

Expectation-Confirmation Theory in Emerging Digital Consumer Technologies A Scoping Review of Applications, Continuance Outcomes, and Methodological Patterns

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Abstract

Expectation-Confirmation Theory (ECT) and its information systems adaptation, the Expectation-Confirmation Model (ECM), have become important theoretical frameworks for explaining why users continue using digital technologies after initial adoption, a stage that is considered more critical for long-term success than initial acceptance. This scoping review mapped how ECT has been applied to emerging digital consumer technologies, focusing on applications, theoretical extensions, continuance outcomes, and methodological patterns. Given the rapid proliferation of these technologies, a synthesized understanding of ECT/ECM extensions remains limited. Following established scoping review guidelines, this review examined a curated body of ECT/ECM literature across mobile payment, mobile banking, e-commerce, food delivery applications, travel applications, social commerce, mHealth, video-on-demand services, e-learning platforms, and AI-enabled chatbots. The findings showed that ECT has expanded beyond its original confirmation–satisfaction–continuance pathway and is now frequently integrated with constructs such as trust, service quality, system quality, perceived risk, privacy, enjoyment, flow, engagement, affordance, self-determination, UTAUT, TAM, IS success models, and AI-specific factors, indicating a shift toward more integrative rather than standalone applications. The most frequently examined outcomes included continuance intention, reuse intention, repurchase intention, loyalty, satisfaction, recommendation intention, and electronic word-of-mouth. However, these outcomes were often treated interchangeably despite representing distinct behavioral and attitudinal concepts. Methodologically, the field was dominated by cross-sectional surveys and structural equation modeling, with increasing applications of meta-analysis, SEM-ANN, moderated mediation analysis, and cross-country comparisons. This review contributed by clarifying the evidence landscape of ECT-based digital consumer technology research and identifying research gaps related to conceptual fragmentation, limited longitudinal evidence, insufficient use of actual behavioral data, and underdeveloped theoretical explanations of AI-mediated continuance behavior, thereby providing a foundation for future research.

INTRODUCTION

Digital consumer technologies have become deeply integrated into everyday activities, including payment, shopping, learning, travel, entertainment, health management, and service interactions. The commercial and social success of these systems increasingly depends not only on initial consumer adoption but also on continued usage after repeated experiences. In digital platform markets, where switching costs are often low and alternative options are widely

available, user retention has become more critical to long-term sustainability than initial acceptance. This shift from adoption to continuance as a central research focus has important theoretical and practical implications, as it requires a deeper understanding of post-adoption evaluation processes that drive sustained engagement (Ahmed et al. 2026; Osrof et al. 2026).

Expectation-Confirmation Theory (ECT) provides a robust framework for explaining satisfaction as a post-consumption evaluation based on the comparison between prior expectations and actual performance. In information systems research, this logic was adapted into the Expectation-Confirmation Model (ECM) to explain technology continuance through confirmation, perceived usefulness, satisfaction, and continuance intention. While initial acceptance models such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) effectively explain adoption determinants, they are less effective in capturing post-adoption dynamics, where users' perceptions are shaped by actual experiences. ECT/ECM therefore provides a valuable perspective for examining user behavior after technology adoption, making it particularly relevant for understanding retention in digital consumer environments.

The ECT/ECM literature has expanded across various digital consumer technology contexts, demonstrating the broad applicability of the theory. In financial services, studies on mobile payment and mobile banking have shown that continuance behavior is influenced by confirmation, satisfaction, and trust, with trust often playing an important role in reducing perceived risk. In digital retail and e-commerce contexts, ECT has been applied to explain reuse intention, repurchase intention, and loyalty, where service quality, logistics performance, and platform effectiveness contribute to users' confirmation evaluations. Furthermore, the theory has been extended to hedonic and experiential contexts, including travel applications, video-on-demand services, and live-streaming platforms, where enjoyment and perceived value represent important determinants of continuance intention. More recently, the emergence of AI-enabled consumer technologies, including chatbots and intelligent banking applications, has introduced new theoretical challenges, as users' expectations increasingly involve personalization, automation quality, and conversational capabilities.

