An Integrated Conceptual Framework for Understanding Continuance Usage Intention of Online Course Platforms in Indonesia

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Abstract: The rapid expansion of online course platforms in Indonesia has transformed access to education but has also raised a persistent challenge—how to sustain learners' continued usage over time. Although prior studies have investigated continuance usage intention using single theoretical perspectives such as the Technology Acceptance Model , Unified Theory of Acceptance and Use of Technology, or Expectation–Confirmation Model, fragmented approaches have limited comprehensive understanding of post-adoption behavior. This conceptual paper proposes an integrated framework that synthesizes four theoretical foundations to explain the psychological, technological, and social determinants of continuance usage intention in the Indonesian online course platform. The proposed framework highlights the mediating roles of attitude and satisfaction, driven by perceived usefulness, perceived ease of use, perceived enjoyment, and social influence. It further posits that users' intrinsic motivation and flow experience are critical for sustaining engagement beyond initial adoption. This integrated model contributes to educational technology literature by bridging cognitive evaluation, social influence, and affective engagement dimensions into a unified structure. The framework also provides actionable insights for platform developers, educators, and policymakers to design strategies that enhance learner retention and long-term participation in online education. Future empirical studies are recommended to validate and refine this model within diverse e-learning ecosystems in Indonesia.

Keywords: Continuance Usage Intention, ECM, Flow Theory, Online Course Platform, TAM, UTAUT

Introduction

The rapid growth of online course platforms has significantly reshaped the landscape of higher education and lifelong learning in Indonesia. Driven by increasing internet penetration, mobile accessibility, and government initiatives promoting digital education, millions of learners now engage with platforms such as *Ruang Guru*, *Zenius*, and global MOOCs like *Coursera* and *Udemy*. Despite their popularity, many platforms struggle to retain users beyond initial enrollment, indicating a persistent challenge in sustaining learners' continuance usage intention—the willingness to persist in using online learning platforms over time (Kuo, Walker, Belland, & Schroder, 2014; Li, Zhang, Song, & Li, 2022; Wut, Hwang, & Cheng, 2024). High initial adoption rates coupled with low course completion and engagement highlight the gap between technology adoption and sustainable learning participation in Indonesia.

Continuance usage intention represents a crucial post-adoption behavior that determines the long-term success of online learning systems. It reflects not only users' satisfaction and perceived usefulness but also their psychological engagement and motivation to continue (Bhattacherjee, 2001; Dağhan, Akkoyunlu, & Şılar, 2016; Taghizadeh, Sarsar, & Chen, 2022). Existing research suggests that cognitive, emotional, and social factors collectively influence learners' continued use of online learning systems. However, empirical studies in the Indonesian context often employ a single theoretical lens—such as the Technology Acceptance Model (TAM) or Expectation–Confirmation Model (ECM)—thereby limiting comprehensive understanding of post-adoption behavior (De Lisboa, Oliveira, & Tam, 2019; Taghizadeh et al., 2022; Li et al., 2022).

The Technology Acceptance Model (TAM) (Davis, 1989) remains one of the most widely applied frameworks for predicting technology adoption. It posits that perceived usefulness and perceived ease of use shape users' attitudes and behavioral intentions (Venkatesh & Davis, 2000; Sasongko et al., 2022). While TAM effectively captures early-stage acceptance, it inadequately explains sustained engagement over time. The Unified Theory of Acceptance and Use of Technology (UTAUT) extends TAM by including constructs such as social influence and facilitating conditions, recognizing that social and institutional factors also shape user behavior (Venkatesh, Morris, Davis, &

Davis, 2003; Venkatesh, Thong, & Xu, 2012; Roslan et al., 2022). Yet, UTAUT remains limited in addressing post-adoption satisfaction and intrinsic motivation, which are vital for long-term use.

