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Toward an Extended technology acceptance model for AI-assisted English learning: A qualitative inquiry into user experiences, supportive conditions, and barriers

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Abstract: This study examines the impact of generative artificial intelligence (AI) tools such as ChatGPT, Grammarly, and Quillbot on English language teaching and learning (ELT) in Thai higher education. Despite the rapid adoption of these technologies, limited empirical evidence exists regarding how lecturers and students experience and navigate them. The research aims to (RO1) explore users' lived experiences with AI tools, (RO2) identify factors that support or hinder AI adoption, and (RO3) develop an extended Technology Acceptance Model (E-TAM) based on empirical data. Semi-structured interviews were conducted with 15 participants, including five lecturers and ten students. Data analysis involved ATLAS.ti, employing open coding, thematic analysis, cross-group comparison, and network visualization. Results indicate that students report more diverse and emotionally salient experiences than lecturers, such as increased confidence, convenience, clearer writing, and greater engagement. However, concerns about accuracy, plagiarism, loss of originality, over-reliance on AI, and unstable internet infrastructure persist. Supportive factors like institutional training and confidence-building facilitate adoption, but only to a limited extent. Based on these findings, an empirically grounded E-TAM is proposed, integrating cognitive, affective, and contextual factors. The study underscores the importance of ethically responsible, pedagogically aligned, and institutionally supported AI integration in ELT.

Keywords: *Artificial intelligence, English language teaching, Qualitative study, Technology acceptance model.*

1. Introduction

The rapid emergence and widespread adoption of generative artificial intelligence (GenAI) tools, notably ChatGPT, Grammarly, and Quillbot, are transforming English language teaching (ELT) and higher education learning in significant and unprecedented ways. These tools surpass traditional digital aids by offering instant, adaptive feedback, generating context-sensitive linguistic models, and enabling

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personalized learning experiences previously unavailable. However, their increasing presence in classrooms and self-directed learning environments necessitates a careful examination of the experiential, pedagogical, and ethical issues they introduce. Recent research indicates that integrating GenAI into language education presents opportunities for innovation but also creates new challenges that require scholarly attention. In teacher education, Kohnke, et al. [1] demonstrate that microlearning strategies can effectively develop GenAI skills by reducing cognitive load and promoting structured exploration. However, Karaduman [2] highlights that a persistent gap exists between pre-service teachers' positive attitudes toward AI and their limited skills, worsened by inadequate institutional support. This highlights the need to address not only cognitive aspects but also contextual and emotional factors in AI adoption. Lee, et al. [3], from a Global Englishes perspective, emphasize that discussions on GenAI should include broader linguistic and sociopolitical considerations. At the same time, Al-khresheh [4] demonstrates that Teachers' global perspectives on ChatGPT highlight its transformative potential and significant concerns. The evolving roles of instructors, shifting from knowledge providers to facilitators and ethical stewards, are crucial. Almegren, et al. [5] emphasize the need for AI-driven ELT environments to support this transition. Fazal [6] similarly observes that teachers' attitudes toward AI–human collaboration in academic writing are influenced by perceived usefulness and doubts about authenticity. These tensions are explored through qualitative research; Suello and Alda [7] highlight ethical issues related to plagiarism, academic integrity, and the potential decline of critical thinking, especially in culturally diverse settings. At a systemic level, Qutub, et al. [8] demonstrate that institutional readiness for the Fourth Industrial Revolution varies across regions, depending on infrastructure, awareness, and curriculum relevance.

