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THE DIGITAL CONSUMER: A SCOPUS AI-BASED REVIEW OF ONLINE SHOPPING BEHAVIOR

Fatihah Norazami Abdullah^{1*}, Rosliza Md Zani², Azyyati Anuar³, Yong Azrina Ali Akbar⁴,
Mursyda Mahshar⁵

¹ Universiti Teknologi MARA, Cawangan Kedah, Malaysia

 fatih876@uitm.edu.my

 <https://orcid.org/0000-0003-3444-645X>

² Universiti Teknologi MARA, Cawangan Kedah, Malaysia

 rosliza568@uitm.edu.my

 <https://orcid.org/0009-0003-8349-7656>

³ Universiti Teknologi MARA, Cawangan Kedah, Malaysia

 azyyati@uitm.edu.my

 <https://orcid.org/0000-0002-3586-6029>

⁴Universiti Teknologi MARA, Cawangan Kedah, Malaysia

 yong198@uitm.edu.my

 <https://orcid.org/0009-0007-7610-3347>

⁵Universiti Teknologi MARA, Cawangan Kedah, Malaysia

 mursyida@uitm.edu.my

 <https://orcid.org/0009-0003-8712-9746>

*Corresponding Author

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Abstract:

E-commerce does not stand still, and neither do consumers. As online shopping becomes more common, decisions are shaped by more than speed or convenience. Concerns about security, uneven digital skills, and the growing use of AI now sit at the center of how people shop online, sometimes encouraging participation and sometimes holding it back. This study examines digital consumer behavior by looking across four connected areas: the virtual marketplace, consumer attitudes, data analytics, and predictive modelling. Drawing on a systematic review and thematic analysis of Scopus-indexed studies, it brings together research that is often discussed separately. The review shows that AI-driven personalization, especially through recommendations and targeted promotions, can improve engagement and customer satisfaction, and may contribute to repeat purchasing over time. However, these benefits are not universal. Trust remains fragile. Security and privacy concerns continue to limit adoption, particularly in emerging economies where regulatory protection and digital literacy are still developing. While digital transformation has improved access and usability, predictive modelling reveals how deeply machine learning has become embedded in e-commerce decision-making rather than functioning as a background tool. The findings suggest that firms cannot rely on personalization alone. Trust-building measures and

transparent data practices are just as critical. Policymakers also have a role to play, particularly in strengthening transaction security and supporting consumer digital skills. Future research should pay closer attention to how demographic and cultural differences shape responses to AI-enabled shopping. Overall, this study offers a grounded view of the digital consumer landscape and highlights practical directions for improving online engagement and satisfaction.

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Keyword:

AI-driven Personalization, Digital Consumer Behavior, E-commerce Trends, Online Shopping Experience



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Introduction

The rapid expansion of digital commerce has fundamentally transformed consumer behavior, reshaped traditional purchasing patterns and embedded online shopping into everyday life. Advances in e-commerce platforms, digital payment systems, and logistics infrastructures, combined with global disruptions such as the COVID-19 pandemic, have accelerated the normalization of online consumption as a dominant mode of exchange (Wang & Huang, 2023). As internet-based transactions increasingly replace offline buying experiences, understanding how consumers behave, decide, and interact within digital shopping environments has become a central concern for both scholars and practitioners.

In response, a substantial body of literature has emerged examining online shopping behavior. However, much of this research remains fragmented. Existing studies often focus on isolated determinants, such as electronic payment mechanisms (Ghaith et al., 2024), website quality and usability (Patro, 2023), or the ethical conduct of e-retailers (Mainardes et al., 2023), without offering an integrated view of how these factors jointly shape consumer decision-making. The COVID-19 pandemic further complicated this landscape by intensifying digital dependency, altering purchasing motivations, and contributing to compulsive buying behaviors during periods of lockdown and social restriction (Candra et al., 2023). While these studies provide valuable insights, their siloed nature limits a holistic understanding of contemporary digital consumer behavior.

A growing need therefore exists for an integrative synthesis that captures how multiple dimensions, including digital finance, platform design, consumer attitudes, trust, and ethical considerations, intersect within online shopping environments. Although some research has begun to explore regional and contextual differences in online consumer behavior (Wei et al., 2024), broader patterns and emerging trends driven by rapid digitalization and shifting

consumer expectations remain underexplored. Without such synthesis, it is difficult to identify consistent behavioral patterns, theoretical convergence, or meaningful gaps that can guide future research and practice.

Against this backdrop, this study conducts a comprehensive review of online shopping behavior using Scopus AI as an analytical and synthesis tool. Rather than serving merely as a search engine, Scopus AI is employed to structure, cluster, and connect scholarly discourse across disciplines. Using a systematic review of existing literature, this study aims to identify patterns, develop themes, and highlight under-explored areas, thereby providing an organized and theory-informed overview of how digital consumers engage with online shopping platforms. A concept-mapping approach is adopted to visualize relationships among constructs and to surface dominant research trajectories as well as overlooked intersections.

