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From Clicks to Bricks: How Artificial Intelligence Shapes Showrooming and Webrooming Effects on Purchase Intention

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Abstract

This study investigates how Artificial Intelligence (AI) reshapes the influence of showrooming and webrooming behaviors on consumer purchase intention within omnichannel retail environments. Grounded in the Stimulus–Organism–Response (S-O-R) framework, Information Processing Theory, and technology adoption perspectives such as the Technology Acceptance Model (TAM) and UTAUT, the research conceptualizes showrooming and webrooming as external stimuli that activate internal cognitive and evaluative states namely decision confidence and perceived value which subsequently drive purchase intention. Using a quantitative, cross-sectional design, primary data were collected through a structured questionnaire from omnichannel consumers, yielding 412 valid responses for analysis. Established multi-item measurement scales were employed to capture showrooming, webrooming, AI-enabled retail services (including personalization, recommendation systems, and chatbot assistance), decision confidence, perceived value, and purchase intention. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0, enabling simultaneous assessment of measurement reliability, construct validity, direct effects, mediation, and moderation relationships. The findings reveal that both showrooming and webrooming exert significant positive effects on purchase intention, while decision confidence and perceived value partially mediate these relationships. Importantly, AI-enabled retail services significantly strengthen the impact of both showrooming and webrooming on purchase intention, highlighting AI's role as a critical technological moderator in omnichannel decision-making. The study offers actionable insights for retailers by demonstrating how AI-driven personalization and intelligent decision support can convert cross-channel search behaviors into purchase outcomes, while contributing theoretically by advancing an integrated, AI-enabled omnichannel consumer decision framework.

Keywords: Showrooming; Webrooming; Artificial Intelligence; Decision Confidence; Perceived Value; Purchase Intention; Omnichannel Retailing.

1. Introduction

The global retail landscape has undergone a fundamental transformation over the past decade as a result of rapid advances in digital technologies, mobile connectivity, cloud computing, and data-driven decision systems. These developments have progressively dissolved the traditional boundaries between online and offline channels, giving rise to omnichannel retail ecosystems in which consumers interact with brands through physical stores, websites, mobile applications, and social platforms within a single, interconnected purchase journey (Verhoef et al., 2015). In such environments, consumer decision-making is no longer sequential or channel-bound; rather, it is dynamic, iterative, and continuously shaped by technological interfaces and contextual cues.

Within omnichannel contexts, consumers increasingly adopt deliberate cross-channel information search strategies to improve decision quality and reduce uncertainty. Two such strategies showrooming and webrooming have become central to contemporary retail research. Showrooming refers to consumers' practice of inspecting products in physical stores before completing purchases online, whereas webrooming involves

searching for product-related information online prior to purchasing in physical stores (Flavian et al., 2016; Gensler et al., 2017). These behaviors reflect rational attempts to leverage the complementary strengths of different channels rather than opportunistic channel switching. Physical stores enable sensory evaluation and immediate product verification, while online channels offer extensive information, price transparency, and convenience. Prior research consistently demonstrates that both showrooming and webrooming significantly influence purchase-related outcomes, including perceived value, decision confidence, channel choice, and purchase intention (Verhoef et al., 2015; Flavian et al., 2020).

Parallel to the rise of omnichannel retailing, Artificial Intelligence (AI) has emerged as a transformative force that is fundamentally reshaping consumer decision-making processes. Retailers increasingly deploy AI-enabled technologies such as recommendation algorithms, predictive analytics, conversational chatbots, personalized pricing systems, and virtual shopping assistants to support consumers across multiple stages of the purchase journey (Davenport et al., 2020; Huang & Rust, 2021). Unlike traditional digital tools, AI systems actively curate information, personalize content, and predict consumer preferences in real time. Consequently, AI increasingly acts as a cognitive intermediary between consumers and retail environments, influencing how information is processed and how search behaviors translate into purchase decisions.

Despite the growing prevalence of AI in retailing, existing research has largely evolved along two parallel but weakly connected streams. Omnichannel studies have primarily examined showrooming and webrooming as channel-level behaviors shaped by factors such as price transparency, assortment breadth, and perceived risk (Gensler et al., 2017; Flavian et al., 2020). In contrast, research on AI in retail has predominantly focused on technology adoption, service automation, customer experience, and firm-level performance outcomes (Shankar, 2018; Davenport et al., 2020). As a result, limited empirical attention has been devoted to understanding how AI-enabled retail services interact with omnichannel search behaviors to shape consumer purchase intention. This gap is increasingly consequential as AI transitions from a supportive tool to an active decision-making agent within consumer journeys.

From a theoretical perspective, this evolution challenges traditional assumptions regarding consumer agency and information processing. Classical consumer behavior theories conceptualize information search and evaluation as predominantly consumer-driven activities. However, AI-enabled retail environments introduce algorithmic agency, wherein intelligent systems dynamically filter information, prioritize alternatives, and nudge consumer choices in real time (Huang & Rust, 2021). Understanding contemporary omnichannel decision-making therefore requires an integrated theoretical perspective that accounts for both human cognition and technology-enabled decision support.

The present study addresses this need by examining how showrooming and webrooming influence consumer purchase intention and how AI-enabled retail services shape this relationship within omnichannel environments. By integrating the Stimulus–Organism–Response framework (Mehrabian & Russell, 1974), Information Processing Theory (Bettman, 1979), and technology acceptance perspectives, this research advances a more comprehensive understanding of AI-enabled omnichannel consumer behavior. In doing so, the study contributes to the broader literature on retail transformation and offers insights into how intelligent technologies reshape consumer decision-making in complex retail ecosystems. Furthermore, examining these dynamics is particularly important in digitally intensive and emerging market contexts, where consumers often combine high levels of digital engagement with enduring preferences for physical store interaction. In such settings, omnichannel search behaviors are especially pronounced, and AI-enabled services may play a critical role in bridging online and offline decision contexts by enhancing consistency, trust, and personalization across channels. A deeper understanding of these mechanisms is therefore essential for advancing theory and informing retail strategy in technology-mediated environments.