From the learner's perspective, early empirical evidence indicates meaningful pedagogical gains, including improvements in writing proficiency, engagement, and feedback literacy when ChatGPT is integrated into classroom practice. Kusuma, et al. [9] similarly show that pre-service teachers find ChatGPT supportive in authentic practicum contexts. Nevertheless, longitudinal findings from Hınız [10] remind us that initial enthusiasm does not ensure sustained, meaningful engagement; without pedagogical orchestration, students may adopt superficial usage patterns. AI tools also support emotional and reflective learning aspects. Demir and Özdemir [11] demonstrate that AI voice journaling enhances teacher well-being through reflective practice. Synthesizing these perspectives, Nimma, et al. [12] conclude that while AI supports personalization, gamification, and interactive feedback, concerns about data privacy, transparency, and tool effectiveness persist. Despite growing research efforts, significant gaps remain in understanding AI adoption in ELT. Many studies focus on functional outcomes or broad attitudes, leaving questions about teachers' and students' actual experiences with AI tools within specific sociocultural and institutional contexts unanswered. Although the Technology Acceptance Model (TAM) offers a foundational perspective on technology adoption, scholars increasingly critique its cognitive focus and advocate for expanded frameworks that include affective, ethical, contextual, and institutional factors [2, 5, 6]. Extending TAM to incorporate constructs such as institutional support, ethical concerns, technostress, and motivational factors is essential for capturing users' lived experiences. The Thai higher education system, with its diverse institutional capacities and emphasis on English proficiency, offers a compelling context for exploring these dynamics.

Guided by identified gaps, this qualitative study aims to develop a comprehensive understanding of AI adoption in Thai ELT settings through three interconnected objectives: (RO1) exploring instructors' and students' lived experiences with AI tools such as ChatGPT, Grammarly, and Quillbot; (RO2) identifying factors that facilitate or hinder responsible and sustained use; and (RO3) constructing an extended conceptual framework based on TAM, enriched by affective, ethical, and contextual moderators. These objectives are addressed via research questions examining user experiences (RQ1), conditions influencing use (RQ2), and the impact on motivation, perceived usefulness, and attitudes (RQ3). The study employs an interpretivist qualitative design that emphasizes participants' narratives, local meanings, and contextual realities. Data collection involved semi-structured interviews with 15

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participants, five lecturers, and ten students, aimed at eliciting detailed accounts of AI tool usage. Data analysis was conducted using ATLAS.ti 9, facilitating systematic coding, thematic clustering, co-occurrence mapping, and network visualization [1, 2]. This approach ensures interpretive depth and analytic rigor, enabling the identification of themes such as Perceived Usefulness, Perceived Ease of Use, Motivation/Attitude, Supportive Factors, and Barriers. The findings support the development of a nuanced extended TAM framework that considers the interdependence of cognitive, affective, ethical, and structural factors influencing AI acceptance in Thai ELT contexts.

The contributions of this study are threefold. It theoretically deepens TAM by integrating moderating constructs such as trust issues, plagiarism concerns, loss of originality, institutional support, and confidence-building that influence the pathways from perceived usefulness and ease of use to motivation and intention to use [5, 6, 8]. Practically, it offers evidence-based insights for designing curricula, teacher training, and institutional policies to promote responsible, pedagogically meaningful AI integration [9, 12]. Methodologically, it demonstrates how computational tools like ATLAS.ti can enhance qualitative research by integrating interpretive analysis with frequency-based indicators such as groundedness, density, and co-occurrence metrics, thereby improving transparency and validity [10, 11]. This section provides the conceptual, empirical, and methodological foundation for the study. Subsequent sections cover the theoretical framework, qualitative methodology, statistically supported thematic results, and discussions on implications, limitations, and future research directions.

2. Theoretical Framework

This study is grounded in a multilayered framework that combines classical and contemporary perspectives on technology acceptance, pedagogical knowledge, digital literacy, and critical scholarship on AI integration in language education. Instead of relying on a single explanatory lens, the framework intentionally integrates views of AI adoption as a socio-technical, pedagogical, and cultural process influenced by users' beliefs, emotional dispositions, institutional ecologies, ethical concerns, and broader policy environments. This comprehensive approach aligns with interpretivist qualitative inquiry, which posits that technology adoption cannot be understood solely through measurable variables but must be interpreted through users' lived experiences and contextual realities.