Rather than applying theory rigidly, this review uses a practical theoretical lens. TAM and UTAUT (Venkatesh et al., 2003) guide the interpretation of technology adoption and user experience, especially through constructs such as perceived ease of use, usefulness, and social influence that still shape how consumers behave online. At the same time, trust-based perspectives are incorporated to address growing consumer concerns related to privacy, data security, and algorithmic decision-making. In many digital contexts, trust emerges as a decisive factor influencing hesitation, disengagement, or withdrawal, even when technological functionality is high.

Building on this synthesis, the study proposes a conceptual framework that explains digital consumer behavior as a process in which online stimuli shape internal consumer evaluations, which in turn drive behavioral outcomes. Drawing on the Stimulus–Organism–Response (S–O–R) logic, the framework conceptualizes the digital shopping environment, including platform design, personalization, and AI-driven features, as the stimulus (Mehrabian & Russell, 1974). These stimuli influence internal states such as perceived ease of use, trust, and attitude toward the platform, which subsequently shape behavioral responses including purchase intention, engagement, and loyalty. Within this framework, data analytics and AI-driven personalization are treated not as background technologies but as active mechanisms that shape consumer perception, decision-making, and behavioral consistency in online shopping contexts.

This study makes several contributions to the literature on digital consumer behavior. First, it moves beyond fragmented analyses by integrating technological, psychological, and ethical perspectives into a single, coherent framework, showing how these elements interact within real online shopping environments. Second, from a methodological standpoint, the study demonstrates the use of Scopus AI as a concept-mapping and synthesis tool, reducing selection bias and enabling the identification of thematic clusters and underexplored research intersections that traditional reviews often overlook. Third, the study extends established technology acceptance theories by incorporating trust-related and AI-specific considerations, such as personalization and perceived algorithmic influence, thereby offering a more contemporary and theoretically grounded understanding of digital consumer behavior.

The remainder of this paper is structured as follows. Section 2 outlines the review methodology and explains the role of Scopus AI in literature identification and classification. Section 3 presents the major themes emerging from prior studies, including digital finance, website quality, consumer attitudes, and ethical considerations. Section 4 discusses the implications of

these findings for e-commerce stakeholders. Section 5 concludes the paper by summarizing key insights and proposing directions for future research on digital consumer behavior.

Method

This study used Scopus AI to explore literature on online consumer behavior, leveraging its ability to highlight key topics, influential researchers, and trends over time. A pilot was conducted from March 3 to March 18, 2025, providing a data-backed snapshot of the field. The workflow was iterative, moving between data collection, summarizing findings, mapping concepts, and spotting recurring patterns.

Data Collection, Search Strategy and Theme Development

Data were collected using Scopus AI through an advanced Boolean search designed to capture key dimensions of digital consumer behavior, including online shopping patterns, user experience, trust, and marketing engagement. The search combined multiple keyword clusters: ("digital consumer" OR "online shopper" OR "e-consumer" OR "internet buyer") AND ("behavior" OR "habits" OR "patterns" OR "preferences") AND ("online shopping" OR "e-commerce" OR "internet retail" OR "digital purchasing") AND ("user experience" OR "customer experience" OR "UX" OR "CX") AND ("trust" OR "security" OR "privacy" OR "risk") AND ("marketing" OR "advertising" OR "promotion" OR "engagement")

To ensure relevance to contemporary digital commerce, the review focused on studies published within 2015–2025, reflecting recent platform evolution, digital finance developments, and post-pandemic behavioral shifts.

The search initially returned 182 records. After removing duplicates and screening titles and abstracts, 74 articles were selected for full-text review. Studies were included if they were peer-reviewed, Scopus-indexed, published within the specified period, and directly examined digital consumer behavior, online shopping, or AI-enabled commerce. Exclusion criteria removed studies that were purely technical, non-English, lacked conceptual grounding, or were not directly related to consumer behavior. This process resulted in a final dataset of 52 studies.

Theme development followed an iterative qualitative synthesis. The selected articles were coded to identify recurring patterns relating to behavior, user experience, trust and risk, and engagement. Codes were progressively refined and consolidated into higher-order themes. For instance, privacy- and security-related codes were integrated under Consumer Trust and Risk Perception. Themes were repeatedly checked against the full texts to ensure conceptual consistency, and overlaps were merged while weak categories were removed. To strengthen rigor, themes were reviewed independently and discussed to reach consensus, producing a stable thematic structure that captures both dominant patterns and emerging directions in digital consumer research.

Scopus AI–Supported Analytical Framework

Beyond literature retrieval and screening, Scopus AI was employed as an analytical support tool to enhance synthesis, interpretation, and conceptual integration. Scopus AI enabled five interconnected analytical elements that structured the review process, reduced subjective bias, and strengthened the coherence of findings.

First, Scopus AI was used for summary and expanded summary generation, producing structured abstracts for each selected study that condensed key objectives, methodologies, principal findings, and identified research gaps. These summaries facilitated cross-study comparison and enabled a clearer understanding of how technological, experiential, and trust-related components interact within online shopping behavior.