Despite the rapid expansion of ECT across diverse contexts, the broader evidence landscape remains fragmented. Existing studies are frequently limited to specific technologies, countries, or service sectors, restricting the generalizability of findings and making it difficult to identify overarching patterns. While some studies have integrated ECT with trust-based frameworks, others have combined it with self-determination theory, affordance theory, or the theory of planned behavior, resulting in a complex and sometimes inconsistent body of literature. Although these theoretical extensions have enriched ECT applications, they also raise concerns regarding whether the theory is evolving systematically or becoming a general framework for incorporating post-adoption variables without sufficient theoretical justification. A comprehensive understanding of how ECT/ECM has been extended, applied, and operationalized across consumer-oriented digital technologies remains limited.

The urgency of addressing this research gap is reinforced by the rapid growth of digital consumer technologies and the increasing dependence of businesses on customer retention to achieve sustainable growth. Recent systematic reviews have highlighted the need for cross-cultural research, longitudinal investigations, and stronger integration with emerging theories of digital consumer behavior. This research addressed these needs by conducting a scoping

review to map the application of ECT across the digital consumer technology landscape, identifying major applications, theoretical extensions, continuance outcomes, and methodological patterns.

The novelty of this research lies in its comprehensive and systematic approach to mapping the evidence landscape beyond the limitations of technology-specific reviews. By examining literature across ten digital technology domains, ranging from mobile payment systems to AI-enabled chatbots, this review provided a holistic perspective on the evolution of ECT as a post-adoption framework. Furthermore, it critically examined the use of outcomes such as loyalty, repurchase intention, and electronic word-of-mouth, which are frequently treated interchangeably despite representing distinct behavioral and attitudinal constructs. The review also identified methodological limitations, including the dominance of cross-sectional survey designs and the limited utilization of actual behavioral data, thereby establishing directions for future research.

The purpose of this research was to clarify the evidence landscape of ECT-based digital consumer technology studies and provide a foundation for future theoretical refinement and empirical investigation. The review was guided by five research questions: (1) in which emerging digital consumer technology domains has ECT been applied; (2) what core constructs and theoretical extensions have been used; (3) what continuance-related outcomes have been examined; (4) what methodological approaches have dominated the field; and (5) what theoretical, empirical, and methodological gaps remain?

The primary contribution of this research was twofold. Theoretically, it clarified the evolution of ECT and its integration with complementary frameworks while identifying areas where conceptual fragmentation may reduce theoretical coherence. Practically, it provided insights for digital service providers regarding the importance of designing post-adoption experiences that strengthen confirmation, rather than focusing solely on user acquisition, through reliable system performance, transparent privacy practices, and meaningful personalization. Ultimately, this review aimed to support future ECT development by distinguishing core theoretical components from contextual extensions, clarifying confirmation objects, validating AI-specific continuance constructs, and connecting intention-based evidence with actual usage behavior.

METHOD

Search Strategy

This study employed a scoping review design to map the range, characteristics, and development of research applying Expectation-Confirmation Theory (ECT) in emerging digital consumer technologies. A scoping review approach was selected because the research field was conceptually diverse and methodologically heterogeneous, requiring a broad examination of existing evidence across multiple contexts (Arksey & O'Malley, 2005; Munn et al., 2018). The review followed the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) framework to ensure transparent reporting of the search, selection, data charting, and synthesis processes (Tricco et al., 2018). The review design was also guided by the JBI (Joanna Briggs Institute) methodology for scoping reviews to support a systematic and reproducible review process (Peters et al., 2024). This

methodological approach enabled the study to comprehensively identify patterns, applications, theoretical extensions, and research gaps in ECT-based digital consumer technology research.