2. Literature Review and Hypotheses Development

2.1 Omnichannel Retailing and Consumer Information Search

Omnichannel retailing represents a strategic response to evolving consumer expectations for seamless and integrated shopping experiences across physical and digital channels. Unlike traditional multichannel systems, which operate channels independently, omnichannel environments allow consumers to move fluidly across touchpoints while maintaining continuity in information, pricing, and service (Verhoef et al., 2015). This integration has fundamentally reshaped consumer information search behavior, leading to more complex, non-linear, and iterative decision-making processes.

Information search is a critical stage of the consumer decision-making process, particularly in environments characterized by high product complexity and information asymmetry. In omnichannel settings, consumers increasingly combine online and offline channels to exploit their complementary advantages. Physical stores provide tactile inspection, immediate verification, and interpersonal assistance, whereas online channels offer extensive product information, reviews, price comparisons, and convenience (Gensler et al., 2017). As a result, consumers strategically alternate between channels to optimize decision outcomes.

2.2 Showrooming Behavior and Purchase Intention

Showrooming has attracted substantial scholarly attention due to its implications for channel migration and retailer profitability. Defined as the practice of examining products in physical stores before purchasing them online, showrooming reflects consumers' desire to reduce performance and financial risk while securing better prices or convenience (Flavian et al., 2016). Empirical studies indicate that showrooming enhances product knowledge and price awareness, which in turn influences purchase-related outcomes such as decision confidence and purchase intention (Gensler et al., 2017).

From a Stimulus–Organism–Response (S-O-R) perspective, showrooming functions as an environmental stimulus that activates cognitive evaluations related to value, trust, and risk reduction. Information Processing Theory further suggests that showrooming allows consumers to process diagnostic sensory information, thereby reducing uncertainty and improving decision quality (Bettman, 1979). Consequently, showrooming is expected to positively influence purchase intention in omnichannel environments.

H1: Showrooming behavior has a positive effect on consumer purchase intention.

2.3 Webrooming Behavior and Purchase Intention

Webrooming, defined as searching for product information online prior to purchasing in physical stores, is increasingly prevalent in omnichannel contexts. Unlike showrooming, webrooming is often associated with risk-averse consumers who value online information but prefer the assurance of in-store purchase completion (Flavian et al., 2016). Online channels provide access to detailed product descriptions, reviews, and expert evaluations, enabling consumers to form informed preferences before entering physical stores.

Prior research demonstrates that webrooming enhances perceived control, trust, and decision confidence, which positively influence purchase intention (Verhoef et al., 2015; Flavian et al., 2020). Within the S-O-R framework, webrooming serves as a cognitive stimulus that enhances internal evaluations and facilitates favorable behavioral responses. Therefore, webrooming is expected to exert a positive influence on purchase intention.

H2: Webrooming behavior has a positive effect on consumer purchase intention.

2.4 Showrooming, Webrooming, and Consumer Cognitive Evaluations: Decision Confidence and Perceived Value

Within omnichannel retail environments, consumers increasingly engage in cross-channel information search behaviors to reduce uncertainty and enhance decision quality. Two such behaviors showrooming and webrooming represent purposeful strategies through which consumers leverage the complementary strengths of online and offline channels. Drawing on the Stimulus–Organism–Response (S-O-R) framework (Mehrabian & Russell, 1974) and Information Processing Theory (Bettman, 1979), these behaviors can be conceptualized as

external stimuli that activate internal cognitive and evaluative states (organism), which subsequently influence behavioral outcomes.

2.4.1 Showrooming and Decision Confidence

Showrooming involves consumers physically inspecting products in brick-and-mortar stores while relying on digital channels for price comparison, reviews, or final purchase (Gensler et al., 2017). From an information processing perspective, this behavior enhances consumers' ability to evaluate product attributes through multisensory inspection while simultaneously accessing extensive external information. Such enriched information environments reduce ambiguity and improve the diagnosticity of available cues, thereby strengthening consumers' confidence in their decisions (Bettman, Luce, & Payne, 1998).

Prior research suggests that tactile product interaction, salesperson consultation, and real-time product demonstrations significantly enhance consumers' certainty regarding product quality and suitability (Flavian, Gurrea, & Orús, 2016). When these physical evaluations are complemented by online information such as peer reviews or price transparency, consumers experience a sense of control and validation, reinforcing decision confidence defined as the subjective certainty associated with making a purchase choice (Howard & Sheth, 1969). Within the S-O-R framework, showrooming thus acts as a stimulus that enhances internal cognitive assurance, leading to higher decision confidence.Accordingly, the following hypothesis is proposed:

H3a: Showrooming behavior positively influences consumers' decision confidence.

2.4.2 Showrooming and Perceived Value

Perceived value reflects consumers' overall assessment of the utility of a product based on perceptions of what is received versus what is given (Zeithaml, 1988). Showrooming contributes to perceived value by allowing consumers to optimize trade-offs between quality, price, convenience, and risk. Physical inspection reduces perceived performance risk, while online price comparisons and promotions enhance perceptions of economic value (Rapp et al., 2015).

Empirical evidence indicates that showrooming consumers often perceive greater value because they believe they have secured the "best possible deal" through extensive cross-channel evaluation (Verhoef et al., 2015). This aligns with Information Processing Theory, which posits that consumers seek to maximize subjective value by allocating cognitive effort to information acquisition when perceived benefits outweigh processing costs (Bettman, 1979). As showrooming facilitates richer evaluation at relatively low incremental cost, it enhances consumers' value perceptions. Thus, showrooming not only strengthens confidence but also elevates perceived value, leading to the following hypothesis:

H3b: Showrooming behavior positively influences consumers' perceived value.

2.4.3 Webrooming and Decision Confidence

Webrooming refers to consumers' tendency to search for information online before completing purchases in physical stores (Flavián et al., 2016). Online channels provide extensive informational resources, including detailed product specifications, user-generated reviews, expert opinions, and comparison tools, which help consumers form informed expectations prior to in-store visits. This pre-purchase knowledge acquisition enables consumers to enter physical stores with clearer preferences and reduced uncertainty.