Second, Scopus AI supported concept mapping, allowing the visualization of relationships among major research themes. Through this process, salient areas such as digital finance, website quality, consumer trust, and ethical considerations were organized into coherent clusters, making dominant research streams and underexplored gaps more apparent.

Third, Scopus AI was applied to topic expert identification by analyzing citation impact, publication volume, and interdisciplinary contributions. This enabled the identification of leading scholars in online shopping and digital consumer behavior, whose work provided critical insights into current debates, emerging challenges, and future research directions.

Fourth, Scopus AI facilitated emerging themes analysis, highlighting key trends shaping contemporary digital consumer behavior. These included the role of AI in personalizing online shopping experiences, ethical and privacy concerns in e-commerce, the growing influence of social commerce on consumer decision-making, and post-pandemic shifts in digital consumption patterns.

Fifth, these analytical elements were integrated to produce a systematic synthesis of the literature, linking thematic patterns, conceptual relationships, and scholarly contributions into a coherent framework. This integration provided a structured overview of the field and served as a roadmap for future research on digital consumer behavior.

Figure 1 shows how Scopus AI supports online shopping research through four integrated analytical functions, namely summary generation, concept mapping, expert identification, and emerging themes analysis, facilitating structured literature synthesis and trend identification.



Figure 1: Scopus AI in Online Shopping Research

Results

The Scopus AI analysis produced a robust integration of existing literature regarding online consumer behavior, applying advanced analytics to identify top research themes, conceptual relationships, and emerging trends. By integrating findings from the Summary & Expanded

Summary, the study integrated a wide range of scholarship work, focusing on primary drivers of digital consumer behavior such as digital finance, user experience, security concerns, and marketing tactics. The Concept Map also facilitated the visualization of relationships among these key areas and the interdependence of consumer trust, engagement strategies, and evolving e-commerce environments. Moreover, insights from Topic Experts and Emerging Themes identified major advancements in internet shopping behavior, such as the expanding use of artificial intelligence (AI) in personalization, ethical considerations in data privacy, and the increasing prominence of social commerce as a motivation for consumer shopping behavior.

Summary and Expanded summary

The Role of AI In Online Shopping Behavior

AI has moved beyond a conceptual trend to become a central mechanism shaping contemporary online shopping behavior. AI-driven applications such as predictive analytics and personalized recommendation systems play a significant role in enhancing customer retention by aligning product offerings with individual preferences (Dai & Liu, 2024). From the perspective of the Technology Acceptance Model, these technologies increase perceived usefulness by reducing information overload and simplifying decision-making processes (Madanchian, 2024). As a result, consumers are more likely to continue engaging with digital platforms. In addition, AI-enabled chatbots intervene at critical moments of consumer hesitation, reinforcing trust and confidence while reducing the likelihood of shopping cart abandonment.

Predictive analytics also play a role in influencing consumer buying choices as they examine behavioral data to forecast future purchasing behavior (Sharma et al., 2023). The capacity of AI to unearth insights from large consumer data sets has revolutionized marketing campaigns by allowing companies to address their advertisements and lower engagement through optimizing through customized campaigns (Lopes et al., 2025). The above results align with existing literature on the utilization of AI to optimize hedonic (affective) and utilitarian (instrumental) value in e-commerce consumer experiences (Asante et al., 2023).

AI's Influence on Consumer Trust, User Experience, And Security

Consumer trust remains a fundamental force behind online consumer behavior, and even more so in AI-powered e-commerce websites. AI-driven recommendation agents, image search facilities, and auto-after-sales services have all been discovered to improve consumer engagement on e-shopping websites (Asante et al., 2023). Trust in AI-powered shopping experiences, however, depends on perceived security, disclosure, and data privacy processes followed by retailers (Elmashhara, 2023).

Several studies hypothesize that AI-driven shopping websites must balance automation and ethics to win consumers' trust. Ethical consumer data usage and AI algorithm transparency have a significant impact on influencing consumer trust and the willingness to use AI-powered shopping tools. The literature also recommends making AI systems unbiased and discrimination-free, as biased AI recommendations can negatively influence consumer attitudes and long-term brand loyalty (Pasupulati et al., 2024).

User experience (UX) is another important factor to influence consumer behavior in AI-driven online consumerism. Along with AI-enabled ease of use comes perceived control, focus, and cognitive pleasure, ultimately strengthening the relationship between customer perceptions, feelings, and purchase intentions (Lopes et al., 2025). A case in point would be AI-powered virtual assistants with seamless navigation and personalized engagement generating a sense of awe that evokes more intense emotional brand attachments for the consumer (Berceanu et al., 2023).

Emerging Trends and Future Directions In AI-Based Online Shopping

Rising trends in AI-based online shopping highlight the evolving role of AI technologies in shaping consumer behavior, marketing practices, and research orientation. Studies emphasize the increased application of emotion-sensitive AI technologies that personalize shopping experience through real-time identification and response to consumer emotions (Elmashhara, 2023). The trends suggest that future online commerce platforms will feature AI-based sentiment analysis to enhance customer engagement and optimize shopping experiences.

