Artificial Intelligence and Consumer Decision-Making in Business Administration: A Systematic Literature Review and the Enhanced TTG Framework

Peter Tobi Sunmola[1]

[1] University of Fairfax, USA

Correspondence: Peter Tobi Sunmola, University of Fairfax, USA.

Received: March 11, 2026 Accepted: April 1, 2026 Online Published: April 6, 2026

doi:10.5430/ijba.v17n1p83 URL: https://doi.org/10.5430/ijba.v17n1p83

Abstract

This systematic literature review examines how Artificial Intelligence (AI) is reshaping business administration, with particular emphasis on consumer decision-making. Following PRISMA guidelines, the review synthesizes evidence from 85 peer-reviewed studies published between 2010 and 2024 and retrieved from Scopus, Web of Science, and ScienceDirect. The analysis identifies four dominant mechanisms through which AI influences consumer decisions: personalization and recommender systems, predictive analytics, dynamic pricing, and AI-enabled customer service. While these applications can improve decision efficiency, relevance, and convenience, the literature also reports persistent risks, including algorithmic bias, limited transparency, perceived unfairness, and potential erosion of consumer autonomy. To integrate these insights, the study proposes an enhanced Trust-Transparency-Governance (TTG) framework that conceptualizes responsible consumer-facing AI as the interaction of (a) trust in algorithmic outputs, (b) transparency of models and decision logic, and (c) organizational governance structures that ensure accountability and ethical alignment. Extending prior AI ethics frameworks, the enhanced TTG model specifies mechanism-based linkages, how transparency shapes trust, how governance operationalizes transparency, and under which conditions these components jointly support responsible AI deployment. The review concludes with implications for managers and policymakers and highlights research gaps, notably the need for empirical studies on consumer responses to transparency interventions, fairness trade-offs, and algorithmic influence on autonomy across diverse market contexts.

Keywords: artificial intelligence, consumer decision-making, systematic literature review, algorithmic transparency, governance frameworks

1. Introduction

Artificial Intelligence (AI) has emerged as a transformative force in contemporary business administration, reshaping organizational processes, competitive dynamics, and consumer engagement strategies. Advances in machine learning, natural language processing, predictive analytics, and autonomous decision-making have enabled firms to personalize offerings, optimize pricing, automate customer service interactions, and extract insights from large-scale datasets with unprecedented speed and precision (Russell & Norvig, 2016; Brynjolfsson & McAfee, 2017; Davenport & Ronanki, 2018). As AI becomes increasingly embedded within consumer-facing functions, understanding how these technologies influence consumer decision-making has become an essential area of scholarly inquiry.

Initially viewed primarily as a tool for automation and efficiency, AI is now widely recognized as a sociotechnical system that actively shapes consumer judgments, perceptions, and behaviors. Recommender systems curate and narrow consumer choice sets (Gomez-Uribe & Hunt, 2015), predictive analytics anticipate consumer preferences and actions (Davenport et al., 2020), algorithmic pricing systems dynamically adjust value perceptions (Haws et al., 2020), and conversational agents mediate service interactions (Shneiderman, 2020; Wirtz et al., 2018). While these applications enhance convenience, relevance, and decision efficiency, they simultaneously raise critical concerns related to transparency, fairness, autonomy, and algorithmic bias (Barocas & Selbst, 2016; Helberger et al., 2020). This duality positions AI as both an enabler of improved decision-making and a potential source of ethical and operational challenges in consumer contexts.

