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Conceptualizing Customer Touchpoint Quality: A Formative Perspective on Experience Formation and Purchase Intention

Subimal K. Sarmah[1], Chiranjeeb Debnath[2]
[1] Doctoral Student, Indian Institute of Management (IIM) Ranchi, Ranchi, Jharkhand, India.
[2] Doctoral Student, XLRI – Xavier School of Management, Jamshedpur, Jharkhand, India..

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ABSTRACT
In increasingly omnichannel environments, firms continue to struggle to understand how the quality of customer touchpoints translates into meaningful experiences and purchase intentions. Addressing this gap, this study conceptualizes Customer Touchpoint Quality (CPTQ) as a second-order formative construct comprising stimulus, interface, and medium characteristics, and examines how it influences purchase intention through experiential mechanisms. Drawing on customer experience and touchpoint management literature, the proposed structural model is tested using survey data from 262 consumers and analysed using partial least squares structural equation modelling (PLS-SEM). The results show that stimulus, interface, and medium each contribute significantly and uniquely to CPTQ, supporting its formative conceptualization. CPTQ has a strong positive effect on encounter quality, which in turn enhances customer experience and drives purchase intention, thereby establishing a sequential mediation pathway. Although channel type and technological readiness were modelled as moderators of the CPTQ–encounter quality relationship, their interaction effects were not significant, suggesting that the experiential impact of high-quality touchpoints is robust across channels and levels of technological readiness. Overall, this study advances touchpoint and customer experience research by providing a theoretically grounded operationalization of CPTQ, clarifying the experiential processes through which touchpoint design influences behavioural outcomes, and offering actionable insights for designing effective omnichannel customer journeys.

Keywords: Customer Touchpoint Quality; Encounter Quality; Customer Experience; Customer Touchpoint Design; Omnichannel Customer Journey; Purchase Intention.

INTRODUCTION

Customers increasingly interact with firms through multiple customer touchpoints (CTPs), including physical stores, online platforms, mobile applications, and technology-enabled interfaces. These touchpoints jointly shape customers' information processing and behavioural intentions rather than operating as isolated stimuli (Holbrook & Batra, 1987; Dodds et al., 1991). Consequently, research has moved beyond single-touchpoint analyses toward broader perspectives on customer experience (CX) and customer journey design. Early work established that affective states influence exploration and choice behaviour (Kahn & Isen, 1993), while subsequent studies conceptualized customer experience as a cumulative outcome emerging from firm-controlled and customer-controlled interactions over time (Verhoef et al., 2009; Lemon & Verhoef, 2016). In digital and omnichannel contexts, combinations of channels and touchpoints shape customer perceptions across retail settings (Wagner et al., 2020; He & Zhang, 2023).

Despite these advances, Customer Touchpoint Quality (CTPQ) remains conceptually fragmented. Existing studies predominantly examine isolated touchpoint aspects, such as store atmospherics (Grewal et al., 1998), digital versus physical channels (Bolton et al., 2018) or experiential outcomes linking emotions and perceived value to satisfaction (Prisilla & Kurnia, 2020). While informative, this literature offers limited insight into how customers form holistic quality evaluations across heterogeneous design elements encountered along the journey. Touchpoints are often treated as discrete channels rather than as objects of cumulative quality evaluation.

To address this limitation, the present study conceptualizes Customer Touchpoint Quality (CPTQ) as a higher-order formative construct composed of three non-substitutable dimensions: stimulus, interface, and medium. Stimulus refers to informational, entertaining, and affective cues embedded in touchpoint content (Ducoffe, 1996; Baxendale et al., 2015). Interface captures usability and interactivity through which customers engage with touchpoints (Liu, 2003; Wagner et al., 2020). Medium represents communication affordances governing information transmission, such as synchronicity, richness, and reprocessability (Dennis et al., 2008; Barwitz & Maas, 2018). In a mobile checkout context, price promotions constitute the stimulus, the application design serves as the interface, and the device functions as the medium. Together, these dimensions represent generalizable and managerially designable quality levers.

CPTQ is specified as a formative construct because stimulus, interface, and medium contribute distinct, non-

interchangeable components to quality evaluations. Removing any dimension would omit a substantive facet rather than merely reduce measurement reliability. Other elements, such as frontline employee behaviour or servicescape cues, are treated as boundary extensions to maintain conceptual parsimony.

This study further distinguishes touchpoint-inherent design quality from encounter-level evaluative responses. Stimulus, interface, and medium represent firm-designed properties that exist prior to interaction and collectively form CPTQ. In contrast, encounter quality (ENC) reflects customers' episodic evaluations that emerge during interaction and are shaped by touchpoint design. This distinction enables clearer causal explanation of how touchpoint design translates into customer experience and behavioural outcomes. Barann et al., 2022 defines encounter as part of a touchpoint event, whereas we model encounter quality as the customer's evaluative response to that event. We separate design properties from experiential evaluation to preserve causal clarity.

Prior research demonstrates that encounter-level evaluations influence perceived quality, satisfaction, and subsequent behavioural responses (McKechnie et al., 2011; Cambra-Fierro et al., 2021). Cumulative encounters are consistently linked to outcomes such as purchase intention, loyalty, and word-of-mouth (Prisilla & Kurnia, 2020). However, few studies explicitly test the full sequential pathway through which CPTQ influences encounter quality, which in turn shapes customer experience and ultimately purchase intention. Existing research provides limited empirical evidence on how perceived touchpoint quality cascades through encounters and experiences to influence purchase-related outcomes.

Literature Review

Research on customer experience (CX) has advanced significantly, offering insights into how customers evaluate interactions across increasingly complex omnichannel journeys. However, this literature remains fragmented across streams that examine customer touchpoints, service encounters, cumulative experience, and behavioural outcomes largely in isolation. While prior studies recognize that CX emerges from multiple interactions over time, limited attention has been paid to how customers form holistic evaluations of touchpoint quality and how such evaluations translate into encounter-level judgments, cumulative experience, and purchase-related outcomes.

Customer experience has evolved from transaction-focused views toward a holistic, journey-based understanding of customer–firm interactions. Early experiential research emphasized that consumption involves affective, cognitive, and sensory responses rather than purely utilitarian evaluations (Holbrook & Batra, 1987; Kahn & Isen, 1993). Subsequent studies conceptualized CX as a multidimensional construct reflecting customers' cumulative responses to interactions across multiple touchpoints (Brakus et al., 2009; Klaus & Maklan, 2012; Becker & Jaakkola, 2020). This

perspective underscores that CX develops through repeated interactions that collectively shape perceptions and emotional attachment (Homburg et al., 2017; Kranzbühler et al., 2018).