In contrast, the Expectation–Confirmation Model (ECM) focuses explicitly on post-adoption behavior by asserting that confirmation of expectations and satisfaction are key determinants of continuance intention (Bhattacherjee, 2001; De Lisboa et al., 2019; Taghizadeh et al., 2022). ECM has been validated in various e-learning and information system studies, but it largely overlooks the affective and motivational dimensions that sustain engagement beyond satisfaction. To bridge this gap, Flow Theory (Csikszentmihalyi, 1975, 1990) offers a complementary lens that emphasizes deep involvement, enjoyment, and intrinsic motivation—psychological states that foster persistence and positive user experiences (Ruangkanjanases et al., 2024; Song et al., 2024; Li et al., 2022). Empirical evidence indicates that flow experience enhances learner satisfaction and mediates the relationship between perceived usefulness and continuance intention (Ruangkanjanases et al., 2024; Song et al., 2024; Wut et al., 2024).

In the Indonesian learning culture, characterized by collectivism and social interdependence, social validation and communal learning norms can further amplify these psychological and motivational effects. Learners often rely on peer encouragement, social recognition, and shared learning experiences, making *social influence* and *enjoyment* integral to sustained engagement (Wandira, Fauzi, & Nurahim, 2024; Sönmez & Uzunboylu, 2024; Li et al., 2022). Thus, understanding continuance usage intention in Indonesia requires a holistic approach that integrates cognitive, affective, and social dimensions within a unified framework.

Despite the growing body of research, a significant theoretical gap remains. Few studies have attempted to integrate TAM, UTAUT, ECM, and Flow Theory into a single model capable of explaining learners' continuance intention comprehensively (Dağhan et al., 2016; Taghizadeh et al., 2022; Wut et al., 2024). Fragmented approaches yield inconsistent results and hinder theoretical advancement. Furthermore, most Indonesian studies emphasize initial adoption rather than sustained usage, leaving critical questions about how technological, social, and emotional factors interact to influence continued learning engagement.

This conceptual paper addresses these gaps by proposing an integrated conceptual framework that synthesizes the cognitive, social, and affective determinants of continuance usage intention in online course platforms in Indonesia. The framework combines the strengths of TAM, UTAUT, ECM, and Flow Theory, positing that attitude and satisfaction mediate the relationships between perceived usefulness, ease of use, confirmation, social influence, and flow experience. By integrating these constructs, the framework aims to offer a more comprehensive understanding of the psychological and contextual mechanisms that sustain learners' engagement in digital education.

The contribution of this study is twofold. Theoretically, it reconciles fragmented perspectives from technology acceptance and post-adoption research into a unified structure, thereby advancing knowledge on sustained technology use in education. Practically, it provides valuable implications for educational practitioners, platform developers, and policymakers to enhance user retention and satisfaction. Designing learning environments that foster usefulness, enjoyment, and social connection may significantly improve learners' motivation to continue using online learning systems. Ultimately, this study contributes to the discourse on educational technology evaluation and supports Indonesia's broader agenda of promoting lifelong digital learning.

Literature Review And Theoretical Foundations

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), is one of the most influential frameworks explaining user adoption of technology. The model posits that two core beliefs—perceived usefulness (PU) and perceived ease of use (PEOU)—determine users' attitudes toward using a system, which in turn influence their behavioral intention to use it. TAM assumes that individuals will accept and continue to use a technology if they believe it enhances their performance and requires minimal effort (Venkatesh & Davis, 2000; King & He, 2006; Park, 2009).

Over time, TAM has been widely applied in various e-learning contexts, including higher education and online course platforms, to explain learners' acceptance of learning management systems, MOOCs, and digital academic tools (Lee, 2010; Šumak, Heričko, & Pušnik, 2011; Mohammadi, 2015). However, its primary focus lies in initial adoption rather than continuance intention. In post-adoption contexts, TAM's explanatory power diminishes because it overlooks satisfaction, confirmation, and emotional engagement factors critical for sustained use (Bhattacherjee, 2001; Taghizadeh, Sarsar, & Chen, 2022; Li et al., 2022). Thus, while TAM offers a strong cognitive foundation, it requires theoretical expansion to incorporate post-adoption behaviors.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), extends TAM by integrating eight previous acceptance theories, including the Theory of Reasoned Action, Theory of Planned Behavior, and Innovation Diffusion Theory. It identifies performance expectancy, effort expectancy, social influence, and facilitating conditions as the main predictors of behavioral intention and actual use. The model also includes moderating effects of gender, age, experience, and voluntariness of use (Venkatesh et al., 2003; Venkatesh, Thong, & Xu, 2012).