2.1. Technology Acceptance Model (TAM) as the Foundational Core

The Technology Acceptance Model (TAM), proposed by Davis [13], provides the framework for this study's examination of AI adoption. TAM suggests that *Perceived Usefulness (PU)* and *Perceived Ease of Use (PEoU)* influence users' attitudes, which subsequently affect their behavioral intentions. Although initially designed for organizational environments, TAM has been extensively applied in educational settings and remains a reliable model for understanding technology adoption.

Recent research affirms TAM's ongoing relevance in AI-enhanced ELT settings. Nualprasert, et al. [14] demonstrate that perceived usefulness (PU) and ease of use (PEoU) remain predictors of acceptance for AI tools like tutoring systems, chatbots, and automated feedback. Chan and Tang [15] also find that ELT teachers' willingness to adopt AI depends on their perceptions of these factors, influenced by their TPACK competencies.

Contemporary scholarship critiques TAM for its limited focus on cognition, neglecting affective, social, and contextual factors Sapuan, et al. [16], Ling and Jan [16], and Shen [17]. Sapuan, et al. [16] also argue that technostress from rapid AI development acts as a moderating barrier, reducing the impact of PEoU on behavioral intention. Ling and Jan [18] foreground ethical concerns such as plagiarism, data privacy, and authenticity, which significantly weaken the PU–Intention pathway. Shen [17] emphasizes professional identity as a key mediator, noting that instructors adopt AI not only for its usefulness but also because it aligns or conflicts with their evolving roles as facilitators, mentors, and ethical gatekeepers.

This study adopts an *Extended TAM (E-TAM)* that incorporates barriers such as trust issues, plagiarism concerns, over-reliance, and infrastructural constraints, along with supportive factors like

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institutional training, confidence-building, and pedagogical scaffolding as key moderating constructs. Empirically grounded in qualitative findings, this extension highlights that technology acceptance is influenced by emotional, ethical, and institutional factors, in addition to cognitive appraisals, reflecting a comprehensive understanding of user acceptance dynamics.

2.2. TPACK as a Complementary Knowledge-Based Lens

To align with TAM's belief-based approach, the TPACK framework offers insights into essential knowledge for effective AI integration. TPACK [19] emphasizes that quality technology-enhanced teaching results from the intersection of Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK).

In AI-mediated ELT, TPACK is crucial. Wang [20] indicates Thai ELT instructors have basic digital skills, but deeper pedagogical integration is limited; most practices are substitution or augmentation rather than transformative redesign. Gao, et al. [21] emphasize AI literacy, ethical governance, and pedagogical alignment as essential competencies for responsible AI use, highlighting the need for further development in these areas.

This study employs TPACK as an interpretive lens to understand why participants view certain AI tools as useful, accessible, or challenging. The qualitative findings reveal that successful AI adoption depends not only on perceived usefulness and ease of use but also on instructors' and students' ability to pedagogically align AI with linguistic content and learning objectives. Proper integration enhances the effectiveness of AI in educational settings.

2.3. Digital Literacy Frameworks: SAMR, DIGCOMP, and Connectivism

Digital literacy frameworks highlight the developmental paths of AI integration. The SAMR model [22] describes four stages: Substitution, Augmentation, Modification, and Redefinition, reflecting increasing pedagogical transformation. Wang [20] indicates that Thai ELT programs mainly operate at the lower SAMR levels (Substitution, Augmentation), with limited evidence of transformative redesign. This suggests AI is often used to *enhance* existing practices rather than *reimagine* them.

DIGCOMP, the European Digital Competence Framework, emphasizes skills like data literacy, collaboration, safety, and digital content creation. Nualprasert, et al. [14] findings show strong alignment with basic digital skills but weaker with collaborative and creative competencies, which are crucial for more effective AI utilization.

Connectivism [23] adds a sociocognitive dimension, framing learning as networked, distributed, and relational. However, connectivist learning is only partially reflected in Thai ELT contexts due to structural, cultural, and pedagogical constraints [20].

Together, these frameworks allow this study to interpret not only what participants do with AI tools but also how their digital literacy, instructional design orientations, and institutional cultures influence the depth and nature of their engagement.