As customer journeys have become more complex, research attention has increasingly focused on customer touchpoints—points of contact through which customers interact with a firm throughout the journey (Dhebar, 2013). Early managerial work emphasized identifying and mapping touchpoints as design elements that could be orchestrated to improve consistency (Hogan et al., 2005). Later empirical studies demonstrated that touchpoints differ in their influence on customer perceptions and behavioural outcomes (Baxendale et al., 2015; Ieva & Ziliani, 2017).

With the proliferation of digital and hybrid channels, customers increasingly engage through multiple touchpoints in non-linear sequences, integrating experiences across physical and virtual environments (Anderl et al., 2016; Herhausen et al., 2019). Omnichannel research shows that customers assess how well touchpoints function together across the journey (Ieva & Ziliani, 2018; Kuehnl et al., 2019). Recent contributions call for understanding customers' holistic evaluations of touchpoint performance (De Keyser et al., 2020; Koch & Hartmann, 2023). Despite this shift, the literature lacks a clear conceptualization of Customer Touchpoint Quality (CTPQ) that distinguishes touchpoint design characteristics from performance during interaction.

Across the CX and touchpoint literature, three foundational elements consistently shape customers' evaluations: stimulus-related cues, interface characteristics, and the medium through which interactions occur. Research on experiential stimuli highlights the role of informational clarity, emotional appeal, and sensory richness (Holbrook & Batra, 1987; Baxendale et al., 2015). Interface-focused studies show that usability and interactivity influence perceived effort, engagement, and satisfaction (Dhebar, 2013; Wagner et al., 2020). Medium-related research demonstrates that physical and digital channels differ in their affordances, shaping customers' sense-making processes (Pantano & Gandini, 2017; Kandampully et al., 2018).

Although these elements are well established individually, empirical research has largely examined them in isolation, typically linking single touchpoint attributes directly to outcomes (Ducoffe, 1996; Verhoef et al., 2015). Even though conceptual work identifies stimulus, interface, medium, and encounter as core touchpoint components (Barann et al., 2022), empirical studies rarely disentangle how touchpoint design characteristics causally give rise to customer encounters.

The translation of touchpoint evaluations into broader experiential judgments occurs through service encounters—episodic moments of interaction. Encounter quality captures customers' immediate assessments of responsiveness, competence, and relational engagement (McKechnie et al., 2011; Dhebar, 2013). Prior research shows that encounter evaluations exert strong effects on overall perceptions (Cambra-Fierro et al., 2021). Customer experience subsequently emerges through

aggregation of multiple encounters (Brakus et al., 2009; Klaus & Maklan, 2012).

Cumulative customer experience plays a critical role in shaping behavioural outcomes, with positive CX increasing purchase intention by enhancing perceived value and strengthening affective attachment (Grewal et al., 1998; Lim et al., 2015; Chen & Yang, 2021). However, most empirical models stop short of explaining how CX itself is formed from upstream touchpoint-level processes (Anderl et al., 2016).

By conceptualizing Customer Touchpoint Quality as a higher-order construct formed by stimulus, interface, and medium quality, and by positioning encounter quality as the episodic mechanism linking CTPQ to customer experience and purchase intention, the present study advances a more coherent explanation of customer experience formation.

Research Problem and Gap

Although customer experience research has expanded substantially, customer touchpoint quality remains theoretically underdeveloped and empirically fragmented. Prior studies largely examine touchpoints as discrete channels or isolated design attributes such as atmospherics, interface cues, and content characteristics (Grewal et al., 1998; Baxendale et al., 2015). While valuable, these approaches offer limited understanding of how customers form overall quality evaluations across diverse touchpoint elements.

Some research proposes touchpoint architectures (Dhebar, 2013), identifies high-impact touchpoints (Baxendale et al., 2015), or focuses on multichannel systems and touchpoint combinations along the journey (Straker et al., 2015; Ieva & Ziliani, 2018). In parallel, Customer Experience (CX) research has developed multidimensional constructs linking experience quality to behavioural outcomes (Brakus et al., 2009; Klaus & Maklan, 2012). Yet touchpoint quality is rarely conceptualized as a unified construct with its own theoretical structure.

A further gap concerns the measurement and specification of touchpoint quality. Existing touchpoint and customer journey studies frequently operationalize touchpoint-related constructs using reflective measurement logic, implicitly treating touchpoint attributes as interchangeable manifestations of an underlying latent factor, and aggregating them into composite indices (e.g., Baxendale et al., 2015; Ieva & Ziliani, 2018; Wagner et al., 2020). However, conceptual work on customer journeys suggests that content-related cues, interface design features, and channel or medium characteristics perform distinct functional roles and may not be meaningfully substitutable (Dennis et al., 2008; Dhebar, 2013; De Keyser et al., 2020). As a result, the literature lacks an empirically validated model that conceptualizes customer touchpoint quality as a higher-order formative construct, in which stimulus, interface, and medium-related qualities jointly but non-redundantly form overall touchpoint quality perceptions.

Finally, the process through which touchpoint quality influences experience remains under-specified. Few studies model encounter quality as the intervening mechanism translating touchpoint design into cumulative customer experience. In sum, the literature lacks (i) a formative conceptualization of customer touchpoint quality, (ii) a process-based model distinguishing touchpoint design from encounter-level evaluations, and (iii) an integrated empirical test linking CPTQ, encounter quality, customer experience, and purchase intention. The present study addresses these gaps.

Theoretical Background and Conceptual Model

Customer experience (CX) is widely conceptualized as a holistic construct reflecting customers' cognitive, emotional, sensory, and relational responses to firm-initiated interactions over time (Brakus et al., 2009; Klaus & Maklan, 2012; Becker & Jaakkola, 2020). Contemporary journey-based perspectives emphasize that CX is progressively shaped as customers traverse multiple touchpoints across pre-purchase, purchase, and post-purchase stages (Lemon & Verhoef, 2016; Homburg et al., 2017). Touchpoints represent the primary interaction loci through which firms communicate value propositions and structure customer engagement across physical, digital, and hybrid environments (De Keyser et al., 2020).

Importantly, customers rarely evaluate touchpoints independently. Instead, repeated exposure leads customers to form overarching judgments about how well a firm's touchpoints function together across the journey. Recent research calls for moving beyond touchpoint identification toward understanding customers' holistic evaluations of touchpoint performance (Koch & Hartmann, 2023; Kim & So, 2024). This motivates conceptualizing Customer Touchpoint Quality (CTPQ) as a higher-order perceptual construct reflecting customers' overall assessment of touchpoint coherence, usability, and experiential fit.

