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Digital Consumer Behavior and the Future of Research Methods: A 2020-2025 Review

Original Article

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Abstract

This review synthesizes recent research on digital consumer behavior and evaluates the methodological directions likely to shape future inquiry. Using a structured narrative synthesis of 81 sources published mainly between 2020 and 2025, the study examines theoretical frameworks, behavioral drivers, customer journey and loyalty outcomes, and the research designs used across e-commerce, social commerce, mobile shopping, and omnichannel retail. The synthesis shows that trust, perceived risk, review credibility, personalization, and platform design consistently shape purchase intention and engagement, while customer journeys are increasingly non-linear and distributed across touchpoints. Theoretically, the field is moving from narrow technology-adoption models toward trust-, experience-, and journey-centered frameworks. Methodologically, cross-sectional surveys analyzed with structural equation modeling remain dominant, although digital trace data, AI-assisted text analytics, social media mining, and mixed-method designs are expanding. Post-purchase outcomes, channel switching, privacy and ethics, and cross-cultural variation emerge as under-explained areas. The article proposes a three-layer framework that combines perceived, observed, and interpreted behavior, and argues that future research should prioritize longitudinal and panel designs, triangulation between self-reports and behavioral traces, and ethics-aware access to platform data.

Keywords: Digital Consumer Behavior, Research Methods, Customer Journey, Consumer Trust, Digital Trace Data.

1. Introduction

Digital consumer behavior refers to how consumers search, evaluate, purchase, and engage with products or services across online, mobile, social, and omnichannel environments (Pires et al., 2022; Xuan et al., 2025; Mili et al., 2025). The topic matters because digital channels now shape not only where transactions occur, but also how trust is formed, how information is filtered, how recommendations influence decisions, and how consumer experience unfolds across interconnected touchpoints (Pires et al., 2022; Sharma et al., 2023; Ullah et al., 2026; Tang & Jiang, 2026). Reviews indicate that trust, privacy concern, personalization, and algorithmic influence have become especially salient because contemporary digital commerce is increasingly data-driven and platform-mediated (Tang & Jiang, 2026; Rita & Ramos, 2022; Davenport et al., 2020; Appel et al., 2020).

Recent evidence also shows that consumer journeys are no longer well described by a linear funnel. Consumers move across channels, revisit stages, and may shift directly from exposure to action or from purchase to sharing and loyalty behaviors (Pires et al., 2022; Sharma et al., 2023). This makes digital consumer behavior both theoretically richer and methodologically harder to capture (Gasparin & Slongo, 2023; Lorenz-Spreen et al., 2022).

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The complexity of these journeys has been further amplified by the proliferation of touchpoints from social media feeds and live streaming platforms to mobile applications and physical stores requiring researchers to adopt more sophisticated analytical approaches (Tueanrat et al., 2021; Mali et al., 2022).

Three distinctions are useful for interpreting this literature. First, the field increasingly separates pre-purchase, purchase, and post-purchase behavior, though evidence remains strongest for the first two stages (Gasparin & Slongo, 2023; Chadha et al., 2024). Second, research often distinguishes perceived behavior from observed behavior: surveys capture beliefs, trust, motives, and intentions, whereas digital traces capture real behavioral activity at scale (Bhukya & Paul, 2023; Lorenz-Spreen et al., 2022). Third, digital environments are shaped by both consumer-facing mechanisms such as reviews and personalization, and platform-level mechanisms such as recommendation systems, data processing, and algorithmic governance (Kazimli, 2025; Tang & Jiang, 2026; Appel et al., 2020). Taken together, these distinctions suggest that a complete understanding of digital consumer behavior requires both theoretical integration and methodological pluralism (Verbeij et al., 2021; Ahmad et al., 2025).

This review has two aims. First, it synthesizes recent findings on the main drivers and patterns of digital consumer behavior over the last five years (Sağkaya Güngör & Ozansoy Çadırci, 2022; Mili et al., 2025). Second, it evaluates the current methodological landscape and identifies future directions, especially AI-assisted analysis, digital trace data, mixed methods, and longitudinal designs (Kazimli, 2025; Mishra et al., 2026; Hao et al., 2025; Mariani et al., 2022; Pappu et al., 2025). By mapping both the substantive knowledge accumulated in the field and the methodological tools available to researchers, this review seeks to provide a comprehensive foundation for advancing digital consumer research in the coming years.

The significance of this review lies in its dual contribution. Theoretically, it consolidates fragmented findings on digital consumer behavior into an integrated framework centered on trust, experience, and journey dynamics, moving beyond narrow technology-adoption models that have dominated the field (Barone et al., 2024; Ahmad et al., 2025). Methodologically, it offers a critical comparison of current and emerging research designs, highlighting the trade-offs between self-reported and observed behavioral data, and proposing a three-layer framework that integrates perceived, observed, and interpreted behavior (Bhukya & Paul, 2023; Chen et al., 2025; Prakash et al., 2025). This dual focus responds to growing calls for greater methodological rigor and theoretical depth in digital consumer research (Elmer, 2023; Mariani et al., 2022).

The remainder of this article is organized as follows. Section 2 reviews the literature across four themes: theoretical lenses, behavioral drivers, customer journey and loyalty, and previous research. Section 3 describes the review methodology, including search strategy, inclusion criteria, and analytical approach. Section 4 presents the results and discussion, covering core behavioral findings, methodological patterns, and future directions. Section 5 concludes with a summary of key findings and recommendations for future research.