From the S-O-R perspective, webrooming functions as a cognitive stimulus that shapes consumers' internal evaluative states. Research demonstrates that online information search significantly improves consumers' sense of preparedness and reduces decision anxiety in offline purchase contexts (Gensler et al., 2017). By pre-processing information digitally, consumers reduce cognitive load during in-store decision-making, leading to greater confidence in final choices (Bettman et al., 1998). Therefore, webrooming is expected to positively influence decision confidence, resulting in the following hypothesis:

H4a: Webrooming behavior positively influences consumers' decision confidence.

2.4.4 Webrooming and Perceived Value

Webrooming also enhances perceived value by enabling consumers to identify superior options before engaging in physical purchases. Online environments facilitate transparent price comparisons, promotion awareness, and evaluation of alternative brands, allowing consumers to assess value more effectively (Ratchford, Talukdar, & Lee, 2001). When consumers subsequently purchase in-store, they often perceive greater value due to immediate product possession, reduced delivery risk, and enhanced service experiences.

Prior studies suggest that webrooming consumers frequently report higher value perceptions because the combination of online search efficiency and offline purchase reassurance delivers both economic and experiential benefits (Flavián et al., 2020). In line with Information Processing Theory, such dual-channel evaluation improves the perceived payoff of cognitive effort, thereby strengthening value assessments. Hence, the following hypothesis is proposed:

H4b: Webrooming behavior positively influences consumers' perceived value.

2.5 Decision Confidence, Perceived Value, and Purchase Intention

Within the Stimulus–Organism–Response (S-O-R) framework (Mehrabian & Russell, 1974), internal cognitive and evaluative states formed during the shopping process play a decisive role in translating external stimuli into behavioral outcomes. In omnichannel retail contexts, consumers are exposed to extensive and often complex information across digital and physical touchpoints. As a result, decision confidence and perceived value emerge as critical organism-level mechanisms that influence whether information search and evaluation ultimately culminate in purchase intention.

2.5.1 Decision Confidence and Purchase Intention

Decision confidence refers to the degree of certainty consumers feel regarding the correctness and appropriateness of their purchase decision (Howard & Sheth, 1969). From an Information Processing Theory perspective, confidence arises when consumers perceive that they have processed sufficient, relevant, and diagnostic information to justify a choice (Bettman, 1979). High decision confidence reflects reduced ambiguity, lower perceived risk, and stronger belief in one's evaluative judgments.

Extant research consistently demonstrates that confident consumers are more likely to translate favorable evaluations into actual purchase intentions. When consumers feel assured about product performance, price fairness, and choice optimality, they experience less hesitation and lower likelihood of post-decision regret, increasing their readiness to commit to a purchase (Parker & Lehmann, 2011). In omnichannel settings, decision confidence is particularly salient, as consumers must reconcile information obtained from multiple sources before forming a final judgment (Verhoef et al., 2015).

Empirical studies in retail and e-commerce contexts indicate that decision confidence positively influences both purchase intention and actual purchase behavior by reinforcing cognitive commitment to the selected option (Bettman et al., 1998; Flavián et al., 2016). Within the S-O-R framework, decision confidence functions as a psychological activation state that bridges information processing outcomes and behavioral responses. Accordingly, the following hypothesis is proposed:

H5: Decision confidence positively influences consumer purchase intention.

2.5.2 Perceived Value and Purchase Intention

Perceived value is defined as consumers' overall evaluation of the utility of a product or service based on perceptions of benefits received relative to costs incurred (Zeithaml, 1988). It is a central construct in consumer behavior research because it captures both economic and experiential evaluations, including quality, price fairness, convenience, and emotional benefits.

From a theoretical standpoint, perceived value represents a key evaluative organism state that shapes behavioral intentions. According to value-based decision theories, consumers are more likely to intend to purchase when they perceive that a product delivers superior value compared to available alternatives (Dodds, Monroe, &

Grewal, 1991). In omnichannel environments, perceived value is enhanced when consumers believe that cross-channel interactions have enabled them to optimize both functional and experiential benefits.

Prior empirical evidence confirms that perceived value is a strong predictor of purchase intention across online, offline, and omnichannel contexts (Sweeney & Soutar, 2001; Rapp et al., 2015). Consumers who perceive higher value are more willing to pay, more committed to the purchase decision, and more likely to form positive future behavioral intentions. Within the S-O-R framework, perceived value serves as a motivational mechanism that drives behavioral response by reinforcing the desirability of the chosen option. Thus, the following hypothesis is advanced:

H6: Perceived value positively influences consumer purchase intention.

2.6 Moderating Role of AI-Enabled Retail Services in Omnichannel Decision-Making

The rapid integration of Artificial Intelligence (AI)-enabled retail services has fundamentally reshaped how consumers navigate and interpret omnichannel shopping environments. AI-enabled services including personalized recommendations, intelligent search, chatbots, virtual assistants, and predictive analytics actively intervene in consumers' information acquisition and evaluation processes (Davenport et al., 2020; Huang & Rust, 2021). Rather than functioning as passive technological tools, these systems increasingly act as decision facilitators that influence how consumers translate cross-channel search behaviors into purchase-related outcomes.

Within the Stimulus–Organism–Response (S-O-R) framework (Mehrabian & Russell, 1974), showrooming and webrooming represent external stimuli that initiate information processing and evaluation. However, the strength of the relationship between these stimuli and behavioral responses such as purchase intention is contingent upon contextual and technological factors. AI-enabled retail services serve as situational moderators that shape the effectiveness of omnichannel search behaviors by reducing cognitive complexity, enhancing informational relevance, and facilitating seamless channel integration.

2.6.1 AI-Enabled Retail Services as Moderators of the Webrooming–Purchase Intention Relationship

Webrooming involves extensive online information search prior to in-store purchase (Flavián et al., 2016). While online search can enhance knowledge and preparedness, it may also increase cognitive overload due to the volume and diversity of available information (Bettman et al., 1998). AI-enabled services mitigate this challenge by filtering, prioritizing, and personalizing information based on consumers' preferences and prior behavior, thereby improving the usability and diagnosticity of online information (Huang & Rust, 2021).