The influence of touchpoint quality on experience formation operates through service encounters—episodic moments of interaction during which customers evaluate firm performance based on observable cues embedded in touchpoints (McKechnie et al., 2011; Frow & Payne, 2007). Encounter quality captures customers' immediate judgments regarding responsiveness, competence, clarity, and relational engagement (Dhebar, 2013). Prior research demonstrates that encounter evaluations exert strong effects on customer perceptions, with negative encounters often disproportionately influencing cumulative assessments (Cambra-Fierro et al., 2021). Despite this importance, encounter quality is rarely positioned as the central mechanism translating touchpoint-level perceptions into broader experiential outcomes.

Customer experience emerges through aggregation of repeated encounter evaluations over time, resulting in a stable assessment of the firm and its offerings (Brakus et al., 2009; Becker & Jaakkola, 2020). Multilevel perspectives distinguish between episodic experiences formed at the encounter level and cumulative experiences formed at the journey level, emphasizing that CX is dynamically constructed through integration of multiple encounters (Kranzbühler et al., 2018; Jaakkola et al., 2022). This cumulative experience shapes behavioural intentions, particularly purchase intention, which reflects

customers' willingness to engage in future transactions based on overall experiential evaluation (Juster, 1966). Empirical research consistently shows that positive customer experiences enhance purchase intention by strengthening perceived value, affective attachment, and decision confidence (Grewal et al., 1998; Lim et al., 2015; Chen & Yang, 2021).

Conceptual Model and Construct Specification

The present study adopts a hierarchical and sequential process perspective. At the upstream level, customers are exposed to diverse touchpoints characterized by the stimuli they present, the interfaces through which interactions occur, and the media that enable communication. These elements jointly shape Customer Touchpoint Quality (CTPQ), conceptualized as a second-order formative construct.

This specification is grounded in measurement theory, which holds that constructs should be modelled as formative when their dimensions jointly define the construct, are non-interchangeable, and when omission alters the construct's conceptual meaning (Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003). Stimulus quality captures the clarity, relevance, and emotional resonance of touchpoint cues; interface quality reflects usability and interactivity; and medium quality represents the affordances of physical, digital, or hybrid channels. These dimensions represent qualitatively distinct aspects, and improvements in one do not imply corresponding improvements in others. Accordingly, the causal direction flows from dimensions to construct (stimulus, interface, medium → CTPQ).

Once formed, CTPQ shapes encounter-level evaluations, as high-quality touchpoints increase the likelihood that interactions are perceived as responsive and engaging. Over time, these encounter evaluations accumulate into customer experience, which drives purchase intention. Thus, the model specifies a coherent hierarchical–sequential process through which touchpoint design quality translates into customer experience and behavioural outcomes.

Hypothesis Development

Customer Touchpoint Quality as a Formative Construct

Customer Touchpoint Quality (CTPQ) reflects customers' holistic evaluation of the quality of interactions encountered across the customer journey. Unlike latent traits that manifest uniformly across indicators, CTPQ represents a composite perception formed by distinct and non-interchangeable dimensions of touchpoint performance. Measurement theory suggests that when dimensions jointly define a construct, exhibit conceptual distinctiveness, and contribute unique explanatory information, a formative specification is appropriate (Diamantopoulos & Winklhofer, 2001; Jarvis, MacKenzie, & Podsakoff, 2003). Consistent with this logic, the present study conceptualizes CTPQ as a second-order formative construct formed by stimulus quality, interface quality, and medium quality.

Stimulus quality (ST) captures the clarity, relevance, and emotional resonance of cues embedded in touchpoints, shaping customers' initial interpretations and affective responses (Holbrook & Batra, 1987; Kahn & Isen, 1993; Baxendale, Macdonald, & Wilson, 2015). Interface quality (INTF) reflects the usability, interactivity, and design of customer–firm interaction mechanisms, which are critical for facilitating seamless engagement, particularly in digital and technology-mediated contexts (Dhebar, 2013; Wagner, Schramm-Klein, & Steinmann, 2020; Kim & So, 2024). Medium quality (MED) represents the affordances and constraints of physical, digital, or hybrid channels and shapes how customers process, integrate, and evaluate touchpoint cues across the journey (Lemon & Verhoef, 2016; Anderl et al., 2016; Kuehnl, Jozic, & Homburg, 2019).

Because these dimensions capture qualitatively different facets of touchpoint quality and are not interchangeable, they are expected to jointly form customers' overall perception of CTPQ.

H1a: Stimulus quality (ST) positively contributes to the formation of Customer Touchpoint Quality (CTPQ).

H1b: Interface quality (INTF) positively contributes to the formation of Customer Touchpoint Quality (CTPQ).

H1c: Medium quality (MED) positively contributes to the formation of Customer Touchpoint Quality (CTPQ).

Customer Touchpoint Quality and Encounter Quality

Customer Touchpoint quality perception does not translate mechanically into overall experience; rather, it is cognitively and affectively internalized during service encounters, which serve as the primary interpretive episodes through which customers evaluate and integrate firm-initiated interactions (Holbrook & Hirschman, 1982; Verhoef et al., 2009; Lemon & Verhoef, 2016). Service encounter research conceptualizes these episodes as critical moments in which customers interpret touchpoint cues and assess firm performance in terms of responsiveness, competence, and relational engagement (McKechnie, Grant, & Shabbir, 2011; Frow & Payne, 2007). High-quality touchpoints are more likely to facilitate smooth, meaningful, and satisfying encounters, whereas poorly designed touchpoints can generate friction and dissatisfaction even when other aspects of the journey are favourable (Dhebar, 2013; Cambra-Fierro, Polo-Redondo, & Trifu, 2021).

Accordingly, higher perceived CTPQ is expected to enhance customers' episodic evaluations during interactions leading to better Encounter Quality.

H2: Customer Touchpoint Quality (CTPQ) has a positive effect on Encounter Quality (ENC).

Encounter Quality and Customer Experience

Customer experience emerges through customers' interpretive responses to service encounters rather than directly from isolated touchpoints. Service encounters represent episodic moments in which customers cognitively and affectively evaluate firm interactions, integrating multiple touchpoint cues into an overall experiential judgment (Shostack, 1985; Hirschman & Holbrook,1982).