2. Literature Review

2.1. Theoretical Lenses and Conceptual Frameworks

The literature on digital consumer behavior is anchored primarily in several established theoretical frameworks. The Stimulus-Organism-Response (S-O-R) model remains widely used to explain how environmental cues in digital settings such as website design, reviews, and recommendation systems trigger internal consumer states that subsequently drive behavioral responses (Min & Tan, 2023; Thangavel & Chandra, 2023). The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) continue to inform studies on the adoption of digital commerce platforms, particularly in mobile and social commerce contexts (Barone et al., 2024; Unny et al., 2024). More recently, integrative review frameworks such as TCCM (Theory, Context, Characteristics, Methodology) and ADO (Antecedents, Decisions, Outcomes) have been employed to systematically map the field and identify research gaps (Ahmad et al., 2025; Mili et al., 2025).

A major pattern across reviews is a shift away from explaining digital behavior solely as technology adoption and toward explaining it as a trust- and experience-centered process (Thangavel & Chandra, 2023; Barone et al., 2024; Ahmad et al., 2025). Trust is not merely an outcome; it frequently acts as a mediator between platform attributes and behavioral responses such as purchase intention, engagement, and loyalty (Barone et al., 2024; Liu et al., 2025; Donthu et al., 2021). This theoretical evolution is important because it better fits settings where consumers already use digital technologies and instead face questions of credibility, risk, personalization, and continuity (Unny et al., 2024; Ahmad et al., 2025). In such settings, the central theoretical question is no longer whether consumers will adopt digital channels, but rather how they evaluate, trust, and remain engaged with platform-mediated commerce over time.

The literature also reveals a growing integration of trust-based models with experience-centered frameworks. Sharma et al. (2023) propose an integrative conceptual framework that links emerging digital technologies to consumer decision-making processes in retail, emphasizing that technology-enabled experiences shape not only transactional outcomes but also relational and experiential ones. Similarly, Tueanrat et al. (2021) develop a conceptual framework of the antecedents of customer journey satisfaction in omnichannel retailing, demonstrating that satisfaction emerges from the interplay of channel integration quality, perceived control, and experience consistency. These frameworks collectively suggest that digital consumer behavior is best understood through multi-level models that account for individual, technological, and contextual factors simultaneously.

2.2. Behavioral Drivers in Digital Commerce

Across empirical studies, trust, perceived risk, reviews, and personalization repeatedly emerge as key drivers of digital buying behavior (Ullah et al., 2026; Naim et al., 2026; Kazimli, 2025; Tang & Jiang, 2026). Social commerce and e-commerce studies consistently show that trust and perceived risk shape purchase intention and sometimes actual purchase behavior (Lázároiu et al., 2020; Zhou et al., 2021; Wang et al., 2023; Wu & Huang, 2023; Lu, 2023; Rashid et al., 2022). Lázároiu et al. (2020) demonstrate that on social commerce platforms, online trust and perceived risk jointly mediate the relationship between platform features and purchase intentions, with trust playing a particularly strong mediating role. Zhou et al. (2021) extend this finding by characterizing Chinese consumers' intention to use live e-commerce shopping, showing that trust in streamers and platform credibility are critical antecedents of adoption intention.

Online reviews and electronic word-of-mouth (eWOM) generally increase trust and purchase intention, while contradictory reviews can reduce buying by elevating perceived risk (Qin et al., 2023; Rajendran & Pagel, 2020; Bo et al., 2023; Gvili & Levy, 2023; Yang, 2021; Wang et al., 2025). Qin et al. (2023) find that live streaming and online consumer reviews jointly affect purchase intention, with the credibility of reviews moderating the effect of live streaming on purchase decisions. Bo et al. (2023) provide experimental evidence from China showing that contradictory online reviews significantly reduce purchase likelihood by increasing perceived risk and reducing trust, particularly when consumers have limited prior experience with the product category. Gvili and Levy (2023) further demonstrate that eWOM engagement such as sharing and commenting on reviews enhances trust in social commerce settings through a moderated mediation model.

Recommendation-related mechanisms play a similar trust-building role. Zhou et al. (2021) and Laradi et al. (2024) show that personalized recommendations increase purchase intention when they are perceived as credible and relevant, while Algamash et al. (2022) find that recommendation systems contribute to e-loyalty in Saudi Arabia during the COVID-19 pandemic. Naim et al. (2026) develop the Digital Shopping Behavior Model (DSBM), which integrates personalization, reviews, and purchase intent on Amazon, demonstrating that personalization and review credibility jointly shape purchase decisions. Kazimli (2025) further highlights that in the digital era, consumer behavior analysis must account for the interplay of algorithmic recommendation, social influence, and individual decision-making processes.

Privacy is recognized as increasingly important, but it appears less mature as an empirical stream than trust and purchase intention (Thangavel & Chandra, 2023; Tang & Jiang, 2026; Unny et al., 2024). Unny et al. (2024) systematically review consumer privacy in smartphones and find that while privacy concerns are widely acknowledged, empirical work linking privacy to actual behavioral outcomes remains limited. This imbalance suggests that digital commerce research has become very good at explaining why consumers transact, but less developed in explaining how they negotiate surveillance, disclosure, and algorithmic power (Davenport et al., 2020; Bandara et al., 2020). Bandara et al. (2020) explicate the privacy paradox the discrepancy between privacy concerns and actual disclosure behavior through a qualitative inquiry of online shopping consumers, revealing that convenience and personalization benefits often override privacy concerns in practice.

2.3. Customer Journey, Cross-Channel Engagement, and Loyalty

The journey literature shows that digital consumer paths are heterogeneous and omnichannel (Pires et al., 2022; Sharma et al., 2023; Tueanrat et al., 2021; Mali et al., 2022). Pires et al. (2022) demonstrate that digital channels are connected to consumers' purchase decision-making processes in online stores through multiple touchpoints, and that the sequence and combination of channel usage significantly affect decision outcomes. Sharma et al. (2023) propose that emerging digital technologies such as artificial intelligence, augmented reality, and the Internet of Things are reshaping consumer decision-making in retail by creating new forms of interaction and experience. Mali et al. (2022) provide a qualitative study of omnichannel customer journeys from the consumer perspective, showing that channel usage is highly individualized and context-dependent.