In addition, the intersection of augmented reality (AR) and the Internet of Things (IoT) in AI-powered retail is becoming more salient. Next-generation research must investigate the long-term impact of AI on consumer behavior and study the intersection of AI with emerging technologies of neuromarketing and digital feedback analysis. AI-fostered neuromarketing tools can provide more informed feedback on consumer decision-making patterns, further elevating digital advertising and personalized recommendations.

Despite their transformative potential, technological advancements also present challenges that require further exploration to maximize their long-term sustainability impacts. Ibrahim and Kumar (2024) emphasized the synergy between smart sensors, AI setups, and lean Six Sigma methodologies for scaled operational savings, yet highlighted the need for robust frameworks to quantify the sustainability outcomes of these integrations (Ibrahim & Kumar, 2024). Similarly, Javaid et al. (2022) advocated for Sustainability 4.0 methods but noted challenges in integrating predictive technologies across diverse industrial contexts (Javaid et al., 2022). Research by Arana-Landin et al. (2020) on energy-efficient smart grids and zero-waste alignments also highlighted the need for broader applications of data-driven energy optimizations (Arana-Landin et al., 2020).

Another important trend encompasses AI in consumer interactions and post-purchase operations. AI-based automated after-sales services, loyalty platforms, and customer service forecasting models will define online retail spaces (Madanchian, 2024). Yet, the research also indicates areas of concerns over AI breakdowns and customer grievances, advocating for firms to create responsive AI solutions that reduce service interruptions and enhance customer satisfaction.

Limitations of AI In Understanding Online Shopping Behavior

Despite the groundbreaking contribution of AI to e-commerce, there are limits to learning consumers' online buying behavior with AI-based reviews. First, AI-based solutions can be influenced by algorithmic biases and yield discriminatory personalized recommendations inadvertently. Secondly, AI-based uncertainty is prone to eroding consumer trust when AI-

generated recommendations are incongruent with the customers' expected recommendations (Mittal et al., 2024).

Furthermore, while AI optimizes shopping efficiency, AI is short in entirely substituting human intuition and emotional intelligence that are crucial in situations where decision-making is pertinent (Lopes et al., 2025). Further studies must tackle such concerns through improving AI algorithms, encouraging transparency, and embedding human-AI collaboration models to optimize online shopping experiences

Concept Map

The following graph is a structured visual display of key digital consumer behavior themes, created with Scopus AI. It groups several determinants of online shopping behaviors and decision-making strategies into four main areas: Social Influences, Technological Impact, Consumer Behavior, and E-commerce Trends.

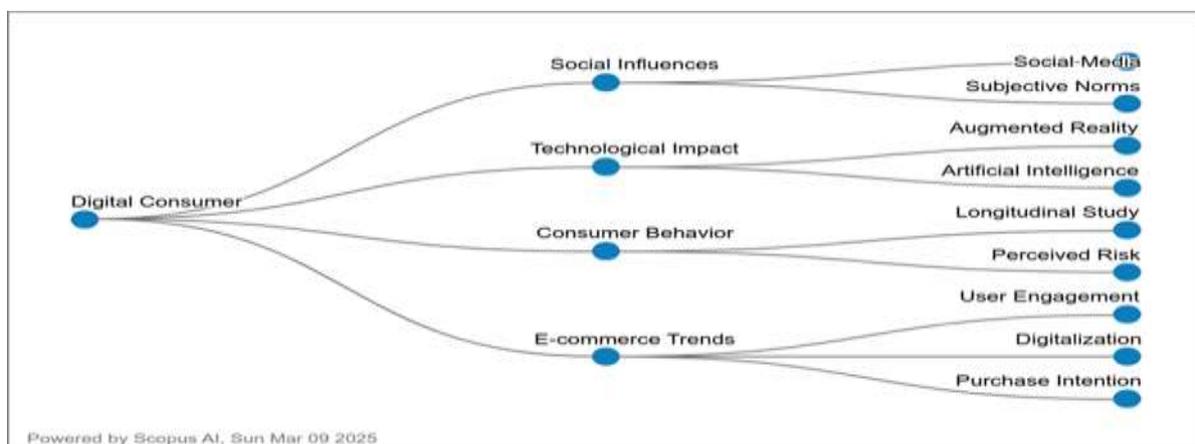


Figure 2: Concept Map of Digital Consumer

The Relationship Between Digital Consumer and Consumer Behavior

The digital consumer concept has shifted significantly, mirroring behavioral changes, technology utilization, and the broader digital landscape. Based on a Scopus AI-driven synthesis of the literature, this study highlights key dimensions of online shopping behavior, including consumer attitudes, technological influences, and emerging e-commerce trends. A digital consumer's identity is defined by their dual representation, a fusion of their offline and online persona governed by a set of personal and technological characteristics. The literature identifies that digital consumers are empowered by technological advancements, enabling them to engage in informed purchasing decisions, compare brands, and be actively involved in post-purchase experiences (Jaiwant, 2023).