Extant literature further suggests that encounter quality plays a mediating role between touchpoint design and overall customer experience. While touchpoints provide the structural and sensory cues of the service environment, it is during the encounter that customers evaluate responsiveness, competence, empathy, and coherence across interactions (Frow & Payne, 2007; McKechnie et al., 2011). As such, high-quality encounters facilitate the integration of multiple touchpoint signals into a coherent experiential judgment, whereas poorly managed encounters can disrupt experience formation despite favourable touchpoint attributes (Dhebar, 2013; Cambra-Fierro, Polo-Redondo, & Trifu, 2021). This perspective aligns with contemporary customer journey research, which emphasizes that experiences emerge through dynamic, cumulative interpretations of interaction episodes rather than from isolated service elements (Lemon & Verhoef, 2016; Becker et al., 2020).

H3: Encounter Quality (ENC) has a positive effect on Customer Experience (CX).

Customer Experience and Purchase Intention

Purchase intention reflects customers' willingness or likelihood to engage in future purchasing behaviour and is a widely used proxy for behavioural outcomes in marketing research (Juster, 1966; Brennan & Esslemont, 1994). Extensive empirical evidence demonstrates that customer experience plays a central role in shaping purchase intentions by influencing affective attachment, perceived value, trust, and confidence in decision-making (Grewal et al., 1998; Brakus et al., 2009). In omnichannel and digital environments characterized by complex touchpoint configurations, a coherent and positive customer experience becomes particularly salient in driving purchase intention (Lim et al., 2015; Chen & Yang, 2021).

H4: Customer Experience (CX) has a positive effect on Purchase Intention (PI).

Technology Readiness and Channel Type

Customers differ in their propensity to engage with and derive value from technology-enabled touchpoints. Technology Readiness (TR) reflects individuals' willingness and ability to embrace new technologies and has been shown to shape how customers interpret and respond to technology-mediated interactions (Parasuraman, 2000). Customers with higher levels of TR may perceive encounters as smoother and more effective, particularly when touchpoints involve complex interfaces or digital technologies. Accordingly, TR is expected to influence encounter quality directly and may also condition how touchpoint quality is translated into encounter-level evaluations.

In addition, Channel Type (CT) like digital versus physical , represents an important contextual factor shaping how customers experience and evaluate touchpoints. Prior omnichannel research suggests that identical touchpoint attributes may be perceived differently across channels, as physical and digital environments vary in sensory richness, immediacy, and interaction dynamics (Lemon & Verhoef, 2016; Anderl et al., 2016; Bolton et al., 2018). As a result, channel context is likely to influence encounter quality directly and may also affect the strength of the relationship between customer touchpoint quality and encounter quality.

Based on these arguments, the following hypotheses are proposed:

H5: Technological Readiness (TR) has a positive effect on Encounter Quality (ENC).

H6: Channel Type (CT) has a significant effect on Encounter Quality (ENC).

H7: Technological Readiness (TR) moderates the relationship between Customer Touchpoint Quality (CPTQ) and Encounter Quality (ENC), such that the relationship varies across levels of TR.

H8: Channel Type (CT) moderates the relationship between Customer Touchpoint Quality (CPTQ) and Encounter Quality (ENC), such that the strength of the relationship differs between digital and physical channels.

Sequential Mediation Effects

Integrating the above arguments, this study proposes a sequential mediation process in which customer touchpoint quality influences purchase intention indirectly through encounter quality and customer experience. Prior research suggests that touchpoints are first evaluated at the level of concrete interactions or encounters, where design and communication characteristics shape customers' immediate quality judgments (McKechnie et al., 2011; Dhebar, 2013; De Keyser et al., 2020). These encounter-level evaluations subsequently accumulate into broader customer experience assessments across the customer journey (Verhoef et al., 2009; Lemon & Verhoef, 2016; Becker & Jaakkola, 2020), which in turn serve as key drivers of purchase-related behavioural intentions (Brakus et al., 2009; Klaus & Maklan, 2012; Chen & Yang, 2021).

H9: Customer Touchpoint Quality (CPTQ) has a positive indirect effect on Purchase Intention (PI) through the sequential mediation of Encounter Quality (ENC) and Customer Experience (CX).

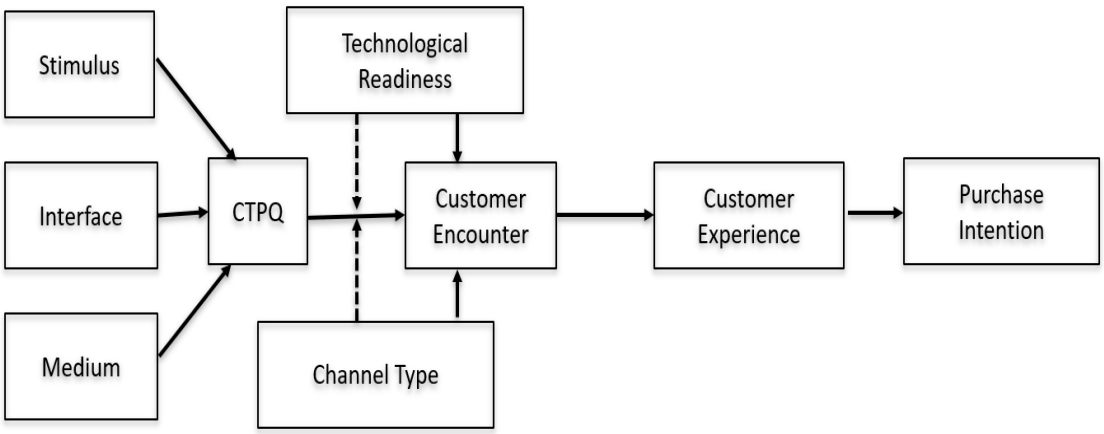

Figure 1: Conceptual Model for the Study

Methodology

Research Design and Data Collection

This study employs a quantitative, cross-sectional survey design to test the proposed model. Data were collected from consumers who had interacted with a focal brand's touchpoints (mobile app, website, or physical store) within the preceding 60 days across e-commerce, retail, hospitality, travel, and financial services industries. This multi-industry design enhances external validity and reflects heterogeneous touchpoint environments experienced by contemporary consumers.

Purposive sampling with quota controls based on channel type, city tier, age, and gender was employed to reduce selection bias. The final sample consisted of 262 usable responses. Sample adequacy was evaluated considering the PLS-SEM model complexity, including 72 measurement items, eight latent constructs, a second-order formative construct, sequential mediation, and moderation effects. The sample size exceeds PLS-SEM minimum requirements based on the maximum number of predictors (Hair et al., 2017) and satisfies power-based criteria (power = 0.80, $\alpha = 0.05$, medium effect sizes). Formative and hierarchical specifications benefit from larger samples to ensure stable weight estimation (Wetzels et al., 2009), and the achieved sample size is sufficient for robust model estimation.