From an Information Processing Theory perspective, AI reduces processing costs while increasing the perceived benefits of online search, enabling consumers to derive clearer insights from digital interactions. This enhances the likelihood that information gathered during webrooming is effectively translated into purchase intention. Empirical studies indicate that AI-driven recommendation systems and intelligent interfaces strengthen the link between online search and offline purchasing by supporting confident and value-oriented decision-making (Shankar, 2018; Pantano et al., 2022). Thus, when AI-enabled retail services are highly developed, the positive influence of webrooming on purchase intention is expected to be stronger. Accordingly, the following hypothesis is proposed:

H7: AI-enabled retail services positively moderate the relationship between webrooming behavior and consumer purchase intention.

2.6.2 AI-Enabled Retail Services as Moderators of the Showrooming Purchase Intention Relationship

Showrooming enables consumers to physically inspect products before purchasing through digital channels, combining experiential evaluation with price transparency and convenience (Gensler et al., 2017). However, without intelligent support, consumers may struggle to integrate in-store experiences with online decision pathways. AI-enabled retail services bridge this gap by synchronizing online and offline data, offering real-time personalized recommendations, and providing intelligent assistance during or after in-store visits (Davenport et al., 2020).

From a theoretical standpoint, AI functions as a cognitive integrator, enhancing the effectiveness of showrooming by connecting tactile experiences with algorithmically curated digital information. According to technology-enabled cognition theories, AI enhances consumers' ability to transform sensory experiences into actionable decisions by contextualizing information and predicting preference alignment (Huang & Rust, 2021). This reduces post-evaluation uncertainty and strengthens purchase intention.

Empirical evidence suggests that AI-driven tools such as mobile recommendation apps, virtual fitting rooms, and conversational agents significantly amplify the outcomes of showrooming by guiding consumers toward optimal choices and reinforcing decision commitment (Verhoef et al., 2015; Pantano et al., 2022). Consequently, the relationship between showrooming and purchase intention is expected to be stronger when AI-enabled services are perceived as effective and reliable. Hence, the following hypothesis is advanced:

H8: AI-enabled retail services positively moderate the relationship between showrooming behavior and consumer purchase intention.

2.7 Artificial Intelligence in Retail Decision-Making

Artificial Intelligence has emerged as a critical enabler of personalization and decision support in retail environments. AI-enabled technologies such as recommendation systems, predictive analytics, conversational agents, and virtual assistants actively shape consumer interactions by filtering information, prioritizing alternatives, and predicting preferences (Davenport et al., 2020; Huang & Rust, 2021). These systems reduce cognitive effort and information overload, thereby facilitating faster and more confident decision-making.

From an Information Processing perspective, AI systems alter how consumers acquire, process, and evaluate information by enhancing diagnosticity and reducing cognitive load. Simultaneously, technology acceptance theories such as TAM and UTAUT suggest that consumers' reliance on AI depends on perceived usefulness, performance expectancy, and facilitating conditions (Davis, 1989; Venkatesh et al., 2003). When consumers perceive AI-enabled services as effective and trustworthy, these technologies directly influence purchase intention.

3. Conceptual Framework

The conceptual framework of this study explains how omnichannel information search behaviors influence consumer purchase intention within Artificial Intelligence (AI) enabled retail environments. Grounded in the Stimulus–Organism–Response (S-O-R) framework, Information Processing Theory, and technology acceptance perspectives, the model integrates behavioral and technological constructs to capture the complexity of contemporary omnichannel decision-making.

In the framework, showrooming behavior and webrooming behavior are conceptualized as the primary exogenous (independent) variables. These constructs represent two distinct yet complementary omnichannel information search strategies adopted by consumers. Showrooming reflects consumers' tendency to examine products in physical stores before purchasing online, while webrooming reflects online information search prior to purchasing in physical stores. Consistent with the S-O-R paradigm, both behaviors function as environmental stimuli, initiating the consumer decision-making process by exposing individuals to diverse informational and experiential inputs across channels.

Artificial Intelligence enabled retail services constitute a central explanatory construct within the framework. This construct captures consumers' perceptions of AI-driven personalization, recommendation accuracy, predictive assistance, and real-time decision support provided by intelligent retail systems. AI-enabled services are modeled in two roles. First, they act as a direct antecedent to purchase intention by enhancing information relevance, reducing cognitive effort, and facilitating confident decision-making. Second, AI-enabled services function as a moderating variable, strengthening the relationships between showrooming and purchase intention as well as between webrooming and purchase intention. Through this moderating role, AI intensifies the

effectiveness of omnichannel search behaviors by enabling seamless channel integration and personalized guidance.

The framework further incorporates decision confidence and perceived value as key mediating (organismic) variables, representing consumers' internal cognitive evaluations. Decision confidence reflects consumers' perceived certainty regarding the correctness of their purchase decisions, while perceived value captures the trade-off between perceived benefits and perceived costs of the purchase. Drawing on Information Processing Theory, these constructs explain how consumers translate information search and AI-assisted inputs into meaningful cognitive assessments. Showrooming and webrooming are expected to enhance decision confidence by reducing uncertainty, while AI-enabled services enhance perceived value by improving information diagnosticity and personalization. These mediators, in turn, drive behavioral outcomes.

Purchase intention is positioned as the endogenous (dependent) variable and represents the final behavioral response within the S-O-R framework. It reflects consumers' likelihood and willingness to complete a purchase within the omnichannel environment. The framework posits that purchase intention is directly influenced by showrooming behavior, webrooming behavior, and AI-enabled retail services, as well as indirectly influenced through decision confidence and perceived value.

So we can say that the conceptual framework captures a multi-layered decision process in which omnichannel information search behaviors serve as stimuli, AI-enabled services act as both cognitive enhancers and contextual moderators, internal evaluations function as organismic mediators, and purchase intention represents the behavioral outcome. By integrating behavioral and technology-driven perspectives, the framework provides a comprehensive explanation of how intelligent retail systems reshape consumer decision-making in omnichannel environments.