Integration quality, usability, and touchpoint design shape satisfaction, engagement, loyalty, and retention (Wu et al., 2025; Liu et al., 2024; Chen et al., 2024; Zheng & Li, 2024). Wu et al. (2025) find that effective customer journey design in omnichannel retailing strengthens journey satisfaction through the mediating role of perceived integration quality. Liu et al. (2024) demonstrate that omnichannel integration quality influences consumer cross-channel retention behavior, with perceived value and switching costs acting as

mediators. Chen et al. (2024) show that in fresh food omnichannel retailing, omnichannel integration, flow experience, and customer relationship quality jointly drive customer engagement. Zheng and Li (2024) examine how autonomy-competence-relatedness in brand relationship building affects customer journey design outcomes in omnichannel retailing.

Longitudinal evidence is relatively rare but especially informative. Pan et al. (2025) conduct a three-wave study showing a temporal pathway from quality and fairness perceptions to value, satisfaction, and then loyalty in the context of organic dining restaurants within green hotels. This study is notable for its longitudinal design, which allows for stronger causal inference than cross-sectional surveys. At the same time, reviews emphasize that post-purchase, switching, and touchpoints outside firm control remain underexplored (Gasparin & Slongo, 2023; Nguyen et al., 2022). Gasparin and Slongo (2023) argue that omnichannel should be understood as a consumer-based marketing strategy, and that research must move beyond firm-controlled touchpoints to capture the full complexity of consumer journeys. Nguyen et al. (2022) highlight consumer switching behavior in omnichannel retailing as a critical but understudied phenomenon.

This is a major theoretical gap because loyalty and retention depend on what happens after the transaction, not only before it (Xie et al., 2023; Jo & Bang, 2024). Xie et al. (2023) examine how return channel type influences the relationship between return service quality and customer loyalty in omnichannel retailing, finding that the choice of return channel significantly moderates this relationship. Jo and Bang (2024) unravel the antecedents of customer loyalty in the omnichannel landscape, showing that both cognitive and affective factors contribute to loyalty formation. These studies collectively suggest that post-purchase experiences including returns, service recovery, and cross-channel continuity are critical determinants of long-term consumer relationships.

2.4. Previous Research

Previous studies have examined various aspects of digital consumer behavior using diverse methodological approaches. Min and Tan (2023) conducted a bibliometric knowledge mapping of consumers' inferring shopping experience in live e-commerce platforms using data mining techniques, identifying key research clusters and emerging themes. Thangavel and Chandra (2023) analyzed two decades of m-commerce consumer research using R Biblioshiny, revealing the intellectual structure and thematic evolution of the field. Barone et al. (2024) systematically reviewed digital financial consumers' decision-making and proposed an integrative framework that synthesizes findings across multiple theoretical perspectives.

Liu et al. (2025) explored the trust paradox in cross-border shopping using e-commerce mobile applications, finding that trust in cross-border platforms is shaped by both institutional and interpersonal factors. Donthu et al. (2021) mapped the electronic word-of-mouth (eWOM) research through a systematic review and bibliometric analysis, identifying major theoretical perspectives and methodological approaches. Lázároiu et al. (2020) examined consumers' decision-making processes on social commerce platforms, demonstrating the central role of online trust and perceived risk. Zhou et al. (2021) characterized Chinese consumers' intention to use live e-commerce shopping, highlighting the importance of streamer credibility and platform trust.

These studies collectively highlight the growing complexity of digital consumer behavior and the need for more sophisticated research methods. They also reveal that while the field has accumulated substantial knowledge about pre-purchase and purchase behavior, significant gaps remain in understanding post-purchase behavior, cross-cultural variation, and the ethical dimensions of platform-mediated commerce. Furthermore, the methodological approaches employed in these studies, predominantly cross-sectional surveys

analyzed with SEM limit the field's ability to capture the dynamic, non-linear nature of digital consumer journeys (Bhukya & Paul, 2023; Lorenz-Spreen et al., 2022).

2.5. Geographic Coverage and Research Gaps

The literature covers multiple countries but is unevenly distributed, with recurring concentration in China, the USA, Europe, the UK, India, and Spain (Donthu et al., 2021; Sağkaya Güngör & Ozansoy Çadırci, 2022; Ahmad et al., 2025; Mili et al., 2025; Singh & Basu, 2023; Sharma & Suri, 2025; Rawangngam et al., 2025). Sağkaya Güngör and Ozansoy Çadırci (2022) provide a comprehensive review of digital consumer research and note that geographic concentration limits the generalizability of findings. Ahmad et al. (2025) similarly observe that social commerce research is dominated by studies from China and the USA, with limited representation from other regions.

Reviews also note underrepresentation of some product categories, payment systems, service contexts, and less-studied populations (Sağkaya Güngör & Ozansoy Çadırci, 2022; Singh & Basu, 2023). Singh and Basu (2023) review online consumer shopping behavior and identify gaps in research on services, digital goods, and emerging markets. Rawangngam et al. (2025) conduct a bibliometric analysis of social media and consumer engagement, finding that research is concentrated in a few countries and that cross-cultural comparisons remain rare. Thus, many widely cited conclusions may be context-dependent rather than universally generalizable (Ahmad et al., 2025; Rawangngam et al., 2025). This geographic and contextual unevenness represents a significant limitation for a field that seeks to understand digital consumer behavior in an increasingly globalized digital economy.

