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Checkout as a Loyalty Engine: Exploring the Behavioral Impact of At-Purchase E-CRM

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***Abstract*— This study explores how two distinct electronic customer relationship management (E-CRM) mechanisms—payment convenience and privacy & security assurances shape customer behavior at the critical checkout moment in digital commerce. The study models their differential impact on satisfaction, dissatisfaction, and customer loyalty, mediated by a two-phase structure of electronic word-of-mouth (e-WOM): information seeking and sharing & advocacy. Findings reveal that both mechanisms improve satisfaction and reduce dissatisfaction; however, only privacy/security cues stimulate advocacy and loyalty. Payment convenience fosters informational engagement but lacks the relational weight to generate expressive commitment. This study advances the literature by isolating the at-purchase E-CRM context, distinguishing between e-WOM phases, and integrating satisfaction and dissatisfaction as parallel customer loyalty. Implications are offered for digital platform design, loyalty strategy, and customer trust management.**

***Keywords*— At-purchase E-CRM, Payment Convenience, Privacy and Security, Electronic Word-of-Mouth (e-WOM), Customer Loyalty.**

I. INTRODUCTION

The at-purchase phase—the critical moment when customers finalize their transactions—plays a central role in shaping the e-commerce experience, it is at this point that design, usability, and trust converge to either secure a sale or trigger cart abandonment [1]. Conversely, a seamless and reassuring purchase environment enhances perceived value, satisfaction, and repurchase intentions [2].

At-purchase E-CRM strategies enhance satisfaction and loyalty, with positive e-WOM at checkout further boosting satisfaction [3], [4]. This satisfaction, in turn, drives future e-WOM (Gam et al., , 2019), ultimately reinforcing loyalty [6]. Nevertheless, the precise effect of purchase-phase E-CRM features on E-WOM—and the mediating role of E-WOM between E-CRM, satisfaction, and loyalty—remains unexplored. This study therefore seeks to test the impact of key at-purchase E-CRM levers on satisfaction and loyalty, modelling E-WOM as a mediating variable.

II. LITERATURE REVIEW

The diffusion of digital technologies in CRM has led to electronic customer relationship management (E-CRM)—a suite of mechanisms that enhance the customer journey, especially at the point of purchase [7]. At this critical checkout stage, two levers dominate: privacy/security assurances and seamless payment convenience [8], [9].

The full structural model posits that both at-purchase E-CRM dimensions—Payment Methods and Privacy/Security—affect Information Seeking, which subsequently influences both Satisfaction and Dissatisfaction. These appraisals then shape Sharing & Advocacy, ultimately driving Loyalty. Notably, only the pathway from Dissatisfaction leads directly to Loyalty without passing through Advocacy. Hypotheses H1.1.x, H2.1.x, and H3.1.x test specific indirect effects; H1.2.x, H2.2.x, and H3.2.x assess total indirect effects; and H1.3.x, H2.3.x, and H3.3.x evaluate total effects—targeting e-WOM, Satisfaction, and Loyalty dimensions respectively.

The model distinguishes two sequential e-WOM phases: Information Seeking and Sharing & Advocacy [3]. Information Seeking—shaped by peer input during decision-making—affects both Satisfaction and

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Dissatisfaction (H4) [10]–[12]. These outcomes directly and indirectly influence Loyalty (H5.x.x), alongside a direct link from Information Seeking to Loyalty (H5) [13].

Sharing & Advocacy—defined as post-purchase consumer feedback [14], [15]—is driven by Satisfaction (H8) and reinforces Loyalty (H6). Moreover, Information Seeking indirectly fosters Advocacy via Satisfaction (H7), extending its downstream influence.

Drawing on Oliver's dual appraisal model [16], Dissatisfaction independently reduces Loyalty (H9), whereas Satisfaction enhances it indirectly through Advocacy (H9.x.1), aligning with Zeithaml et al.'s (1996) loyalty-as-repurchase perspective. Yet despite the breadth of CRM research, the dual-phase structure of e-WOM is often overlooked [17], and the checkout—an essential trust-formation moment—is rarely isolated for empirical analysis (Xu et al., 2016) [18], even though security and convenience remain key trust antecedents [19].

III. METHODOLOGY

A bilingual structured survey was administered online and face-to-face, following established instrument development and translation procedures [20], [21].