Construct Measurement

All constructs were measured using established multi-item scales on seven-point Likert scales (1 = strongly disagree; 7 = strongly agree). Stimulus quality was measured through informativeness, entertainment, and irritation dimensions (Ducoffe, 1996). Interface quality was operationalized using usability (Brooke, 1996) and interactivity dimensions—active control, two-way communication, synchronicity (Liu, 2003). Medium quality used Media Synchronicity Theory dimensions (Dennis et al., 2008). Encounter quality was captured using interaction quality items (Brady & Cronin, 2001). Customer experience was measured using sensory, affective, intellectual, and behavioural dimensions (Brakus et al., 2009). Purchase intention was assessed using items from Spears and Singh (2004), supplemented with measures from Dodds et al. (1991) and Wu et al. (2011). Technology readiness used TRI 2.0 items (Parasuraman & Colby, 2015), and channel type used integration, consistency, and transparency dimensions (Shen et al., 2018).

Stimulus, interface, and medium were specified as first-order reflective constructs forming Customer Touchpoint Quality (CPTQ) as a second-order formative construct. Encounter quality, customer experience, purchase intention, technology readiness, and channel type were modelled as reflective constructs. The questionnaire was pretested with consumers and academic experts to establish face and content validity (Churchill, 1979).

Analysis

Standard PLS estimation was used for both the measurement and structural models. Consistent PLS (PLSc) was not applied because the model includes a higher-order construct (CPTQ) specified as a formative composite of its dimensions. Prior methodological research advises against using Consistent PLS (PLSc) in the presence of composite/formative constructs (Hair et al., 2021). A two-stage approach estimated the hierarchical component model. Measurement reliability and validity were assessed first, followed by structural model evaluation using path coefficients, explained variance, and effect sizes. Bootstrapping assessed the significance of direct, indirect, and moderating effects.

Common Method Bias

Potential common method bias was assessed using the full collinearity variance inflation factor (VIF) of inner model. All VIFs values were lower than the conservative threshold of 3.3 (Kock, 2015), the highest VIF value being 2.3 only. Overall, the results indicate that common method bias is unlikely to materially affect the findings.

Measurement Model

Before estimating the structural paths, the reflective measurement model was assessed following the guidelines of Hair et al. (2022). This study employed partial least squares structural equation modelling (PLS-SEM) to assess the measurement model because the proposed framework includes a higher-order construct

operationalized using a two-stage approach, formative relationships, and latent variable interaction terms. Standard PLS-SEM was adopted for evaluating both the measurement and structural models in the present study (Hair et al., 2017; Hair et al., 2021).

The measurement model was evaluated by examining internal consistency reliability, convergent validity, and discriminant validity. As reported in Table 1, composite reliability values exceeded the recommended threshold of 0.70 for all constructs, indicating satisfactory internal consistency. Specifically, composite reliability (ρc) values ranged from 0.836 for Customer Experience to 0.911 for Stimulus Quality, confirming that the indicators reliably capture their respective latent constructs. In addition to this even ρa values were examined and all exceeded 0.70, providing further support for the robustness of internal consistency reliability. All constructs also exhibited Cronbach's alpha values above the recommended threshold of 0.70 (lowest being 0.757 for Customer Experience and highest being 0.888 for Stimulus Quality), indicating satisfactory reliability. Convergent validity was assessed using the average variance extracted (AVE), and all reflective constructs achieved AVE values above the recommended threshold of 0.50 (0.507 to 0.685), indicating adequate convergent validity (Fornell & Larcker, 1981; Hair et al., 2021). AVE was not assessed for the higher-order construct (CPTQ), as it was specified as a formative composite.

Discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. Following established guidelines for hierarchical component models, discriminant validity was evaluated among first-order reflective constructs only. The higher-order construct Customer Touchpoint Quality (CPTQ) and the interaction terms were excluded from discriminant validity assessment because CPTQ was operationalized using latent variable scores of its lower-order dimensions, and interaction constructs are not expected to demonstrate discriminant validity. All HTMT values for the reflective constructs were below the conservative threshold of 0.85, indicating satisfactory discriminant validity (Henseler et al., 2015).

Overall, the measurement model demonstrates satisfactory reliability and validity, providing a sound basis for subsequent structural model analysis.

Table 1: Construct Reliability &Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CT	**0.835**	**0.842**	**0.877**	**0.508**
CX	**0.757**	**0.769**	**0.836**	**0.507**
ENC	**0.846**	**0.846**	**0.897**	**0.685**
INTF	**0.849**	**0.852**	**0.886**	**0.528**
MED	**0.816**	**0.82**	**0.879**	**0.645**
PI	**0.837**	**0.852**	**0.879**	**0.55**
ST	**0.888**	**0.891**	**0.911**	**0.562**
TR	**0.832**	**0.865**	**0.88**	**0.597**

Table 2: Discriminant Validity – HTMT

	CT	CX	ENC	INTF	MED	PI	ST	TR
CT								
CX	0.686							
ENC	0.596	0.739						
INTF	0.641	0.674	0.737					
MED	0.646	0.75	0.801	0.752				
PI	0.751	0.642	0.605	0.727	0.679			
ST	0.543	0.553	0.603	0.781	0.661	0.564		
TR	0.799	0.529	0.541	0.664	0.622	0.756	0.575	

	CT	CX	ENC	INTF	MED	PI	ST	TR
CT	0.713							
CX	0.549	0.712						
ENC	0.503	0.609	0.827					
INTF	0.543	0.555	0.625	0.727				
MED	0.533	0.604	0.669	0.627	0.803			
PI	0.632	0.528	0.527	0.624	0.576	0.741		
ST	0.475	0.468	0.524	0.679	0.569	0.502	0.75	
TR	0.666	0.443	0.475	0.575	0.514	0.64	0.505	0.773

Table 3: Discriminant Validity – Fornell Larcker

Discriminant validity was assessed using the Fornell–Larcker criterion (Fornell & Larcker, 1981). As shown in Table 3, the square root of the average variance extracted (AVE) for each construct (diagonal values) exceeded the inter-construct correlations (off-diagonal values), indicating adequate discriminant validity.

Structural Model Evaluation and Results

The structural model was evaluated using partial least squares structural equation modelling (PLS-SEM) with bias-corrected bootstrapping (5,000 resamples). Hypotheses were assessed based on standardized path coefficients (β), t-values, and p-values. Prior to hypothesis testing, model adequacy was examined in terms of collinearity, explanatory power, predictive performance, and model fit.