In educational settings, UTAUT and its extension UTAUT2 have been used to explain e-learning adoption, mobile learning acceptance, and online course engagement (Cheng, 2014; Abdullah & Ward, 2016; Roslan, Rahman, & Hassan, 2022). Social influence and facilitating conditions have proven particularly relevant in collectivist cultures such as Indonesia, where peer and instructor endorsements strongly affect learners' motivation (Wandira, Fauzi, & Nurahim, 2024; Sönmez & Uzunboylu, 2024). Nevertheless, like TAM, UTAUT remains primarily focused on adoption intention, and therefore lacks mechanisms to explain post-adoption satisfaction and emotional flow—critical for long-term engagement (Chao, 2019; Li et al., 2022; Wut, Hwang, & Cheng, 2024).

Expectation–Confirmation Model (ECM)

The Expectation–Confirmation Model (ECM) was introduced by Bhattacherjee (2001) as an extension of Expectation–Confirmation Theory (Oliver, 1980) into information systems continuance. ECM proposes that users' satisfaction and confirmation of expectations are key determinants of continuance intention. In educational technology, confirmation occurs when learners perceive that the online course meets or exceeds their expectations in terms of usefulness, interactivity, and learning effectiveness (Dağhan, Akkoyunlu, & Şılar, 2016; Taghizadeh, Sarsar, & Chen, 2022).

Numerous studies have confirmed ECM's explanatory power in predicting sustained e-learning usage (Lin, 2012; Stone & Baker-Eveleth, 2013; Li et al., 2022). However, the model largely omits affective experiences such as enjoyment, intrinsic motivation, and flow, which play crucial roles in maintaining long-term engagement (Ruangkanjanases et al., 2024; Song et al., 2024). Consequently, ECM is best viewed as a cognitive backbone of continuance behavior, requiring complementary theories to explain affective and social drivers.

Flow Theory

Flow Theory, proposed by Csikszentmihalyi (1975, 1990), describes a mental state of deep absorption, enjoyment, and intrinsic motivation when individuals engage in an activity. In the context of online learning, flow is achieved when learners experience balance between challenge and skill, lose track of time, and derive enjoyment from the learning process (Shernoff et al., 2014; Shin, 2006; Li et al., 2022). Flow theory introduces the affective and motivational dimensions of human–computer interaction often missing from cognitive models like TAM or ECM.

Recent empirical studies demonstrate that flow experience significantly predicts satisfaction, engagement, and continuance usage in e-learning systems (Ruangkanjanases et al., 2024; Song et al., 2024; Wut et al., 2024). It complements TAM and ECM by emphasizing that sustained technology use depends not only on perceived utility and confirmation but also on the emotional pleasure derived from interaction. Integrating flow with TAM and ECM enhances explanatory power by bridging cognitive and affective processes in technology continuance (Zhao, Lu, & Gupta, 2019; Li et al., 2022; Wut et al., 2024).

Toward an Integrated Conceptual Framework

Although each model—TAM, UTAUT, ECM, and Flow—has demonstrated explanatory strength in technology acceptance research, their independent application produces fragmented insights. TAM and UTAUT capture the cognitive and social antecedents of adoption; ECM explains post-adoption confirmation and satisfaction; while Flow Theory introduces affective motivation as the psychological foundation for sustained use (Bhattacherjee, 2001; Venkatesh et al., 2003; Csikszentmihalyi, 1990). Integrating these frameworks provides a multidimensional understanding of continuance usage intention, encompassing cognitive beliefs, affective states, and social dynamics.

The proposed conceptual framework posits that attitude and satisfaction act as key mediators linking technological perceptions (usefulness, ease of use, confirmation), social influences, and flow experiences to continuance intention. This integration aligns with calls in recent literature for a unified post-adoption model of e-learning behavior (Taghizadeh et al., 2022; Li et al., 2022; Wut et al., 2024). The framework emphasizes that sustainable engagement arises when learners perceive the platform as useful and enjoyable, supported by social encouragement and a sense of

flow during learning activities. Such integration not only advances theoretical comprehensiveness but also offers a foundation for future empirical testing within Indonesia's digital education ecosystem.

