver personalized experiences at scale. As businesses continue to leverage AI's potential, its influence on reshaping industries and consumer experiences grows increasingly significant, warranting deeper exploration into its role and impact.

Digital Marketing

Digital marketing refers to the use of digital channels, technologies, and platforms to promote products, services, and brands to consumers. It encompasses multiple activities, including search engine optimization (SEO), social media marketing, email campaigns, content marketing, and paid advertising, aiming to engage audiences and drive measurable outcomes (Patil et al., 2024; Jayashree et al., 2022). Unlike traditional marketing, digital marketing leverages data analytics and technology to deliver personalized, real-time consumer interactions. This personalization is facilitated by tracking tools and algorithms that gather insights into consumer behavior, enabling marketers to create targeted strategies that resonate with specific demographics (Siva Balan & Kalpana, 2023). In recent years, the emergence and adoption of smartphones, high-speed internet, and social media platforms have expanded the reach and significance of digital marketing, making it a foundational component of modern business strategies.

Digital marketing significantly relies on interactivity and engagement. Unlike one-way communication methods in traditional advertising, digital marketing enables two-way interactions, allowing consumers to actively participate in shaping their experiences with brands (Wang & Wang, 2022). Technologies such as AI, machine learning, and predictive analytics have further enhanced digital marketing by providing tools to automate processes, optimize campaigns, and deliver dynamic, personalized content (Vinaykarthik, 2022; Ziakis & Vlachopoulou, 2023). For instance, platforms like Google Ads and Meta Ads utilize AI algorithms to maximize the relevance of advertisements shown to users. Similarly, email marketing platforms use AI to predict the best times to send messages, resulting in higher engagement rates (Albinali & Hamdan, 2021). As digital marketing evolves, its integration with advanced technologies such as artificial intelligence continues to redefine how brands build relationships with consumers and establish lasting loyalty.

Consumer Engagement

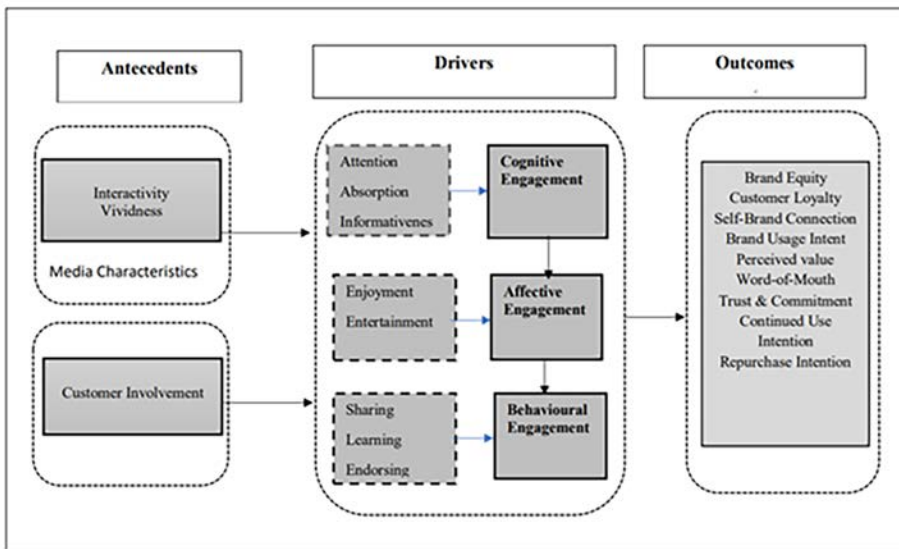
Consumer engagement is a multifaceted concept encompassing consumers' interactions, emotions, and cognitive involvement with a brand or product. At its core, consumer engagement represents their level of involvement toward a brand (Ilapakurti et al., 2018a). This perspective is reflected in Srivastava et al.'s (2023, p.1) definition of customer engagement: “customer's behavior that has a brand or firm focus beyond purchase, which has resulted from motivational drivers of cognitive, emotional, and behavioral activities.” This can result in various behaviors, such as participation in social media, engagement with brand-related content, and communication with the brand through customer service or feedback. Thus, consumer engagement is seen as an emotional and psychological connection that drives consumers to form positive relationships with brands (Fernández-Rovira et al., 2021; Zhuang et al., 2018). Effective consumer engagement has become increasingly important in digital marketing, where brands compete for consumer attention in an oversaturated market (Vij et al., 2024). The rise of digital channels, including social media, mobile applications, and personalized websites, has provided brands with numerous opportunities to create deeper engagement through interactive content, personalized messaging, and consistent communication.