Model Adequacy

Collinearity among predictor constructs was assessed using inner variance inflation factor (VIF) values. All VIFs were well below the conservative threshold of 3.3, indicating that multicollinearity did not bias the estimation of structural relationships. The model demonstrated adequate explanatory power, explaining a moderate proportion of variance in encounter quality ($R^2 = 0.514$), customer experience ($R^2 = 0.371$), and purchase intention ($R^2 = 0.278$). Adjusted R^2 values were highly similar, indicating stability of the estimates. Predictive relevance was assessed using the PLSpredict procedure. The Q^2 values for encounter quality (0.500), customer experience (0.345), and purchase intention (0.251) were all above zero, indicating predictive relevance of the model. Although the PLS-SEM model did not consistently outperform the linear regression benchmark in terms of RMSE and MAE, the results indicate moderate out-of-sample predictive power, which is appropriate for theory-driven explanatory models. The standardized root mean square residual (SRMR) for the estimated model was 0.048, which is below the recommended threshold of 0.08, indicating a good overall model fit. Effect sizes were assessed using f^2 values. Customer touchpoint quality exhibited a large effect on encounter quality, encounter quality showed a large effect on customer experience, and customer experience had a large effect on purchase

intention, whereas channel type exerted only a small effect and technological readiness as well as the interaction terms demonstrated negligible effects.

Table 4: Model Adequacy

Endogenous Construct	R^2	Adjusted R^2 (O)	Q^2predict
Encounter Quality (ENC)	**0.514**	**0.504**	**0.5**
Customer Experience (CX)	**0.371**	**0.368**	**0.345**
Purchase Intention (PI)	**0.278**	**0.276**	**0.251**

Table 5: Model Fit

Model	SRMR
Estimated Model	0.048

Antecedents of Customer Touchpoint Quality (H1a–H1c)

Hypotheses H1a–H1c examined the effects of stimulus, interface, and medium on customer touchpoint quality (CPTQ). All three antecedents exhibited strong positive effects. Stimulus significantly influenced CPTQ ($\beta = 0.471$, $t = 31.938$, $p < .001$), supporting H1a. Interface also showed a significant positive effect on CPTQ ($\beta = 0.407$, $t = 32.082$, $p < .001$), supporting H1b. Medium had a positive and significant effect on CPTQ ($\beta = 0.268$, $t = 24.368$, $p < .001$), supporting H1c. Collectively, these findings indicate that stimulus, interface, and medium jointly and robustly shape customers' perceptions of touchpoint quality.

Sequential Effects on Encounter Quality, Customer Experience, and Purchase Intention (H2–H4)

Hypothesis H2 proposed that customer touchpoint quality positively influences encounter quality. The results show a strong and significant effect ($\beta = 0.627$, $t = 8.734$, $p < .001$), supporting H2. Hypothesis H3 examined the relationship between encounter quality and customer experience. Encounter quality exerted a strong positive influence on customer experience ($\beta = 0.609$, $t = 13.250$, $p < .001$), supporting H3. In turn, customer experience significantly predicted purchase intention ($\beta = 0.528$, $t = 9.836$, $p < .001$), providing support for H4. These findings establish a sequential mechanism through which touchpoint quality translates into experiential and behavioural outcomes.

Direct and Moderating Effects of Technological Readiness and Channel Type (H5–H8)

Hypotheses H5 and H6 assessed the direct effects of technological readiness and channel type on encounter quality. Technological readiness did not have a significant direct effect on encounter quality ($\beta = -0.012$, $t = 0.131$, $p = .896$), leading to the rejection of H5. In contrast, channel type had a positive and significant effect on encounter quality ($\beta = 0.277$, $t = 3.467$, $p = .001$), supporting H6 and indicating that encounter evaluations differ across channels.

Hypotheses H7 and H8 examined the moderating effects of channel type and technological readiness on the relationship between customer touchpoint quality and encounter quality. The interaction between CPTQ and channel type was not significant ($\beta = -0.034$, $t = 0.482$, $p = .630$), providing no support for H7. Similarly, the interaction between CPTQ and technological readiness was not significant at the 5% level ($\beta = 0.167$, $t = 1.686$, $p = .092$), leading to the rejection of H8. These results suggest that while channel type directly influences encounter quality, neither channel type nor technological readiness significantly conditions the effect of touchpoint quality on encounter evaluations.

Sequential Mediation

Hypothesis H9 proposed that Customer Touchpoint Quality (CPTQ) exerts a positive indirect effect on Purchase Intention through the sequential mediation of Encounter Quality and Customer Experience. This hypothesis was tested by examining the specific serial indirect effect using bootstrapping procedures. The results indicate that the sequential indirect effect of CPTQ on purchase intention via encounter quality and customer experience is positive and statistically significant ($\beta = 0.194$, $t = 5.141$, $p < .001$), with the 95% bootstrap confidence interval excluding zero [0.124, 0.273]. These findings provide strong support for H9, confirming that the influence of touchpoint design on behavioural intentions is transmitted through customers' in-use

encounter evaluations and subsequent experience assessments. A direct effect of customer touchpoint quality on purchase intention was not examined, as both the theoretical framework and prior research position encounter quality and customer experience as necessary experiential mechanisms linking touchpoint design to behavioural outcomes.

Table 6: Structural Path Coefficients and Hypothesis Testing Results

Hypothesis	Structural Path	β	t-value	p-value	Result
H1a	Stimulus → Customer Touchpoint Quality (CPTQ)	0.471	31.938	< .001	Supported
H1b	Interface → Customer Touchpoint Quality (CPTQ)	0.407	32.082	< .001	Supported
H1c	Medium → Customer Touchpoint Quality (CPTQ)	0.268	24.368	< .001	Supported
H2	Customer Touchpoint Quality (CPTQ) → Encounter Quality	0.627	8.734	< .001	Supported
H3	Encounter Quality → Customer Experience	0.609	13.25	< .001	Supported
H4	Customer Experience → Purchase Intention	0.528	9.836	< .001	Supported
H5	Technological Readiness → Encounter Quality	-0.012	0.131	0.896	Not supported
H6	Channel Type → Encounter Quality	0.277	3.467	0.001	Supported
H7	CPTQ × Technological Readiness → Encounter Quality (Moderation)	0.167	1.686	0.092	Not supported (p<0.1)
H8	CPTQ × Channel Type → Encounter Quality (Moderation)	-0.034	0.482	0.63	Not supported
H9	CPTQ → ENC → CX → PI (Sequential Mediation)	0.194	5.141	< .001	Supported

Notes: β = standardized path coefficient. Significance assessed using bootstrapping (5,000 resamples). Two-tailed tests.