Users' perceptions and behavioral intentions toward E-CRM at the purchase stage were gauged with a structured measurement framework: privacy & security was captured by four items [22], [23], payment methods by three items , e-WOM by two dimensions—information seeking and sharing/advocacy—comprising three items each []–[12], satisfaction and dissatisfaction by three items apiece [16], and customer loyalty by five items [25].

All responses were recorded on a five-point Likert scale [26]. Convenience sampling [27] yielded 1,124 valid cases after a pilot test with 35 participants confirmed clarity and reliability [28]. The final sample is predominantly female (57.1 %), young (= 27 years), and university-educated (55.7 %); students constitute the majority (52.5 %), with the remainder distributed across managerial, clerical, day-labour, executive and other occupational categories.

IV. RESULTS

Measurement model quality was evaluated using multiple criteria. Internal consistency, assessed via Cronbach's alpha, showed robust reliability across all constructs: Loyalty ($\alpha = 0.911$), Information Seeking ($\alpha = 0.862$), Sharing & Advocacy ($\alpha = 0.882$), Security & Privacy ($\alpha = 0.877$), Payment Methods ($\alpha = 0.856$), Dissatisfaction ($\alpha = 0.835$), and Satisfaction ($\alpha = 0.820$). Composite reliability was examined using Jöreskog's rho (ρ_a), with values ranging from 0.833 (Satisfaction) to 0.915 (Loyalty), confirming strong construct reliability [35].

Convergent validity was established via AVE, which exceeded the 0.50 threshold for all constructs, ranging from 0.732 (Security & Privacy) to 0.809 (Sharing & Advocacy). Discriminant validity was verified using the Fornell–Larcker criterion and the HTMT ratio: all HTMT values remained below 0.85, with the highest being 0.859 between Sharing & Advocacy and Information Seeking [36].

Model fit indices were within acceptable bounds: SRMR = 0.052, NFI = 0.855, and d_ULS = 0.818, supporting the adequacy of the structural model [36]. PLS-SEM was conducted using SmartPLS 4.0 [37], with statistical significance assessed at $p < 0.10$, and confirmed at $p < 0.05$ [38]. The model explained 63.2% of the variance in Sharing & Advocacy, 49.7% in Satisfaction, 48.8% in Loyalty, 23.0% in Information Seeking, and 11.3% in Dissatisfaction, indicating moderate to strong explanatory power overall.

Additionally, several predictors demonstrated substantial effect sizes: Information Seeking → Sharing & Advocacy ($f^2 = 0.453$), Information Seeking → Satisfaction ($f^2 = 0.293$), and Satisfaction → Sharing & Advocacy ($f^2 = 0.101$), underscoring the central mediating role of these constructs.

All direct effect hypotheses from H1 to H9 were supported, except for the effects of Payment Methods on Sharing & Advocacy and on Loyalty, Security & Privacy on Dissatisfaction, and Information Seeking on Loyalty (β = .030 to -.001; p : 0.504-0.171). Similarly, all H1.x.x, H2.x.x, and H3.x.x hypotheses were confirmed (β = .270 to -.003; p : 0.000 to 0.093), except those involving pathways through Dissatisfaction, Information Seeking alone, or Payment Methods via Sharing & Advocacy.

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V. DISCUSSION

This study provides evidence that at-purchase E-CRM mechanisms—Payment Methods and Privacy/Security assurances—exert distinct influences on post-purchase outcomes. While both dimensions enhance satisfaction, only Privacy/Security extends its effect to advocacy and loyalty, reinforcing its function as a relational trust signal. Satisfaction emerges as the central mediator linking E-CRM levers to downstream loyalty behaviors, with advocacy serving as the key expressive mechanism.

Managerially, these findings suggest that firms should not only ensure transactional ease but also embed visible trust cues—such as privacy policies, security icons, and authentication options—within the purchase interface. These cues trigger public endorsement behaviors and build lasting loyalty. Although Payment Methods do not independently drive advocacy or loyalty, their impact may be enhanced by associating them with relational framing, such as social proof, gamification, or fast-checkout recognition.

Certain expected effects—such as the direct paths from Payment Methods to advocacy, or from Information Seeking to loyalty—were not statistically supported. These results do not invalidate the model but point to potential boundary conditions. For instance, low involvement contexts or habituated usage patterns may suppress relational behaviors even when cognitive comfort is achieved.

Future research should investigate these contingencies using experimental and longitudinal methods, and explore moderators such as product complexity, platform reputation, and customer trust orientation. Understanding when and how functional and relational levers convert satisfaction into loyalty remains essential for advancing digital CRM theory and practice.

