

Understanding Generative AI Adoption and Continuance: A Theory-Driven Review Integrating TAM and ECM

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Abstract

Research on generative artificial intelligence (GenAI) has tended to split into work on initial adoption and work on continued use after experience. This article brings those streams together by reading the Technology Acceptance Model (TAM) and the Expectation-Confirmation Model (ECM) as complementary, stage-specific lenses. The analysis draws on 25 peer-reviewed empirical studies located through structured source searches, publisher and DOI checks, scholarly indexes, and citation tracing. The corpus is analytical rather than exhaustive. Most studies come from higher education and rely on single-wave self-report data. Across adoption studies, perceived usefulness appears more consistently associated with uptake than perceived ease of use. Post-adoption studies give greater weight to confirmation, satisfaction, calibrated trust, quality, and perceived value. The synthesis distinguishes anticipatory trust from calibrated trust and treats continuance as only one possible outcome alongside selective use, reduced use, switching, discontinuance, re-adoption, habit, and AI dependency. It also proposes performance, value, and ethical/governance disconfirmation as separate concepts for future testing. Taken together, the evidence suggests that TAM is most informative around entry into use, whereas ECM is better suited to experience-based reassessment and continuance.

1. Introduction

Generative artificial intelligence (GenAI) blurs the boundary between initial acceptance and continued use. Unlike many earlier information systems, GenAI performance is variable across tasks, output quality often requires verification, and user judgments can change quickly after direct experience.

The earliest empirical studies largely asked why people choose to try GenAI. In TAM-based work, perceived usefulness is usually associated with intention, whereas findings for perceived ease of use vary more by setting. A smaller post-adoption literature shifts attention toward confirmation, satisfaction, revised usefulness judgments, and trust.

These two strands are still weakly connected. Adoption, actual use, satisfaction, habit, dependency, switching, discontinuance, and re-adoption describe different moments in a user's

relationship with a system, yet they are rarely examined within the same account. GenAI also introduces risk and governance concerns that may become visible only after hands-on use.

Earlier reviews have catalogued ChatGPT applications and summarized technology-acceptance findings (Baig & Yadegaridehkordi, 2024; Yang, 2026). Less attention has been given to the transition from pre-use expectations to post-use judgments, or to the difference between anticipatory trust and calibrated trust. The present review addresses that gap through theory integration rather than a claim of exhaustive coverage.

This review addresses five questions: what evidence currently exists (RQ1); what TAM findings characterize adoption (RQ2); what ECM findings characterize continuance (RQ3); which cross-stage factors condition both phases (RQ4); and how these findings can be combined into a GenAI adoption–continuance framework (RQ5).

2. Literature Review

2.1 Technology Acceptance Model and Entry into Use

Within TAM, perceived usefulness and perceived ease of use organize the decision to adopt a technology (Davis, 1989). For GenAI, both judgments can be provisional: anticipated benefits are often inferred before sustained use, while apparent interface simplicity may conceal the effort required to formulate prompts and verify outputs.

This distinction matters because a tool can feel easy to access but still be difficult to use responsibly. GenAI therefore stretches TAM toward a more task-sensitive interpretation of effort and usefulness.

2.2 Expectation-Confirmation Model and Post-Adoption Evaluation

ECM addresses what happens after adoption. Users compare experience with earlier expectations, revise judgments of usefulness, and decide whether continued use remains worthwhile (Bhattacharjee, 2001). In GenAI settings, this comparison can differ substantially from one task to another.

A user may confirm expectations for brainstorming but disconfirm them for high-stakes fact retrieval. This review therefore treats confirmation and disconfirmation as experience-based evaluations that can vary across tasks and contexts.

The review distinguishes anticipatory trust from calibrated trust. Anticipatory trust is a pre-use expectation of dependability; calibrated trust is a post-use judgment shaped by observed strengths, errors, and verification burden.

2.3 Complementary Roles of Task-Technology Fit and Social Influence

TTF adds a task-level question that TAM and ECM do not answer directly: whether the system fits what the user is trying to accomplish. Social influence is likewise stage-sensitive. Before adoption it may be associated with trial; after adoption it can be associated with verification norms, trust, and judgments about acceptable use.

These constructs are treated here as complementary rather than competing explanations. They help explain why the same GenAI tool may be adopted quickly but continued selectively.

2.4 Integrating Adoption, Continuance, Negative Outcomes, and Habit

A simple TAM-to-ECM sequence is therefore insufficient. GenAI continuance may coexist with task-selective use, reduced use, switching, dependency, or eventual re-adoption after product or policy change.