Traditionally, consumer engagement was driven largely by consumer experiences, product quality, and the brand's ability to meet consumer needs. Today, it involves more dynamic and multifaceted interactions, especially in the digital environment (Vij et al., 2024). Consumer engagement now also includes creating meaningful and personalized experiences that resonate with individuals on a deeper level, allowing brands to foster loyalty and increase retention. While traditional forms of engagement, such as word-of-mouth and customer reviews, are still valuable, modern engagement strategies have expanded into digital spaces where consumers can engage directly with a brand's content, share feedback, and participate in virtual communities (Wang et al., 2023; Suzuki et al., 2018). The importance of engagement lies in its ability to encourage repeat behavior and build emotional connections that make consumers more likely to advocate for the brand and maintain a long-term relationship.

Consumer engagement is a crucial part of successful digital marketing. According to Srivastava et al. (2023), digital consumer engagement (DCE) can be classified into three levels: cognitive, affective, and behavioral, as shown in Figure 4. Cognitive engagement is driven by factors such as attention, absorption, and informativeness. These reflect how well consumers focus on and process content, often influenced by interactive and vivid media that capture their interest and deliver valuable information (Sleiman et al., 2024). Affective engagement builds on emotional connections fueled by enjoyment and entertainment. It reflects how much consumers emotionally resonate with content, whether through humor, storytelling, or an overall positive

experience that strengthens their bond with the brand (Sun, 2023). Behavioral engagement relates to action-oriented interactions such as sharing, learning, and endorsing. This level reflects consumers' willingness to participate actively in brand-related activities, extending their engagement into visible and impactful behaviors (Figure 9) (Srivastava et al., 2023). These forms of engagement lead to meaningful outcomes, including brand equity, customer loyalty, trust, and commitment. It also drives key behaviors such as word-of-mouth recommendations, continued product use, and repurchase intentions, ultimately contributing to long-term brand success.

Figure 9. Antecedents, drivers, and outcomes of DCE



(Srivastava et al., 2023)

Brand Loyalty

Brand loyalty refers to a consumer's consistent preference for one brand over others. It is often exhibited through repeat purchases, brand advocacy, and an emotional attachment to the brand (Vieira et al., 2023; Biswas & Sanyal, 2019). Brand loyalty is essential for business success since loyal customers tend to have a higher lifetime value and are less sensitive to price changes or competitor offers. Brand loyalty goes beyond simple satisfaction; it reflects a deep-seated trust and commitment to a brand, influencing consumers' decision-making processes even in the face of alternatives (Li & You, 2021; Abdelkader, 2023). Loyalty is often seen as a long-term outcome of positive consumer experiences and is built over time through consistent delivery

of value, quality, and emotional resonance with the consumer (Bacilieri, 2019). It is integral to digital marketing because loyal customers generate repeat sales and contribute to free promotion through word-of-mouth recommendations.

Theoretical Frameworks

Multiple theoretical frameworks can be used to explain the impact of AI technologies on consumer engagement and brand loyalty in digital marketing. These frameworks offer valuable insights into how AI shapes consumer behavior, brand interactions, and overall marketing strategies (Laszkiewicz & Kalinska-Kula, 2023). This section discusses three key theories, including affordance theory, social identity theory, and delegation theory, and their relevance to understanding AI's transformative role in digital marketing.

