



INTERNATIONAL JOURNAL OF COMMERCE AND MANAGEMENT RESEARCH STUDIES (IJCMRS)

(Open Access, Double-Blind Peer Reviewed Journal)

ISSN Online: 3049-1908

ISSN Print: 3139-1958



The Psychology of Purchase Decisions: A Conceptual Framework Integrating Dual-Process Theory, Brand Affect, and Digital Nudging in Contemporary Consumer Behaviour

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Article information

Received: 4th February 2026

Received in revised form: 6th March 2026

Accepted: 10th May 2026

Available online: 26th June 2026

Volume:3

Issue: 2

DOI: <https://doi.org/10.63090/IJCMRS/3049.1908.0035>

Abstract

This conceptual paper develops an integrated theoretical framework for understanding consumer purchase decisions in digitally mediated marketplace environments. Drawing on dual-process theory (System 1 and System 2 cognition), brand affect theory, construal level theory, and behavioral economics, the paper proposes the Consumer Decision Architecture Model (CDAM), which explains how digital environments systematically interact with cognitive processing modes to shape purchase outcomes. The framework synthesizes four decades of consumer behavior research with emerging evidence from neuromarketing, digital nudging, and online behavioral targeting. Three central propositions are advanced: digital interfaces disproportionately activate System 1 (heuristic) processing through environmental design choices, brand affect moderates the relationship between processing mode and purchase intention and construal level mediates the temporal and social distance effects of digital nudging on consumer decision quality. The paper contributes a unified theoretical architecture that bridges classical consumer behavior models with contemporary digital marketing practice, offering researchers a testable framework and practitioners actionable design principles for ethical consumer engagement.

Keywords: - Dual-Process Theory, Brand Affect, Digital Nudging, Purchase Decisions, Construal Level Theory, Behavioral Economics

I. INTRODUCTION

1.1. Background and Context

Consumer behavior, defined as the study of how individuals, groups, and organizations select, buy, use, and dispose of goods and services to satisfy their needs and desires, constitutes the foundational domain of marketing theory (Kotler & Keller, 2016). The classical models of consumer behavior, from Engel, Blackwell, and Kollat's (1968) comprehensive model to Howard and Sheth's (1969) theory of buyer behavior, were constructed around assumptions of deliberate, sequential information processing that reflect the rational economic paradigm dominant at the time of their development.

The digital transformation of commerce has fundamentally disrupted these assumptions. In digitally mediated marketplace environments, consumers navigate algorithmically curated product presentations, dynamic pricing interfaces, social proof signals, scarcity cues, and personalized recommendation systems, all of which operate on psychological principles that classical models were not designed to address (Thaler & Sunstein, 2008). The explosion of behavioral economics research since Kahneman and Tversky's (1979) prospect theory has simultaneously revealed that human decision-making is systematically non-rational in predictable ways, relying on heuristics and biases that digital environments are uniquely positioned to exploit.

1.2. Problem Statement

Existing theoretical frameworks in consumer behavior face a dual inadequacy. Classical comprehensive models are too sequentially rational to accommodate the non-linear, affect-laden, and contextually distorted decisions characteristic of digital commerce environments. Conversely, behavioral economics frameworks, while powerful in explaining individual decision biases, lack the integrative structure needed to model the full sequence from environmental exposure to purchase behavior, including the mediating roles of brand relationships and cognitive construal. This conceptual paper addresses this theoretical gap by proposing an integrated framework.

1.3. Objectives of the Paper

This conceptual paper pursues the following objectives:

- To critically review and synthesize the foundational theoretical streams informing contemporary consumer decision-making.
- To identify the mechanisms through which digital environments interact with cognitive processing modes to shape purchase outcomes.
- To develop the Consumer Decision Architecture Model (CDAM) as an integrative theoretical framework.
- To derive research propositions and methodological implications from the CDAM for empirical testing.
- To discuss ethical implications of digital nudging for marketing practice and consumer welfare policy.

1.4. Significance and Contribution

The CDAM offers several distinct contributions. Theoretically, it bridges the gap between classical consumer behavior models and contemporary behavioral and digital marketing literature. Methodologically, it generates specific, testable propositions amenable to experimental, neuroimaging, and field study designs. Practically, it provides marketing managers with a theoretically grounded architecture for designing consumer-centric digital interfaces that balance commercial objectives with consumer welfare considerations, a tension of growing regulatory and ethical importance (European Commission, 2022).

II. THEORETICAL FOUNDATIONS

2.1. Dual-Process Theory and Consumer Cognition

Dual-process theory, most comprehensively articulated by Kahneman (2011), distinguishes between two qualitatively distinct modes of cognitive processing. System 1 operates automatically, rapidly, and effortlessly, drawing on associative memory, emotion, and learned heuristics to generate quick judgments. System 2 operates deliberately, slowly, and effortfully, employing logical reasoning and working memory to evaluate complex information. In consumer behavior, System 1 processing is implicated in habitual purchases, impulse buying, and brand recognition effects, while System 2 is engaged in considered, high-involvement decisions involving price comparison, feature evaluation, and risk assessment (Dijksterhuis et al., 2006).