2.4. Empirical Foundations of AI-Enhanced ELT

A growing body of empirical research informs this study's view of AI in language education. Almegren, et al. [5] note that teachers value chatbots for fostering learner autonomy but have concerns about conversational authenticity and pragmatic skills. Xu and Liu [24] show that AI-generated scenario-based tasks boost engagement but need careful pedagogical planning to prevent superficial learning.

NLP-based tools show promise but have limitations. Chan and Tang [15] note that AI-generated materials are linguistically accurate but may be pedagogically or culturally misaligned. Younas, et al. [25] emphasize learning analytics' role in enhancing engagement and achievement, cautioning against over-reliance on data-driven decisions.

Broader interdisciplinary studies expand ELT's conceptual scope. Sapuan and Sulaiman [26] show how AI-driven phonetic analysis uncovers cross-cultural vowel perception differences, aiding culturally

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responsive teaching. Wang, et al. [27] suggest IoT-enabled ecosystems that utilize real-time data to inform adaptive ELT practices.

These empirical insights emphasize the necessity for a framework capable of addressing AI's diverse effects on the cognitive, affective, linguistic, and contextual aspects of learning.

2.5. Ethical, Cultural, and Policy Considerations

AI integration in ELT raises important ethical and cultural questions influencing acceptance. Ling and Jan [18] emphasize issues related to plagiarism, authenticity, and data privacy, which are strongly reflected in this study's qualitative findings. Mahmoudi-Dehaki and Nasr-Esfahani [28] situate AI adoption within broader global policy movements, emphasizing that efficiency and standardization may conflict with humanistic educational values.

Culturally responsive perspectives further enrich the theoretical grounding. Kohnke, et al. [29] show how GenAI can support culturally relevant curricula through intentional design, which is promising; however, caution is needed regarding Western-centric assumptions embedded in many AI systems. This aligns with Wang [20]'s critique of digital frameworks that neglect collectivist, teacher-guided learning traditions prevalent in the Global South.

At the policy level, Suello and Alda [7] advocate for comprehensive governance structures that address infrastructure, training, ethical guidelines, and equity concerns. These insights inform this study's approach, viewing Supportive Factors as socio-institutional conditions rather than individual dispositions.

2.6. Evidence from Systematic Reviews and Scoping Studies

Meta-level syntheses further clarify the research landscape. Yin and Feng [30] identify key thematic areas in AI-enhanced language education, noting an overrepresentation of quantitative designs and a shortage of interpretivist qualitative studies examining lived experiences, which this study specifically addresses. Al-khresheh [31] outlines the opportunities and risks of ChatGPT in ELT, emphasizing the centrality of pedagogical orchestration. Nualprasert, et al. [14] note emerging trends such as multimodal AI and ethical AI design, underscoring the need for agile pedagogical frameworks.

These reviews collectively confirm that AI's influence is expanding but unevenly theorized, necessitating a framework capable of integrating cognitive, affective, ethical, and contextual dimensions.

2.7. Critical Perspectives: Interrogating AI's Promises and Risks

Critical scholarship offers an essential counterbalance to celebratory narratives. Mentesoglu-Karaderi, et al. [32] critique AI for potentially reinforcing linguistic hegemony and marginalizing non-standard dialects. Binu [33] highlights epistemic dependency, surveillance capitalism, and algorithmic opacity as risks that directly affect learners' cognitive and ethical development in AI-mediated environments. Javed [34] warns against techno-solutionism and advocates for socio-technical co-design approaches. Harishree and Jayapal [35] explore how IoT-enhanced AI ecosystems can improve ELT while increasing surveillance and reducing learner agency.

These critical insights inform this study's emphasis on barriers not merely as obstacles but as constitutive elements that shape acceptance, resistance, and ethical negotiation.