Despite the rapid growth of research on AI's influence on consumer behavior, existing knowledge remains fragmented

across disciplines such as marketing, information systems, behavioral economics, ethics, and governance. Prior studies and reviews frequently focus on narrow applications such as personalization, customer service, or pricing or adopt largely descriptive approaches that do not integrate ethical and governance perspectives. This fragmentation leaves several important gaps unaddressed. In particular, the mechanisms through which AI technologies shape consumer autonomy and judgment are still insufficiently theorized, and ethical concerns such as algorithmic bias, opacity, and explainability are rarely integrated into coherent conceptual models that connect technological design with consumer response. Furthermore, governance approaches to consumer-facing AI remain dispersed, with limited synthesis of how accountability structures, transparency practices, and institutional oversight influence consumer trust. As a result, existing reviews tend to address isolated AI applications without offering a unified, cross-disciplinary understanding of AI within a broader sociotechnical and governance framework.

To address these gaps, this study conducts a Systematic Literature Review (SLR) in accordance with PRISMA guidelines, synthesizing insights from 85 peer-reviewed studies published between 2010 and 2024 across Scopus, Web of Science, and ScienceDirect. The review aims to answer the following research questions:

RQ1: What does existing peer-reviewed literature reveal about how AI technologies influence consumer decision-making in business contexts?

RQ2: What benefits, risks, and ethical challenges associated with AI-mediated consumer decision-making have been identified in prior research?

RQ3: How do existing studies conceptualize the roles of trust, transparency, and governance in shaping consumer responses to AI systems?

RQ4: What gaps and future research opportunities emerge from the synthesis of current evidence?

By addressing these questions, the review identifies the principal mechanisms through which AI shapes consumer decision-making, examines documented ethical risks and operational challenges, and evaluates how trust, transparency, and governance have been conceptualized across disciplines. Building on this synthesis, the study develops an enhanced Trust-Transparency-Governance (TTG) framework, which extends existing responsible AI models by articulating how governance structures enable transparency, how transparency fosters consumer trust, and under what conditions these elements jointly support responsible AI deployment.

Through this integrated approach, the study makes several important contributions. It provides a cross-disciplinary synthesis that consolidates fragmented research on AI and consumer decision-making, clarifies the influence mechanisms of dominant consumer-facing AI applications, and advances a theoretically grounded, mechanism-based Trust-Transparency-Governance (TTG) framework linking governance structures, transparency, and consumer trust. In doing so, the review also outlines a structured agenda for future research by identifying key theoretical, methodological, and contextual gaps that must be addressed to better understand and govern AI-driven consumer decision environments.

2. Methodology

This study employs a Systematic Literature Review (SLR) approach to synthesize peer-reviewed research on the influence of Artificial Intelligence (AI) on consumer decision-making within business administration. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, which provides a transparent and replicable structure for identifying, screening, and synthesizing relevant literature (Moher et al., 2009). This methodological approach ensures analytical rigor while addressing earlier critiques regarding clarity, reproducibility, and conceptual coherence.

2.1 Review Design

The review was designed to consolidate and critically evaluate empirical and conceptual studies examining how AI technologies shape consumer behavior in business contexts. Given the interdisciplinary nature of the topic, spanning marketing, information systems, organizational studies, behavioral economics, and AI ethics, a systematic review provides an appropriate method for integrating diverse findings. The review adopts a qualitative synthesis orientation rather than a meta-analytic approach, as the included studies vary widely in research design, theoretical frameworks, and outcome measures, making statistical aggregation unsuitable.

2.2 Search Strategy

A structured and comprehensive search strategy was implemented across three major academic databases: Scopus, Web of Science, and ScienceDirect. These databases were selected due to their extensive coverage of high-quality peer-reviewed journals in business, technology, and the social sciences. Searches were conducted using combinations

of terms related to artificial intelligence, consumer decision-making, personalization, predictive analytics, dynamic pricing, transparency, trust, and governance. Boolean operators were applied to refine results and ensure relevance (e.g., "artificial intelligence" and "consumer decision-making"; "algorithmic transparency" and "trust"). The search was limited to articles published in English between 2010 and 2024 to capture both foundational and contemporary discussions of AI's role in consumer-facing business processes.