Search Strategy and Information Sources

The literature search was conducted using Scopus as the primary database, as it provides comprehensive coverage of peer-reviewed literature across the social sciences, business, and information systems disciplines relevant to this review. The search strategy was developed iteratively and combined four distinct groups of search terms to ensure broad capture of relevant studies: (1) theory terms, (2) model-development terms, (3) post-adoption outcome terms, and (4) digital technology-context terms. The theory terms included "expectation confirmation theory," "expectation-confirmation theory," "expectation confirmation model," and "expectation-confirmation model." The model-development terms comprised application, *extension*, integration, determinant, *antecedent*, outcome, *framework*, and model. *The post-adoption outcome terms included satisfaction, continuance, loyalty, retention, and "continued use."* The technology-context terms consisted of "digital platform," "information system," "online service," "mobile app," "e-commerce," "e-learning," "mobile banking," "digital health," and "social media." The final search string was constructed as follows: TITLE-ABS-KEY(("expectation confirmation theory" OR "expectation-confirmation theory" OR "expectation confirmation model" OR "expectation-confirmation model") AND (application OR extension* OR integration OR determinant* OR antecedent* OR outcome* OR framework* OR model) AND (satisfaction OR continuance OR loyalty OR retention OR "continued use") AND ("digital platform" OR "information system" OR "online service" OR "mobile app*" OR "e-commerce" OR "e-learning" OR "mobile banking" OR "digital health" OR "social media")). The search was not restricted by publication date to ensure comprehensive coverage of the development of ECT applications in digital consumer technologies. Records were exported with full bibliographic metadata, abstracts, keywords, DOI information, source titles, publication years, and citation details, forming the evidence base for manuscript development, tables, and literature statements.

Eligibility Criteria and Study Selection

Studies were considered eligible for inclusion if they met the following criteria: (1) explicitly applied ECT, ECM, or an expectation-confirmation-based framework as the theoretical foundation or as part of an integrated model; (2) focused on post-adoption behavior, including continuance, satisfaction, loyalty, reuse, repurchase, retention, or sustained engagement with digital services; (3) examined consumer-facing digital technologies, platforms, applications, or online services; and (4) were published as peer-reviewed journal articles or high-quality research publications in the English language containing sufficient detail about constructs, methods, contexts, and findings to enable meaningful charting and synthesis. Studies that focused exclusively on initial adoption without incorporating any post-adoption or continuance components were excluded, as the review's focus was specifically on understanding sustained use rather than initial acceptance.

Data Charting and Synthesis

Data were extracted and charted using a standardized template that captured key information from each included study, including author(s), publication year, research context, digital technology domain, core ECT constructs used, theoretical extensions or integrated frameworks, continuance-related outcomes examined, research design, data collection method,

sample characteristics, analytical technique, geographic setting, and methodological limitations. This approach allowed for systematic comparison across studies and facilitated the identification of patterns and gaps within the literature. The scoping logic prioritized breadth and conceptual mapping over quality-based exclusion, as formal risk-of-bias assessment is not always required in scoping reviews, particularly when the main purpose is to map research characteristics rather than to evaluate methodological quality (Munn et al., 2018). However, methodological sensitivity was considered by charting research design, data source, analytical method, sample context, geographic setting, and methodological limitations. This was particularly important because ECT/ECM studies often use cross-sectional self-report surveys, where common method bias may be a concern (Podsakoff et al., 2003). The synthesis was organized around the five research questions, with findings presented through descriptive summaries and tabular presentations that highlight key applications, theoretical extensions, outcomes, and methodological patterns across the digital consumer technology landscape.

RESULTS AND DISCUSSION

Applications of ECT Across Emerging Digital Consumer Technology Domains

The first theme shows that ECT is applied across a broad set of consumer-facing digital technologies. Financial technologies are the most prominent, including mobile payment, mobile money, mobile banking, and e-banking. Studies in this cluster emphasize that confirmation and satisfaction remain central, but trust, perceived risk, and service quality are often necessary to explain continued use (Adjei et al., 2020; Talwar et al., 2020; Nguyen and Dao, 2024; Rahi et al., 2023).

A second cluster involves e-commerce, online shopping, food delivery, social commerce, and multichannel retail. These studies commonly connect ECT with reuse, repurchase, loyalty, satisfaction, and service-quality outcomes. The evidence indicates that consumers judge digital retail technologies by both interface experience and fulfilment performance, including delivery, logistics, product freshness, social interaction, and service recovery (Ahmad et al., 2025; Cuong, 2023; Monoarfa et al., 2024; Ferreira et al., 2025).

A third cluster includes tourism, travel, entertainment, mHealth, and AI-enabled service tools. Travel applications and mobile augmented reality apps extend ECT toward privacy, security, immersive experience, and destination-context factors (Choi et al., 2023; Tan et al., 2025). Video-on-demand research extends ECT toward enjoyment (Pereira and Tam, 2021), while chatbot and AI-enabled banking studies extend the model toward automation quality, problem solving, and conversational service characteristics (Lee et al., 2023b; Gao et al., 2025). Table 1 summarizes the application domains.