Affordance Theory

American ecological physiologist James J. Gibson pioneered the affordance theory. Wang et al. (2018, p.56) define it as “the possibilities for action.” This theoretical framework focuses on the opportunities and constraints provided by technological features and their interaction with users' perceptions and actions. It highlights how users perceive actionable possibilities (affordances) that technology offers based on its design. In AI-driven marketing, affordances such as interactivity, personalization, and automation create new ways for consumers to engage with brands (Wu et al., 2024). For instance, chatbots afford real-time communication, while recommendation systems afford tailored product suggestions, fostering deeper consumer engagement (Yang et al., 2020). Understanding these affordances enables marketers to predict and adapt to shifting consumer preferences, ensuring sustained engagement. Therefore, affordance theory helps explain why certain AI features resonate with consumers, making them more likely to interact with and form emotional connections to brands.

Social Identity Theory

Social identity theory explores how individuals derive part of their identity from membership in social groups, including brand communities. Davis et al. (2019) explain that participating in collective activities through networks and relationships helps people create emotional attachments and identities. Therefore, this theory is used in marketing to understand how consumers identify with brands that align with their self-concept or social aspirations (Kothari & Mani, 2024; Ling & Che, 2021). AI technologies enhance this identification process by enabling personalized experiences that reflect consumers' preferences, values, and behaviors. For exam-

ple, AI-powered tools can curate content reinforcing a consumer's association with a brand's community, increasing loyalty and engagement (Liu et al., 2023). They facilitate stronger identification between consumers and brands, reinforcing brand loyalty through social connection. Marketers targeting niche audiences can leverage AI tools to create a sense of exclusivity within brand communities. This would strengthen the consumer-brand bond, ultimately driving engagement and loyalty.

Delegation Theory

Delegation theory examines how individuals delegate tasks and decisions to external agents or technologies to achieve desired outcomes efficiently. Cooter and Gilbert (2022) identify delegation as a way to save the delegator's time, resources, efforts, energy, and concentration while ensuring the desired purposes are achieved. Consumers use AI tools to delegate decision-making to tools such as virtual assistants, robo-advisors, and predictive analytics systems (Rohden & Espartel, 2024; Saraiva Gonçalves et al., 2020). These technologies simplify decision-making by analyzing vast data and providing optimized recommendations. As a result, such delegation introduces a layer of cognitive ease for consumers since AI minimizes the mental effort required in complex decision-making scenarios. For brands, this represents a critical touchpoint to build consumer trust by ensuring that delegated decisions align with customer expectations and preferences. In addition, this delegation creates opportunities for marketers to influence consumer choices and establish trust by delivering reliable and effective solutions (Ricci et al., 2015). Understanding delegation theory helps explain why consumers are willing to rely on AI tools in their interactions with brands, ultimately impacting engagement and loyalty.

AI's Influence on Customer Engagement

AI provides tools that influence how brands engage their customers. For instance, Perez-Vega et al. (2021) found that marketers leverage AI tools to segment social media users, allowing for more targeted messaging. As a result, this has led to increased customer engagement, ultimately improving the selling processes and boosting sales. This section explores other common ways in which AI influences customer engagement:

AI-Powered Interaction

AI-powered interaction has redefined how brands engage with consumers by providing seamless, efficient, and highly personalized experiences. Tools such as chatbots and recommendation engines serve as front-line agents capable of deliver-

ing real-time assistance and tailored content (Dong, 2023; Kachamas, 2016). These systems address consumer queries and enhance engagement by predicting preferences and curating relevant options. AI-powered tools create a dynamic, responsive environment that meets consumer expectations for immediacy and convenience by automating repetitive tasks and ensuring 24/7 availability (Said et al., 2002). This level of engagement creates a deeper connection between consumers and brands, building the foundation for sustained interaction and loyalty.