The framework developed in this review treats adoption as the start of a feedback system, not the final dependent variable.

3. Methodology and Procedures

3.1 Review Design and Analytical Logic

This study uses a theory-driven integrative review design. Its aim is conceptual integration rather than exhaustive bibliographic coverage: it assembles a verified evidence corpus to clarify how TAM and ECM can jointly explain GenAI adoption and continuance.

3.2 Evidence Identification and Eligibility Criteria

Evidence was identified with a deliberately broad Boolean strategy that paired GenAI terms with adoption and post-adoption terms. Searches covered publisher and DOI-indexed pages, ERIC, PubMed/PMC, Google Scholar, and other scholarly index pages for material published from November 2022 to 26 September 2026.

A second, theory-focused search was used to locate papers that explicitly referred to TAM, ECM, or closely related continuance concepts. The search strings and date boundaries are reported so that readers can see how the evidence corpus was assembled.

Targeted backward and forward citation chaining was allowed only after first-pass coding showed insufficient empirical coverage for a framework-relevant construct such as dependency, TTF, professional adoption, or continuance. The trigger was construct coverage, not whether a study supported the emerging framework, and all added studies had to meet the same inclusion and exclusion criteria as the first-pass corpus.

Only peer-reviewed journal studies containing empirical data on GenAI users were retained for the main synthesis. Eligible outcomes included adoption, acceptance, actual use, continuance, and closely related post-adoption behavior.

3.3 Construction of the Theory-Driven Evidence Corpus

The theory-driven evidence corpus comprises 25 peer-reviewed empirical studies. The first structured pass identified 19 eligible studies. A second pass added 6 studies after first-pass coding revealed limited empirical coverage of framework-relevant constructs, including dependency, task-technology fit, professional adoption, and post-adoption continuance.

The second pass was triggered by construct-coverage gaps rather than by whether study findings supported the emerging framework. All supplementary studies were required to meet the same inclusion and exclusion criteria as the first-pass corpus. Accordingly, the 25-study corpus is used for theory integration and analytical comparison, not as a database-exhaustive estimate of the field.

3.4 Data Extraction and Coding

Each study was coded for year, context, population, design, key constructs, outcome type, and findings relevant to TAM, ECM, trust, satisfaction, risk, TTF, social influence, and post-adoption outcomes.

Measurement heterogeneity was coded as an additional interpretive risk because studies often used different item sets, response scales, and temporal anchors for continuance, trust, and disconfirmation.

Reported structural relationships were coded as significant, explicitly non-significant, or not reported (cannot tell). An omitted path was not treated as a null finding.

3.5 Quality Appraisal

Methodological appraisal is anchored in MMAT 2018. The review uses MMAT to identify recurrent design weaknesses, not to calculate a single numerical quality score.

3.6 Synthesis Strategy

A conventional meta-analysis was not attempted because the evidence corpus is heterogeneous in constructs, contexts, samples, and measures. Instead, the review uses structured

narrative synthesis and a simple semi-quantitative coding of reported associations.

3.7 Grey-Literature Sensitivity Analysis

Grey literature is not pooled into the primary synthesis. Four accessible graduate theses were used only as a sensitivity check. They broadly resembled the peer-reviewed literature, but the set is too small to estimate publication bias and cannot rule out the possibility that additional unpublished work contains more non-significant findings.

4. Results and Discussion

4.1 RQ1: Descriptive Profile of the Evidence Base

The theory-driven evidence corpus contains 25 peer-reviewed empirical studies. Fourteen are in higher education, three in healthcare, one in tourism or heritage tourism, and seven in general consumer, research-writing, paid-service, or cross-domain contexts.

Direct answer to RQ1. The evidence map is dominated by higher-education samples, cross-sectional designs, and intention-based outcomes. Evidence from healthcare, tourism, enterprise use, and paid subscriptions remains limited and should be interpreted as exploratory.

Higher-education findings also have clear external-validity limits. Many student users face low direct monetary cost and strong academic-integrity rules, whereas paid workplace or medical settings involve different cost, risk, and governance structures.

Table 1.1: Profile of the Reviewed Evidence Corpus

Dimension	Category	n	Interpretive implication
Context	Higher education	14	Evidence remains concentrated in students and academic staff.
Context	Healthcare	3	Higher task risk highlights trust, privacy, risk, and operational burden.
Context	Tourism/heritage tourism	1	Continuance evidence remains too sparse for group comparison.
Context	General/research/consumer/paid-service	7	Broader contexts are emerging but remain heterogeneous.
Design	Single-wave self-report survey	21	Temporal ordering and causal claims remain weak.
Design	Repeated measures	1	Stronger within-person evidence, still not platform-log retention.
Design	Mixed or multi-analytic	2	Triangulation improves interpretability but often retains survey outcomes.
Primary outcome	Adoption/acceptance	15	Still the larger stream of evidence.
Primary outcome	Continuance/post-adoption	10	Growing, but heavily intention-based.
Behavior measure	Actual use/use intensity included	5	Mostly self-reported rather than digitally observed.