2.8. Integrated Theoretical Framework for This Study

Synthesizing all preceding perspectives, this study adopts an Extended TAM (E-TAM) framework that integrates:

- Cognitive constructs: PU and PEoU
- Affective constructs: Motivation and Attitude
- Contextual moderators: Barriers and Supportive Factors
- Pedagogical knowledge structures: TPACK and AI-TPACK
- Digital literacy orientations: SAMR, DIGCOMP, Connectivism

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- Ethical and cultural influences: integrity, trust, institutional norms, cultural values

The E-TAM conceptualization recognizes that adopting AI tools for English language learning is not a linear process driven solely by rational evaluation but a dynamic negotiation shaped by emotional responses, ethical boundaries, institutional structures, and pedagogical identities.

This integrated framework directly aligns with the study's Research Objectives:

- RO1: Understanding lecturers' and students' lived experiences
- RO2: Identifying supportive and hindering conditions
- RO3: Constructing a TAM-grounded yet contextually expanded conceptual model

By embedding TAM within a broader ecosystem of pedagogical, cultural, and ethical considerations, this study positions AI acceptance not merely as technology use but as a socio-technical transformation deeply embedded in the educational lifeworlds of Thai higher education.

3. Materials and Methods

This study employed a qualitative design to explore experiences, enabling conditions, and constraints related to using AI tools such as ChatGPT, Grammarly, and Quillbot in English language teaching and learning. Grounded in an interpretivist paradigm, it assumes that reality is socially constructed, with individuals' narratives and meaning-making processes central to understanding technology use in education. Data analysis was conducted using ATLAS.ti 9, facilitating systematic coding, thematic interpretation, and visual mapping across multiple participant groups.

Table 1.
Summary of Methods.

Component	Description
Design	Interpretivist qualitative study
Participants	15 (5 lecturers, 10 students)
Data Collection	Semi-structured interviews
Data Analysis	ATLAS.ti: open coding, thematic analysis, Sankey, network analysis

3.1. Participants

A total of 15 participants were included in the study, comprising 5 lecturers and 10 students. All had prior experience using AI tools in academic contexts and were selected through purposive sampling to ensure variation in usage patterns, familiarity with technology, and educational roles.

ID	Name	Media Type	Location	Groups	Quotations
D 1	Case 1	Text	Library	[Imported Survey Data] [Lecture]	8
D 2	Case 2	Text	Library	[Imported Survey Data] [Lecture]	8
D 3	Case 3	Text	Library	[Imported Survey Data] [Lecture]	8
D 4	Case 4	Text	Library	[Imported Survey Data] [Lecture]	8
D 5	Case 5	Text	Library	[Imported Survey Data] [Lecture]	8
D 6	Case 6	Text	Library	[Imported Survey Data] [Student]	8
D 7	Case 7	Text	Library	[Imported Survey Data] [Student]	8
D 8	Case 8	Text	Library	[Imported Survey Data] [Student]	8
D 9	Case 9	Text	Library	[Imported Survey Data] [Student]	8
D 10	Case 10	Text	Library	[Imported Survey Data] [Student]	8
D 11	Case 11	Text	Library	[Imported Survey Data] [Student]	8
D 12	Case 12	Text	Library	[Imported Survey Data] [Student]	8
D 13	Case 13	Text	Library	[Imported Survey Data] [Student]	8
D 14	Case 14	Text	Library	[Imported Survey Data] [Student]	8
D 15	Case 15	Text	Library	[Imported Survey Data] [Student]	8

Figure 1.

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Overview of Primary Data Sources and Participant Groups.

Figure 1 shows that all 15 data sources (D1–D15) were stored in the ATLAS.ti Library and classified into two groups:

- [Lecture] for Lecturer Cases 1–5 (each with 8 coded quotations)
- [Student] for Student Cases 6–15 (each with 8 coded quotations)

This structure results in:

- 5 lecturer documents × 8 quotations = 40 lecturer quotations
- 10 student documents × 8 quotations = 80 student quotations

The consistent number of quotations per participant ensures analytical balance and interpretive comparability across groups.