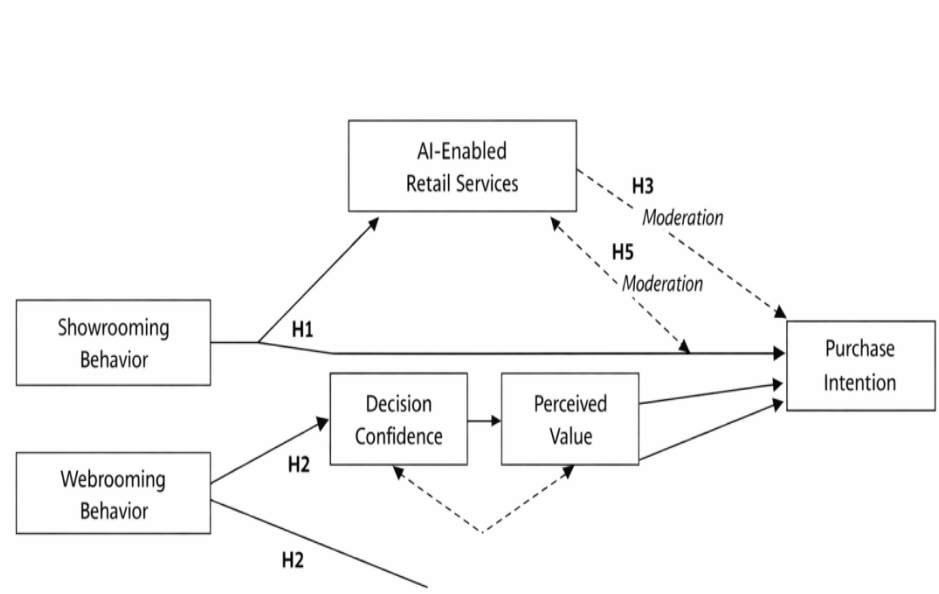

Figure No.-1

4. Results And Discussion

Respondent Profile

Table No.-1 Profile of Respondent

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	228	55.3
	Female	184	44.7
Age	18–25 years	96	23.3
	26–35 years	174	42.2
	36–45 years	98	23.8
	Above 45 years	44	10.7
Education	Undergraduate	112	27.2
	Postgraduate	216	52.4
	Doctorate/Professional	84	20.4
Omnichannel Experience	Showrooming	198	48.1
	Webrooming	214	51.9

Note: *n = 412 valid responses.*

The respondent profile indicates that the study is based on a diverse and omnichannel-experienced consumer sample. A majority of respondents fall within the 26–35 age group and possess postgraduate or professional qualifications, suggesting a digitally literate and analytically engaged consumer base. Nearly equal representation of showroomers and webroomers confirms that the sample is well suited to examine cross-channel search behaviors.

From a discussion perspective, this demographic composition strengthens the relevance of the findings, as younger and educated consumers are more likely to adopt AI-enabled retail services and engage in complex omnichannel journeys. Prior research suggests that such consumers actively combine online and offline information sources to reduce uncertainty and optimize value, reinforcing the external validity of the study's results.

Measurement Model: Reliability and Convergent Validity

Table No- 2 Reliability & Convergent Validity

Construct	Items	Cronbach's α	Composite Reliability (CR)	AVE
Showrooming (SR)	4	0.82	0.88	0.65
Webrooming (WR)	4	0.84	0.89	0.67
AI-Enabled Retail Services (AI)	5	0.87	0.91	0.68
Decision Confidence (DC)	4	0.80	0.86	0.60
Perceived Value (PV)	4	0.83	0.88	0.64
Purchase Intention (PI)	4	0.86	0.90	0.69

Note: *Thresholds: α > 0.70, CR > 0.70, AVE > 0.50.*

The results demonstrate strong internal consistency and convergent validity across all constructs. Cronbach's alpha and composite reliability values exceed the recommended threshold of 0.70, while AVE values surpass 0.50, confirming that the indicators reliably capture the intended latent constructs.

These findings support the theoretical robustness of the construct operationalization. Showrooming and webrooming effectively represent omnichannel behavioral stimuli (S-O-R), AI-enabled retail services capture technology-enabled facilitation (TAM/UTAUT), and decision confidence and perceived value represent internal organismic states consistent with Information Processing Theory. The validated measurement model provides a sound basis for testing the hypothesized structural relationships.

Discriminant Validity (Fornell–Larcker Criterion)

Table No.-3-Discriminant Validity

Construct	SR	WR	AI	DC	PV	PI
SR	0.81					
WR	0.44	0.82				
AI	0.39	0.46	0.83			
DC	0.48	0.52	0.41	0.77		
PV	0.42	0.49	0.45	0.56	0.80	
PI	0.46	0.58	0.53	0.51	0.62	0.83

Note: *Diagonal values (bold) represent √AVE.*

The square roots of AVE for each construct are higher than their respective inter-construct correlations, confirming discriminant validity. This indicates that each construct is empirically distinct and measures a unique aspect of the omnichannel decision-making process.

The discussion of this result is particularly important because showrooming and webrooming are conceptually related behaviors. Establishing discriminant validity confirms that these behaviors are not interchangeable but represent different strategic information-search paths. Similarly, AI-enabled retail services are empirically distinct from cognitive evaluations, reinforcing the conceptualization of AI as a facilitating infrastructure rather than a psychological state.

HTMT Ratio for Discriminant Validity

Table No.- 4 Discriminant Validity

Construct Pair	HTMT Value
SR – WR	0.61
SR – AI	0.54
WR – AI	0.63
DC – PV	0.71
PV – PI	0.79
DC – PI	0.68

Note: *All HTMT values < 0.85, confirming discriminant validity.*

All HTMT ratios fall below the conservative threshold of 0.85, providing additional confirmation of discriminant validity. This reinforces confidence in the model's structural estimates by ruling out multicollinearity and construct overlap. The combined Fornell–Larcker and HTMT evidence strengthens the

methodological rigor expected in advanced PLS-SEM studies and supports the legitimacy of subsequent mediation and moderation analyses.