Table 1. Essential summary of findings on applications of ECT across emerging digital consumer technology domains.

References	Digital Technology Context	Consumer Domain	ECT/ECM Role	Main Constructs	Main Finding
Talwar et al. (2020)	Mobile payment	Fintech digital payment	and Explains continuation after initial mobile-payment adoption	Initial trust, confirmation, satisfaction, continuation intention	Continuation is shaped by confirmation and trust after users move beyond initial adoption.
Al Amin et al. (2024)	Mobile payment application	Financial technology	Uses electronic technology continuance logic	E-satisfaction, continuance intention, e-loyalty	Continuance during COVID-19 is linked to satisfaction and loyalty formation.
Nguyen and Dao (2024)	Mobile banking	Banking financial services	and Extends ECM with trust	Confirmation, satisfaction, trust, continuance intention	Trust strengthens understanding of mobile banking continuance.
Lee et al. (2023b)	AI-enabled mobile banking	AI-enabled fintech	Extends ECM with AI characteristics	AI characteristics, confirmation, satisfaction, continuance	AI attributes are relevant for intelligent banking continuance.
Ahmad et al. (2025)	Food delivery applications	Online food delivery	Integrates service quality and ECT	Service quality, satisfaction, reuse intention	Reuse is driven by satisfaction and service quality perceptions.
Hsu and Lin (2020)	Online-to-offline apps	O2O digital services	Applies continuance logic to app use	Confirmation, usefulness, satisfaction, continuance	Continued use depends on post-use evaluation and satisfaction.
Liu et al. (2023)	Travel applications	Tourism and hospitality	Uses continuance framework	Confirmation, satisfaction, continuance usage	Continuance is explained by satisfaction and perceived value.
Choi et al. (2023)	Travel applications	Tourism and hospitality	Adds privacy and security	Privacy, security,	Privacy and security become salient

					satisfaction, continued use	continuance factors.
Kaium et al. (2020)	mHealth applications	Digital health	Applies continuance model to mHealth		Confirmation, usefulness, satisfaction, continuance	mHealth continuance depends on confirmation and satisfaction.
Pereira and Tam (2021)	Video-on- demand services	Digital entertainment	Extends continuance logic with enjoyment		Enjoyment, satisfaction, continuance	Enjoyment plays a critical role in sustained usage.
Sundjaja et al. (2025)	Customer service chatbot	E-commerce and AI service	Extends ECT for chatbot continuance		Confirmation, satisfaction, chatbot factors	Continuance depends on confirmation and service experience.
Gao et al. (2025)	AI chatbot in e-commerce	AI-enabled e- commerce	Applies ECM to chatbot problem solving	AI problem solving, satisfaction, continued use		Problem- solving ability supports satisfaction and continued use.

Source: Compiled by the authors based on Adjei et al. (2020); Talwar et al. (2020); Hsu and Lin (2020); Kaium et al. (2020); Pereira and Tam (2021); Choi et al. (2023); Lee et al. (2023); Liu et al. (2023); Al Amin et al. (2024); Nguyen and Dao (2024); Ahmad et al. (2025); Gao et al. (2025); and Sundjaja et al. (2025).

Theoretical Extensions and Integrated Constructs in ECT-Based Studies

The second theme concerns theoretical extension. The evidence shows that ECT is rarely used as a stand-alone model in contemporary digital consumer technology studies. Trust is one of the most common extensions, especially in financial services, social commerce, and digital platforms where uncertainty, risk, and institutional confidence shape continuance (AlSokkar et al., 2024; Hazari, 2024; Nguyen and Dao, 2024). Service quality, system quality, information quality, perceived value, and logistics quality are also frequently added to explain what users evaluate when they confirm or disconfirm expectations (DeLone and McLean, 2003; Monoarfa et al., 2024).

Other extensions broaden ECT toward motivational, experiential, social, and AI-mediated mechanisms. Self-determination theory adds autonomy, competence, and motivation to e-banking continuance (Rahi et al., 2023); affordance theory links e-learning continuance to perceived platform capabilities (Dhiman et al., 2022); and TPB plus consumption values situates social-media continuance within behavioral and value-based mechanisms (Mehraboun, 2024). Hedonic and experiential extensions include enjoyment, flow, engagement, and loyalty (Pereira and Tam, 2021; Hosen et al., 2026). Table 2 maps these extensions.