Anthropomorphism in AI

Integrating anthropomorphic elements into AI systems leverages human-like attributes to establish emotional connections with consumers. These AI entities, such as virtual assistants or chatbots, create a sense of familiarity and relatability by mimicking human behaviors, speech, and expressions (Salles et al., 2020; Mueller, 2020). Anthropomorphism can enhance trust and comfort, encouraging consumers to interact more freely with brands. Placani (2024) explains that this emotional engagement is particularly impactful in environments where consumers seek personalized attention, as human-like AI creates an illusion of understanding and empathy (Li & Suh, 2021). Blending technology with human-like characteristics allows brands to use anthropomorphism to make their AI systems approachable and engaging, thus strengthening consumer-brand relationships.

Interactivity and Customization

AI drives interactivity and customization by tailoring experiences to individual preferences, enabling deeper consumer engagement. AI identifies unique user preferences and behaviors through data-driven insights, creating highly personalized interactions (Poornima et al., 2024). For example, content personalization, such as customized advertisements, recommendations, or interactive chat interfaces, creates a sense of individual importance and relevance (Armutcu et al., 2024). According to Imanova and Imanova (2021), interactivity ensures consumers remain actively involved with the brand, while customization ensures the content delivered resonates with their specific needs. This synergistic approach enhances user satisfaction and keeps consumers engaged over time.

Real-Time Responsiveness

Real-time responsiveness facilitated by AI significantly enhances consumer engagement by delivering immediate solutions and services. AI systems like chatbots or customer support platforms can process queries, complaints, or purchase requests in

real time, eliminating delays (Fukui & Tabata, 2024). This instantaneous interaction meets the growing consumer demand for quick problem resolution and seamless experiences. Moreover, Papavasileiou and Tsadiras (2011) explain that real-time AI capabilities enable brands to adapt to dynamic consumer needs through live recommendations, inventory updates, or transactional assistance (Lei et al., 2020; Davis & Jin, 2024). The ability to provide prompt responses builds trust and satisfaction, ensuring consumers feel valued and prioritized in their engagement with the brand.

Virtual and Augmented Reality Experiences

Virtual and augmented reality (VR/AR) AI-powered experiences create immersive and engaging interactions. These innovations have revolutionized traditional marketing approaches by allowing consumers to explore products, services, or environments in highly interactive ways, such as virtually trying on clothing or experiencing a virtual property tour (Chica et al., 2023; Zaveri & Amin, 2019). AI enhances these experiences by integrating features like voice commands, real-time customization, and tailored recommendations based on user behavior. AI-powered VR/AR combines sensory engagement with advanced interactivity to support a stronger emotional connection between consumers and brands (Egieya et al., 2023; Wedel et al., 2020). This practice drives deeper levels of engagement and enhances the overall consumer experience.

Consumer Trust and Brand Perception

AI influences consumer trust and brand perception by enabling brands to offer consistent, transparent, and efficient interactions. Features like AI-driven chatbots and personalized recommendations enhance reliability and authenticity since consumers feel their needs are being met thoughtfully and promptly (Ltifi, 2023; Yao, 2021). Furthermore, Alizadeh and Nazarpour Kashani (2024) indicate that the ethical application of AI in data privacy and security establishes trust, reinforcing positive brand perception. When brands utilize AI responsibly, consumers are more likely to perceive them as innovative, competent, and customer-focused (Vyas, 2024). This alignment of trust and perception directly contributes to more engaged consumers who feel confident in their relationship with the brand.

Personalized Customer Journeys

AI enhances personalized customer journeys by continuously adapting interactions based on consumer behavior, preferences, and needs. Through advanced analytics, AI tracks each step of the customer lifecycle, offering tailored recommendations,

reminders, and offers at optimal times (Santos & Gonçalves, 2021; Manca et al., 2018). This personalization ensures that every touchpoint aligns with individual expectations, creating a smooth and rewarding experience. As a result, AI facilitates deeper engagement and loyalty by understanding consumer preferences on a granular level (Yu & Huang, 2021). Personalized journeys make consumers feel valued and encourage repeated interaction, strengthening their connection to the brand over time (Vázquez et al., 2014). This targeted approach maximizes satisfaction and drives sustained engagement.