The digital era has reconfigured consumer decision-making and behavior. The consumer is more elastic in terms of behavior influenced by digital ease, personalization, and engaging technologies such as AI and AR (Yürük-Kayapınar, 2020). It has been argued that customers today seek a frictionless shopper experience in which online and offline channels are interconnected to facilitate the ease of a seamless purchase experience. Technical advances like AI-based recommendation, chatbots, and data marketing transformed the way the customer

interacts with the brand (Hu et al., 2023). Customized customer experience through AI-powered product recommendation customization based on past browsing is enhancing customer experience. Virtual try-on with the help of augmented reality influences the ultimate purchasing decision. Digitalization also improved transaction security, reducing consumer-perceived risk (Yong & Huipeng, 2022).

Social forces have a vital role in influencing consumer behavior in the digital age. The widespread use of social media and influencer marketing has reshaped the game of how consumers find and judge products. User-generated feedback, peer recommendations, and social community recommendations exert tremendous influence on trust and decision-making. Besides, subjective norms like social and cultural beliefs also influence digital consumer choice and behavior. Emergent e-commerce trends such as digitalization and social commerce highlight the evolving nature of online purchasing. User-interactive websites, live shopping displays, and AI-based chatbots are all being employed more commonly by online shoppers to enhance their consumer experience (Jaiwant, 2023). Challenges nonetheless lie in guaranteeing data privacy, the appropriate application of AI, and effective consumer engagement models.

The Relationship Between Digital Consumers and Social Influences

Social influence within online environments can be categorized into Online Social Influence (OSI) and Interpersonal Social Influence (ISI), both of which are prominent in consumer decision-making. OSI is influence from online environments, while ISI results from interpersonal interactions and word-of-mouth recommendations. Consumers update their product reviews based on the consistency between their prior attitudes and data they access on the internet, affirming or altering their faithfulness in product choices (Leary et al., 2016). This interactive process reflects the growing dependence of online customers on peer view, ratings, and internet conversations before engaging in a purchasing decision.

The digital economy has had a significant impact on consumer behavior through the encouragement of consumption levels, restructuring purchasing habits, and increasing exposure to personalized shopping experiences. The ability to instantly compare brands, read product reviews, and receive real-time offers has created more informed decision-makers among digital consumers (Zheng, 2022). Social media sites amplify this impact by facilitating engaging brand-consumer interactions, further enhancing the strength of digital marketing and word-of-mouth recommendations in shaping consumer behavior.

The rapid development of social media advertising has been instrumental in shaping consumer behavior online. Facebook, Instagram, and TikTok are some of the major brand interaction channels that allow marketers to engage consumers with sponsored content, influencer collaborations, and interactive content. Social media marketing has been particularly impactful during the COVID-19 pandemic, as internet consumers increasingly made online purchases of both essential and discretionary items (Migkos et al., 2024). The confluence of user-generated content and algorithmic recommendations has increased social influences and online marketing efforts more effective than ever.

Social pressures extend to shopping at retail outlets into consumption habits, including eating and drinking. Influencer marketing has led the charge in changing conventional food culture since online consumers are exposed to new eating habits, diet trends, and brand endorsement on social media platforms (I'pekoğlu & Enser, 2024). The ease of sharing food experiences on

media platforms like Instagram and YouTube has amplified the influence of online influencers on food decisions among consumers, further establishing the extensive power of social influence in online spaces.

The Relationship Between Digital Consumers and Technological Impact

The digital consumer landscape has also been radically changed by technological shifts, which have changed consumers' buying behavior, how they engage with markets, and their conduct. Some of the technologies that have had significant influence on the way consumers engage with brands and shop include big data analysis, artificial intelligence (AI), and augmented reality (AR). Through research, it has been established that the use of digital technology made it possible to move from multichannel to omnichannel strategies, offering consumers a single shopping experience regardless of the platform. This has thus facilitated access to information for consumers, and through the potential to make real-time comparisons and recommendations based on personalization, influenced their decisions in making choices (Sivaram et al., 2022).

The role of digital marketing in shaping consumer behavior is pertinent, fueled by social media popularity and the development of targeted advertising strategies. Research recognizes the impact of digital marketing on consumers' decision-making habits founded on digital citizenship behavior, whereby consumers employ online reviews, recommendations, and brand engagement heavily (Das & Mishra, 2022). The evolution from conventional to digital marketing has increased consumer choice manifold, promising ease and accessibility in line with contemporary consumer expectations. As businesses incorporate AI-powered marketing techniques, consumers are presented with highly focused ads, increasing engagement and guiding purchasing choices.

Besides, the integration of technology in e-commerce has revolutionized business models and enabled businesses to be more agile in delivering value to the customer as well as in enhancing the operational efficiency. Businesses that declare digital transformation are supported by supply chains rationalized the customer can utilize self-service for customer support as well as fact-based decisions (Sivaram et al., 2022). More usage of e-commerce websites highlights the need for businesses to embrace emerging technologies if they are to stay in business. Literature proves that understanding the consumer value chain in e-commerce is crucial for business to improve customer satisfaction and loyalty.