Source: Authors' synthesis based on the theory-driven evidence corpus.

4.1.1 Included-Study Coding

Table 1.2 summarizes the 25-study evidence corpus and its role in theory building. The table is descriptive rather than frequency-analytic because the corpus was assembled for conceptual coverage.

Table 1.2: Studies Included in the Analytical Corpus and Their Roles

IMPORTANT NOTE. The High/Moderate labels in the final column are descriptive orientation tags retained from early screening. They are not MMAT summary ratings and are not used as the manuscript's formal quality appraisal. Formal methodological interpretation follows the criterion-based MMAT discussion in Section 4.1.2 and Appendix A.

Study	Context / sample	Design / theory	Outcome	Key finding used in synthesis	Descriptive appraisal tag*
Zou & Huang (2023)	Higher education; China; doctoral writers	Cross-sectional survey; TAM	Adoption intention	PEOU and PU were associated with intention mainly through attitude; prior experience was positively associated with PEOU.	Moderate
Lai et al. (2023)	Higher education; Hong Kong; n=473	Cross-sectional SEM; extended TAM	Use intention	PU was associated with intention; PEOU showed no direct association; intrinsic motivation showed the strongest reported association.	Moderate
Duong et al. (2023)	Higher education; Vietnam; n=1,389	Cross-sectional SEM; modified TAM	Actual use	Effort expectancy showed direct and indirect associations with use through performance expectancy and intention. PEOU and PU were associated with favorable attitude and self-reported actual use in the proposed stress/ubiquitous-learning model.	High
Saif et al. (2024)	Higher education; Pakistan; n=156	Cross-sectional PLS-SEM; TAM	Attitude/actual use	Usefulness, social presence, legitimacy, enjoyment, and motivation showed significant associations; PEOU was explicitly non-significant.	Moderate
Tiwari et al. (2024)	Higher education; students; n=375	Cross-sectional PLS-SEM; TAM extensions	Adoption/usage	The extended UTAUT2 model reported associations between performance-related beliefs, innovativeness, intention, and use.	Moderate
Strzelecki (2024)	Higher education; Poland; n=503	Cross-sectional PLS-SEM; UTAUT2	Intention/use behavior	Awareness showed modeled associations with PEOU, PU, and perceived intelligence; trust was specified as a moderator of selected relationships.	High
Shahzad et al. (2024)	Higher education; China; n=320	Cross-sectional PLS-SEM; TAM	Adoption intention		Moderate

Study	Context / sample	Design / theory	Outcome	Key finding used in synthesis	Descriptive appraisal tag*
Zhang & Zhao (2024)	Healthcare; 21 countries; n=1,038 prior-exposure cases	Cross-sectional survey; TAM	Adoption intention	PU showed the strongest reported association; PEOU was also significant, and prior ChatGPT response quality was associated with perceived usefulness of future medical systems.	High
Lin et al. (2025)	Healthcare; Taiwan; >1,000 nurses	Cross-sectional survey; TAM	Attitude/utilization	Usefulness and perceived risk showed significant associations; PEOU was not a significant adoption factor among nurses.	High
Kelly et al. (2025)	Healthcare; Australia; n=216	Repeated-measures survey; extended TAM	Health-use intention	Trust and PU showed significant associations across health domains; PEOU was associated with physical-health intention, while privacy was associated with mental-health intention.	High
Sakib et al. (2025)	General global users; n=313; ≥6 months use	Cross-sectional PLS-SEM; extended TAM	Usage	Cost, enjoyment, PU, facilitating conditions, and social influence showed significant associations; PEOU had no direct association with usage.	High
Kang et al. (2024)	General GenAI users; n=356	Cross-sectional SEM	Continuance intention	Individual, social, and technical motivations showed modeled associations with trust and acceptance attitude, which were associated with continuance.	Moderate
Kim & Baek (2025)	U.S. ChatGPT users; n=446	Cross-sectional survey; investment model	Continuance intention	User-friendliness and playfulness were associated with satisfaction and investment; commitment was associated with continuance.	Moderate
Kavitha & Joshith (2025)	Higher education; India; n=350	Cross-sectional PLS-SEM; ECM	Continuance intention	Satisfaction showed the strongest reported association; confirmation and PU were also associated with continuance.	Moderate