3. Methods

3.1. Search Strategy and Inclusion Criteria

This review follows the logic of recent systematic and bibliometric studies that search peer-reviewed literature using topic combinations related to digital consumer behavior, online shopping, social commerce, mobile commerce, customer journey, trust, privacy, personalization, loyalty, and research methods (Pappu et al., 2025; Zulaikha et al., 2026; Ma et al., 2024; Hernández-Vergara et al., 2026; Pahari et al., 2024). Consistent with the research scope, the review is limited to evidence from approximately 2020-2025 and prioritizes studies directly relevant to behavioral drivers, journey patterns, and methodological development (Pappu et al., 2025; Zulaikha et al., 2026).

The search was conducted across major academic databases, including Scopus, Web of Science, ScienceDirect, Emerald Insight, and Google Scholar. Search strings combined keywords such as “digital consumer behavior,” “online shopping,” “social commerce,” “mobile commerce,” “omnichannel retail,” “customer journey,” “trust,” “privacy,” “personalization,” “loyalty,” “research methods,” “digital trace data,” “AI-assisted analysis,” and “mixed methods.” Boolean operators (AND, OR) were used to refine the search results, and filters were applied to restrict results to peer-reviewed journal articles published between 2020 and 2025 in the English language.

The inclusion criteria were: (1) peer-reviewed articles published between 2020 and 2025; (2) studies focusing on digital consumer behavior, e-commerce, social commerce, mobile commerce, or omnichannel retail; (3) articles discussing research methods or methodological innovations in digital consumer research; (4) English-language publications; and (5) studies providing empirical evidence, systematic reviews, or bibliometric analyses. Exclusion criteria included: (1) non-peer-reviewed sources such as conference proceedings,

book chapters, and editorials; (2) studies published before 2020; (3) articles not directly related to consumer behavior or research methods; and (4) duplicate publications. The screening process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, as summarized in Table 1.

Table 1. Search Strategy and Inclusion Criteria

Component	Description
Databases	Scopus, Web of Science, ScienceDirect, Emerald Insight, Google Scholar
Search period	2020-2025
Language	English
Document type	Peer-reviewed journal articles, systematic reviews, bibliometric analyses
Keywords	"digital consumer behavior," "online shopping," "social commerce," "mobile commerce," "omnichannel retail," "customer journey," "trust," "privacy," "personalization," "loyalty," "research methods," "digital trace data," "AI-assisted analysis," "mixed methods"
Inclusion criteria	(1) Published 2020-2025; (2) focuses on digital consumer behavior or research methods; (3) peer-reviewed; (4) English language; (5) empirical, systematic review, or bibliometric study
Exclusion criteria	(1) Non-peer-reviewed sources; (2) published before 2020; (3) not directly related to consumer behavior or methods; (4) duplicates
Screening process	PRISMA guidelines (identification, screening, eligibility, inclusion)
Final sample	81 peer-reviewed articles

Source: Self-constructed based on PRISMA protocols and standard systematic review practice, with reference to the methodology used by Pappu et al. (2025), Zulaikha et al. (2026), and Ma et al. (2024).

3.2. Analytical Approach

The synthesis is organized thematically by: (1) theoretical frameworks, (2) behavioral drivers, (3) customer journey and loyalty, and (4) research methods and future methodological directions (Min & Tan, 2023; Lázároiu et al., 2020; Tueanrat et al., 2021; Kazimli, 2025; Mishra et al., 2026; Hao et al., 2025). The review integrates narrative synthesis with insights typical of bibliometric and systematic-review approaches (Kazimli, 2025; Mishra et al., 2026; Hao et al., 2025; Pappu et al., 2025; Zulaikha et al., 2026).

The analytical process proceeded in three stages. First, each article was coded according to its theoretical framework, behavioral drivers examined, methodological approach, and key findings. Second, codes were grouped into thematic categories corresponding to the four analytical dimensions. Third, the thematic categories were synthesized to identify patterns, contradictions, and gaps in the literature. This approach is consistent with the narrative synthesis method commonly used in systematic reviews of consumer behavior (Bhukya & Paul, 2023; Sağkaya Güngör & Ozansoy Çadırci, 2022).

The distribution of the reviewed articles across thematic categories and publication years is presented in Table 2. As shown, trust and behavioral drivers constitute the largest category (n = 28), followed by customer journey and loyalty (n = 22), research methods (n = 18), and theoretical frameworks (n = 13). The number of publications increased steadily from 2020 to 2025, reflecting the growing scholarly attention to digital consumer behavior and methodological innovation.

Table 2. Distribution of Reviewed Articles by Theme and Publication Year

Theme	2020	2021	2022	2023	2024	2025	Total
Theoretical frameworks	2	2	3	2	2	2	13
Behavioral drivers (trust, reviews, personalization)	4	4	4	5	6	5	28

Customer journey and loyalty	3	3	4	4	4	4	22
Research methods and future directions	2	2	3	3	4	4	18
Total	11	11	14	14	16	15	81

Source: The author's coding of the 81 reviewed articles.

3.3. Comparative Criteria for Methods

Methods are compared using four criteria repeatedly raised in the literature:

1) Construct validity for motives/perceptions, where surveys are strong (Bhukya & Paul, 2023);
2) Behavioral realism and scale, where trace/log data are strong (Lorenz-Spreen et al., 2022; Jones-Jang et al., 2020);
3) Causal inference, which remains limited in purely observational digital trace designs and underused in the field overall (Elmer, 2023; Bach et al., 2022);
4) Bias and ethics, including response bias in surveys and consent/data-access issues in platform research (Bhukya & Paul, 2023; Lorenz-Spreen et al., 2022; Bruns, 2019).

These criteria were applied systematically to each methodological approach identified in the literature. Table 3 presents the comparative assessment of current and emerging research methods across these four criteria. The assessment reveals that no single method excels across all criteria; rather, each method has distinct strengths and weaknesses that make it suitable for specific research questions. This finding underscores the importance of methodological pluralism and triangulation in digital consumer research.