2.3 Inclusion and Exclusion Criteria

To ensure that only relevant and high-quality studies were included, clearly defined inclusion and exclusion criteria were applied. Studies qualified for inclusion if they examined AI applications in business or consumer contexts, addressed consumer decision-making or behavioral responses, and offered conceptual or empirical insights relevant to AI-mediated interactions. Only peer-reviewed journal articles were considered to maintain academic rigor. Studies were excluded if they focused exclusively on technical model development with no consumer implications, addressed unrelated domains such as robotics or cybersecurity, or lacked explicit connections between AI and consumer decision-making. Conference papers, dissertations, book chapters, and editorial pieces were similarly excluded to preserve methodological consistency.

2.4 Study Selection Process

The initial searches across the three databases identified 372 records. After removing duplicate entries, 283 unique articles remained and were subjected to title and abstract screening to assess relevance. This stage resulted in the exclusion of 148 studies that did not meet the eligibility criteria. Full-text assessments were then conducted for 135 articles. Of these, 50 were removed because they lacked sufficient focus on consumer decision-making, adopted a purely technical approach, or were unrelated to business administration. Ultimately, 85 studies met all criteria and were included in the final synthesis. This multistage selection process reflects established SLR practices and aligns with PRISMA guidelines for rigorous filtering.

2.5 Data Extraction and Synthesis

Data extraction was conducted using a structured template that captured each study's objectives, methodological approach, AI application domain, theoretical grounding, and key findings related to consumer decision-making. This facilitated cross-study comparison and thematic consolidation. Because the included studies varied substantially in design, ranging from quantitative experiments to qualitative interviews and conceptual analyses, a thematic synthesis approach was adopted. Rather than applying formal qualitative thematic analysis procedures (e.g., Braun & Clarke's coding), the synthesis identified convergent patterns, conceptual clusters, and recurring insights across the included literature.

The analysis revealed four broad thematic areas that represent the dominant ways AI influences consumer decision-making: (1) AI-enabled personalization and recommender systems; (2) predictive analytics and behavioral forecasting; (3) dynamic pricing and perceptions of fairness; and (4) AI-mediated customer service through conversational agents. These themes form the basis of the Results section and support the refinement of the Trust-Transparency-Governance (TTG) framework.

2.6 Ensuring Methodological Rigor

Several steps were taken to enhance the rigor and reliability of the review. Searches and screening decisions were documented systematically to support replicability. Full-text evaluations involve cross-checking for consistency, reducing the risk of subjective bias in study selection. The use of multiple reputable databases reduced publication bias and ensured comprehensive coverage of relevant literature. Finally, the synthesis prioritizes conceptual clarity and integrates theoretical, ethical, and managerial insights to address identified gaps in the existing body of research.

3. Findings

The systematic synthesis of the 85 included studies reveals four major thematic domains through which Artificial Intelligence (AI) influences consumer decision-making in business contexts. These themes: AI-enabled personalization, predictive analytics and behavioral forecasting, dynamic pricing and fairness perceptions, and AI-mediated customer service, represent the core mechanisms documented in the literature. Each theme encapsulates a set of consumer-facing technologies that reshape judgment, choice, preference formation, and perceptions of value. Collectively, the findings demonstrate both the transformative potential of AI and the ethical, psychological, and governance challenges that accompany its deployment.

3.1 AI-Enabled Personalization and Recommender Systems

Personalization emerges as one of the most extensively researched applications of AI in consumer-facing business

functions. Across sectors such as retail, entertainment, and digital platforms, recommender systems powered by machine learning algorithms curate information, anticipate preferences, and deliver individualized content (Gomez-Uribe & Hunt, 2015; Shin, 2021). These systems significantly reduce cognitive effort by narrowing the range of available options and presenting alternatives that align with a consumer's historical behavior patterns. Studies consistently show that personalized recommendations enhance decision efficiency, increase satisfaction, and foster repeat purchasing (Bleier & Eisenbeiss, 2015).