Methodological Approach

Model Development And Propositions

The proposed conceptual model aims to explain the determinants of continuance usage intention (CUI) of online course platforms in Indonesia by integrating cognitive, affective, and social dimensions drawn from TAM, UTAUT, ECM, and Flow Theory. The model posits that learners' continuance intentions are shaped by both utilitarian evaluations—such as perceived usefulness, ease of use, and confirmation—and hedonic motivations—such as enjoyment and flow experience—within a socially influenced learning environment. Furthermore, attitude and satisfaction are theorized as central mediators bridging pre-adoption beliefs and post-adoption behavioral intentions (Bhattacherjee, 2001; Taghizadeh, Sarsar, & Chen, 2022; Wut, Hwang, & Cheng, 2024).

The integrated conceptual model, as illustrated in Figure 1, depicts Social Influence (UTAUT), Perceived Usefulness/Ease of Use (TAM), Confirmation and Satisfaction (ECM), and Perceived Enjoyment/Flow (Flow Theory) as key determinants of Continuance Usage Intention. Attitude and Satisfaction function as mediating bridges between cognitive, affective, and social antecedents, providing a holistic understanding of sustained engagement in online course platforms. This theoretical integration advances prior models by recognizing that continuance is not only a rational decision but also an affective, socially constructed, and motivationally sustained process.
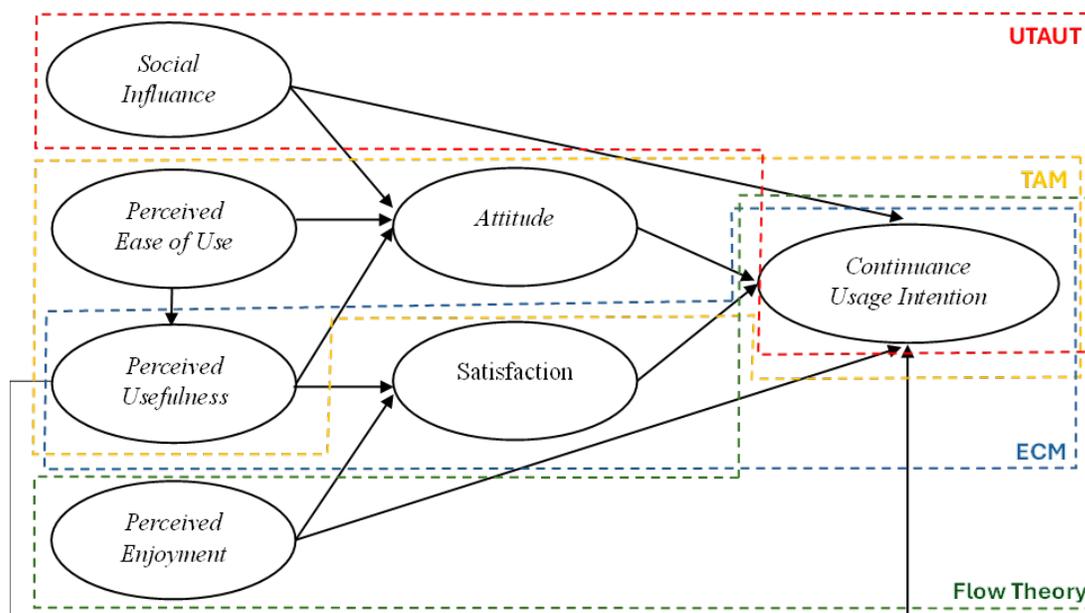

Figure 1. The integrated conceptual model

Perceived Usefulness and Perceived Ease of Use

According to the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000), users' perceptions of a technology's usefulness and ease of use play a pivotal role in determining their overall attitude and behavioral intention toward continued system use. Perceived Usefulness (PU) refers to the extent to which individuals believe that using an online learning platform enhances their learning performance, efficiency, or academic outcomes. Perceived Ease of Use (PEOU), meanwhile, represents the degree to which users believe that engaging with the platform requires minimal cognitive or physical effort. These cognitive beliefs jointly form the foundation of users' attitudes and post-adoption evaluations.