Structural Model Results and Hypothesis Testing

Table No.-5 Model Fit Summary

Hypothesis	Path	β	t-value	p-value	Result
H1	SR → PI	0.19	3.21	<0.01	Supported
H2	WR → PI	0.27	4.86	<0.001	Supported
H3a	SR → DC	0.31	5.12	<0.001	Supported
H3b	SR → PV	0.24	3.67	<0.01	Supported
H4a	WR → DC	0.35	6.03	<0.001	Supported
H4b	WR → PV	0.29	4.58	<0.001	Supported
H5	DC → PI	0.22	3.42	<0.01	Supported
H6	PV → PI	0.34	5.71	<0.001	Supported
H7	WR×AI → PI	0.16	2.98	<0.01	Supported
H8	SR×AI → PI	0.09	2.11	<0.05	Supported

The structural model results reveal that both showrooming ($\beta = 0.19$, $p < 0.01$) and webrooming ($\beta = 0.27$, $p < 0.001$) significantly influence purchase intention, supporting H1 and H2. The stronger effect of webrooming suggests that digitally enriched pre-purchase information search plays a more decisive role in contemporary purchase decisions.

Both showrooming and webrooming significantly enhance decision confidence and perceived value, supporting H3a, H3b, H4a, and H4b. These findings are consistent with the S-O-R framework, where omnichannel search behaviors act as stimuli that activate internal evaluative processes. Decision confidence ($\beta = 0.22$, $p < 0.01$) and perceived value ($\beta = 0.34$, $p < 0.001$) significantly predict purchase intention, supporting H5 and H6 and confirming the central role of cognitive evaluations in translating search behavior into purchase outcomes.

The moderating effects of AI-enabled retail services are also significant. AI strengthens the relationships between webrooming and purchase intention (H7) and between showrooming and purchase intention (H8), with a stronger amplification observed for webrooming. This suggests that AI is particularly effective in enhancing digitally initiated search journeys, consistent with TAM and UTAUT, which emphasize perceived usefulness and performance expectancy as drivers of technology-enabled outcomes.

Mediation Analysis Results

Table No.-6 Mediation Analysis Summary

Indirect Path	Indirect Effect	t-value	p-value	Mediation Type
SR → DC → PI	0.07	2.61	<0.01	Partial
SR → PV → PI	0.08	2.88	<0.01	Partial
WR → DC → PI	0.08	3.14	<0.01	Partial
WR → PV → PI	0.10	3.67	<0.001	Partial

The mediation analysis reveals that decision confidence and perceived value partially mediate the relationships between showrooming/webrooming and purchase intention. All indirect effects are statistically significant, while direct effects remain positive. This partial mediation indicates that omnichannel search behaviors influence purchase intention through both cognitive and direct pathways. From an Information Processing Theory perspective, consumers rely on confidence and value assessments to manage information overload and reduce uncertainty, especially in AI-enriched retail environments. At the same time, the persistence of direct effects suggests that omnichannel behaviors also exert an immediate influence on purchase decisions beyond cognitive evaluations.

By explicitly modeling these indirect paths, the study demonstrates that showrooming and webrooming do not influence purchase intention solely through direct effects. Instead, their impact is partially transmitted through cognitive certainty and value evaluations, reinforcing the explanatory power of the S-O-R framework and Information Processing Theory in omnichannel retail research.

Model Predictive Power and Effect Size

Table No.-7 Predictive Power of the Model

Endogenous Construct	R^2	Q^2	Interpretation
Decision Confidence	0.42	0.29	Moderate
Perceived Value	0.47	0.33	Moderate
Purchase Intention	0.58	0.41	Strong

The model explains 42% of variance in decision confidence, 47% in perceived value, and 58% in purchase intention, indicating moderate to strong explanatory power. Positive Q^2 values confirm predictive relevance.

These results demonstrate that integrating omnichannel behaviors with AI-enabled services substantially improves the explanatory strength of purchase intention models. The relatively high R^2 for purchase intention highlights the strategic importance of combining behavioral and technological perspectives to understand contemporary consumer decision-making.

Effect Size (f^2)

Table No.-8 Effect size

Path	f^2	Effect Size
WR → PI	0.18	Medium
SR → PI	0.09	Small
PV → PI	0.22	Medium
DC → PI	0.11	Small–Medium

Effect size analysis shows that webrooming and perceived value exert medium effects on purchase intention, while showrooming and AI interaction effects exhibit small to medium effects. This suggests that while showrooming remains relevant, webrooming is the dominant behavioral driver in AI-supported omnichannel contexts. AI functions as an enhancing mechanism rather than a primary driver, reinforcing its conceptualization as a catalyst that amplifies the effectiveness of consumer search behaviors rather than replacing them.

Conclusion

This study advances omnichannel retailing literature by empirically examining how showrooming and webrooming influence purchase intention in AI-enabled retail environments. Drawing on the Stimulus–

Organism–Response (S-O-R) framework, Information Processing Theory, and technology adoption perspectives (TAM and UTAUT), the study conceptualizes omnichannel search behaviors as stimuli that activate internal cognitive evaluations—decision confidence and perceived value which ultimately drive purchase intention.

The findings demonstrate that both showrooming and webrooming significantly enhance purchase intention, with webrooming exerting a stronger effect. This suggests a growing reliance on digitally mediated information search prior to purchase decisions. Importantly, decision confidence and perceived value partially mediate these relationships, highlighting the critical role of cognitive evaluations in translating search behaviors into actual purchase intentions.

A key contribution of this study lies in identifying AI-enabled retail services as a strategic moderator that strengthens the impact of omnichannel search behaviors on purchase intention. AI emerges not merely as a background technology but as an active decision facilitator that enhances information diagnosticity, reduces cognitive effort, and enables seamless transitions across online and offline channels. The stronger moderating effect of AI on webrooming further underscores the importance of intelligent digital interfaces in contemporary retail journeys.