Summary

Overall, the results provide strong support for the proposed touchpoint-driven process linking stimulus, interface, and medium to customer touchpoint quality and, subsequently, to encounter quality, customer experience, and purchase intention (H1a–H4). Channel type emerges as an important direct contextual determinant of encounter quality (H6), whereas technological readiness does not exert a significant direct or moderating effect (H5, H8). Although the hypothesized moderation effects are not supported, the model demonstrates adequate explanatory power and moderate predictive performance, supporting its robustness and suitability for theory testing in customer experience research.

Discussion

This study examined how customer touchpoints translate into experiential and behavioural outcomes by integrating touchpoint characteristics, encounter quality, customer experience, and purchase intention within a unified PLS-SEM framework. The findings provide strong support for the proposed touchpoint-driven process model and offer important clarifications regarding the limited contingent role of contextual moderators such as technological readiness and channel type.

At the antecedent level, stimulus, interface, and medium characteristics all exhibit strong and significant effects on Customer Touchpoint Quality (CPTQ), providing empirical support for the view that touchpoint quality is inherently multidimensional. Content-related cues (stimulus), interaction design features (interface), and communication affordances (medium) jointly shape customers' evaluations of how well touchpoints are designed. This finding helps reconcile fragmented streams of prior research that have typically examined these elements in isolation and underscores the need for integrative models of touchpoint design. Conceptually, the results position CPTQ as a design-oriented construct that sets the conditions under which customer encounters unfold, rather than as an experiential outcome in itself.

A central contribution of this study lies in positioning encounter quality as the critical translation mechanism through which touchpoint design is transformed into customer experience. While customer touchpoint quality captures customers' evaluations of how well touchpoints are designed in terms of stimulus, interface, and medium, encounter quality reflects customers' experiential responses when engaging with these designed touchpoints in use. Consistent with Service-Dominant Logic, value is not embedded in touchpoint design itself but is realized phenomenologically during use through customer–firm interaction. Encounter quality thus represents the moment of value-in-use, where designed touchpoint attributes are enacted, interpreted, and experienced by customers within a specific interaction context. The strong effect of customer touchpoint quality on encounter quality underscores that superior design does not directly constitute experience but instead shapes the conditions under which experiential value emerges. By empirically validating encounter quality as a distinct and necessary mediating construct, the findings reinforce a process-based view of customer experience formation in which value is co-created at the encounter level before being consolidated into broader customer experience evaluations. In this way, encounter quality operationalizes the transition from firm-designed touchpoints to customer-experienced value, linking design intent with experiential outcomes.

Customer experience, in turn, emerges as a strong predictor of purchase intention, reaffirming its central role as a key behavioural driver. The magnitude of this relationship underscores that experiential evaluations, rather than functional or design-related assessments alone, are decisive in shaping customers' future behavioural intentions. Importantly, the sequential pathway from customer touchpoint quality through encounter quality to customer experience provides empirical clarity on how upstream touchpoint design and communication decisions are translated into downstream behavioural outcomes. Rather than assuming a direct link between touchpoints and behaviour, the findings demonstrate that customers process firm-designed touchpoint attributes at the encounter level before forming broader experience evaluations that drive future behavioural intentions. This sequential logic aligns with process-oriented views of customer experience, positioning encounter quality as a critical interpretive lens that bridges upstream touchpoint design decisions and downstream behavioural outcomes. The supported sequential indirect effect further reinforces this process logic by demonstrating that customer touchpoint quality influences behavioural intentions only through encounter-level and experiential evaluations.

The findings offer a more nuanced understanding of contextual and individual-level influences in the touchpoint–experience process. Channel type exerts a direct effect on encounter quality, indicating that the interaction environment shapes how encounters are perceived. This result aligns with omnichannel research highlighting differences between digital and physical contexts. However, the absence of significant moderation effects for channel type suggests that while channels influence encounter evaluations, they do not fundamentally alter the strength of the relationship between touchpoint quality and encounter quality.

Similarly, technological readiness neither directly influences encounter quality nor moderates the effect of touchpoint quality. This challenges common assumptions that individual technological predispositions systematically condition experiential responses. One plausible interpretation is that when touchpoints are well designed, their experiential impact remains robust across varying levels of technological readiness. In such cases, high-quality touchpoints may reduce variability in encounter evaluations across heterogeneous customer segments.

Taken together, the findings contribute to customer experience and touchpoint research in three important ways. First, the study empirically substantiates customer touchpoint quality as a multidimensional design construct emerging from stimulus, interface, and medium configurations. Second, it clarifies the experiential process through which touchpoints influence behavioural outcomes by positioning encounter quality and customer experience as sequential mediators. Third, it refines existing models by demonstrating that contextual and individual factors may play a more limited contingent role than commonly assumed, particularly when touchpoint quality is high.

Overall, this empirical study advances customer experience research by conceptualizing customer touchpoint quality as a multidimensional design construct and demonstrating how it translates into behavioural outcomes through a sequential process involving encounter quality and customer experience. By positioning encounter quality as the critical mechanism through which firm-designed touchpoints are experienced in use, the findings clarify how upstream touchpoint design decisions cascade into downstream experiential and behavioural responses while showing that contextual and individual factors play a more limited contingent role when touchpoint quality is high.

Managerial Implications

The findings of this study offer several actionable implications for managers responsible for designing, managing, and optimizing customer journeys across channels. First, the significant contributions of stimulus, interface, and medium characteristics to customer touchpoint quality highlight three concrete managerial levers. From a stimulus perspective, managers should prioritize the clarity, relevance, and emotional resonance of content delivered at each touchpoint, ensuring that messages are informative without being intrusive. Interface-related findings emphasize the strategic value of usability and interactivity; investments in intuitive navigation, responsiveness, and customer control are likely to yield substantial improvements in perceived touchpoint quality. From a medium standpoint, managers should carefully select and configure medium & communication channels based on their synchronicity, richness, and reprocessability, aligning channel capabilities with the informational and relational demands of different journey stages.