Table 2. Essential summary of findings on theoretical extensions and integrated constructs in ECT-based digital consumer technology studies.

References	Added Theory or Construct	Core Constructs Used	ECT	Extended Variables	Relationship to Continuance Outcome	Contribution to ECT Development
AlSokkar al. (2024)	et Trust-based indexed approach	Confirmation, satisfaction, continuance		Trust	Trust strengthens expectation-confirmation processes.	Formalizes trust as a central post-confirmation mechanism.
Rahi (2023)	et al. Self-determination theory	Confirmation, satisfaction, continuance		Autonomy, competence, relatedness	Motivation interacts with ECM in e-banking continuance.	Extends ECT beyond cognitive confirmation.
Dhiman (2022)	et al. Affordance theory	Confirmation, satisfaction, attitude		Platform affordances	Affordances shape user attitude and continuance.	Links ECT with perceived action possibilities.
Mehraboun (2024)	TPB and consumption values	Confirmation, satisfaction, continuance		Attitude, subjective norms, values	Social-media continuance is shaped by integrated mechanisms.	Demonstrates multi-theoretical ECT integration.
Monoarfa al. (2024)	et E-logistics service quality	Confirmation, satisfaction, continuance		E-logistics quality	Continuance depends on logistics-related service quality.	Expands ECT into fulfilment-intensive commerce.
Lee (2023b)	et al. AI characteristics	Confirmation, satisfaction, continuance		AI-enabled service attributes	AI characteristics influence continuance through satisfaction.	Adapts ECT to AI-mediated banking.
Trinh and Tran (2024)	S-O-R, perceived risk, IS success	Post-adoption continuance logic		Risk and IS success dimensions	Credit-card continuance is shaped by risk and system quality.	Connects ECT-compatible logic with S-O-R.
Choi (2023)	et al. Privacy security and	Satisfaction, continued use		Privacy and security concerns	Risk-related factors influence travel-app continuance.	Extends ECT toward data-protection issues.
Pereira and Tam (2021)	Enjoyment	Satisfaction, continuance		Enjoyment	Enjoyment increases continuance in hedonic services.	Adds affective value to ECT.

Hosen et al. (2026)	Flow and engagement	Satisfaction and loyalty logic	Flow, engagement, loyalty	Flow drives engagement and loyalty.	Extends continuance logic into experiential pathways.
Yu et al. (2024)	Social shopping participation	Continuance and satisfaction logic	Friends, social participation	Social relationships shape continuance.	Develops ECT for socially embedded platforms.
Al-Nabhani et al. (2022)	Multichannel retail experience	Confirmation, satisfaction, continuous usage	Multichannel app factors	Continuous use depends on retail app experience.	Extends ECT to omnichannel ecosystems.

Source: Compiled by the authors based on Al-Nabhani et al. (2022); Dhiman et al. (2022); Pereira and Tam (2021); Lee et al. (2023); Rahi et al. (2023); Choi et al. (2023); AlSokkar et al. (2024); Mehrabioun (2024); Monoarfa et al. (2024); Trinh and Tran (2024); Yu et al. (2024); and Hosen et al. (2026).

Continuance Outcomes, Loyalty, and Post-Adoption Consumer Behavior

The third theme addresses outcomes. Continuance intention remains the dominant outcome, especially in mobile financial services, mobile banking, e-banking, mHealth, and travel apps (Adjei et al., 2020; Nguyen and Dao, 2024; Kaium et al., 2020; Liu et al., 2023). Satisfaction often plays a dual role: it is an outcome of confirmation and a mediator or predictor of continued use. This is consistent with the original ECM logic (Bhattacharjee, 2001), but contemporary studies extend satisfaction toward loyalty, repurchase, recommendation, and e-WOM.

In platform retail and e-commerce, outcome constructs diversify. Reuse intention appears in food delivery apps, repurchase intention in online shopping and fresh food e-commerce, and loyalty in social-network-based e-commerce and Facebook (Ahmad et al., 2025; Cuong, 2023; Hazari, 2024; Zhang and Chai, 2025). Recommendation and e-WOM are less frequent but theoretically important because they represent social post-adoption behavior rather than simple continued use (Nam et al., 2020; Chauhan, 2025). Table 3 summarizes the outcome landscape.