Overall, the study provides a unified behavioral technological perspective on omnichannel decision-making, offering both theoretical enrichment and actionable insights for retailers seeking to leverage AI to convert omnichannel search behavior into purchase outcomes.

Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the cross-sectional research design limits the ability to infer causal relationships among the constructs. Consumer perceptions and behaviors in AI-enabled retail environments may evolve over time, which cannot be captured through a single data collection wave.

Second, the study relies on self-reported survey data, which may be subject to common method bias and social desirability effects, despite statistical controls. Third, the research focuses on general omnichannel consumers without differentiating product categories or levels of purchase involvement, which may influence showrooming and webrooming dynamics.

Fourth, AI-enabled retail services were examined as a composite construct. While this approach captures overall AI facilitation, it does not disentangle the distinct effects of specific AI tools such as chatbots, recommendation engines, or dynamic pricing algorithms. Finally, the study context may limit generalizability across cultures or retail formats with differing levels of digital maturity.

Future Research Directions

Future research can build on this study in several ways. Longitudinal or experimental designs could be employed to capture dynamic changes in omnichannel behavior and AI adoption over time. Scholars may also examine product-category-specific effects, such as differences between high-involvement and low-involvement purchases.

Further studies could decompose AI-enabled retail services into specific technologies to better understand their differential cognitive and behavioral impacts. Integrating emotional variables (e.g., trust, perceived control, or algorithmic transparency) may provide deeper insights into consumer AI interaction mechanisms. Finally, cross-cultural and cross-market comparisons could enhance the generalizability of the proposed framework and reveal context-specific nuances.

References

[1] Ailawadi, K. L., & Farris, P. W. (2017). Managing multi- and omni-channel distribution: Metrics and research directions. *Journal of Retailing, 93*(1), 120–135. https://doi.org/10.1016/j.jretai.2016.12.003

[2] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

[3] Ameen, N., Hosany, S., & Tarhini, A. (2021). Consumer interaction with cutting-edge technologies: Implications for service experience and well-being. *Journal of Business Research, 124*, 241–256. https://doi.org/10.1016/j.jbusres.2020.11.042

[4] Bagozzi, R. P. (1986). *Principles of marketing management*. Science Research Associates.

[5] Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

[6] Bettman, J. R. (1979). *An information processing theory of consumer choice*. Addison-Wesley.

[7] Blut, M., Teller, C., & Floh, A. (2018). Testing retail marketing-mix effects on patronage: A meta-analysis. *Journal of Retailing, 94*(2), 113–135. https://doi.org/10.1016/j.jretai.2018.02.001

[8] Brynjolfsson, E., Hu, Y. J., & Rahman, M. S. (2013). Competing in the age of omnichannel retailing. *MIT Sloan Management Review, 54*(4), 23–29.

[9] Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing, 77*(4), 511–535. https://doi.org/10.1016/S0022-4359(01)00056-2

[10] Cui, G., Gallino, S., Moreno, A., & Zhang, D. J. (2021). The operational value of social media information. *Manufacturing & Service Operations Management, 23*(3), 611–628. https://doi.org/10.1287/msom.2020.0901

[11] Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science, 48*(1), 24–42. https://doi.org/10.1007/s11747-019-00696-0

[12] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

[13] De Keyser, A., Köcher, S., Alkire, L., Verbeeck, C., & Kandampully, J. (2019). Frontline service technology infusion. *Journal of Service Research, 22*(3), 240–256. https://doi.org/10.1177/1094670519827302

[14] Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research, 28*(3), 307–319. https://doi.org/10.2307/3172866

[15] Dwivedi, Y. K., Hughes, L., Ismagilova, E., et al. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research. *International Journal of Information Management, 57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

[16] Eroglu, S. A., Machleit, K. A., & Davis, L. M. (2003). Empirical testing of a model of online store atmospherics and shopper responses. *Psychology & Marketing, 20*(2), 139–150. https://doi.org/10.1002/mar.10064

[17] Flavián, C., Gurrea, R., & Orús, C. (2016). Choice confidence in the webrooming purchase process: The impact of online positive reviews and the motivation to touch. *Journal of Consumer Behaviour, 15*(5), 459–476. https://doi.org/10.1002/cb.1585

[18] Flavián, C., Gurrea, R., & Orús, C. (2020). Combining channels to make smart purchases: The role of webrooming and showrooming. *Journal of Retailing and Consumer Services, 52*, 101923. https://doi.org/10.1016/j.jretconser.2019.101923

[19] Flavián, C., Pérez-Rueda, A., Belanche, D., & Casaló, L. V. (2020). Intention to use analytical artificial intelligence tools in services. *Journal of Service Management, 31*(3), 451–474.

[20] Gensler, S., Neslin, S. A., & Verhoef, P. C. (2017). The showrooming phenomenon: It's more than just about price. *Journal of Interactive Marketing, 38*, 29–43. https://doi.org/10.1016/j.intmar.2017.01.003

[21] Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing, 93*(1), 1–6. https://doi.org/10.1016/j.jretai.2016.12.008

[22] Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage.

[23] Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity. *Journal of the Academy of Marketing Science, 43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

[24] Hoffman, D. L., & Novak, T. P. (2018). Consumer and object experience in the Internet of Things. *Journal of Consumer Research, 44*(6), 1177–1204. https://doi.org/10.1093/jcr/ucx105

[25] Homburg, C., Jozić, D., & Kuehnl, C. (2017). Customer experience management. *Journal of the Academy of Marketing Science, 45*(3), 377–401. https://doi.org/10.1007/s11747-015-0460-7

[26] Huang, M.-H., & Rust, R. T. (2021). Artificial intelligence in service. *Journal of Service Research, 24*(1), 3–18. https://doi.org/10.1177/1094670520902266

[27] Kannan, P. K., & Li, H. A. (2017). Digital marketing. *International Journal of Research in Marketing, 34*(1), 22–45. https://doi.org/10.1016/j.ijresmar.2016.11.006

[28] Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing, 80*(6), 69–96. https://doi.org/10.1509/jm.15.0420

[29] Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. MIT Press.