Table 3. Comparative Assessment of Research Methods Across Four Criteria

Method	Construct Validity	Behavioral Realism	Causal Inference	Bias & Ethics	Overall Assessment
Surveys / SEM	High	Low	Low	Moderate (response bias, common method bias)	Strong for attitudes and intentions; weak for actual behavior
Experiments	Moderate	Moderate	High	Moderate (artificiality)	Strong for causal testing; limited ecological validity
Clickstream/log/trace data	Low	High	Low-Moderate	Low-Moderate (consent, privacy)	Strong for actual behavior at scale; weak for motives
Social media/review mining	Moderate	Moderate-High	Low	Low (platform access, representativeness)	Strong for sentiment and engagement; weak for causality
Mixed methods	High	High	Moderate-High	Moderate (complexity,	Strong overall;

				resource intensity)	resource-intensive
Longitudinal / panel	High	High	Moderate -High	Moderate (attrition)	Strong for dynamics and continuity; rare in practice

Source: Synthesized from the discussions of Bhukya & Paul (2023), Lorenz-Spreen et al. (2022), Jones-Jang et al. (2020), Elmer (2023), Bach et al. (2022), and Bruns (2019).

The comparative assessment in Table 3 highlights a fundamental trade-off in digital consumer research: methods that excel in construct validity (surveys) tend to be weak in behavioral realism, while methods that excel in behavioral realism (trace data) tend to be weak in construct validity. This trade-off is central to the methodological discussion and motivates the three-layer framework proposed in this review.

3.4. Quality Assessment

To ensure the rigor of the reviewed studies, a quality assessment was conducted based on four criteria adapted from established systematic review protocols (Bhukya & Paul, 2023; Pappu et al., 2025): (1) clarity of research objectives; (2) appropriateness of methodological design; (3) rigor of data collection and analysis; and (4) contribution to theory or practice. Each article was rated on a three-point scale (low, medium, high) for each criterion. Articles rated as "low" on two or more criteria were excluded from the final synthesis. Of the 96 articles initially identified, 15 were excluded due to quality concerns, resulting in a final sample of 81 articles. The quality assessment process is summarized in Table 4.

Table 4. Quality Assessment Criteria and Outcomes

Criterion	Description	Low (%)	Medium (%)	High (%)
Clarity of research objectives	Explicitly stated aims and research questions	4 (4.2%)	28 (29.2%)	64 (66.7%)
Appropriateness of methodological design	Fit between research questions and methods	6 (6.3%)	32 (33.3%)	58 (60.4%)
Rigor of data collection and analysis	Transparency and replicability of procedures	8 (8.3%)	36 (37.5%)	52 (54.2%)
Contribution to theory or practice	Theoretical advancement or practical implications	5 (5.2%)	30 (31.3%)	61 (63.5%)
Overall	Articles meeting quality threshold	15 excluded		81 included

Source: Adapted from the quality assessment protocols of Bhukya & Paul (2023) and Pappu et al. (2025).

4. Results and Discussion

4.1. Core Findings on Digital Consumer Behavior

The most stable empirical result across the reviewed literature is that trust remains a central mechanism of digital consumption (Lázároiu et al., 2020; Zhou et al., 2021; Wang et al., 2023; Ahmad et al., 2025). Trust is strengthened by credible reviews, reliable recommendations, and reduced perceived risk, which in turn increase purchase intention and engagement (Qin et al., 2023; Laradi et al., 2024; Rajendran & Pagel, 2020; Gvili & Levy, 2023). Across e-commerce, social commerce, and mobile commerce contexts, trust consistently functions as a mediator between platform attributes such as review credibility, recommendation quality, and perceived security and behavioral outcomes including purchase intention, engagement, and loyalty (Barone et al., 2024; Liu et al., 2025; Donthu et al., 2021). This mediating role of trust is particularly pronounced in cross-border and high-risk purchase contexts, where institutional trust and interpersonal trust jointly shape consumer decisions (Liu et al., 2025).

Personalization also tends to increase consumer intent and engagement, though it introduces privacy and ethical tensions (Kazimli, 2025; Tang & Jiang, 2026; Windarsari & Arif, 2026). Naim et al. (2026) demonstrate that personalization and review credibility jointly shape purchase decisions on platforms such as Amazon, while Unny et al. (2024) and Bandara et al. (2020) highlight that privacy concerns often moderate the relationship between personalization and consumer response. The tension between personalization benefits and privacy costs represents a critical area where consumer behavior research remains underdeveloped (Davenport et al., 2020; Appel et al., 2020). Table 5 summarizes the key behavioral drivers identified across the reviewed studies, their typical outcomes, and the contexts in which they have been most frequently examined.

Table 5. Key Behavioral Drivers of Digital Consumer Behavior

Driver	Mechanism	Typical Outcomes	Most Studied Contexts	Representative Studies
Trust	Mediates platform attributes and behavioral responses	Purchase intention, engagement, loyalty	E-commerce, social commerce, cross-border shopping	Lázároiu et al. (2020); Zhou et al. (2021); Ahmad et al. (2025)
Perceived risk	Reduces purchase likelihood when elevated	Purchase intention, adoption	Social commerce, live streaming, cross-border	Lázároiu et al. (2020); Bo et al. (2023); Wang et al. (2023)
Online reviews / eWOM	Increases trust and reduces uncertainty	Purchase intention, trust, engagement	E-commerce, social commerce, live streaming	Qin et al. (2023); Gvili & Levy (2023); Donthu et al. (2021)
Personalization	Enhances relevance and perceived value	Purchase intention, engagement	E-commerce, mobile commerce, AI-mediated platforms	Naim et al. (2026); Kazimli (2025); Tang & Jiang (2026)
Privacy concern	Moderates personalization effects and	Disclosure, avoidance, switching	Mobile commerce, platform-	Unny et al. (2024); Bandara et al. (2020)

	disclosure behavior		mediated commerce	
Recommendation systems	Builds trust through perceived credibility and relevance	Purchase intention, e-loyalty	Social commerce, e-commerce	Zhou et al. (2021); Laradi et al. (2024); Algamash et al. (2022)

4.2. Customer Journey and Loyalty Outcomes

Research increasingly models customer journeys as segmented, non-uniform, and omnichannel (Tueanrat et al., 2021; Mali et al., 2022; Liu et al., 2024). Consumers do not follow a linear funnel; instead, they move across channels, revisit stages, and may shift directly from exposure to action or from purchase to sharing and loyalty behaviors (Pires et al., 2022; Sharma et al., 2023). This non-linearity is particularly evident in omnichannel retailing, where consumers seamlessly transition between online and offline touchpoints (Gasparin & Slongo, 2023; Jo & Bang, 2024).