AI's Influence on Brand Loyalty

Digital marketers use AI to create marketing and consumer engagement strategies that promote brand loyalty. For instance, Li and You (2021) found that big data and machine learning algorithms can be used to extract valuable insights used to measure brand loyalty. Such insights can then be applied in decision-making and strategizing to improve customer relationships and trust. This section summarizes other findings on the various ways marketers can use AI to improve brand loyalty:

Personalization and Loyalty

AI-driven personalization delivers individualized experiences that resonate with consumers. AI tools facilitate the analysis of behavioral and demographic data, which is then used to customize interactions, product recommendations, and marketing messages to align with specific consumer preferences (Banik et al., 2024; Sachar et al., 2022). This tailored approach makes customers feel valued and understood, enhancing their emotional connection to the brand. When consumers consistently experience relevant and meaningful interactions, they are more likely to develop a sense of loyalty (Ifekanandu et al., 2023). Personalization results in repeat purchases and reinforces trust, ensuring consumers view the brand as attentive and aligned with their needs.

AI in Loyalty Programs

AI transforms traditional loyalty programs by enabling adaptive strategies that better cater to consumer behavior and preferences. Kushnarevych and Kollárová (2024) indicate that AI can identify trends through real-time data analysis, predict rewards that resonate with customers, and personalize program offerings. For instance, AI-driven loyalty programs can provide individualized discounts, tier upgrades, or reward recommendations based on past purchases and engagement patterns (Mef-tah et al., 2024). In addition, Menidjel et al. (2022) found that AI streamlines the

program experience, offering automated points tracking, reminders, and reward redemptions. These enhancements ensure that loyalty programs remain engaging and relevant, encouraging long-term consumer commitment and enhancing the brand's overall value proposition.

Predictive Analytics for Loyalty

Predictive analytics empowers brands to proactively strengthen loyalty by anticipating consumer needs and preferences. Using advanced AI algorithms, brands can analyze historical data to predict future behaviors, such as product interests, preferred engagement channels, and potential churn risks (Shukla et al., 2024). Brands acting on these insights can implement targeted strategies to keep consumers engaged, such as offering personalized discounts or preemptive support (Peng et al., 2020; Tian et al., 2018). This forward-looking approach enhances the consumer experience and reinforces trust and satisfaction since customers feel the brand understands their unique needs (Zuo et al., 2017). Predictive analytics thus serves as a critical tool for cultivating lasting loyalty.

Customer Retention Strategies

AI significantly enhances customer retention strategies by identifying patterns indicative of disengagement and implementing timely interventions. For instance, AI identifies at-risk customers and triggers proactive retention efforts by analyzing consumer data, such as declining purchase frequency or reduced engagement (Alghizzawi, 2024). Brands can then deploy targeted campaigns, offering incentives like discounts, exclusive offers, or personalized outreach to rekindle interest. AI also allows for continuous monitoring and adaptation of retention strategies, ensuring they remain effective in dynamic market conditions (Banyté et al., 2024). This proactive approach reduces churn and reinforces consumer trust and satisfaction since consumers perceive the brand as attentive to their needs (Chatterjee et al., 2024; Wang et al., 2023). Retention strategies powered by AI ensure sustained consumer loyalty.

Feedback Loops

AI facilitates robust feedback loops by automating the collection, analysis, and implementation of consumer insights. Using tools like sentiment analysis, customer reviews, and surveys, AI categorizes feedback to identify emerging trends, pinpoint satisfaction drivers, and highlight areas for improvement (Aydin & Silahtaroglu, 2021; Sanchez-Nunez et al., 2020). Unlike traditional feedback mechanisms, AI processes vast amounts of data in real time, enabling brands to respond quickly to

consumer concerns (Dwivedi et al., 2021). For example, AI can detect a recurring issue in product reviews and recommend corrective actions, ensuring consumers see their input as valued (Exenberger & Bucko, 2020). Brands demonstrate responsiveness and reliability by actively incorporating feedback into product or service enhancements, strengthening consumer trust and long-term loyalty.