However, personalization also raises substantive concerns. Several scholars argue that hyper-personalization may inadvertently restrict consumer choice or amplify behavioral biases. Recent research also highlights that AI-driven personalization in digital comparison platforms can improve consumer decision efficiency while simultaneously introducing concerns related to privacy and data governance (Sunmola, 2026). At the same time, hyper-personalization may restrict consumer autonomy by systematically filtering exposure to new or diverse options, creating "algorithmic echo chambers" (Helberger et al., 2020). Such narrowing can dampen novelty-seeking behavior and limit the serendipity often associated with exploratory consumption (Prick et al., 2023). Other studies highlight how personalization, particularly when opaque, can trigger skepticism about manipulation or exploitative targeting (Zuboff, 2019). As a result, personalization functions as both an enabler of convenience and a potential source of psychological and ethical tension, contingent on transparency and perceived fairness.

3.2 Predictive Analytics and Behavioral Forecasting

A second major theme concerns the use of predictive analytics to anticipate consumer behavior and inform managerial decisions. Machine learning models synthesize vast amounts of transactional, demographic, and behavioral data to forecast demand, segment consumers, and optimize marketing strategies. Empirical studies demonstrate that predictive analytics improve organizational responsiveness by identifying emerging preferences and tailoring interventions that align with anticipated needs (Ransbotham et al., 2021; Davenport et al., 2020). For consumers, predictive insights often translate into more relevant information and reduced search costs.

Yet the literature also underscores the risks associated with predictive systems. Bias embedded in training data can lead to distortions in segmentation, reinforcement of stereotypes, or inequitable treatment of certain consumer groups (Barocas & Selbst, 2016; Zhang & Lu, 2021). Predictive modeling may amplify existing behavioral patterns, creating self-reinforcing cycles that diminish consumer agency. Furthermore, the absence of transparency in predictive processes complicates consumer understanding and weakens trust in AI-generated outcomes (Arrieta et al., 2020). These findings suggest that predictive analytics, while enhancing business intelligence, also deepen concerns related to data governance, explainability, and algorithmic accountability.

3.3 Dynamic Pricing and Perceptions of Fairness

Dynamic pricing represents one of the most controversial AI applications in consumer markets. Leveraging real-time data on demand, competition, and consumer characteristics, AI-driven pricing models allow firms to optimize revenue by adjusting prices continuously (Schneider et al., 2020; Haws et al., 2020). From an economic perspective, dynamic pricing can increase market efficiency and align prices with consumer willingness to pay. In practice, consumers frequently benefit from lower off-peak pricing and targeted discounts.

However, the literature consistently finds that dynamic pricing shapes consumer decision-making in ways strongly mediated by perceptions of fairness, transparency, and discrimination. Consumers tend to view price fluctuations as acceptable when they are predictable or clearly explained, but interpret opaque differentials as exploitative or manipulative (Haws et al., 2020). The risk of algorithmic price discrimination, particularly against vulnerable or economically constrained groups, intensifies ethical concerns and threatens trust in AI-mediated transactions (Zhang & Lu, 2021). Several studies emphasize that consumers demand not equality of prices but transparency regarding why prices differ. This positions dynamic pricing at the intersection of economic rationality and ethical legitimacy, reinforcing the need for governance structures that clarify algorithmic logic and ensure accountability.

3.4 AI-Mediated Customer Service and Conversational Agents

A fourth thematic domain centers on AI-enabled customer service, particularly through chatbots and conversational agents. Businesses increasingly deploy natural language processing (NLP) systems to respond to inquiries, resolve issues, and guide consumers through decision processes. Research shows that chatbots enhance accessibility, reduce waiting times, and deliver consistent responses, thereby improving efficiency and satisfaction in routine service interactions (Shneiderman, 2020; Wirtz et al., 2018). In sectors such as retail and banking, consumers appreciate the immediacy and convenience of AI-mediated assistance.