Table 3. Essential summary of findings on continuance outcomes and post-adoption consumer behavior in ECT-based studies.

References	Outcome Construct	Digital Context	Antecedents of Outcome	Mediating or Moderating Mechanisms	Key Evidence Gap
Adjei et al. (2020)	Continual use	Mobile financial services	Satisfaction and confirmation-related determinants	Post-adoption evaluations	Limited evidence on actual long-term behavior.
Al Amin et al. (2024)	Continuance and e-loyalty	Mobile payment	E-satisfaction and technology continuance factors	Satisfaction-to-loyalty pathway	Loyalty beyond intention needs more evidence.
Nguyen and Dao (2024)	Continuance intention	Mobile banking	Confirmation, satisfaction, trust	Trust as moderator	Cross-cultural trust comparison is limited.
Ahmad et al. (2025)	Reuse intention	Food delivery apps	Service quality and satisfaction	Satisfaction mediates evaluations	Actual repeat ordering is underexplored.
Cuong (2023)	Repurchase intention	Online shopping	Satisfaction and platform determinants	Satisfaction as mediator	More longitudinal evidence is needed.
Dayal and Palsapure (2020)	Online shopping continuance	Amazon consumer electronics	Confirmation-related perceptions	Post-adoption satisfaction	Platform-specific evidence limits generalization.
Hazari (2024)	Loyalty	Facebook	Trust and expectation confirmation	Trust as mediator	Loyalty needs distinction from continued use.
Herzallah and Ayyash (2021)	Continuous intention	Social commerce via Facebook	Satisfaction and social commerce factors	Theoretical continuous-use model	Comparison with e-commerce outcomes is limited.
Nam et al. (2020)	Positive and negative WOM	Online consumer behavior	Two types of expectation confirmation	E-WOM mechanisms	E-WOM is underused as an ECT outcome.
Zhang and Chai (2025)	Satisfaction and loyalty	Social-network-based e-commerce	E-commerce experience and social network effects	Satisfaction-to-loyalty pathway	Platform engagement and loyalty need distinction.
Gao et al. (2025)	Continued usage intention	AI chatbot in e-commerce	AI chatbot problem solving	Satisfaction-related pathway	AI-specific outcomes remain emerging.

Avçılar and Yenilmez (2026)	Satisfaction and continuance	Chatbots	Chatbot characteristics	Need for human interaction as moderator	Human preference requires deeper theorization.
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Source: Compiled by the authors based on Adjei et al. (2020); Nam et al. (2020); Dayal and Palsapure (2020); Herzallah and Ayyash (2021); Al Amin et al. (2024); Nguyen and Dao (2024); Hazari (2024); Ahmad et al. (2025); Cuong (2023); Gao et al. (2025); Zhang and Chai (2025); and Avçılar and Yenilmez (2026).

Methodological Patterns in ECT-Based Digital Consumer Technology Research

The fourth theme concerns methodology. Most ECT-based digital consumer technology studies use quantitative, survey-based designs and structural equation modeling. This pattern is visible across e-banking, online learning, travel applications, mobile banking, chatbots, and social media continuance studies (Rahi et al., 2023; Cocosila et al., 2024; Liu et al., 2023; Sundjaja et al., 2025). Such designs are suitable for testing latent constructs but remain limited in capturing changing expectations over time.

Methodological innovation is emerging but remains uneven. MASEM has been used to re-examine post-acceptance models (Mishra et al., 2023), meta-analysis has been applied in smart tourism technology research (Gopinath and Jyotsna, 2025), SEM-ANN has been used for mobile banking service quality (Pokhrel et al., 2024), and cross-country designs have examined O2O transactions and social media continuance (Huang et al., 2020; Maduku and Abu-Shanab, 2022). Table 4 identifies methodological patterns and limitations.

Table 4. Essential summary of findings on methodological patterns in ECT-based digital consumer technology research.