Brand Differentiation

AI empowers brands to differentiate themselves in competitive markets by delivering unique, innovative consumer experiences. Brands can leverage AI-driven technologies, such as hyper-personalization, immersive virtual assistants, or real-time dynamic pricing, to create distinctive offerings that captivate consumers (Chen et al., 2024; Sivarethinamohan, 2023). For instance, a retail brand might use AI to provide a fully personalized shopping experience, including tailored recommendations and curated content (Su, 2018). This level of customization enhances consumer satisfaction and sets the brand apart as a leader in innovation (Gao, 2023). Differentiation through AI solidifies a brand's reputation as forward-thinking and consumer-focused, which appeals to modern audiences and fosters lasting loyalty in an increasingly competitive business environment.

Consistency Across Channels

AI enhances brand loyalty by ensuring a consistent experience across multiple consumer touchpoints. With the growing importance of omnichannel marketing, brands must provide a unified experience whether consumers interact via websites, mobile apps, social media, or in-store (Sharma et al., 2017). Zehmakan (2021) explains that AI technologies like machine learning and natural language processing enable brands to deliver consistent messaging, offers, and customer support across all platforms. They can utilize AI to track consumer behavior across channels to maintain interaction continuity (Shameem et al., 2023). This ensures that customers receive personalized experiences regardless of the platform they engage with. The consistency enhances the customer experience and reinforces brand reliability, building trust and deepening consumer loyalty over time.

Ethical Considerations Associated with AI Use in Digital Marketing

The rapid integration of AI in digital marketing presents numerous opportunities for innovation and enhanced brand loyalty and consumer engagement. However, Su et al. (2023) indicate that its widespread use also raises critical ethical concerns that

marketers and businesses must address. For instance, deploying AI technologies in consumer interactions, data collection, and personalization often intersects with fundamental ethical principles such as privacy, autonomy, and transparency. This section explores three primary ethical challenges that emerge from using AI in digital marketing: data privacy, customer manipulation, and authenticity.

Data Privacy

Data privacy is one of the critical ethical concerns surrounding AI in digital marketing. AI relies heavily on vast consumer data to personalize experiences, predict behaviors, and optimize marketing strategies (Benjelloun & Kabak, 2024). This data can include sensitive personal information such as browsing habits, purchasing history, and location tracking. While this data allows brands to deliver tailored content and improve customer engagement, it also creates significant privacy risks (Li et al., 2016; Moreno-Sandoval et al., 2018). Consumers may be unaware of the extent to which their personal information is being collected, stored, and analyzed, leading to concerns about unauthorized access and misuse of their data. In addition, breaches in data security or the use of data without explicit consent can lead to legal and reputational repercussions for companies (Buhaz et al., 2024). As data collection practices grow more invasive, the ethical dilemma of balancing personalized marketing with consumer privacy remains a persistent issue. This creates distrust between consumers and brands.

Customer Manipulation

AI technologies in digital marketing can potentially influence consumer behavior in ways that raise ethical concerns about manipulation. By leveraging predictive analytics, machine learning, and personalized targeting, AI can identify vulnerabilities in consumer decision-making (Taqwa et al., 2016). These can then be used to subtly guide them toward taking specific actions, such as purchasing or engaging with a certain brand (Cheredniakova et al., 2021). While this is a standard practice in digital marketing, the ethical challenge arises when AI manipulates consumers into making decisions that may not be in their best interest. For example, AI can target vulnerable populations with ads for products not aligned with their needs or financial situation, or it can create a sense of urgency by exploiting consumers' emotional triggers, such as using scarcity tactics to drive impulsive buying (Liciotti et al., 2017). This type of manipulation undermines consumer autonomy by exploiting personal data and emotional responses to influence decisions without the consumer's full awareness or consent (Kumar et al., 2024; Majeed & Kim, 2024). As AI systems become more

sophisticated, the line between persuasive marketing and unethical manipulation continues to blur, making it a key concern for businesses and regulators.