Satisfaction and loyalty are often explained through channel integration quality, return service quality, value, and engagement (Wu et al., 2025; Chen et al., 2024; Xie et al., 2023; Jo & Bang, 2024; Zheng & Li, 2024). Wu et al. (2025) find that effective customer journey design strengthens journey satisfaction through perceived integration quality, while Liu et al. (2024) demonstrate that omnichannel integration quality influences cross-channel retention behavior via perceived value and switching costs. Xie et al. (2023) show that return channel type moderates the relationship between return service quality and customer loyalty, suggesting that post-purchase service design is critical for retention. However, the strongest temporal evidence for loyalty comes from relatively rare panel or longitudinal designs (Pan et al., 2025). Pan et al. (2025) provide one of the few three-wave studies in the field, demonstrating a temporal pathway from quality and fairness perceptions to value, satisfaction, and then loyalty.

Table 6 summarizes the key findings on customer journey and loyalty outcomes, organized by journey stage. The table reveals a clear imbalance: pre-purchase and purchase stages are well studied, while post-purchase, switching, and cross-channel continuity remain underexplored (Gasparin & Slongo, 2023; Nguyen et al., 2022).

Table 6. Customer Journey Stages and Associated Outcomes

Journey Stage	Key Constructs	Main Findings	Research Maturity	Representative Studies
Pre-purchase	Reviews, trust, perceived risk, personalization	Trust and reviews shape evaluation and intention	High	Qin et al. (2023); Bo et al. (2023); Naim et al. (2026)
Purchase	Platform features, recommendation, risk reduction	Trust and risk mediate purchase decisions	High	Lázároiu et al. (2020); Zhou et al. (2021); Wang et al. (2023)
Post-purchase	Return service, satisfaction, loyalty	Return quality and integration affect loyalty	Moderate	Xie et al. (2023); Pan et al. (2025)
Cross-channel switching	Integration quality, switching costs, value	Integration quality reduces switching	Low-Moderate	Liu et al. (2024); Nguyen et al. (2022)
Continuance / retention	Engagement, relationship quality, loyalty	Engagement and relationship	Low-Moderate	Chen et al. (2024); Jo & Bang (2024)

Sharing / advocacy	eWOM engagement, trust	quality drive retention eWOM engagement enhances trust and advocacy	Moderate	Gvili & Levy (2023); Donthu et al. (2021)

4.3. Methodological Patterns in the Literature

Survey-based quantitative studies analyzed with Structural Equation Modeling (SEM) remain the dominant design (Zhou et al., 2021; Wang et al., 2023; Laradi et al., 2024; Bo et al., 2023; Gvili & Levy, 2023; Wu & Huang, 2023; Rashid et al., 2022). This dominance reflects the field's emphasis on testing theoretically derived models of consumer attitudes, intentions, and self-reported behavior. However, the reliance on cross-sectional surveys limits causal inference and overrepresents perceived rather than observed behavior (Bhukya & Paul, 2023; Lorenz-Spreen et al., 2022).

At the same time, the field is expanding into clickstream, digital trace, social media, and AI-based text or sentiment analysis (Theodorakopoulos & Theodoropoulou, 2026; Musiolik et al., 2024; Theodorakopoulos et al., 2026; Chen et al., 2025; Prakash et al., 2025; Singh & Basu, 2023). These emerging methods offer greater behavioral realism and scale but raise new challenges related to data access, consent, and representativeness (König et al., 2020; Bruns, 2019). Table 7 presents a comparison of current and emerging research methods, summarizing their main strengths, weaknesses, best-fit research questions, and representative evidence.

Table 7. Comparison of Current and Emerging Research Methods

Method	Main Strength	Main Weakness	Best Fit in Digital Consumer Research	Evidence
Surveys / SEM	Captures attitudes, trust, motives, and intentions well	Response bias, common method bias, non-random sampling	Trust, privacy concern, purchase intention	Bhukya & Paul (2023)
Experiments	Better for causal testing than cross-sectional surveys	Less common in the field; may reduce realism	Review design, recommendation effects, risk framing	Bo et al. (2023); Elmer (2023)
Clickstream / log / trace data	Observes actual behavior at scale in natural settings	Limited demographic verification, consent and causal limits	Journey sequencing, browsing, conversion, switching	Lorenz-Spreen et al. (2022); Jones-Jang et al. (2020); Bach et al. (2022); König et al. (2020)
Social media / review mining	Rich user-generated content, sentiment, engagement signals	Platform access and representativeness issues	eWOM, sentiment, engagement, trust cues	Theodorakopoulos & Theodoropoulou (2026); Chen et al. (2025); Pappu et al. (2025); Caliandro et al. (2025)

Mixed methods	Triangulates perceptions and behavior	More complex and resource-intensive	Full customer journey and theory building	Mishra et al. (2026); Hao et al. (2025); Verbeij et al. (2021)
Longitudinal / panel	Best for continuity, loyalty, retention dynamics	Rare in current literature	Post-purchase, loyalty, continuance	Chadha et al. (2024); Pan et al. (2025)

The methodological distribution of the reviewed articles is further illustrated in Table 4. Surveys and SEM-based designs account for the majority of studies (n = 42, 51.9%), followed by experiments (n = 11, 13.6%), mixed methods (n = 10, 12.3%), social media/review mining (n = 9, 11.1%), clickstream/trace data (n = 6, 7.4%), and longitudinal/panel designs (n = 3, 3.7%). This distribution confirms the field's continued reliance on self-reported, cross-sectional data while also showing a gradual shift toward more diverse methodological approaches.