Empirical research has consistently demonstrated that both PU and PEOU exert significant influence on learners' affective and behavioral responses to online learning systems. Specifically, PEOU not only has a direct effect on attitude formation but also indirectly influences continuance intention through its enhancement of PU (King & He, 2006; Mohammadi, 2015). When learners find the platform intuitive, easy to navigate, and technically reliable, they

are more likely to perceive it as beneficial for achieving their academic goals and experience higher satisfaction (Park, 2009; Lee, 2010; Li et al., 2022). In other words, perceptions of simplicity reinforce perceptions of usefulness, creating a positive feedback loop that fosters favorable attitudes and long-term engagement.

Within the proposed integrated framework, Perceived Ease of Use and Perceived Usefulness represent the cognitive foundation derived from TAM that precedes affective and evaluative processes. These constructs directly contribute to Attitude, indirectly influence Satisfaction, and ultimately strengthen Continuance Usage Intention. In this conceptualization, ease of use operates as a facilitator of both instrumental efficiency and affective acceptance, underscoring that the decision to sustain online learning participation is influenced by a combination of cognitive assessment and emotional comfort.

Propositions:

P1: Perceived ease of use positively influences learners' perceived usefulness of online course platforms.
P2: Perceived ease of use positively influences learners' attitude toward using online course platforms.
P3: Perceived usefulness positively influences learners' attitude toward using online course platforms.
P4: Perceived usefulness positively influences learners' satisfaction with online course platforms.
P5: Perceived usefulness positively influences learners' continuance usage intention toward online course platforms.

Social Influence

In the Indonesian educational environment, which is characterized by collectivist and community-oriented cultural values, Social Influence (SI) plays a decisive role in shaping learners' behavioral decisions. Within the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, social influence is defined as the extent to which individuals perceive that significant others—such as instructors, classmates, or peers—believe they should use a particular technology (Venkatesh et al., 2003). In collectivist societies, conformity to social expectations and the desire for group acceptance often amplify the effect of normative pressure on technology adoption and continuance behavior (Roslan, Rahman, & Hassan, 2022; Wandira, Fauzi, & Nurahim, 2024). This implies that Indonesian learners are likely to maintain platform usage when they perceive endorsement and approval from their academic and social networks.

Empirical studies have demonstrated that social influence directly and indirectly shapes both attitude and continuance usage intention. When learners observe that peers and instructors frequently use and value online platforms, they develop favorable attitudes toward the system and internalize its perceived importance (Abdullah & Ward, 2016; Cheng, 2014; Sönmez & Uzunboylu, 2024). Furthermore, social feedback mechanisms—such as collaborative assignments, peer reviews, and discussion forums—enhance the sense of community, reinforcing motivation for sustained participation (Wut, Hwang, & Cheng, 2024). This dynamic social endorsement transforms perceived obligation into intrinsic willingness, creating a sustained pattern of digital learning behavior.

In the integrated framework, Social Influence operates as a social-cognitive driver that simultaneously affects learners' attitude (a pre-behavioral evaluation) and continuance intention (a post-behavioral commitment). It also interacts with Satisfaction and Perceived Enjoyment, as peer encouragement often enhances affective experiences of learning. Thus, social reinforcement acts as both a motivational enabler and behavioral regulator within online educational ecosystems.

Propositions:

P6: Social Influence positively influences learners' attitude toward using online course platforms.
P7: Social Influence positively influences learners' continuance usage intention toward online course platforms.

Perceived Enjoyment

Perceived Enjoyment (PE) refers to the extent to which learners find using an online course platform to be enjoyable, interesting, and intrinsically rewarding—independent of performance outcomes. Derived from Flow Theory (Csikszentmihalyi, 1990), it captures the hedonic and motivational aspects of technology use that go beyond utilitarian efficiency. When learners experience curiosity, immersion, and positive affect during digital learning activities, they are more likely to persist in using the system and perceive learning as meaningful (Shin, 2006; Shernoff et al., 2014; Ruangkanjanases et al., 2024). Such experiences represent an optimal psychological state where learners feel fully absorbed, motivated, and satisfied.