[30] Pantano, E., Priporas, C. V., De Carvalho, H., & Dennis, C. (2022). Artificial intelligence and retailing: A systematic literature review. *Journal of Retailing and Consumer Services, 64*, 102786. https://doi.org/10.1016/j.jretconser.2021.102786

[31] Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research. *Journal of Applied Psychology, 88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

[32] Roggeveen, A. L., & Sethuraman, R. (2020). Customer-interfacing retail technologies in 2020 & beyond. *Journal of Retailing, 96*(3), 299–309. https://doi.org/10.1016/j.jretai.2020.02.010

[33] Rust, R. T. (2020). The future of marketing. *International Journal of Research in Marketing, 37*(1), 15–26. https://doi.org/10.1016/j.ijresmar.2019.08.002

[34] Shankar, V. (2018). How artificial intelligence (AI) is reshaping retailing. *Journal of Retailing, 94*(4), vi–xi. https://doi.org/10.1016/S0022-4359(18)30076-9

[35] Simonson, I., Carmon, Z., Dhar, R., Drolet, A., & Nowlis, S. (2001). Consumer research: In search of identity. *Annual Review of Psychology, 52*, 249–275. https://doi.org/10.1146/annurev.psych.52.1.249

[36] Stone, M., & Woodcock, N. (2014). Interactive, direct and digital marketing. *Journal of Research in Interactive Marketing, 8*(1), 4–17. https://doi.org/10.1108/JRIM-07-2013-0046

[37] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540

[38] Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing. *Journal of Retailing, 91*(2), 174–181. https://doi.org/10.1016/j.jretai.2015.02.005

[39] Wedel, M., & Kannan, P. K. (2016). Marketing analytics for data-rich environments. *Journal of Marketing, 80*(6), 97–121. https://doi.org/10.1509/jm.15.0413

[40] Yadav, M. S., & Pavlou, P. A. (2014). Marketing in computer-mediated environments. *Journal of Marketing, 78*(1), 20–40. https://doi.org/10.1509/jm.12.0020

[41] Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value. *Journal of Marketing, 52*(3), 2–22. https://doi.org/10.2307/1251446

[42] Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing, 60*(2), 31–46. https://doi.org/10.2307/1251929

Annexure-I

Constructs, Measurement Items, Sources, and Factor Loadings

Construct	Code	Measurement Item (Questionnaire Statements)	Source	Factor Loading
Showrooming (SR)	SR1	I often examine products in physical stores before purchasing them online.	Flavián et al. (2016)	0.81
	SR2	I visit physical stores mainly to gather product information before buying online.	Flavián et al. (2016)	0.84
	SR3	Inspecting products in-store helps me make better online purchase decisions.	Gensler et al. (2017)	0.79
	SR4	I prefer to touch or try products in-store before ordering them online.	Flavián et al. (2020)	0.83
Webrooming (WR)	WR1	I search for product information online before purchasing in a physical store.	Flavián et al. (2016)	0.85
	WR2	Online reviews influence my in-store purchase decisions.	Gensler et al. (2017)	0.88
	WR3	I compare prices online before buying from a physical store.	Verhoef et al. (2015)	0.82
	WR4	Online product information improves my confidence when buying in-store.	Flavián et al. (2020)	0.86
AI-Enabled Retail Services (AI)	AI1	AI-based recommendations help me identify products that suit my needs.	Huang & Rust (2021)	0.84
	AI2	Chatbots or virtual assistants improve my shopping experience.	Davenport et al. (2020)	0.87
	AI3	AI tools help me compare product options efficiently.	Shankar (2018)	0.81
	AI4	AI-enabled personalization makes shopping easier for me.	Huang & Rust (2021)	0.88
	AI5	AI-based services reduce the effort required to make purchase decisions.	Davenport et al. (2020)	0.85

Decision Confidence (DC)	DC1	I feel confident about my purchase decisions after searching across channels.	Bettman (1979)	0.78
	DC2	I am certain that I make the right choice when buying products.	Flavián et al. (2020)	0.81
	DC3	The information I gather helps me avoid wrong purchase decisions.	Bettman (1979)	0.76
	DC4	I feel assured about my final purchase decision.	Gensler et al. (2017)	0.80
Perceived Value (PV)	PV1	The overall value I receive from my purchase is high.	Zeithaml (1988)	0.83
	PV2	The benefits of my purchase outweigh the costs involved.	Sweeney & Soutar (2001)	0.86
	PV3	Shopping across channels gives me better value for money.	Verhoef et al. (2015)	0.81
	PV4	AI-enabled services increase the value of my shopping experience.	Huang & Rust (2021)	0.84
Purchase Intention (PI)	PI1	I intend to purchase products from this retailer in the future.	Dodds et al. (1991)	0.87
	PI2	I am likely to choose this retailer over others.	Dodds et al. (1991)	0.89
	PI3	I would recommend this retailer to others.	Zeithaml et al. (1996)	0.85
	PI4	I plan to make purchases from this retailer soon.	Dodds et al. (1991)	0.88

Annexure-II

Theory-to-Construct Mapping

Theory	Core Concept	Construct in Model	Justification
Stimulus–Organism–Response (Mehrabian & Russell, 1974)	Environmental stimuli	Showrooming, Webrooming	Omnichannel search behaviors act as external stimuli initiating cognitive evaluation
	Organismic states	Decision Confidence, Perceived Value	Internal cognitive evaluations activated by stimuli
	Behavioral response	Purchase Intention	Final consumer response
Information Processing Theory	Cognitive load	AI-Enabled	AI structures,

(Bettman, 1979)	reduction	Retail Services	filters, and prioritizes information
	Decision certainty	Decision Confidence	Reduced uncertainty improves decision quality
Technology Acceptance Model (Davis, 1989)	Perceived usefulness	AI-Enabled Retail Services	AI effectiveness drives behavioral outcomes
UTAUT (Venkatesh et al., 2003)	Performance expectancy	AI-Enabled Retail Services	AI enhances task performance and channel integration