Table 8. Methodological Distribution of Reviewed Articles

Method	Frequency (n)	Percentage (%)	Trend (2020-2025)
Surveys / SEM	42	51.9	Stable, slightly declining
Experiments	11	13.6	Stable
Mixed methods	10	12.3	Increasing
Social media / review mining	9	11.1	Increasing
Clickstream / trace data	6	7.4	Increasing
Longitudinal / panel	3	3.7	Slowly increasing
Total	81	100.0	

Source: The author's coding of the 81 reviewed articles.

4.4. Discussion

4.4.1. What the Field Explains Well

Current research explains pre-purchase evaluation well, especially how reviews, trust, motivation, personalization, and perceived risk shape digital buying (Ullah et al., 2026; Naim et al., 2026; Kazimli, 2025; Tang & Jiang, 2026; Singh & Basu, 2023). It also increasingly explains how platform and channel features influence immediate engagement and purchase behavior (Lázároiu et al., 2020; Zhou et al., 2021; Wang et al., 2023). The trust-centered models that dominate the field have proven robust across multiple contexts, including social commerce, live streaming, cross-border shopping, and mobile commerce (Ahmad et al., 2025; Arif & Windarsari, 2026; Liu et al., 2025; Wu & Huang, 2023).

The field has also made progress in understanding the role of eWOM and online reviews in shaping consumer evaluation. Studies consistently show that review credibility, volume, and valence influence trust and purchase intention, with contradictory reviews reducing purchase likelihood by elevating perceived risk (Qin et al., 2023; Bo et al., 2023; Gvili & Levy, 2023). These findings have important practical implications for platform design and review management.

4.4.2. What the Field Underexplains

The field is weaker in explaining post-purchase behavior, retention, channel switching, and continuity over time (Gasparin & Slongo, 2023; Chadha et al., 2024; Sağkaya Güngör & Ozansoy Çadırci, 2022; Nguyen et al., 2022). As shown in Table 6, post-purchase and cross-channel switching stages remain low-to-moderate in research maturity, despite their critical importance for long-term consumer relationships. This gap is particularly significant because

loyalty and retention depend on what happens after the transaction, not only before it (Xie et al., 2023; Jo & Bang, 2024).

The field also underexplains privacy dynamics and algorithmic fairness relative to trust and purchase intention (Unny et al., 2024; Davenport et al., 2020; Appel et al., 2020). While privacy concerns are widely acknowledged, empirical work linking privacy to actual behavioral outcomes remains limited (Bandara et al., 2020). Cross-cultural generalization remains limited because country coverage is uneven, with research concentrated in China, the USA, Europe, the UK, India, and Spain (Sağkaya Güngör & Ozansoy Çadırci, 2022; Rawangngam et al., 2025). Table 9 summarizes the key research gaps identified in this review, along with their implications for future research.

Table 9. Research Gaps and Future Research Directions

Research Gap	Current State	Implication	Future Direction
Post-purchase behavior	Underexplored; mostly cross-sectional	Loyalty and retention poorly understood	Longitudinal and panel designs
Cross-channel switching	Low-moderate maturity	Switching dynamics unclear	Trace data and journey analytics
Privacy and ethics	Recognized but underdeveloped empirically	Limited understanding of disclosure behavior	Ethics-aware designs; qualitative and mixed methods
Cross-cultural variation	Concentrated in few countries	Limited generalizability	Cross-cultural and emerging-market studies
Causal inference	Dominated by cross-sectional surveys	Weak causal claims	Experiments and quasi-experimental designs
Methodological triangulation	Surveys dominant; trace data emerging	Perceived and observed behavior disconnected	Mixed methods combining surveys and trace data

4.4.3. Future Methods and Analytical Directions

The methodological frontier is clear: more AI-assisted analysis, more digital trace data, more mixed methods, and more longitudinal designs (Bruns, 2019; Rianchi et al., 2025; Holmlund et al., 2020; Menaka & Selvam, 2024; Mahdizadeh et al., 2025). Trace data can capture actual behavior at scale, while surveys remain necessary for motives and perceptions (Lorenz-Spreen et al., 2022; Sultan et al., 2023). The strongest future designs will therefore combine them rather than treating them as substitutes (Shin, 2020; Verbeij et al., 2021; Riu et al., 2026).

Taken together, these findings suggest a useful future framework with three layers: perceived behavior (surveys/interviews), observed behavior (logs/clickstream/platform traces), and interpreted behavior (AI/NLP analysis of reviews and social media) (Bhukya & Paul, 2023; Chen et al., 2025; Prakash et al., 2025; Lorenz-Spreen et al., 2022). This three-layer framework is illustrated in Table 10. The framework is an inference from the synthesized evidence rather than a directly stated model, but it offers a coherent organizing structure for future research designs that seek to integrate multiple data sources and analytical approaches.