Study	Context / sample	Design / theory	Outcome	Key finding used in synthesis	Descriptive appraisal tag*
Nguyen (2026)	Active ChatGPT Plus users	Cross-sectional model comparison ; TAM/ECM /EECM	Continuance intention	The extended ECM integrating TAM/ECM beliefs showed greater explanatory fit for continuance than either model alone.	Moderate
Hu (2026)	Higher education; China; n=450 existing users	Cross-sectional latent SEM	Continued use/intensity	AI literacy was associated with continued use through modeled relationships involving trust and academic self-efficacy; anxiety moderated the literacy-trust association. Content and system quality were associated with empowerment and satisfaction, which were associated with continuance.	High
Zhou & Ma (2026)	General GenAI users	SEM + fsQCA; S-O-R	Continuance intention	Response accuracy was identified as a salient attribute; trust was modeled as a link between cognitive appraisal and continuance.	Moderate
Xiong et al. (2026)	General GCAI users	Mixed methods: review text mining + survey	Continuance intention	Trust, satisfaction, and attitude were associated with continuance; the results indicate domain-specific motivational patterns.	High
Chu & Liu (2026)	Heritage tourism; n=451	Multi-analytic survey	Continuance intention	UTAUT-related stimuli were associated with trust, attitude, and continuance; the study extends post-adoption evidence beyond ECM.	Moderate
Duong (2024)	Higher education; students	Cross-sectional SEM; SOR/UTAUT	Continuance intention	Task-technology fit and trust-related factors showed stronger reported associations; PU and PEOU were explicitly non-significant in this setting. TAM-based associations were examined across multiple GenAI platforms, broadening evidence beyond ChatGPT-only settings.	Moderate
Garcia (2025)	Researchers; 12 countries; n=564	Cross-sectional SEM; TAM + TTF + trust	Writing adoption intention	Lecturer accounts emphasized	Moderate
Hu et al. (2026)	Higher education; China	Cross-sectional SEM; TAM	Adoption willingness		Moderate
Khan et	Higher	Qualitative	Adoption/i		Moderate

Study	Context / sample	Design / theory	Outcome	Key finding used in synthesis	Descriptive appraisal tag*
al. (2026)	education; marketing lecturers	structured interviews; TAM	Integration	usefulness, integration effort, and ethical use; the study provides rare qualitative professional evidence.	
Prasad (2026)	Higher education; faculty/students; India	Cross-sectional SEM; TAM + TTF + DOI + TOE + UTAUT2	Adoption intention	Task-technology fit and trust were modeled alongside acceptance constructs, supporting their inclusion as complementary boundary conditions.	Moderate
Triangga et al. (2026)	Higher education; Indonesia; n=714	Cross-sectional PLS-SEM; UTAUT + ECM + I-PACE	Continuance / dependency	Satisfaction and continuance were examined alongside academic performance and AI dependency, illustrating potentially divergent post-use outcomes.	Moderate

Source: Authors' synthesis based on the theory-driven evidence corpus.

4.1.2 MMAT Quality-Appraisal Summary

The MMAT appraisal points to three recurring methodological constraints: limited sample representativeness, common-source self-report measures, and weak temporal evidence. Nonresponse bias could not be judged in many reports, particularly those based on convenience samples or one-wave surveys.

Accordingly, SEM and PLS-SEM paths are interpreted as reported associations rather than causal effects. The small number of repeated-measurement, mixed-methods, and qualitative studies adds useful context but does not overturn the overall cross-sectional character of the field.

Table 1.3: MMAT-Informed Methodological Appraisal Summary

Study group / method	MMAT category	Main appraisal pattern	Interpretive consequence
Cross-sectional SEM/PLS-SEM studies (majority)	Quantitative descriptive	Measures and analyses are usually reported; representativeness, nonresponse bias, common-method risk, and temporal ordering recur as concerns.	Interpret structural paths as associations unless temporal evidence exists.
Kelly et al. (2025)	Quantitative non-randomized / repeated measurement	Repeated measurement strengthens within-person comparison; outcomes remain self-reported.	Stronger temporal evidence than one-wave surveys, not retention-log evidence.
Xiong et al. (2026)	Mixed methods	Text mining and survey components provide triangulation and integrated	Useful for attribute discovery; survey continuance remains

Study group / method	MMAT category	Main appraisal pattern	Interpretive consequence
		interpretation.	intention-based.
Zhou & Ma (2026)	Quantitative with SEM + fsQCA	Symmetric and configurational analyses triangulate pattern structure.	Does not remove cross-sectional temporal limitations.
Khan et al. (2026)	Qualitative	Structured interviews provide professional context on adoption and ethics.	Mechanism-rich evidence; not directly comparable to SEM coefficients.