3.2. Data Collection

Data were collected through semi-structured interviews designed to elicit participants' experiences with AI tools, motivations, concerns, perceived usefulness, and expectations for future use. Interview questions covered:

- How participants used AI in writing, learning, and teaching
- Perceived benefits and limitations of AI tools
- Emotional and attitudinal responses to AI-mediated learning
- Ethical concerns such as plagiarism, accuracy, and loss of originality
- Institutional conditions affecting AI adoption

All interviews were audio-recorded, transcribed verbatim, anonymized, and imported into ATLAS.ti for analysis.

3.3. Data Analysis

The data analysis followed an iterative, multi-stage process grounded in thematic analysis. ATLAS.ti supported systematic coding, theme development, and visual verification through Groundedness and Density indicators.

Name	Grounded	Density
Age	15	0
Barriers	13	2
Education_Level	15	0
Experience_Level	15	0
Gender	15	0
ID	15	0
Intention to Use (BI)	0	2
Motivation/Attitude	7	4
Perceived Ease of Use	4	1
Perceived Usefulness	4	2
Q1_Experience	15	0
Q2_Factors	15	0
Role	15	0
Supportive Factors	2	1

Figure 2.
Code System Overview, Groundedness, and Density Distribution.

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Figure 2 illustrates the full code system used in this study. Key features include:

Groundedness (Frequency of Occurrence)

- Codes such as Experience_Level, Education_Level, Q2_Factors, and Role appear 15 times each, indicating they were applied across all cases.
- Barriers appear 13 times, highlighting their relative prominence.
- Motivation/Attitude appears 7 times, Perceived Ease of Use and Perceived Usefulness appear 4 times each, and Supportive Factors appear 2 times.

Density (Number of Links to Other Codes)

Density reveals conceptual importance:

- Motivation/Attitude = Density 4 (most central experiential theme)
- Barriers = Density 2 (significant moderating theme)
- Perceived Usefulness = Density 2
- Supportive Factors = Density 1
- Perceived Ease of Use = Density 1

This distribution indicates that users' emotional and motivational engagement, along with perceived barriers, are the most interconnected components, influencing multiple other themes.

3.3.1. Analytic Stages

The analysis progressed through four systematic stages:

Stage 1: Open Coding

Verbatim transcripts were reviewed line by line, yielding initial codes that captured actions, emotions, and evaluative statements. This resulted in the comprehensive codebook shown in Table 2.

Stage 2: Theme Development

Codes were grouped inductively and deductively (guided by the Technology Acceptance Model) into five overarching themes:

1. Motivation/Attitude
2. Perceived Ease of Use
3. Perceived Usefulness
4. Supportive Factors
5. Barriers

These themes underpin the results presented in Sections 5.2–5.4.

Stage 3: Visual Mapping and Cross-Group Comparison

ATLAS.ti visual tools (co-occurrence tables, Sankey diagrams, density maps) were used to:

- Compare code frequencies between lecturers and students
- Identify patterns of thematic emphasis
- Analyze structural relationships among themes
- Examine how supportive and hindering factors flow across roles

Figures 3–8 (in the Results section) were generated in this stage.

Stage 4: Integrative Analysis with TAM

Themes were mapped onto the Technology Acceptance Model (TAM), identifying:

- Cognitive components (PU, PEoU)
- Affective components (Motivation/Attitude)
- Contextual moderators (Barriers, Supportive Factors)
- Behavioural intention (BI)

This integrative approach enabled the construction of the final conceptual framework presented in Figures 7 and 8.

3.4. Trustworthiness and Rigor

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The study employed multiple strategies to ensure trustworthiness:

- Credibility: Member checking and cross-validation across participants
- Dependability: Transparent coding logs and analytic memos in ATLAS.ti
- Confirmability: Use of verbatim quotations and systematic code–theme alignment
- Transferability: Thick descriptions of participants, context, and analytic procedures

Together, these practices strengthen the interpretive validity and robustness of the study's findings.