Nevertheless, studies also highlight the limitations of conversational agents. Consumers often evaluate chatbot

interactions through lenses of empathy, competence, and authenticity, qualities that AI systems cannot fully replicate (Topol, 2019). When chatbots misinterpret intent or fail to recognize emotional nuance, frustration increases and perceptions of service quality decline. Moreover, consumers may feel uncomfortable entrusting sensitive information to AI agents, particularly when data-handling practices are unclear (Shin, 2021). These dynamics illustrate that while chatbots can streamline processes, they must be integrated within broader human-AI service ecosystems that allow human intervention when necessary.

3.5 Cross-Cutting Issues: Transparency, Trust, and Governance

Across all four thematic domains, the synthesis reveals recurring cross-cutting issues that shape consumer responses to AI: algorithmic transparency, perceived fairness, trust, and governance structures. The literature overwhelmingly finds that consumers' acceptance of AI-mediated decisions depends not only on outcomes but on the perceived integrity and explainability of the underlying processes (Floridi & Cowls, 2019; Vinuesa et al., 2020). Opacity, whether in recommendation logic, predictive analytics, pricing mechanisms, or chatbot functionality, introduces uncertainty and erodes trust. Conversely, transparency interventions such as model explanations, data-use disclosures, and accountability signals can strengthen legitimacy and enhance consumer confidence. More broadly, digital platforms may improve market transparency by reducing information asymmetries between firms and consumers, thereby influencing purchasing decisions and perceptions of fairness.

These insights highlight the need for integrative frameworks that explain how trust, transparency, and governance interact in shaping consumer outcomes. Existing models tend to treat these constructs separately or generically, leaving room for a more holistic theoretical approach. The findings from this review, therefore, serve as the empirical foundation for the enhanced Trust-Transparency-Governance (TTG) framework developed in Section 4.

4. The Enhanced Trust-Transparency-Governance (TTG) Framework

The synthesis of existing research highlights the central role of trust, transparency, and governance in shaping consumer responses to AI systems. While prior studies identify these constructs as essential pillars of responsible AI (Floridi & Cowls, 2019; Vinuesa et al., 2020), they often remain fragmented in conceptualization and insufficiently integrated within a unified explanatory framework. To address this gap, this review proposes an enhanced Trust-Transparency-Governance (TTG) Framework, grounded in the findings of the systematic literature review and designed to offer a coherent structure for analyzing responsible AI-mediated consumer decision-making.

The TTG Framework articulates how transparency operates as a mechanism that shapes consumer trust, how governance structures enable and enforce transparency, and how the interplay of these elements influences consumer acceptance and decision outcomes. By clarifying these relationships, the TTG model provides a theoretically grounded and empirically informed structure for evaluating AI's ethical and behavioral implications in business contexts.

4.1 Conceptual Foundations and Distinctiveness

The enhanced TTG Framework builds on established principles in AI ethics, behavioral decision theory, and corporate governance. Within consumer-facing digital environments, trust is widely recognized as a prerequisite for the adoption and continued use of AI-driven systems. Transparency plays a central role in shaping these trust judgments, particularly when consumers rely on algorithmic outputs they cannot directly evaluate. Governance, in turn, provides the institutional structures through which organizations ensure accountability, enforce ethical standards, and promote transparency in AI design and deployment. While these elements are frequently discussed in the literature, they are often treated in isolation, with limited theoretical integration. The TTG Framework, therefore, positions trust, transparency, and governance as interdependent components of a broader sociotechnical system, clarifying their relational dynamics and explaining how they jointly influence consumer responses to AI-mediated decision environments.

4.2 Core Components of the TTG Framework

Transparency within the TTG Framework refers to the degree to which consumers can meaningfully interpret the purpose, processes, and outcomes of AI systems. Effective transparency includes explanations of how data are collected and used, how decisions are generated, and what safeguards exist to prevent bias or unfairness. When thoughtfully implemented, transparency reduces uncertainty and enables consumers to assess the reliability and ethical integrity of algorithmic decisions.