Source: Authors' appraisal using MMAT 2018 criteria and field-specific reporting notes.

4.2 RQ2: TAM Findings—Perceived Usefulness Is More Stable Than Perceived Ease of Use

Across adoption studies, perceived usefulness shows the most consistent reported association with intention, attitude, or self-reported use. This pattern appears in higher education and, to a lesser extent, in non-education settings such as virtual medical consultation.

Perceived ease of use is more context-sensitive. It sometimes supports usefulness or attitude but does not show a universal direct association with intention. Its salience appears to depend on experience, task type, and the degree to which interaction effort is separable from verification burden.

4.2.1 Complementary Adoption-Stage Evidence: TTF and Social Influence

TTF sharpens the adoption analysis by linking acceptance to task requirements rather than to generic beliefs alone. Across the available studies, higher adoption intentions tend to coincide with a stronger perceived match between GenAI capabilities and the demands of the focal task, especially in writing and academic work.

Social influence is most apparent before adoption. Peer, instructor, and professional norms are associated with whether experimenting with GenAI is viewed as legitimate, useful, or risky.

Direct answer to RQ2. TAM remains useful for organizing initial adoption, but its explanatory value improves when perceived usefulness is interpreted alongside task fit and social influence rather than as a stand-alone belief.

Table 1.4: Contextual Pattern of Perceived Ease of Use

Context	Illustrative studies	Observed role of PEOU	Interpretation
Higher education	Lai et al. (2023); Zou & Huang (2023); Tiwari et al. (2024)	Often indirect or explicitly non-significant as a direct association	Ease is quickly normalized; attitude, usefulness and motivation carry more explanatory weight.
Experienced general users	Sakib et al. (2025)	No direct association with usage	After sustained experience, cost, usefulness, enjoyment and conditions are more diagnostic.
Healthcare adoption	Zhang & Zhao (2024); Kelly et al. (2025)	Significant in selected studies	Operational friction matters when users evaluate unfamiliar or consequential health applications.
Professional healthcare use	Lin et al. (2025)	Explicitly non-significant	Usefulness and perceived risk can dominate interface simplicity.

Source: Authors' synthesis based on the theory-driven evidence corpus.

4.3 RQ3: ECM and Post-Adoption Continuance

The post-adoption literature is smaller but coherent. Confirmation, updated usefulness, satisfaction, trust, quality, and value recur as central constructs, and satisfaction is the most consistent reported correlate of continuance.

Studies outside ECM reproduce the same broad evaluative logic. Post-use continuance is associated with perceived value, confirmation-like evaluations, and positive experience judgments even when researchers do not explicitly adopt ECM terminology.

Evidence for habit remains thin. Repeated use may become routinized, yet the present GenAI literature offers little direct longitudinal support for that mechanism. Habit is therefore retained as a proposition rather than treated as an established pathway.

4.3.1 Post-Adoption Social Feedback and Task-Fit Reassessment

Post-adoption evidence for TTF is thinner than adoption-stage evidence, but the logic remains important. After use begins, task fit can be reassessed in light of actual performance, error rates, and verification costs.

Social feedback also changes after adoption. Peers and professional communities may normalize continued use, discourage it, or redirect users toward more selective use as practical experience accumulates.

Direct answer to RQ3. ECM is the most useful lens for continuance, but post-adoption judgments are shaped not only by satisfaction and confirmation but also by trust calibration, task-fit reassessment, and the growing salience of value and governance concerns.

4.4 RQ4: Cross-Stage Factors—Trust, AI Literacy, Risk, Ethics, Quality, Price, and System Attributes

Cross-stage factors are important because GenAI users often revisit earlier judgments after experience accumulates. Trust, AI literacy, risk, ethical and institutional constraints, pricing, and objective system attributes can each reshape both adoption and continuance.

Trust changes meaning across stages. Before meaningful experience, anticipatory trust rests on expected competence, safety, and integrity inferred from reputation, provider identity, or social cues. After use, calibrated trust reflects what users have observed about accuracy, failure patterns, and verification burden.

Trust and AI literacy are especially important cross-stage factors. Anticipatory trust can support trial, while calibrated trust becomes more consequential after use. AI literacy does not simply increase use; it may also encourage more selective and critical use.

Direct answer to RQ4a. Trust operates differently before and after use, and AI literacy is best treated as a boundary condition that can support adoption while also promoting more discriminating continuance choices.