References	Research Design	Data Source and Sample	Analytical Method	Geographic or Sectoral Context	Methodological Limitation
Mishra et al. (2023)	Meta-analytic SEM	Prior post-acceptance studies	MASEM	Information systems continuance	Depends on construct comparability.
Gopinath and Jyotsna (2025)	Meta-analysis	Smart technology and tourism studies	Meta-analysis	Tourism technology	May obscure context-specific mechanisms.
Pokhrel et al. (2024)	Two-stage quantitative modeling	Mobile banking users	SEM-ANN	Mobile banking	Still depends on survey perceptions.
Rahi et al. (2023)	Quantitative survey	E-banking users during COVID-19	Integrated model testing	E-banking	Pandemic context limits generalization.
Chauhan (2025)	Moderated mediation	E-banking customers	Moderated mediation analysis	E-banking	Focuses on intention to recommend.
Cocosila et al. (2024)	Empirical quantitative study	Online learning students	Model testing	Post-COVID online learning	Cross-sectional evidence limits

					temporal inference.
Sobodić et al. (2024)	Quantitative empirical study	Digital competence system users	Continuance model testing	Education technology	Findings may not generalize beyond education.
Liu et al. (2023)	Quantitative empirical study	Chinese tourists	Model testing	Tourism applications in China	Country-specific context limits inference.
Huang et al. (2020)	Cross-country investigation	O2O customers	Comparative quantitative analysis	Online-to-offline channels	May mask platform-level differences.
Maduku and Abu-Shanab (2022)	Cross-national comparison	Social media users	Quantitative comparison	Jordan and South Africa	Limited to two national contexts.
Lee et al. (2023b)	Empirical quantitative model	AI-enabled mobile banking users	Structural model testing	AI-enabled banking	AI variables need further validation.
Sundjaja et al. (2025)	Quantitative extended ECT model	E-commerce chatbot users	Structural model testing	Indonesian e-commerce chatbot	National and platform-specific focus.

Source: Compiled by the authors based on Huang et al. (2020); Maduku and Abu-Shanab (2022); Mishra et al. (2023); Rahi et al. (2023); Liu et al. (2023); Cocosila et al. (2024); Sobodić et al. (2024); Pokhrel et al. (2024); Chauhan (2025); Gopinath and Jyotsna (2025); Lee et al. (2023); and Sundjaja et al. (2025).

This scoping review shows that ECT has become a highly adaptable framework for studying post-adoption behavior in emerging digital consumer technologies. Across fintech, e-commerce, mobile apps, social commerce, tourism technologies, mHealth, digital education, entertainment platforms, and AI-enabled services, the theory provides a coherent logic linking confirmation, satisfaction, perceived usefulness, and continued use. The breadth of application supports the continuing relevance of ECM in information systems continuance research (Mishra et al., 2023), while also showing that ECT now extends into consumer behavior, service management, platform studies, and AI-mediated interaction.

The first major implication is that ECT is no longer confined to a simple confirmation–satisfaction–continuance pathway. Trust has become a crucial extension in mobile banking, mobile payment, social media, and digital platforms where users face financial, privacy, or institutional risk (Talwar et al., 2020; Hazari, 2024; Nguyen and Dao, 2024). Service quality, logistics quality, system quality, information quality, and fulfilment quality are also important because they specify which aspects of platform performance become confirmed or disconfirmed (DeLone and McLean, 2003; Monoarfa et al., 2024). This suggests that future ECT models should explicitly distinguish the object of confirmation rather than treating confirmation as a generic post-use evaluation.

The second implication concerns outcome proliferation. Continuance intention remains dominant, but ECT-based studies increasingly examine reuse, repurchase, loyalty, recommendation, engagement, and e-WOM. These outcomes reflect different layers of post-

adoption behavior. Reuse and repurchase are transactional; loyalty is attitudinal and relational; recommendation and e-WOM are social; engagement can be behavioral, cognitive, or emotional (Nam et al., 2020; Hosen et al., 2026; Zhang and Chai, 2025). The field would benefit from stronger construct discipline and from clearer explanations of why a given outcome is theoretically appropriate for a particular technology context.

The third implication concerns contextual variation. Emerging-market studies show that financial inclusion, digital infrastructure, rural access, service reliability, and trust may shape continuance differently from mature digital markets. Mobile money and rural mobile financial service studies illustrate the importance of underserved users and institutional conditions (Qatawneh et al., 2025; Rizvee et al., 2025). E-learning studies conducted during and after COVID-19 also show that forced adoption and voluntary continuance should not be conflated (Alam et al., 2022; Cocosila et al., 2024). ECT should therefore be treated as context-sensitive rather than universally invariant.