Trust represents consumers' willingness to rely on AI systems based on perceptions of their competence, fairness, and alignment with consumer interests. Since AI systems often operate beyond the layperson's technical understanding, trust becomes a central determinant of whether individuals accept or reject AI-driven recommendations and outcomes.

Trust is therefore shaped by both system-level characteristics and organisational behaviours that signal ethical responsibility.

Governance encompasses the policies, oversight structures, auditing mechanisms, and accountability practices that guide the development and deployment of AI systems. Governance ensures that transparency efforts are not merely symbolic but grounded in enforceable standards. Effective governance demonstrates institutional responsibility, reinforces ethical expectations, and provides a credible foundation upon which consumer trust can develop.

4.3 Mechanistic Pathways in the TTG Framework

The TTG Framework articulates three primary pathways that describe how governance, transparency, and trust interact within AI-mediated decision contexts. First, governance leads to transparency by establishing the organizational rules, processes, and oversight mechanisms necessary for meaningful disclosure. Without strong governance, transparency remains inconsistent, incomplete, or operationally weak.

Second, transparency leads to trust by reducing information asymmetry, clarifying decision logic, and demonstrating procedural fairness. When consumers understand how and why AI systems reach their outputs, they are more likely to interpret these outcomes as legitimate and reliable.

Third, governance reinforces trust by strengthening the credibility of transparency practices, ensuring that disclosures are accurate, consistent, and supported by institutional accountability. As a result, trust is not solely a function of transparency but also of the organizational commitment that underpins transparency.

Together, these pathways describe a coherent and mutually reinforcing system in which governance provides the structural foundation, transparency offers the informational mechanism, and trust emerges as the psychological outcome.

4.4 Boundary Conditions: When TTG Effects Strengthen or Weaken

The relationships outlined in the TTG Framework are shaped by several contextual boundary conditions. Cultural and institutional environments influence how consumers perceive both transparency and governance, with individuals in low-trust societies typically demanding stronger accountability measures (Floridi & Cowls, 2019). Levels of digital literacy moderate consumers' ability to interpret algorithmic explanations, affecting the strength of the transparency-trust relationship. The nature of the AI application also matters: high-stakes contexts such as finance, healthcare, or employment require more rigorous governance and more substantive transparency than low-stakes applications such as entertainment or product recommendations. These boundary conditions highlight the importance of adapting TTG principles to different technological, social, and regulatory contexts rather than assuming uniform effects across settings.

5. Discussion

The findings of this review demonstrate that AI is transforming consumer decision-making across multiple dimensions, enhancing efficiency, personalization, and predictive accuracy while simultaneously introducing new risks related to fairness, autonomy, and accountability. A key insight emerging from the synthesis is that AI's impact is inherently dualistic: the same mechanisms that enable more relevant and data-driven decision processes can also obscure how those decisions are produced, amplifying concerns related to transparency and trust. This duality confirms that AI cannot be understood solely through technological performance; rather, it must be examined within the broader institutional, psychological, and ethical contexts that shape consumer experiences.

The TTG Framework provides a structured lens for interpreting these dynamics by clarifying how governance, transparency, and trust operate as interdependent components within AI-enabled environments. The framework highlights that trust cannot be cultivated in isolation; it requires transparency that is both meaningful and comprehensible, supported by governance systems that ensure accountability and procedural fairness. These relationships suggest that consumer responses to AI are not determined solely by the technical characteristics of algorithms but by the institutional signals that accompany them.

5.1 Theoretical Implications

The review contributes to theory by integrating insights from behavioral decision-making, algorithmic fairness, and corporate governance into a unified conceptual model. First, the TTG Framework advances existing literature by articulating how trust emerges not only from system performance but from organizational practices that structure transparency and oversight. This perspective extends prior models that treat transparency as a static disclosure mechanism, demonstrating instead that transparency functions as a relational process shaped by governance constraints and consumer interpretation.