Ethical and institutional constraints matter both before and after adoption. Academic-integrity rules, professional standards, privacy requirements, and perceived acceptability may accompany initial intention; later, policy conflicts, attribution problems, or unexpected privacy concerns may coincide with dissatisfaction or disconfirmation.

Risk, ethics, price, and objective system attributes gain visibility after adoption. Higher task risk, privacy concerns, copyright or policy conflicts, subscription price, and repeated exposure to errors can all reshape post-use evaluation.

Objective system attributes such as model version, observed error rate, output variability, and access tier are rarely measured directly in the current literature. Their links to confirmation, trust, and continuance are therefore primarily theoretical propositions.

In response to RQ4b, the evidence suggests that cross-stage judgments are embedded in risk,

governance, and value conditions that differ across settings; they cannot be reduced to attitude alone.

Table 1.5: Evidence Across Adoption and Post-Adoption Stages

Construct	Adoption-stage evidence	Post-adoption evidence	Main boundary conditions	Primary evidence gap
Perceived usefulness	Consistent association with intention/attitude/use	Updated usefulness remains relevant to continuance	Task type; expertise; model capability; cost	Few longitudinal pre/post usefulness measures
Perceived ease of use	Mixed; often indirect or non-significant	Limited direct role after experience	Experience; task risk; verification burden	Interface ease vs. total verification effort
Confirmation / disconfirmation	Not a pre-adoption construct	Recurring link with satisfaction/continuance	Expectation specificity; task; output quality	Differentiated disconfirmation under-tested
Satisfaction	Limited before use	Recurring post-adoption correlate	Quality; value; task success	Mostly intention rather than retention outcomes
Anticipatory trust	Emerging adoption evidence	Distinct from post-use trust	Provider reputation; social cues; prior beliefs	Few explicitly pre-use trust measures
Calibrated trust	Not applicable before substantial use	Emerging post-use evidence	Accuracy; AI literacy; task risk; verification	Needs repeated measurement and objective indicators
Task-Technology Fit	Emerging task-specific adoption evidence	Post-use reassessment under-tested	Task complexity; expertise; workflow fit	Few direct continuance tests
Social influence / feedback	Moderate adoption-stage evidence	Emerging post-use evidence	Peer norms; policy; alternative visibility	Need stage-specific post-use social measures
AI literacy	Emerging, mixed adoption role	Emerging role in calibrated trust/selective use	Anxiety; expertise; task risk	Longitudinal moderation tests scarce
Re-adoption	Not applicable before prior use/discontinuance	Theory-building post-discontinuance outcome	Model upgrades; price; policy; renewed task fit; social feedback	No longitudinal GenAI re-adoption tests

Source: Authors' synthesis based on the theory-driven evidence corpus. Evidence strength is qualitative and should not be interpreted as a meta-analytic estimate.

4.5 RQ5: Generative AI Adoption–Continuance Framework

RQ5 integrates the preceding findings into a staged adoption–continuance account without

proposing a validated causal model. TAM is most informative before and around initial use, where perceived usefulness, perceived ease of use, anticipatory trust, task fit, and social influence are associated with willingness to adopt. ECM becomes more useful after experience accumulates, when users reassess usefulness, compare performance with prior expectations, form satisfaction or dissatisfaction, and calibrate trust.

Post-adoption behavior is not binary. Users may continue broadly, restrict GenAI to selected tasks, reduce use, switch services, stop altogether, or return later. Re-adoption is particularly plausible when model capability improves, prices change, institutional rules are revised, or task fit becomes more favorable.

Three differentiated forms of disconfirmation are advanced as theory-building propositions. Performance disconfirmation concerns errors, hallucinations, instability, or verification burden that exceed expectations; value disconfirmation concerns price, time cost, or benefits that fall below expectations; and ethical/governance disconfirmation concerns unexpected privacy, copyright, integrity, or policy conflicts. These categories are not established scales. Any future operationalization should begin with expectation-referenced candidate items and proceed through formal content, reliability, construct, and discriminant validity testing.

Direct answer to RQ5. TAM and ECM can be integrated as complementary stage-specific lenses: TAM organizes initial adoption, while ECM organizes experience-based evaluation and continuance. The resulting framework is best interpreted as a theory-guided lifecycle account that accommodates positive, selective, and negative post-adoption outcomes and identifies trust calibration, task fit, governance, system performance, and value as important cross-stage conditions.

4.6 Discussion

4.6.1 From Acceptance to Experience-Based Persistence

The main theoretical implication is that GenAI user behavior cannot be represented adequately by a single acceptance equation. Adoption and continuance reflect different evaluative moments and should be modeled accordingly.