The fourth implication concerns AI-mediated continuance. AI chatbots, voice assistants, AI-enabled banking, and generative AI services shift the meaning of expectation confirmation. Users evaluate whether automated agents understand requests, solve problems, provide personalized support, and reduce effort without undermining human service expectations. Chatbot continuance studies show that problem-solving quality and chatbot characteristics matter (Gao et al., 2025; Sundjaja et al., 2025), while the moderating role of need for human interaction suggests that automation may confirm expectations for some users but violate them for others (Avcılar and Yenilmez, 2026).

The fifth implication is methodological. The dominance of cross-sectional surveys and SEM has created a strong body of model-testing evidence, but it has also limited understanding of dynamic expectation formation. Users' expectations may change after platform updates, service failures, price changes, privacy incidents, improvements in AI performance, or repeated social influence. Longitudinal designs, usage-log data, experiments, diary methods, qualitative process studies, and mixed-method approaches would help clarify how confirmation, satisfaction, trust, and continuance evolve over time. Predictive methods such as SEM-ANN and meta-analytic approaches provide useful extensions, but they should be complemented by designs that observe actual behavior (Gopinath and Jyotsna, 2025; Pokhrel et al., 2024).

The review also highlights limitations of the current evidence base. Many studies use intention as a proxy for behavior, rely on convenience samples, and examine single countries or platforms. Cross-country research remains limited despite evidence that culture and institutional context can shape continuance mechanisms (Huang et al., 2020; Maduku and Abu-Shanab, 2022). Furthermore, some studies combine multiple theories without explaining why specific constructs belong together. Stronger theoretical justification is needed to avoid transforming ECT into an unconstrained model of any post-adoption variable.

For practice, the findings suggest that digital service providers should design for confirmation after adoption, not only for acquisition. Platforms must ensure that core promises made during marketing, onboarding, and early use are sustained through reliable performance, transparent privacy practices, responsive service recovery, high-quality fulfilment, and meaningful personalization. In AI-enabled contexts, providers must manage user expectations about automation capabilities and limitations. For scholarship, the review contributes a structured map of domains, constructs, outcomes, and methods, while identifying a research

agenda around actual-use evidence, longitudinal confirmation processes, AI-specific constructs, cross-cultural comparison, and sharper outcome definitions.

CONCLUSION

This scoping review mapped the application of Expectation-Confirmation Theory (ECT) in emerging digital consumer technologies. The findings showed that ECT had become a prominent framework for explaining post-adoption behavior across various digital contexts, including mobile banking, mobile payment, e-commerce, online shopping, food delivery applications, social commerce, travel applications, mHealth, video-on-demand services, digital education platforms, and AI-enabled technologies. Across these contexts, confirmation, satisfaction, perceived usefulness, trust, service quality, perceived risk, privacy, enjoyment, and engagement were identified as important factors explaining users' continuance behavior after initial adoption.

Four main conclusions emerged from the review. First, ECT demonstrated broad applicability across diverse consumer-oriented digital technology domains. Second, the theory was frequently extended with additional constructs reflecting the specific risks, values, and user experiences associated with digital service environments. Third, although continuance intention remained the dominant outcome, related constructs such as reuse intention, repurchase intention, loyalty, recommendation intention, engagement, and electronic word-of-mouth (eWOM) required clearer conceptual differentiation. Fourth, the field remained methodologically dominated by cross-sectional surveys and structural equation modeling (SEM), with limited application of longitudinal studies, behavioral data analysis, experimental designs, and mixed-method approaches.

Future research should further refine ECT by distinguishing core theoretical components from contextual extensions, clarifying the object of confirmation, validating AI-specific continuance constructs, and establishing stronger links between intention-based measures and actual usage behavior. The theoretical contribution of this review lies in clarifying the evolution of ECT as a post-adoption framework for understanding digital consumer behavior. Practically, this review highlights how digital platforms can enhance satisfaction, retention, loyalty, and sustained engagement by designing services that consistently meet and confirm user expectations over time.

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