Critically, empirical research suggests that the default mode in everyday consumer decisions is System 1 (Wyer & Xu, 2010). Digital environments compound this default through interface design choices, including simplified one-click purchase buttons, autofill payment systems, and streamlined checkout processes, that minimize the cognitive friction that would otherwise engage System 2 deliberation. The implication is that digital commerce environments are structurally biased toward heuristic, affect-driven, and potentially regretted purchase decisions.

2.2. Brand Affect and Consumer Decision-Making

Brand affect, defined as the positive or negative feelings a consumer associates with a brand (Chaudhuri & Holbrook, 2001), occupies a central position in consumer decision-making by providing pre-cognitive evaluative shortcuts that reduce the need for effortful information processing. The brand affect-purchase intention relationship has been extensively validated across product categories and cultural contexts (Bagozzi et al., 1999). Positive brand affect operates as an emotional heuristic in System 1 processing, short-circuiting price and attribute comparisons in favor of familiar, emotionally resonant brand choices.

The digital environment has fundamentally altered the formation and maintenance of brand affect. Social media interactions, user-generated content, and algorithmically personalized brand communications create ambient, persistent brand touchpoints that continuously reinforce or erode affective associations outside of explicit purchase contexts (Hudson et al., 2016). This ambient brand exposure constitutes a form of mere exposure effect (Zajonc, 1968), whereby repeated non-evaluative contact increases affective response, shaping System 1 dispositions that subsequently influence purchase decisions.

2.3. Construal Level Theory and Digital Consumer Contexts

Construal Level Theory (CLT), developed by Trope and Liberman (2010), proposes that psychological distance, across temporal, social, spatial, and hypothetical dimensions, systematically influences the level of abstraction at which individuals mentally represent events and objects. High psychological distance induces high-level, abstract construal (focusing on desirability and core features), while low psychological distance induces low-level, concrete construal (focusing on feasibility and peripheral details). Applied to consumer behavior, CLT predicts that temporally proximate purchase contexts (immediate availability, countdown timers) activate concrete processing that increases attention to price and convenience, while temporally distant contexts activate abstract processing that emphasizes brand values and quality.

Digital environments manipulate construal level through multiple mechanisms: real-time inventory counters (reducing temporal distance), localized product recommendations (reducing spatial distance), social proof indicators showing peers' recent purchases (reducing social distance), and virtual try-on technologies (reducing hypothetical distance). These

mechanisms interact with dual-process activation and brand affect in ways that existing theoretical frameworks have not systematically integrated.

2.4. Behavioral Economics and Digital Nudging

Nudging, as conceptualized by Thaler and Sunstein (2008), refers to any aspect of choice architecture that predictably alters behavior without forbidding options or significantly changing economic incentives. Digital nudging adapts this concept to online environments, encompassing default settings, social norm appeals, anchoring through reference prices, scarcity and urgency signals, and visual salience manipulation (Weinmann et al., 2016). The effectiveness of digital nudges operates primarily through System 1 pathways: they exploit heuristics and cognitive biases to steer behavior toward architecturally preferred options.

The ethical status of digital nudging is contested. Proponents argue that nudges merely structure inherent decision tendencies in welfare-enhancing directions, a position consistent with libertarian paternalism (Thaler & Sunstein, 2008). Critics, including Bovens (2009) and Sunstein (2015), argue that commercial digital nudging exploits cognitive vulnerabilities for profit in ways that undermine rational consumer agency, particularly for vulnerable populations characterized by low financial literacy, cognitive load, or emotional states of depletion.

III. THE CONSUMER DECISION ARCHITECTURE MODEL (CDAM)

3.1. Model Overview

The Consumer Decision Architecture Model (CDAM) integrates the four theoretical streams reviewed above into a unified explanatory framework for purchase decisions in digital environments. The model posits that the digital choice environment (characterized by interface design elements, algorithmic personalization, social proof mechanisms, and nudging interventions) activates either System 1 or System 2 processing modes through its structural features. Brand affect serves as a moderator of the relationship between processing mode and purchase intention, amplifying System 1-driven purchase propensity for high-affect brands and attenuating it for low-affect brands. Construal level, determined by the psychological distance manipulations embedded in the digital environment, mediates the relationship between processing mode activation and decision quality (measured by post-purchase satisfaction and decision regret).

3.2. Core Propositions

3.2.1. Proposition 1: Digital Environment and System 1 Activation

Digital commerce interfaces characterized by low cognitive friction (streamlined checkout, one-click purchasing, autofill), high sensory stimulation (dynamic visuals, sound), and social proof signals will disproportionately activate System 1 processing relative to high-friction, information-dense interfaces. This proposition extends the work of Dijksterhuis et al. (2006) to the digital commerce context and is consistent with the interface-cognition interaction documented by Xu and Wyer (2007) in online shopping research.