Authenticity

Another ethical challenge associated with AI in digital marketing is the issue of authenticity. As AI-driven tools, such as chatbots, virtual assistants, and AI-generated content, become more prevalent, there is growing concern over the authenticity of consumer interactions with brands (Pedersen & Ritter, 2024; Pilone et al., 2023). AI can create the illusion of human-like engagement, but these interactions may not reflect the true values or intentions of the brand. For example, when a chatbot is programmed to provide overly polished or overly empathetic responses, consumers may feel deceived into thinking they are communicating with a real person who understands their needs when in fact they are interacting with a machine (Kirk & Givi, 2025). This lack of transparency can erode trust since consumers may feel manipulated or misled by AI-driven content.

Using AI to generate content such as reviews or testimonials raises questions about the authenticity of brand communications. If consumers cannot distinguish between human-generated and AI-generated content, it becomes difficult for them to assess the credibility of the information they encounter (Wei et al., 2020; Qazi et al., 2014). This situation can lead to potential distrust in the brand. The ethical concern in this regard is whether brands are honest and transparent about using AI and maintaining genuine connections with their audience.

CONCLUSION

The use of artificial intelligence (AI) in digital marketing has revolutionized how brands interact with consumers, offering personalized, dynamic, and highly responsive engagement strategies. As AI continues to evolve, its integration into digital marketing practices has facilitated more efficient consumer targeting, enhanced personalization, and deeper insights into consumer behavior. Key technologies like chatbots, recommendation engines, and predictive analytics have transformed customer interactions by providing tailored experiences that support connections between consumers and brands. AI's ability to engage consumers in real time and through interactive, customized experiences has significantly increased customer engagement. This allows brands to create personalized journeys that align closely with individual consumer preferences. In addition, AI-driven innovations, such as

anthropomorphism in AI systems, have enabled brands to humanize their digital interactions, building emotional connections and enhancing consumer trust.

As AI reshapes consumer engagement, it has also profoundly impacted brand loyalty. For instance, AI's capacity for personalization extends to loyalty programs, where it allows businesses to offer individualized rewards and anticipate consumer needs. Predictive analytics further strengthens brand loyalty by enabling companies to foresee customer behavior and proactively address their needs, thus enhancing retention. AI-driven feedback loops and consistency across multiple channels ensure that brands maintain a cohesive relationship with their consumers. These activities ensure continued loyalty through reliable and personalized experiences. Moreover, AI's role in differentiating brands through tailored marketing and loyalty strategies further solidifies consumer commitment to specific brands, reinforcing long-term relationships.

However, the rapid adoption of AI in digital marketing comes with significant ethical considerations that require careful attention. For instance, data privacy remains a primary concern. The collection of vast amounts of personal data for AI-powered targeting raises issues of consumer consent and security. AI also introduces the potential for customer manipulation, where consumers may be subtly influenced toward decisions that are not in their best interest. This challenges ethical boundaries in marketing. The authenticity of AI-driven interactions is another ethical issue. Brands may use AI to create misleading impressions of human engagement, potentially eroding consumer trust. Addressing these ethical challenges is crucial for ensuring that AI is used responsibly and transparently in digital marketing.

The influence of Artificial Intelligence on consumer engagement and brand loyalty in digital marketing has been extensively researched, revealing multifaceted impacts across personalization, predictive analytics, and interactive user experiences.