In the context of online course platforms, Perceived Enjoyment has been found to significantly predict Satisfaction, Attitude, and Continuance Usage Intention (Li et al., 2022; Song et al., 2024; Wut et al., 2024). Enjoyment stimulates emotional attachment and engagement with the learning process, thereby reducing dropout tendencies and enhancing users' willingness to revisit the platform. Empirical findings further reveal that enjoyment indirectly impacts continuance intention through satisfaction, suggesting that affective pleasure leads to both cognitive confirmation and emotional fulfillment (Ruangkanjanases et al., 2024; Zhao, Lu, & Gupta, 2019). Thus, enjoyment serves as a psychological bridge connecting motivation and behavior.

In the integrated framework, Flow Theory complements ECM by embedding the dimension of affective pleasure into the satisfaction pathway. Flow experience magnifies the sense of enjoyment and deep engagement, making learning activities self-reinforcing rather than externally driven. By emphasizing intrinsic motivation, the model acknowledges that long-term continuance depends not only on rational evaluation of usefulness but also on the emotional gratification derived from participation. Therefore, perceived enjoyment functions as a core affective determinant of satisfaction and continuance behavior in online learning.

Propositions:

P8: Perceived Enjoyment positively influences learners' satisfaction with online course platforms.
P9: Perceived Enjoyment positively influences learners' continuance usage intention toward online course platforms.

Attitude & Satisfaction

Attitude reflects a learner's overall evaluative disposition toward using an online course platform, integrating both cognitive appraisals (e.g., usefulness and ease of use) and affective responses (e.g., enjoyment and trust). In the Technology Acceptance Model (TAM) and its extensions, attitude functions as a central mediator between individual beliefs and behavioral intention (Davis, 1989; Venkatesh & Davis, 2000). Learners who perceive online platforms as effective, easy to navigate, and enjoyable are more likely to develop favorable attitudes, which in turn shape their continuance usage intention (Lee, 2010; Taghizadeh, Sarsar, & Chen, 2022). A positive attitude not only signifies cognitive acceptance but also represents emotional readiness to sustain engagement with digital learning environments.

Satisfaction, on the other hand, is an evaluative affective response derived from the Expectation–Confirmation Model (ECM) (Bhattacherjee, 2001). It represents the degree to which learners' experiences meet or exceed their initial expectations of platform performance. When learners perceive consistency between expected and actual learning outcomes, they experience satisfaction, which strengthens their motivation to continue using the platform (Lin, 2012; Stone & Baker-Eveleth, 2013; Li et al., 2022). Satisfaction thus captures the post-adoption reinforcement mechanism that transforms prior positive evaluations into enduring behavioral intentions.

Within the integrated model, Attitude and Satisfaction act as dual mediators linking the cognitive (usefulness, ease of use), affective (enjoyment), and social (influence) dimensions to Continuance Usage Intention. Attitude reflects the learners' initial evaluative stance toward using the system, while satisfaction consolidates that evaluation into a sustained commitment through emotional fulfillment. Together, these constructs form the evaluative–affective pathway that drives learners' loyalty and continuous engagement with online learning systems (Wut, Hwang, & Cheng, 2024; Li et al., 2022; Song et al., 2024)

Propositions:

P10: Attitude positively influences learners' continuance usage intention toward online course platforms.
P11: Satisfaction positively influences learners' continuance usage intention toward online course platforms.
P12: Attitude and Satisfaction jointly mediate the effects of cognitive (usefulness, ease of use), affective (enjoyment), and social (influence) determinants on Continuance Usage Intention.

Discussion And Implications

Discussion

The findings of this conceptual integration highlight that continuance usage intention (CUI) in online course platforms is not the result of a single dimension—such as technology usability or satisfaction—but rather a multifaceted interaction among cognitive, affective, and social determinants. The integration of TAM, UTAUT, ECM, and Flow

Theory demonstrates that learners' decisions to continue using online platforms are shaped by both rational evaluation and emotional experience, situated within a social context of influence and endorsement.

From a cognitive standpoint, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) function as the initial building blocks for learners' attitudes. When users perceive that an online platform improves their learning performance and is easy to operate, they are more likely to adopt and continue using it. This cognitive foundation is consistent with prior research confirming that usability and functionality significantly affect technology adoption and satisfaction (Davis, 1989; Venkatesh & Davis, 2000; Li et al., 2022). However, this study extends prior models by emphasizing the *post-adoption influence* of these beliefs through mediating constructs such as Attitude and Satisfaction, suggesting that cognitive acceptance must evolve into emotional engagement to ensure long-term use.