3.2.2. Proposition 2: Brand Affect as Moderator

Brand affect moderates the System 1 processing-purchase intention relationship such that high brand affect amplifies purchase intention under System 1 conditions, while low brand affect attenuates it. In high-affect brand contexts, System 1 activation combined with positive affective associations creates a compounding effect on purchase probability. In low-affect or neutral brand contexts, System 1 activation without strong affective anchors leads to greater susceptibility to digital nudging effects, as heuristic processing defaults to contextual cues (price anchors, scarcity signals) in the absence of affective shortcuts. This proposition integrates Chaudhuri and Holbrook (2001) with Kahneman's (2011) dual-process architecture.

3.2.3. Proposition 3: Construal Level as Mediator of Decision Quality

Construal level mediates the effect of digital environment-induced processing mode on decision quality, such that digital distance reduction cues (countdown timers, real-time stock levels, localized recommendations) induce low-level concrete construal, which under System 1 activation leads to impulsive, feasibility-focused decisions characterized by lower post-purchase satisfaction and higher regret. Conversely, environments that maintain or increase psychological distance activate high-level abstract construal, which promotes consideration of desirability and fit with self-concept, leading to higher decision quality outcomes. This proposition synthesizes Trope and Liberman (2010) with the impulsive buying literature (Rook & Fisher, 1995).

3.3. Model Boundary Conditions

The CDAM's propositions are subject to several theoretically derived boundary conditions. Individual differences in need for cognition (Cacioppo & Petty, 1982), consumer self-control capacity (Baumeister et al., 1994), and digital literacy (Van Dijk, 2020) are expected to moderate the susceptibility to System 1 activation through digital environments. Product category involvement moderates the baseline processing mode: high-involvement categories (financial products, healthcare, major appliances) maintain higher System 2 engagement regardless of interface design, while low-involvement categories (packaged goods, digital subscriptions) are more vulnerable to System 1 dominance.

IV. RESEARCH PROPOSITIONS AND METHODOLOGICAL IMPLICATIONS

4.1. Empirical Testing Agenda

The CDAM generates a structured empirical research agenda. Laboratory experiments using eye-tracking and response latency measures can operationalize System 1 versus System 2 activation in response to varying interface designs, following the methodology of Pieters and Wedel (2004). Functional neuroimaging (fMRI) studies can investigate the neural correlates of brand affect moderation during purchase decisions in simulated digital environments, extending the neuromarketing work of Plassmann et al. (2012). Field experiments through A/B testing on commercial e-commerce platforms can test the nudging and construal level propositions in ecologically valid settings, replicating the approach of Goldstein et al. (2008) in digital commerce contexts.

4.2. Measurement Considerations

Operationalizing key constructs of the CDAM presents specific measurement challenges. Brand affect requires instruments that capture both the valence and arousal dimensions of affective response, moving beyond simple attitudinal measures (Russell, 1980). Decision quality is most validly assessed through longitudinal measures of post-purchase satisfaction and regret rather than contemporaneous purchase intention measures, which cannot capture the System 1-System 2 discordance that the model predicts. Construal level can be assessed through the Behavior Identification Form (Vallacher & Wegner, 1989) adapted to consumer contexts.

V. ETHICAL IMPLICATIONS FOR MARKETING PRACTICE

The CDAM has significant ethical implications for marketing practice. If, as the model proposes, digital commerce environments systematically activate System 1 processing in ways that exploit brand affect and cognitive heuristics, and if construal level manipulation through digital nudging reduces decision quality and increases post-purchase regret, then the normative acceptability of prevalent digital marketing practices is called into question. This is particularly salient in the context of vulnerable consumer populations, including those with low financial literacy, cognitive limitations, or emotional vulnerabilities, who may be disproportionately susceptible to System 1 exploitation (Sunstein, 2015).

The European Commission's (2022) Digital Services Act and the Federal Trade Commission's guidelines on dark patterns reflect growing regulatory concern about precisely the mechanisms the CDAM theorizes. Marketing practitioners are advised to evaluate their digital commerce interfaces against CDAM propositions, specifically assessing whether their designs systematically override consumers' deliberative capacities in ways that produce post-purchase regret, a marker of welfare-reducing outcomes even when purchase conversion is maximized. The CDAM thus provides a theoretically grounded ethical audit framework for responsible digital marketing design.

VI. CONCLUSION

This conceptual paper has proposed the Consumer Decision Architecture Model (CDAM) as an integrated theoretical framework for understanding purchase decisions in digital commerce environments. By synthesizing dual-process theory, brand affect theory, construal level theory, and behavioral economics, the CDAM offers a unified explanatory architecture that addresses the theoretical inadequacies of both classical consumer behavior models and standalone behavioral economics frameworks in accounting for digitally mediated purchase behavior.

The three core propositions of the CDAM, concerning digital environment-System 1 activation, brand affect moderation, and construal level mediation of decision quality, generate a structured empirical research agenda and practical design principles for ethical digital marketing. As digital commerce environments grow more sophisticated in their capacity to shape consumer cognition through interface design and algorithmic personalization, theoretical frameworks capable of mapping these influences with precision become increasingly essential. The CDAM represents a contribution toward that theoretical foundation, inviting empirical validation, refinement, and extension across diverse product categories, cultural contexts, and consumer populations.

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