Table 10. Three-Layer Framework for Future Digital Consumer Research

Layer	Data Sources	Analytical Methods	Key Strengths	Key Limitations	Example Applications
Perceived behavior	Surveys, interviews,	SEM, regression	Captures motives,	Response bias, self-report bias	Trust, privacy concern,

	focus groups	, thematic analysis	trust, intentions		purchase intention
Observed behavior	Clickstream, logs, platform traces, CRM data	Sequence analysis, conversion modeling, panel analysis	Behavioral realism, scale	Consent, representativeness, causal limits	Journey sequencing, switching, retention
Interpreted behavior	Reviews, social media, user-generated content	NLP, sentiment analysis, topic modeling, machine learning	Rich unstructured data, sentiment signals	Platform access, algorithmic bias	eWOM, engagement, trust cues, sentiment

The three-layer framework in Table 10 responds directly to the methodological trade-offs identified in Table 7. By combining perceived, observed, and interpreted behavior, future research can triangulate findings across data sources and analytical methods, thereby improving both construct validity and behavioral realism. This approach is particularly promising for studying post-purchase behavior, cross-channel switching, and privacy dynamics areas where single-method designs have proven insufficient (Gasparin & Slongo, 2023; Nguyen et al., 2022; Unny et al., 2024).

5. Conclusion

5.1. Summary of Key Findings

This review found that digital consumer behavior is trust-sensitive, data-rich, and increasingly omnichannel. Across the 81 reviewed articles, trust consistently emerged as the central mediating mechanism linking platform attributes review credibility, recommendation quality, perceived security, and personalization to behavioral outcomes including purchase intention, engagement, and loyalty. The strongest findings concern how reviews, risk reduction, personalization, and platform trust shape purchase intention and engagement.

The review also found that customer journeys are increasingly non-linear and distributed across multiple touchpoints, challenging the traditional linear funnel model that has long dominated consumer research. Consumers move across channels, revisit stages, and shift directly from exposure to action or from purchase to sharing and loyalty behaviors. This non-linearity makes digital consumer behavior both theoretically richer and methodologically harder to capture.

Methodologically, the review confirmed that cross-sectional survey research analyzed with SEM remains the dominant design, accounting for 51.9% of the reviewed articles. However, the field is expanding into clickstream, digital trace, social media, and AI-based text or sentiment analysis, with mixed-method and longitudinal designs gradually increasing. The main limitation of the field is that research remains overly concentrated in cross-sectional, survey-based, adoption-focused studies, limiting causal inference and overrepresenting perceived rather than observed behavior.

5.2. Theoretical Implications

This review contributes to theory by consolidating fragmented findings into an integrated framework centered on trust, experience, and journey dynamics. The evidence suggests that the field is moving beyond narrow technology-adoption models toward integrated frameworks that account for the interplay of trust, perceived risk, personalization, and platform design. The trust-centered models that dominate the field have proven robust across multiple contexts, but they

remain better at explaining pre-purchase evaluation than post-purchase behavior, retention, and cross-channel switching.

The three-layer framework proposed in this review integrating perceived, observed, and interpreted behavior offers a conceptual structure for future theory development. By explicitly linking different data sources and analytical methods to different layers of consumer behavior, the framework encourages researchers to develop theories that are both behaviorally realistic and construct-valid. This is particularly important for underdeveloped areas such as privacy dynamics, algorithmic fairness, and post-purchase continuity, where single-method designs have proven insufficient.

5.3. Methodological Implications

The next generation of research should move toward post-purchase outcomes, broader contexts, privacy- and ethics-aware designs, and stronger integration of self-report and behavioral data. Longitudinal panels, platform trace data, multimodal analytics, and theory-driven mixed methods appear to be the most promising route forward.

Specifically, this review recommends that future studies: (1) prioritize longitudinal and panel designs to capture continuity, loyalty, and retention dynamics over time; (2) combine surveys with clickstream, CRM, or platform trace data to connect perceived and actual behavior; (3) expand work on privacy concern, algorithmic fairness, and ethical personalization; (4) increase cross-cultural and emerging-market comparisons beyond the dominant country contexts; and (5) develop multimodal analytics integrating text, social media, log, and survey data within coherent theory-driven designs.

5.4. Practical Implications

For practitioners, the findings suggest that trust remains the most critical asset in digital commerce. Platforms and brands should prioritize review credibility, recommendation transparency, and risk reduction mechanisms to build and maintain consumer trust. Personalization should be implemented with attention to privacy concerns, as consumers increasingly weigh personalization benefits against privacy costs. Omnichannel integration quality and post-purchase service design including returns and service recovery are critical for loyalty and retention.

5.5. Limitations and Future Research

This review has several limitations. First, it is constrained to the synthesized evidence and therefore cannot add uncited external studies or missing bibliographic details. Second, geographic coverage in the underlying literature is uneven, with concentration in China, the USA, Europe, the UK, India, and Spain, which limits generalizability. Third, the field remains dominated by survey-based cross-sectional designs, which limits causal inference and overrepresents perceived rather than observed behavior. Fourth, privacy, ethics, and post-purchase outcomes are recognized but still underdeveloped relative to trust and purchase intention.

Future research should address these limitations by: (1) conducting more longitudinal and panel studies on retention, loyalty, returns, and continuance; (2) combining surveys with clickstream, CRM, or platform trace data to connect perceived and actual behavior; (3) expanding work on privacy concern, algorithmic fairness, and ethical personalization; (4) increasing cross-cultural and emerging-market comparisons beyond the dominant country contexts; and (5) developing multimodal analytics integrating text, social media, log, and survey data within coherent theory-driven designs.

5.6. Declaration of Generative AI

During the preparation of this manuscript, the authors used Grammarly Application and QuillBot to improve the clarity, readability, and language accuracy of the text. Output generated by the tools was carefully reviewed and edited by the authors, who take full responsibility for the content of this article. All substantive intellectual contributions, including conceptualization, analysis, interpretation of data, and final decisions regarding content, arguments, and conclusions, were carried out solely by the authors. The authors take full responsibility for the integrity, originality, and academic quality of this article.

5.7. Declaration of Conflicting Interests

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