From an affective perspective, Perceived Enjoyment and Flow Experience emerge as crucial emotional drivers of continuance intention. Flow represents a state of deep immersion, curiosity, and enjoyment that motivates learners to continue using the system even without external rewards (Shin, 2006; Wut, Hwang, & Cheng, 2024). This finding underscores that online course engagement depends not only on the platform's instrumental benefits but also on its ability to generate *intrinsic pleasure* during learning. The emotional dimension thereby complements the rational utility focus of TAM and ECM.

Furthermore, the inclusion of Social Influence (SI), derived from UTAUT, reveals that technology use in education is a socially embedded behavior. In collectivist societies like Indonesia, social validation, peer norms, and instructor encouragement substantially influence learners' attitudes and continuance decisions (Roslan et al., 2022; Wandira et al., 2024). When learners perceive that online learning is endorsed and practiced by respected peers and faculty, they are more likely to sustain participation. Thus, social motivation strengthens both cognitive belief and emotional satisfaction, functioning as an external reinforcement mechanism.

Finally, the dual mediating roles of Attitude and Satisfaction integrate these diverse dimensions into a unified evaluative–affective pathway. Attitude represents learners' initial evaluative stance formed through cognition and emotion, whereas satisfaction embodies their post-adoption confirmation and fulfillment. Together, these constructs transform technological acceptance into enduring behavioral commitment, explaining how short-term adoption evolves into long-term digital learning engagement. This integrative perspective confirms that sustainable e-learning participation arises from the convergence of usefulness, enjoyment, and social belonging—a combination that traditional models have rarely captured simultaneously.

Theoretical Implications

This conceptual model contributes to the theoretical development of technology continuance research in several ways. First, it extends the Technology Acceptance Model (TAM) beyond its initial adoption stage by linking *Perceived Usefulness* and *Ease of Use* to post-adoption constructs such as *Satisfaction* and *Continuance Intention*. This reconceptualization positions TAM as part of a *continuum of cognitive influence* that persists even after initial use (Venkatesh & Bala, 2008; Lee, 2010; Li et al., 2022). It therefore enriches the understanding of how technological perceptions evolve through repeated experience.

Second, it enhances UTAUT by contextualizing Social Influence as an essential driver of sustained technology engagement, particularly in collectivist educational settings like Indonesia. Previous studies have largely examined social influence in adoption contexts; this framework redefines it as an ongoing reinforcement factor that nurtures belonging, trust, and perceived legitimacy in digital learning (Roslan et al., 2022; Sönmez & Uzunboylu, 2024). Hence, it introduces a *socio-cultural lens* into continuance intention theory.

Third, this study deepens the Expectation–Confirmation Model (ECM) by embedding Flow Theory and Perceived Enjoyment within the satisfaction pathway. Traditional ECM assumes that satisfaction stems from expectation confirmation alone; the integrated model argues that *emotional immersion* and *intrinsic motivation* are equally vital to sustaining satisfaction and continued engagement (Bhattacherjee, 2001; Song et al., 2024). This integration bridges rational evaluation and affective experience, extending ECM's explanatory power in digital education contexts.

Finally, the proposed model provides a holistic, cross-theoretical synthesis by illustrating how Attitude and Satisfaction jointly mediate between technological beliefs, emotional enjoyment, and social influence. It reframes continuance intention as a recursive psychological process rather than a static behavioral outcome—advancing theoretical understanding in information systems, educational psychology, and digital learning behavior.

Practical Implications

The findings also yield several actionable insights for stakeholders in Indonesia's digital education ecosystem. For educators and instructional designers, the results suggest that promoting *positive attitudes and satisfaction* requires a balanced integration of cognitive and emotional design principles. Learning environments should not only be easy to navigate and pedagogically structured but also foster enjoyment, curiosity, and interaction. Strategies such as gamified lessons, discussion forums, and interactive feedback mechanisms can enhance both *Perceived Enjoyment* and *Social Influence*, creating sustained learner engagement.