On the socioeconomic front, digitalization has made a huge contribution to consumer consumption patterns, both in purchase behavior and general market trend. It has been found that consumer expenditure rose due to building the digital economy, enhancing consumption patterns, and purchasing power (Zheng, 2022). New economic externalities have been introduced through digital transformation in employment, financial transactions, and overall digital ecosystem. The presence of fintech products and online payment systems also propelled consumer adoption of online banking services, reiterating the connection between technological development and consumer behavior (Yegina et al., 2020).

The Relationship Between Digital Consumers and Consumer Behavior

The development of digital technologies has redefined consumer behavior at its very core, influencing buying habits, decision-making, and communications with brands. As shoppers increasingly go online, their preferences and expectations change in tandem with technological

advancements and shifting markets. The transition from traditional to digital consumption has seen new behavioral trends, where customers now value convenience, personalized experiences, and frictionless online shopping (Madrigal-Moreno et al., 2024). The COVID-19 pandemic has also accelerated such changes, strengthening the need for companies to transform their business according to new digital consumer behaviors.

Consumer behavior during the digital age is greatly driven by product knowledge and decision-making approaches. Distinct segments of digital consumers have been identified, and they all convey varying levels of digital participation and literacy in e-shopping (Karimi et al., 2016). They depict the diversity of consumer behavior, from well-educated active consumers to very much depending on digital influencers and word-of-mouth. awareness of these differences in behavior makes it possible to customize strategies to meet the needs of consumers, impacting participation and conversion rates.

Digitalization also made it easy for consumers to access vast amounts of information, and therefore their purchasing behavior and expectations changed. Comparing services and products in real-time, access to reviews, and social commerce engagement have all contributed to an ever more knowledgeable and sophisticated consumer (Jaiwant, 2023). Companies must be sensitive to transparency, building trust, and delivering improved value propositions if they are to maintain pace in this fast-paced digital environment. Additionally, the role of digital footprints in consumer behavior impact cannot be overlooked because data analysis assists companies in predicting and directing purchasing behaviors effectively.

A conceptual framework of online consumer behavior brings to the forefront the role of technological change in consumption dynamics, with multidimensional socioeconomic determinants and externalities being brought to the foreground (Yegina et al., 2020). As consumers navigate an increasingly digitalized world, exposures to brands and products hinge on such factors as data privacy concerns, digital literacy, and the extent of successful individually targeted marketing initiatives. Companies that leverage these insights can design more engaging and interactive customer experiences, which result in brand loyalty and long-term customer relationships.

Finally, consumer attitude to digitalization varies with digital anxiety, competence, and confidence (Gansser & Schultz, 2020). Whereas some consumers adapt to digital change with ease and actively seek digital shopping experiences, others are resistant on the grounds of security, privacy, and complexity. Firms must overcome these barriers through the offering of easy-to-use interfaces, clear data policies, and customer education programs to gain consumer trust in digital platforms. Lastly, the changing nature of consumer use of the Internet requires ongoing adaptation on the business side to keep strategies in concert with shifting consumer attitudes and technological enhancements

The Relationship Between Digital Consumers and E-Commerce Trends

The rise of digital consumers has transformed the e-commerce sector at its root, altering how businesses conduct their operations and consumers interact with online platforms. Trends in e-commerce have shifted with evolving consumer behavior, technological advancement, and exogenous factors such as the COVID-19 pandemic. Increasing reliance on digital platforms has accelerated online shopping growth, which has forced businesses to reshape their strategies in favor of consumer needs. Online shoppers desire seamless shopping, improved security, and

personalized services that demand the speedy adoption of the newest e-commerce trends (Casas-Valadez et al., 2020).

The single most significant e-commerce trend is the customer-centric approach, where companies are placing customers at the forefront of their internet strategy. Tailor-made internet shopping experiences made possible by AI-driven recommendations, chatbots, and one-to-one offers, have become the hour's need to boost customer satisfaction. In addition, emerging payment technologies such as digital wallets and cryptocurrencies are becoming increasingly popular, reflecting customers' preference for convenience and security in online payments (Orzol & Szopik-Depczynska, 2023). Furthermore, sustainability challenges have also driven e-commerce business strategies, such that firms make environmental-friendly packages and sustainable sources as part of their strategies for capturing sustainable digital consumers.

Digital proficiency is another key driver of digital consumer behavior where e-commerce participation is influenced. The more digitally literate consumers are, the more likely they will go online and utilize advanced search features, price comparison tools, and secure payments. In turn, the lower digitally literate would face hindrances such as insecurity and navigational challenges for e-commerce sites, highlighting the need for digital education initiatives in bridging the gap (Štofejová et al., 2024). The more digital abilities rise among the groups, the more the e-commerce sector should see growth with more opportunities, particularly in emerging economies where adoption of digital forms keeps growing.