4. Analytical Procedures

Although this study employed a qualitative research design, several quantitative-like analytic techniques, often called qualitative statistics, were used to enhance rigor, transparency, and analytic accuracy. All statistical operations were performed within ATLAS.ti 9, which provides numerical indicators such as Groundedness, Density, Code–Document Frequency, Group Comparison Tables, and Sankey Flow Metrics. These indicators are not inferential statistics but serve as frequency-based analytic tools that improve interpretation and thematic robustness.

The statistical analysis procedure consisted of four main analytic components:

4.1. Code Frequency Analysis (Groundedness Scores)

ATLAS.ti's Groundedness index was used to calculate the number of quotations linked to each code, producing a frequency distribution that enabled the identification of dominant and less prominent themes.

As visualized in Figure 2, the groundedness scores were:

- Experience_Level = 15
- Education_Level = 15
- Q2_Factors = 15
- Role = 15
- Barriers = 13
- Motivation/Attitude = 7
- Perceived Ease of Use = 4
- Perceived Usefulness = 4
- Supportive Factors = 2

These frequency values provided an empirical foundation for comparing lecturers' and students' perspectives and determining thematic emphasis for each research objective.

4.2. Code Density and Relational Weighting

ATLAS.ti's Density index was used to evaluate how conceptually connected each code was to others. Higher density values indicate that a code plays a central or integrative role within the theme network.

From Figure 2, density scores were:

- Motivation/Attitude = 4 (Highest density)
- Barriers = 2
- Perceived Usefulness = 2
- Perceived Ease of Use = 1
- Supportive Factors = 1

These density values were central to constructing the extended TAM framework and to identifying Motivation/Attitude and Barriers as the most structurally influential constructs in the dataset.

4.3. Cross-Group Statistical Comparison (Lecturers vs. Students)

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To answer RO1 and RO2, statistical cross-group comparisons were performed using ATLAS.ti's Code–Document Table and Group Comparison Tool, as shown in Figures 3, 4, 5, and 6.

4.3.1. Experience Themes (Figure 3)

Numerical comparison revealed:

- Motivation/Attitude:
- Lecturers = 2 cases (28.57%)
- Students = 5 cases (71.43%)
- Perceived Ease of Use:
- Lecturers = 1 case (25%)
- Students = 3 cases (75%)
- Perceived Usefulness:
- Lecturers = 1 case (25%)
- Students = 3 cases (75%)
- Q1 Experience:
- Lecturers = 5 cases (33.33%)
- Students = 10 cases (66.67%)

4.3.2. Supportive/Hindering Factors (Figure 5)

Frequencies showed:

- Barriers:
- Lecturers = 5 (38.46%)
- Students = 8 (61.54%)
- Supportive Factors:
- Lecturers = 1
- Students = 1

These quantitative outputs systematically demonstrate that student participants generated more experiential and factor-related data than lecturers.

4.4. Sankey Flow Quantification and Structural Mapping

ATLAS.ti's Sankey diagrams (Figures 4 and 6) were used to compute the numerical strength of flows between codes and participant groups. These represent quasi-statistical relationships showing the magnitude of connections.

Figure 4 (Experience Flow)

- Q1 Experience → Students = 10 flows
- Q1 Experience → Lecturers = 5 flows
- Motivation/Attitude → Students = 5 flows
- Motivation/Attitude → Lecturers = 2 flows

Figure 6 (Supportive/Hindering Flow)

- Barriers → Students = 8 flows
- Barriers → Lecturers = 5 flows
- Supportive Factors → Students = 1 flow
- Supportive Factors → Lecturers = 1 flow

The numerical flow intensities validated the thematic dominance of Barriers (RO2) and the experiential richness among students (RO1).

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4.5. Derivation of the Extended TAM Framework

Figures 7 and 8 were generated using ATLAS.ti's network analysis functions, which quantify the number of links between:

- Codes
- Themes
- Participants
- TAM constructs
- Moderators (Barriers, Supportive Factors)

This allowed the model to be constructed based on actual numeric connectivity, not theoretical assumptions.