Second, encounter quality represents the primary mechanism through which touchpoint design translates into customer experience and behavioural outcomes. This implies that managerial focus should extend beyond planning and execution to how interactions are actually experienced in use. Monitoring encounter-level indicators such as clarity, ease, responsiveness, and smoothness of interactions can help managers assess whether touchpoint designs are delivering their intended value. Investments in touchpoint design should therefore be evaluated based on their ability to consistently generate high-quality encounters rather than solely on technical or aesthetic criteria. In this regard, frontline interactions—whether human or technology-mediated—remain decisive moments in the journey, acting as interpretive filters through which customers assess organizational competence and intent. Training programs, service protocols, and interface scripts should therefore be designed to enhance responsiveness, empathy, and problem resolution.

Third, the strong relationship between customer experience and purchase intention highlights experience management as a critical behavioural lever. Managers aiming to influence purchase-related outcomes should recognise that behavioural responses are shaped indirectly through the accumulation of encounter-level evaluations into broader experience perceptions. Accordingly, experiential performance indicators should be incorporated alongside traditional efficiency metrics when evaluating touchpoint effectiveness. By explicitly linking experience metrics to downstream behavioural outcomes, firms can more effectively justify investments in experience design and service innovation.

Finally, the findings suggest that while channel type influences encounter quality, it does not fundamentally alter how touchpoint quality is translated into experience. Managers should therefore view channels as contexts that shape interactions rather than as substitutes for sound touchpoint design. Similarly, the limited role of technological readiness indicates that well-designed touchpoints can perform effectively across diverse customer segments, reducing the need for extensive segmentation based on customers' technological predispositions. Overall, the study suggests that firms can achieve more stable experiential and behavioural outcomes by prioritising touchpoint design quality and its enactment at the encounter level, rather than relying heavily on contextual or individual contingencies.

Theoretical Contributions

This study makes several important contributions to the literature on customer touchpoints, customer experience, and customer journey management. First, it advances touchpoint theory by conceptualizing Customer Touchpoint Quality (CPTQ) as a higher-order formative construct jointly shaped by stimulus, interface, and medium characteristics. Whereas prior research has often treated touchpoints as discrete moments, channels, or isolated design elements, this study models CPTQ as an integrated perceptual construct through which customers synthesize diverse touchpoint cues into a unified quality judgment. In doing so, it moves beyond descriptive journey mapping and provides a theoretically grounded mechanism for understanding how touchpoint design attributes are cognitively organized and evaluated by customers.

Second, the study contributes to customer experience research by empirically establishing encounter quality as a central mediating mechanism linking touchpoint quality to customer experience. Although prior work has acknowledged encounters as critical "moments of truth," empirical models have rarely positioned encounter quality as the key conduit through which upstream touchpoint perceptions are translated into broader experiential evaluations. By demonstrating that encounter-level judgments function as the immediate interpretive layer through which touchpoint quality is experienced in use, this study clarifies the micro-foundations of customer experience formation within journeys.

Third, the findings extend journey-based perspectives by empirically validating a sequential experiential pathway through which customer touchpoint quality indirectly shapes behavioural outcomes. This process-oriented framework responds directly to calls for customer journey theories that explain how design and communication decisions cascade into behavioural outcomes over time. By explicitly linking touchpoint-level perceptions to downstream intentions through theoretically distinct intermediate constructs, the study offers a more complete and dynamic account of value creation along the customer journey.

Fourth, the study helps reconcile fragmented research streams that have independently examined message content, interface design, and channel characteristics. The strong joint effects of stimulus, interface, and medium on CPTQ demonstrate that these elements operate in combination rather than in isolation when shaping customer evaluations. This insight contributes to the integration of advertising, human–computer interaction, and media synchronicity literatures under a common experiential lens and highlights the need for more holistic theories of touchpoint design.

Finally, the absence of significant moderating effects of technological readiness and channel type establishes an important theoretical boundary condition. Rather than indicating theoretical weakness, these findings suggest that well-designed touchpoints can reduce the influence of individual and contextual differences on how encounters are evaluated. This challenges assumptions that customer experience effects are necessarily contingent on customers' technological predispositions or specific channel configurations and invites future research to examine conditions—such as high-complexity services or emerging technologies—under which such contingencies may become more salient.

Taken together, these contributions advance customer experience theory by shifting the focus from static representations of journeys toward a dynamic, perception-driven understanding of how touchpoint design is translated into experiential and behavioural outcomes through customers' encounters.

Conclusion, Limitations and Future Research

This study advances customer experience research by developing and empirically validating an integrated empirical model that explains how customer touchpoint quality translates into purchase intention through a sequential experiential mechanism. By conceptualizing customer touchpoint quality as a formative construct composed of stimulus, interface, and medium dimensions, the study moves beyond fragmented assessments of touchpoints toward a more holistic understanding of firm–customer interactions. The results demonstrate that all three dimensions contribute significantly to customer touchpoint quality, confirming its multidimensional nature. More importantly, the findings establish encounter quality as a critical experiential conduit through which touchpoint quality influences customer experience, which in turn emerges as a strong predictor of purchase intention. Together, these results provide a process-based explanation of how upstream touchpoint design decisions cascade into downstream behavioural outcomes.

Despite these contributions, the study has several limitations that suggest avenues for future research. First, the cross-sectional research design constrains causal inference and limits insight into how touchpoint evaluations and experiential responses evolve over time. Future studies could adopt longitudinal designs or experience sampling methods to capture dynamic changes across customer journey stages. Second, the reliance on self-reported measures may raise concerns about common method bias, notwithstanding the procedural and statistical remedies employed. Future research could strengthen inference by integrating behavioural data such as clickstream analytics, service interaction logs, or transactional records to complement perceptual measures.

Third, although customer touchpoint quality is modelled through stimulus, interface, and medium dimensions, other potentially relevant characteristics were not examined. Future research could extend this framework by incorporating additional design attributes such as social presence, personalization, or sensory richness, particularly in immersive or technology-intensive environments. Fourth, the non-significant moderating effects of technological readiness and channel type suggest that boundary conditions may be more nuanced than initially theorized. Future studies could explore alternative moderators, including perceived risk, customer expertise, or situational involvement, and examine whether moderating effects emerge in specific contexts such as high-involvement purchases, complex services, or culturally diverse settings. Finally, the generalizability of the findings may be limited by the sampling frame and industry context. Replication across different industries, cultural contexts, specific demographic groups and service settings would help assess the robustness and broader applicability of the proposed model.

Despite these limitations, the study offers a theoretically grounded framework for understanding how firms can design and orchestrate customer touchpoints to create superior experiences and influence behavioural outcomes. By distinguishing customer touchpoint quality as a design construct and encounter quality as the experiential construct through which touchpoint design is enacted in use and shapes customer experience, this research offers a strong foundation for future inquiry and actionable guidance for customer-centric strategies in complex omnichannel environments....

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