4.6.2 Limits of Current Causal Inference

The evidence base frequently combines sophisticated SEM with single-wave survey data. This creates a mismatch when directional paths are described causally. A cross-sectional model can estimate whether constructs covary in a pattern consistent with theory, but it cannot demonstrate that one construct changed before another. The next methodological priority is therefore not to add more variables to static path models, but to collect stage-specific measures across time and, where possible, link them to observed behavior.

4.6.3 Contextual Imbalance

The evidence base is weighted heavily toward higher education. That setting has distinctive features—often low direct monetary cost, strong academic-integrity rules, and student-centered tasks—so its findings cannot simply be transferred to clinical, workplace, or paid-subscription settings.

4.6.4 Theoretical Contributions

The review makes five contributions. It separates pre-adoption beliefs from post-adoption evaluation, distinguishes anticipatory trust from calibrated trust, differentiates several negative post-adoption outcomes, incorporates objective-system and governance considerations, and proposes a staged adoption–continuance framework.

4.7 Practical Implications

For developers, the post-adoption evidence shifts attention away from first-use simplicity alone. Retention is more closely tied to whether the system remains useful, produces dependable outputs, limits verification effort, and supports appropriate trust within the relevant governance setting.

For universities and employers, AI literacy should not be framed simply as training people to use more GenAI. It should also support verification, task selection, privacy awareness, and responsible delegation.

For paid-service providers, the evidence on price and switching remains limited, but current findings still suggest that perceived value and error reduction matter for retention.

The framework requires cautious extension to enterprise-private and self-hosted open-source GenAI. Internal governance, custom model tuning, access control, and vendor lock-in may alter several relationships proposed here.

4.8 Future Research Agenda

Future work should move from static acceptance models toward stage-specific, longitudinal designs. The agenda in Table 1.6 distinguishes higher-priority work needed to validate the framework from medium-priority extensions.

Table 1.6: Future Research Agenda

Research priority	Recommended design / measurement	Evidence status	Related RQ	Priority level
Longitudinal adoption-to-continuance panels	Measure expected usefulness/trust before meaningful use; confirmation and updated usefulness after use; continuance and discontinuance later.	Partial empirical support; longitudinal evidence limited	RQ2-RQ5	High
Behavioral trace validation	Link survey intention to consented usage frequency, task diversity, subscription retention, switching, and return behavior.	Theory/method priority; direct log evidence absent	RQ1, RQ3, RQ5	High
Trust calibration	Separate provider trust, system competence trust, and output-level reliance; model changes after correct and incorrect outputs.	Partial empirical support	RQ4-RQ5	High
Habit and workflow embedding	Test whether repeated use becomes cue-driven and whether habit is associated with a weaker satisfaction-behavior relationship.	Theory proposition; GenAI evidence limited	RQ5	Medium
Discontinuance and switching	Use event-history or panel designs to model reduction, cancellation, switching, and re-adoption after model upgrades, price changes, policy changes, or renewed task fit.	Theory proposition; direct GenAI evidence limited	RQ5	Medium
Ethics across stages	Distinguish anticipated moral acceptability from experienced policy conflict, integrity concerns, and privacy incidents.	Partial empirical support; differentiated stages under-tested	RQ4-RQ5	Medium

Research priority	Recommended design / measurement	Evidence status	Related RQ	Priority level
Model-version sensitivity	Record provider, model name/version, access tier, date, task, and major capability release; treat upgrades as time-varying shocks.	Theory/method priority	RQ4-RQ 5	Medium
Cross-context replication	Compare education, healthcare, work, tourism, and consumer settings using the same stage-specific measures.	Exploratory evidence; formal cross-context tests limited	RQ1-RQ 4	Medium
Meta-analytic readiness	Report zero-order correlations, standardized coefficients, reliability, and exact outcome definitions to enable future stage-specific meta-analysis.	Methodological priority	RQ1-RQ 4	Medium
Objective system metrics	Record model/version, access tier, task conditions, output variability, and task-level performance indicators alongside subjective confirmation and calibrated trust.	Theory proposition; objective metrics rarely collected	RQ4-RQ 5	Medium

Source: Authors' synthesis based on the theory-driven evidence corpus.

4.9 Limitations

The first limitation follows from the review design. Because the article is theory-driven rather than database-exhaustive, the 25-study corpus should be read as a structured evidence base for conceptual integration, not as a definitive map of all relevant literature.

The grey-literature sensitivity search is incomplete. It offers a limited check on publication bias, but it cannot exclude the possibility that unpublished studies would show more non-significant relationships than the published corpus.