Key Contributions to Theory and Practice: (i) **Personalized Marketing Strategies** - AI-driven tools like recommendation engines and chatbots enable brands to provide tailored content and adaptive suggestions, enhancing consumer satisfaction and brand loyalty; (ii) **Predictive Analytics for Loyalty Programs** - Predictive modeling powered by AI improves the efficiency of loyalty programs by identifying customer retention patterns and designing targeted incentives. This results in higher engagement and long-term brand commitment; (iii) **Enhanced Consumer Interaction** - Chatbots and AI-based customer service agents, such as those using generative AI models like ChatGPT, provide 24/7 support, fostering deeper consumer trust and repeat interactions; (iv) **AI in Social Media Marketing** - AI's role in managing social media campaigns, including sentiment analysis and targeted advertisements, helps brands engage consumers more effectively, building a strong brand equity foundation; (v) **Customer Trust and Brand Loyalty** - Studies highlight trust as a critical mediator between AI-driven engagement strategies and brand loyalty. The implementation

of transparent and ethical AI systems further strengthens customer relationships; (v) Multichannel AI Strategies - Integrating AI across various marketing channels (email, mobile apps, social media) optimizes outreach, creating cohesive customer experiences that reinforce loyalty; (vi) Impact on Sales Dynamics - AI applications in personalized promotions and real-time offers increase sales efficiency and customer retention rates, particularly in highly competitive digital marketplaces; (vii) Challenges and Ethical Considerations - Ethical use of AI, including transparency in algorithmic decisions, is essential for sustaining consumer trust and loyalty in the long term. Studies emphasize the need for responsible AI deployment in marketing practices.

These findings highlight that while AI significantly enhances consumer engagement and brand loyalty, successful implementation requires balancing technological innovation with ethical and strategic considerations.

The future directions for investigating the influence of Artificial Intelligence (AI) on consumer engagement and brand loyalty in digital marketing span across technological, behavioral, and ethical dimensions: (i) Developing AI models capable of creating ultra-personalized experiences by integrating cross-platform data, such as real-time behavioral inputs, wearable tech data, and geolocation insights. Investigating how AI-driven systems can adapt to changes in consumer preferences over time to maintain relevance and loyalty; (ii) Exploring the role of emotion-recognition technologies in understanding consumer sentiments and their impact on brand loyalty. Behavioral Predictive Modeling: Examining how AI can predict shifts in consumer moods and preferences to tailor engagement strategies accordingly; (iii) Investigating how AI can enhance loyalty programs through gamification strategies, such as real-time progress updates, tailored rewards, and predictive leveling systems. Sustainability of Gamified Loyalty: Exploring whether AI-enabled gamification maintains long-term loyalty or merely generates short-term engagement spikes.

By examining these areas, researchers can better understand and harness the potential of AI in digital marketing to foster long-term, meaningful consumer relationships while addressing ethical and societal challenges.

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KEY TERMS AND DEFINITIONS

Artificial Intelligence: is a set of technologies that enable computers to perform various advanced functions, including the ability to see, understand, and translate spoken and written language, analyse data, make recommendations, and more.

Brand Loyalty: refers to a consumer's enduring positive attitude towards a familiar brand and their commitment to consistently purchasing the brand's products and/or services despite any shortcomings, competitor actions, or shifts in the market environment.

Chatbots: a computer program that simulates human interaction with an end user.

Customer Engagement: is the way a company creates a relationship with its customer base to foster brand loyalty and awareness.

Data Analytics: converts raw data into actionable insights.

Data-Driven: a strategic concept that can be applied to any business.

Ethical: is the philosophical study of moral phenomena.

Machine Learning: is a field of study in artificial intelligence concerned with the development and study of statistical algorithms that can learn from data and generalize to unseen data, and thus perform tasks without explicit instructions.

Natural Language Processing: speech recognition, text classification, natural-language understanding, and natural-language generation.

Search Engine Optimization: is the set of strategies to enhance and improve a website's positioning on organic results pages, disregarding sponsored links on search engines, generating conversions, be they a lead, a purchase, a form submission, scheduling an appointment, or others.

Social Identity Theory: is the feeling of an individual to fit in (belong) to a specific social group (segments, categories).