Second, the review underscores the importance of viewing AI as a sociotechnical system rather than as a purely computational artifact. The impact of AI on consumer decision-making cannot be separated from the regulatory, cultural, and institutional conditions that influence perceptions of fairness and legitimacy. The TTG Framework situates AI within these broader conditions, offering a mid-range theoretical model that can support future empirical testing.

Finally, the findings emphasize that AI's effects are context dependent. The strength of TTG relationships varies across high-stakes and low-stakes domains, across cultures with differing levels of institutional trust, and across consumers with varying levels of digital literacy. These boundary conditions create opportunities for more nuanced theorizing about when and how AI enhances or undermines consumer decision-making.

5.2 Managerial Implications

For managers, the findings highlight the need to move beyond technical optimization and consider the relational and ethical dimensions of consumer-AI interaction. Firms often focus on improving algorithmic accuracy or enhancing the speed of decision-making, yet the review demonstrates that these improvements do not necessarily translate into consumer trust. What matters equally is whether consumers perceive AI systems as transparent, fair, and aligned with their interests.

Managers should therefore implement transparency practices that go beyond minimal disclosure. Clear explanations of how algorithms generate outputs, why certain data are collected, and how fairness is ensured can significantly strengthen consumer confidence. Governance structures also play a critical role, particularly in industries where AI decisions carry substantial consequences. Establishing audit mechanisms, fairness checks, and clear lines of accountability not only mitigates ethical risks but also signals organizational responsibility, further reinforcing trust. Ultimately, firms that invest in transparency and governance infrastructure are more likely to achieve long-term consumer acceptance and competitive advantage.

5.3 Policy Implications

The review also carries important implications for policymakers and regulators. As AI becomes embedded in consumer markets, regulatory frameworks must evolve to ensure that algorithmic decision-making remains fair, accountable, and aligned with societal expectations. The analysis shows that transparency requirements alone are insufficient. Without enforceable governance structures that require documentation of model development, auditing of outcomes, and mechanisms for consumer redress, transparency risks becoming symbolic rather than substantive.

Policymakers should therefore consider regulatory approaches that integrate transparency mandates with governance obligations. These may include requirements for impact assessments, algorithmic audits, standardized reporting practices, and mechanisms that enhance consumer understanding of AI-driven decisions. Regulatory interventions should also account for contextual factors, such as the varying stakes of different AI applications and differences in consumer literacy. A risk-based approach to regulation, one that scales obligations according to potential harm, would be consistent with the TTG Framework's emphasis on contextual boundary conditions.

5.4 Sustainability Implications

Although sustainability is often framed in environmental terms, this review underscores the importance of social and ethical sustainability in digital consumer ecosystems. AI systems influence not only consumption patterns but also the distribution of informational power between firms and consumers. When AI systems are opaque or biased, they can undermine social sustainability by eroding trust, amplifying inequalities, and reducing autonomy. Conversely, transparent and well-governed AI systems can promote sustainable consumer environments by supporting fair decision-making, fostering long-term trust, and enabling responsible consumption behaviors.

The TTG Framework illustrates how transparent and accountable AI practices contribute to sustainable digital marketplaces by ensuring that technological innovation does not come at the expense of consumer welfare or societal trust. As such, sustainability-oriented organizations should align AI deployment with governance structures that prioritize fairness, accountability, and long-term relational outcomes.

5.5 Future Research Directions

The review identifies several promising avenues for future research to deepen understanding of AI's influence on consumer decision-making and further refine the Trust-Transparency-Governance (TTG) framework. First, empirical studies are needed to test the TTG pathways and boundary conditions identified in this review, particularly the mediating role of transparency and the moderating effects of factors such as AI literacy, cultural context, and perceived risk. Quantitative studies could examine the relative influence of transparency and governance on trust, while

qualitative research could explore how consumers interpret algorithmic explanations in real-world contexts. Comparative studies across industries, such as retail and financial services, would further illuminate how context shapes the relationship between governance, transparency, and trust.