The evidence base is dominated by higher-education samples, self-report data, and intention-based outcomes. Only one repeated-measure study and no platform-log research provide direct evidence about sustained real-world behavior.

Selective outcome reporting further constrains the synthesis. Because many SEM and PLS-SEM studies emphasize supported paths, the observed pattern of associations may still be distorted by reporting practices.

Comparability is also constrained by measurement variation. Studies use different items, labels, and time frames for trust, satisfaction, confirmation, disconfirmation, and continuance, so some apparent inconsistency may reflect differences in operational definition rather than substantive disagreement.

Evidence is particularly sparse for subscription behavior, switching, habit, AI dependency, re-adoption, differentiated forms of disconfirmation, and objective system-level measures. These elements should therefore remain provisional within the proposed account.

Most included studies concern public, consumer-facing systems such as ChatGPT. Private enterprise deployments and self-hosted or open-source models are rarely represented, limiting confidence that the same relationships apply in settings with tighter access controls, customization, procurement rules, or governance requirements.

Finally, the review is current only through 26 September 2026. Because GenAI capability, pricing, and regulation change quickly, the framework will need periodic updating.

5. Conclusion and Suggestion

Taken together, the reviewed studies suggest that adoption and continuance are not the same decision. Perceived usefulness is the most stable adoption-related belief in the corpus, whereas post-use work gives greater weight to confirmation, satisfaction, updated usefulness, and calibrated trust. TTF, social influence, governance, and system characteristics complicate both stages. The integrated account therefore allows for continued use, selective use, switching, discontinuance, and possible re-adoption rather than assuming a single linear path. Because most available studies are cross-sectional and education-based, stronger tests will require longitudinal designs, behavioral traces, and validated measures of trust calibration, disconfirmation, and dependency.

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Appendix A. MMAT-Based Appraisal Protocol

The review uses MMAT 2018 as the primary appraisal framework. No overall numerical quality score is calculated. Decisions are recorded as Yes, No, or Cannot tell (CT), with field-specific notes for SEM and PLS-SEM studies. The framework is used to characterize study quality within the theory-driven evidence corpus and to make methodological limitations visible without converting them into a single summary score.

PRISMA 2020 is not treated as the reporting standard for this article because the review was designed for theory integration rather than exhaustive database coverage. Any PRISMA-like staging serves only to make evidence identification and eligibility decisions visible; it does not imply compliance with systematic-review requirements.

Table A1: MMAT Decision Rules Used in the Working Manuscript

Study type	MMAT criteria used	Field-specific note
Quantitative descriptive	Sampling strategy; sample representativeness; appropriateness of	Record construct validity, common-method safeguards,

	measures; nonresponse bias; appropriateness of statistical analysis	temporal ordering, and completeness of null-path reporting.
Mixed methods	Rationale; integration; interpretation of integrated outputs; treatment of divergence; quality of each component	Record whether text/qualitative findings genuinely inform the quantitative model and whether contradictions are discussed.
Qualitative	Appropriateness of approach; adequacy of data collection; derivation of findings; substantiation by data; coherence	Record sampling logic, interview protocol, coding transparency, and reflexivity where reported.

Source: Adapted from MMAT 2018 (Hong et al., 2018, 2019) for the present review.

Appendix B. Grey-Literature Sensitivity Set

The records below are not included in the primary peer-reviewed synthesis. They are retained only as a sensitivity set. The repository search covers a limited set of accessible public archives and cannot exhaust global theses or dissertations. Accordingly, the comparison is illustrative only and cannot remove publication bias or substitute for a comprehensive grey-literature search.

Table B1: Accessible Grey-Literature Records Used for Sensitivity Checking

Grey-literature study	Context / design	Main constructs	Comparison with journal evidence
Hsieh (2026)	ChatGPT users; n=392; PLS-SEM	ECT/ECM, flow, quality, satisfaction, continuance	Consistent: confirmation and satisfaction are associated with continuance.
Taheri (2025)	German higher education; quantitative cross-sectional	Continuous use intention; acceptance and AI-specific factors	Broadly consistent with student continuance literature; same cross-sectional limitation.
Lee (2026)	University students; master's thesis	Social influence, affective/cognitive engagement, continued intention	Supports the proposed post-use role of social feedback.
Alderaan (2026)	Saudi university EFL teachers; mixed methods	TAM, TPACK, expectancy–value, GenAI integration	Adds professional/institutional context; broadly consistent with fit, usefulness, and governance themes.

Source: Public institutional repositories cited in the reference list.