For e-learning platform developers, the model underscores the importance of designing systems that are simultaneously *useful, usable, and enjoyable*. Enhancing usability (through clear interfaces and seamless navigation) directly boosts *Perceived Ease of Use*, while embedding motivational features—such as *progress badges*, *adaptive feedback*, and *real-time collaboration tools*—can evoke Flow experiences that reinforce satisfaction. Incorporating social learning features (peer chat, community forums) can further strengthen *Social Influence* and perceived support.

For policymakers and educational administrators, the framework highlights the role of institutional support and national strategy. Providing training programs for lecturers, ensuring reliable digital infrastructure, and cultivating digital learning cultures aligned with Indonesia's "Merdeka Belajar" policy can promote sustained platform use. Policies that encourage social endorsement and collaboration across institutions will further normalize online learning as an accepted and valued educational practice.

Collectively, these implications reveal that continuance usage intention is a multidimensional construct requiring alignment among technology design, pedagogy, and policy. When cognitive utility, affective enjoyment, and social validation intersect, learners are more likely to remain engaged—transforming online education from a temporary necessity into a sustainable learning habit.

Conclusion And Future Research Directions

Conclusion

This study develops an integrated conceptual framework to explain learners' Continuance Usage Intention (CUI) toward online course platforms in Indonesia, drawing on four complementary theoretical lenses: the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Expectation–Confirmation Model (ECM), and Flow Theory. The proposed model captures the multidimensional nature of online learning engagement by combining cognitive, affective, and social determinants into a single explanatory structure.

The integration reveals that continuance intention is not merely the product of rational evaluations of system usefulness or ease of use, but also of emotional fulfillment, enjoyment, and social reinforcement. Cognitive constructs such as *Perceived Usefulness* and *Ease of Use* form the foundation for users' evaluative judgments.Affective constructs, particularly *Perceived Enjoyment* and *Flow Experience*, generate intrinsic motivation and emotional immersion.Meanwhile, Social Influence, rooted in cultural collectivism, amplifies users' sense of belonging and commitment to online learning communities. At the heart of this framework lie two mediating mechanisms—Attitude and Satisfaction—which translate beliefs and emotions into sustained behavioral commitment.

This model contributes to theoretical advancement by bridging pre-adoption and post-adoption perspectives, thereby expanding the explanatory scope of existing information systems and e-learning theories. It emphasizes that sustainable digital learning behavior emerges from the synergy of usefulness, enjoyment, and social validation, mediated through affective and evaluative pathways. Beyond academia, this model provides a practical foundation for educators, platform designers, and policymakers to design more engaging, emotionally satisfying, and socially supported online learning ecosystems.

Future Research Directions

Although conceptual in nature, this framework opens several promising avenues for future empirical investigation. First, quantitative validation using Structural Equation Modeling (SEM) or Partial Least Squares (PLS-SEM) is needed to test the proposed propositions (P1–P12) across diverse learner groups and platforms. Such analysis can empirically confirm the mediating effects of *Attitude* and *Satisfaction* and evaluate the relative strength of cognitive, affective, and social determinants on CUI. Researchers may also employ multigroup analysis to examine variations across demographic factors such as gender, age, or prior online learning experience.

Second, future studies should conduct cross-cultural comparisons to determine whether the model holds across countries with different socio-cultural orientations. Since *Social Influence* plays a stronger role in collectivist contexts

like Indonesia, comparative analyses with individualistic cultures (e.g., the U.S. or Europe) could deepen the understanding of how cultural norms moderate continuance behavior.

Third, scholars are encouraged to extend the model by incorporating technological trust, perceived autonomy, or learning self-efficacy as additional constructs that might further explain persistence in online education. The growing integration of AI-based adaptive systems, gamification, and personalized learning analytics also warrants exploration of how these emerging features influence *Flow* and *Enjoyment* in digital learning environments.

Finally, mixed-method approaches—combining quantitative validation with qualitative insights such as interviews or diary studies—can provide richer explanations of learners' lived experiences and emotional engagement in online course platforms.

Such approaches will not only validate the conceptual propositions but also inform more human-centered pedagogical and technological strategies for sustainable online education.

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