Second, future work should investigate consumer reactions to different forms of transparency, including explainability formats, data provenance disclosures, and real-time algorithmic signals. Current research often treats transparency as a broad construct, but consumers may respond differently to technical, procedural, or outcome-based explanations. More nuanced research in this area would help clarify which forms of transparency are most effective in strengthening trust and supporting informed consumer decision-making.

Third, more research is needed on algorithmic fairness perceptions, especially in dynamic pricing and personalization contexts. Behavioral studies examining trade-offs between fairness and personalization benefits would offer valuable insights for both theory and practice. Relatedly, future studies should investigate how AI shapes consumer autonomy, particularly in contexts where personalization and predictive analytics may narrow decision options, reinforce existing preferences, or alter judgments over time.

Fourth, although personalization and predictive analytics are widely studied, limited attention has been paid to the longitudinal effects of AI on consumer autonomy, preference development, and psychological well-being. Long-term field experiments, panel studies, or longitudinal qualitative research could provide important insights into how repeated exposure to AI-mediated environments shapes behavior over time.

Fifth, future research should explore the broader ethical and sustainability implications of AI adoption. This includes examining how AI-driven decision-making affects long-term consumer welfare, equity, systemic risks, and the social sustainability of digital marketplaces. In addition, emerging concerns about the environmental and energy implications of large-scale AI deployment require deeper examination. Integrating these issues into consumer-facing AI governance research would broaden the relevance of the TTG framework.

Finally, cross-cultural and cross-institutional research can strengthen understanding of how variations in institutional trust, regulatory environments, and cultural norms influence consumer responses to AI. Such comparative analyses would improve the generalizability of the TTG framework and support more context-sensitive theorizing about responsible AI deployment in business settings.

6. Conclusion

This systematic literature review examined how Artificial Intelligence (AI) shapes consumer decision-making within contemporary business administration. By synthesizing findings from 85 peer-reviewed studies published between 2010 and 2024, the review offers a consolidated understanding of AI's multifaceted influence on personalization, predictive analytics, dynamic pricing, and AI-mediated customer service. The analysis demonstrates that while AI enhances the efficiency, relevance, and accessibility of consumer choices, it also introduces complex challenges related to transparency, fairness, autonomy, and trust.

Through the development of the enhanced Trust-Transparency-Governance (TTG) Framework, this study contributes a novel conceptual lens for understanding responsible AI adoption. The TTG model extends existing governance and ethical frameworks by specifying the mechanisms through which governance enables transparency, transparency fosters trust, and trust ultimately shapes consumer acceptance and decision outcomes. By introducing boundary conditions and theoretical propositions, the framework provides a solid foundation for empirical testing and further theoretical refinement.

The review also highlights the importance of contextualizing AI adoption within broader societal and sustainability considerations. Transparent and fair AI systems strengthen social trust, support equitable decision processes, and contribute to the long-term legitimacy of digital marketplaces. Conversely, opaque or inadequately governed AI systems threaten to undermine consumer confidence and amplify inequality, underscoring the necessity of ethically aligned governance structures.

Overall, this review underscores that the future of AI-driven business practices depends not only on technological sophistication but on the ability of organizations and policymakers to cultivate trustworthy, transparent, and accountable AI ecosystems. The TTG Framework serves as a guide for navigating this landscape by integrating consumer psychology, algorithmic governance, and ethical design principles into a unified theoretical model.

Acknowledgments

The author would like to express sincere appreciation to individuals who provided valuable insights and constructive feedback during the development of this study. Their support helped improve the quality and clarity of the manuscript.

Authors' contributions

The author was solely responsible for the conception and design of the study, data collection, analysis, and interpretation of results, as well as drafting and revising the manuscript. The author read and approved the final version of the manuscript.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interests

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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