Technological advancements such as Big Data, the Internet of Things (IoT), and Artificial Intelligence (AI) have revolutionized e-commerce by simplifying operations, enhancing customer engagement, and predicting consumer behavior. AI-based analytics enable businesses to predict consumer trends and adapt their marketing strategy accordingly. In addition, IoT use in supply chain management and logistics has improved order tracking, delivery, and inventory management, facilitating smooth shopping by digital consumers (Guyen, 2020). The convergence of these technologies continues to drive e-commerce towards a highly automated and data-driven future.

The COVID-19 crisis has further propelled the digital revolution of e-commerce, with businesses investing in online channels and going omnichannel. Lockdowns and stay-at-home mandates resulted in online shopping surges, further confirming the necessity of strong digital infrastructure. Retailers have increased options for fulfilment, including curb side pickup and same-day delivery, to respond to changing consumer needs. Therefore, digital consumers today expect more convenience, efficiency, and integration between online and offline buying experiences (Zhang & Hänninen, 2022). Companies will have to continue adapting to the evolving e-commerce landscape in the future to stay ahead of the game in the digital economy.

Topic Expect

The increased application of artificial intelligence (AI) in digital marketing has significantly influenced the behavior of consumers, particularly via AI-based personalization. AI technologies employ data analytics and machine learning to create personalized experiences, which influence consumer engagement and brand interaction. The topic here is the impact of AI-based personalization on digital consumers, employing the writings of Steffi et al., (2024). Personalization based on AI enhances customer engagement through the delivery of tailored content, recommendations, and advertising messages. Personalization enhances the user's

experience and builds brand loyalty as the customers will more likely engage with those brands that provide valuable and relevant engagement. Steffi et al., (2024) refer to a study where AI-powered personalization leads to greater customer satisfaction and more time spent engaging with digital media as it removes information overload and simplifies decision-making.

Moreover, AI personalization significantly influences consumer buying behavior. Machine learning algorithms analyze user interests, browsing history, and behavior to predict and suggest products based on individual preferences. The ability of AI to predict and satisfy consumer cravings in real time provides a sense of convenience, making online shopping more efficient and convenient to use. AI application in brand interaction definition is the second essential element of online consumer behavior. AI-driven chatbots, virtual assistants, and recommendation engines are adopted by brands for designing a seamless shopping experience. It discusses how AI-driven interactions strengthen brand-consumer relationships through real-time feedback and personalized assistance. Such automation assists in offering a more interactive and immersive shopping experience with reduced cart abandonment and customer retention.

Though AI personalization has numerous benefits, it also has limits in the field of data privacy and ethics. Both data collection and utilization pose data security threats and user consent problems. Steffi et al., (2024) point out that personalization improves consumer experiences at the cost of necessitating strong data protection mechanisms to achieve trust and transparency. Companies need to adopt ethical AI practice in finding a balance between personalization and privacy issues of customers to establish long-term trust and policy compliance with respect to data.

Emerging Theme

The thematic analysis reveals a clear structure in the evolution of digital consumer research, marked by consistent themes that reflect established knowledge, alongside rising themes that signal shifts in scholarly attention and technological capability. Among the most stable findings, the role of artificial intelligence (AI) in shaping online consumer behavior emerges as a central and enduring theme. Across the reviewed literature, AI is consistently positioned as a key driver of personalization, predictive capability, and customer engagement within e-commerce environments. Studies repeatedly show that AI-enabled systems such as recommendation engines, chatbots, and dynamic pricing algorithms enhance decision efficiency and perceived relevance, which in turn influence purchase intention and post-purchase satisfaction (Davis, 1989; Hu et al., 2023; Madanchian, 2024). This consistency suggests that AI is no longer treated as a novelty but as an embedded infrastructural component of contemporary digital marketplaces. Rather than debating its usefulness, recent studies increasingly focus on how AI reshapes consumer expectations and normalizes algorithmic mediation in everyday shopping experiences.

Closely related to this is the continued influence of digital transformation on consumer attitudes, another consistent theme in the literature. The findings indicate that digital marketing strategies supported by platform design, social media integration, and seamless payment systems play a sustained role in shaping perceptions of convenience, control, and enjoyment in online shopping (Patro, 2023; Sivaram et al., 2022). Digital environments that reduce friction and cognitive effort tend to foster more favorable consumer attitudes, reinforcing habitual online purchasing behaviors. Importantly, this theme highlights that technological

advancement alone is insufficient; consumer attitudes remain strongly shaped by how digital tools are experienced, interpreted, and trusted. This aligns with established technology adoption theories, such as the Technology Acceptance Model and UTAUT, which continue to explain a substantial portion of digital consumer behavior even in increasingly AI-driven contexts (Venkatesh et al., 2003).