This study thus positions the checkout not merely as a transactional endpoint but as a trust-critical inflection point—where platform design, customer perception, and public expression converge to shape durable customer relationships.

Supported hypotheses confirm that Privacy/Security assurances act as critical relational levers in the at-purchase phase. Beyond enhancing satisfaction, they directly stimulate both advocacy and loyalty. This supports risk-reduction and trust-transfer frameworks [31], [32], emphasizing that visible assurances—such as data protection and transaction security—do more than reduce uncertainty; they foster relational commitment and public endorsement, consistent with social exchange theory [33], [34].

Payment convenience, while improving satisfaction and encouraging information seeking, did not significantly affect advocacy or loyalty. This suggests that transactional ease facilitates cognitive comfort but lacks the emotional weight to inspire expressive loyalty. It remains functionally essential but insufficient for relational outcomes.

The model's dual-phase structure of e-WOM adds further insight. Information Seeking indirectly promotes Loyalty via Satisfaction and Advocacy, but not directly. Similarly, Sharing & Advocacy emerges as the most proximal predictor of Loyalty. These findings underscore the need to distinguish between instrumental engagement and affective commitment.

Paths involving Dissatisfaction, Payment Methods to Advocacy, and Information Seeking to Loyalty did not reach significance. These results should not be interpreted as theory rejection but as areas requiring further investigation. Their effects may be contingent on product category, perceived risk, or customer experience maturity. Moreover, the small positive effect of Dissatisfaction on Loyalty may reflect a service recovery mechanism, highlighting the value of rapid, transparent resolution processes at checkout.

VI. CONCLUSION

This study demonstrates that at-purchase E-CRM mechanisms exert distinct influences on post-purchase customer behavior. While both Payment Methods and Privacy/Security enhance satisfaction, only the latter generates downstream effects on advocacy and loyalty—affirming its role as a relational trust cue. Satisfaction remains the central conduit through which these levers influence social and loyalty-related outcomes.

Managerially, this suggests that platforms should prioritize not only seamless transactions but also the integration of visible privacy and security signals—such as certification icons, data policies, and identity protections—within the checkout experience. Although Payment Methods lack direct relational effects, their value could be amplified through strategic framing, gamification, or social feedback mechanisms that associate functional ease with emotional resonance.

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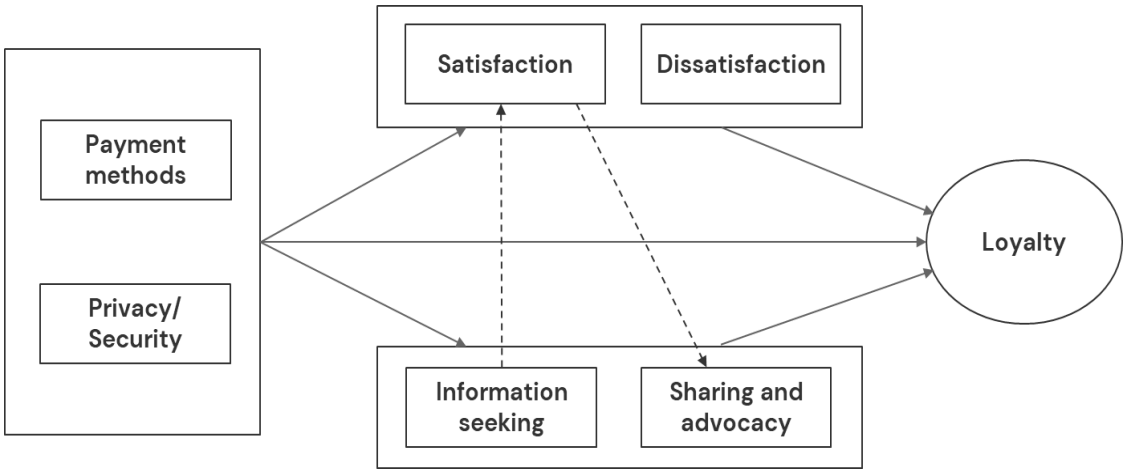
Future research should explore the contextual moderators that may explain currently unsupported pathways—such as product type, platform familiarity, trust propensity, or perceived risk. Longitudinal and experimental approaches are especially needed to trace how at-purchase signals evolve into loyalty behaviors over time and to uncover boundary conditions under which convenience and cognitive engagement convert into expressive commitment.

VII. APPENDIX



Source: Authors

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