In contrast, psychological factors influencing online shopping behavior represent a rising theme, reflecting a growing concern with the internal states that mediate consumer responses to digital stimuli. Recent studies place greater emphasis on perceived risk, trust, emotional responses, and privacy concerns, particularly as AI systems become opaquer and data-intensive (Mainardes et al., 2023; Mittal et al., 2024). The findings suggest that while AI and automation can enhance efficiency and personalization, they simultaneously introduce uncertainty and anxiety, especially in contexts involving data sharing and algorithmic decision-making. This growing focus signals a shift away from purely functional explanations of online shopping behavior toward more nuanced, psychologically grounded models that account for emotional and cognitive tension in digital environments.

AI-driven personalization in e-commerce further emerges as a prominent rising theme, extending beyond earlier personalization research by emphasizing real-time adaptation and predictive intelligence. The reviewed studies indicate that AI-driven personalization not only improves recommendation accuracy but also shapes consumer perceptions of relevance, responsiveness, and brand attentiveness (Asante et al., 2023; Sherly Steffi et al., 2024). However, the findings also reveal a paradox: while personalization can enhance satisfaction and engagement, excessive or poorly explained personalization may heighten perceptions of surveillance and manipulation. This dual effect underscores the importance of transparency and ethical design in AI-enabled personalization strategies, particularly as consumers become more aware of how their data are used.

Another rapidly expanding area is data-driven consumer behavior analysis, which highlights the increasing reliance on machine learning and predictive analytics to anticipate consumer needs and optimize marketing decisions. Studies within this theme demonstrate how large-scale behavioral data are used to forecast purchase patterns, segment consumers dynamically, and refine marketing interventions with greater precision (Pasupulati et al., 2024; Wei et al., 2024). The rising prominence of this theme reflects a broader shift toward evidence-based decision-making in e-commerce, where predictive accuracy is valued not only for operational efficiency but also for strategic planning. Nevertheless, the findings suggest that data-driven models remain uneven in their ability to capture contextual and cultural variation, pointing to the need for more inclusive and adaptive analytical approaches.

Taken together, these themes indicate that digital consumer research is moving toward greater integration between technological capability and psychological understanding. While consistent themes confirm the foundational role of AI and digital transformation in shaping online behavior, rising themes reveal increasing concern with trust, emotion, and ethical risk. This progression suggests that future research must move beyond technical optimization to address the human consequences of intelligent systems, particularly in diverse socio-cultural contexts. By synthesizing these themes, the present review contributes a more holistic understanding of how AI, data analytics, and consumer psychology interact to shape behavior in contemporary digital marketplaces.

Conclusion

This study provides a comprehensive and integrative synthesis of digital consumer behavior in online shopping environments by leveraging Scopus AI as both a retrieval and analytical tool. By systematically reviewing and thematically organizing recent literature, the study demonstrates that online shopping behavior is shaped by the interaction of technological factors, platform design, consumer attitudes, trust perceptions, and ethical considerations. Guided by TAM, UTAUT, and the Stimulus–Organism–Response logic, the proposed conceptual framework clarifies how digital stimuli, including AI-driven personalization and platform features, influence internal consumer evaluations and subsequent behavioral outcomes such as engagement, purchase intention, and loyalty. Methodologically, the use of Scopus AI for summary generation, concept mapping, expert identification, and emerging theme analysis strengthens analytical coherence while reducing selection bias. Substantively, the findings highlight the growing role of AI personalization, the persistence of trust and privacy concerns, the influence of social commerce, and post-pandemic shifts in consumption patterns. Collectively, this review advances theoretical understanding by integrating fragmented research streams and offers a structured roadmap for future studies and practical strategies aimed at enhancing sustainable and trustworthy digital shopping experiences.

Theoretical Implications

This study contributes theoretically to the literature on digital consumer behavior by extending established models such as the Technology Acceptance Model and the Theory of Planned Behavior through the incorporation of perceived ease of use, perceived risk, and AI-driven personalization as central explanatory constructs. The findings also enhance understanding of personalization marketing by demonstrating how artificial intelligence strengthens consumer engagement and satisfaction, while aligning with behavioral economics perspectives that highlight the influence of psychological factors, promotional stimuli, and impulsive tendencies on online purchasing behavior.

From a practical standpoint, the results underscore the importance for businesses and marketers to adopt AI-enabled personalization strategies to deliver tailored and frictionless shopping experiences that foster satisfaction and brand loyalty, while simultaneously addressing perceived risks through trust-building mechanisms such as secure payment systems, transparent return policies, and consumer education, particularly in emerging markets. Policymakers and firms are further encouraged to support digital transformation initiatives that prioritize usability, seamless transactions, and data-driven decision-making through machine learning and advanced analytics.

Despite these contributions, the study is limited by its reliance on secondary data and its focus on general behavioral patterns, which may not fully capture regional, cultural, and segment-level heterogeneity or allow for empirical hypothesis testing. Accordingly, future research should pursue longitudinal and empirical investigations using real transaction data to assess the long-term effects of AI-based personalization on trust and privacy, explore ethical considerations in greater depth, and examine how cultural, socioeconomic, and psychological factors shape impulsive and compulsive online shopping behavior across diverse market contexts.

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