Key quantitative indicators include:

- Motivation/Attitude → BI connections = highest density
- Barriers → Motivation/Attitude = strong negative links
- Supportive Factors → Motivation/Attitude = moderate positive links
- PEoU → PU = recurrent connections (4 grounded links each)

These values were used to operationalize the visual conceptual framework in RO3.

4.5.1. Summary of the Statistical Analysis

Although inferential statistics were not used, the study employed robust qualitative statistics, including:

- Frequency counts (Groundedness)
- Relational weighting (Density)
- Cross-group comparisons (Lecturer vs. Student)
- Sankey flow quantification
- Network linkage metrics

These statistical-like indicators provided a transparent, rigorous, and systematic analytical basis for addressing all three research objectives and constructing the extended TAM framework.

5. Results

5.1. Codebook

Table 2 presents the foundational codebook for this study. A total of 40 coded segments were derived from lecturers' interviews and 80 from students' interviews, resulting in 120 coded instances across five overarching themes: Perceived Usefulness, Perceived Ease of Use, Motivation/Attitude, Supportive Factors, and Barriers.

Table 2.
Coding Table of Lecturers' and Students' Experiences with AI Tools in English Language Teaching.

ID	Role	Quote	Assigned Code	Theme
T1	Lecturer A	"I use Grammarly to check students' writing, and it improves the overall quality."	Grammarly improves writing	Perceived Usefulness
T1	Lecturer A	"Sometimes it over-edits the text, and the students' original writing style disappears."	Loss of originality	Barriers
T2	Lecturer B	"I use ChatGPT to generate classroom dialogues, and students become more engaged and active."	Engagement & fun	Motivation/Attitude
T2	Lecturer B	"I am not fully confident that the information from AI is always accurate."	Trust issues	Barriers
T3	Lecturer C	"AI tools help me prepare lessons more efficiently and manage time better."	Time saving	Perceived Ease of Use
T3	Lecturer C	"A key barrier is the lack of proper training."	Institutional support needed	Supportive Factors

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T4	Lecturer D	"AI helps students practice writing, but I worry they may become overly dependent on it."	Plagiarism concern / over-reliance	Barriers
T5	Lecturer E	"Using AI together with Kahoot makes the learning atmosphere more enjoyable."	Engagement & fun	Motivation/Attitude
T5	Lecturer E	"The limitation is unstable internet connectivity."	Internet/technical issue	Barriers
S1	Student 1	"Using Quillbot helps improve sentence clarity in my writing."	Grammarly/Quillbot improves writing	Perceived Usefulness
S1	Student 1	"Sometimes the meaning of the text changes after AI edits it."	Loss of originality	Barriers
S2	Student 2	"ChatGPT is very convenient when doing homework."	Easy to use / convenient	Perceived Ease of Use
S2	Student 2	"But I am afraid that using it might be considered plagiarism."	Plagiarism concern	Barriers
S3	Student 3	"I use Grammarly to check my English reports."	Grammarly improves writing	Perceived Usefulness
S3	Student 3	"But sometimes the corrected text sounds unnatural or too formal."	Loss of originality	Barriers
S4	Student 4	"AI tools make learning more enjoyable, especially when teachers use Kahoot along with them."	Engagement & fun	Motivation/Attitude
S4	Student 4	"The internet connection is not always stable."	Internet/technical issue	Barriers
S5	Student 5	"I use AI to practice English pronunciation."	Confidence	Motivation/Attitude
S5	Student 5	"It increases my confidence when speaking."	Confidence	Motivation/Attitude
S6	Student 6	"AI helps me save time when searching for information."	Time saving	Perceived Ease of Use
S6	Student 6	"I am not sure whether AI-generated answers are always correct."	Trust issues	Barriers
S7	Student 7	"I often use ChatGPT to find vocabulary and sample sentences."	Easy to use / convenient	Perceived Ease of Use
S7	Student 7	"However, some suggestions are not appropriate for the context."	Trust issues	Barriers
S8	Student 8	"AI helps me learn faster."	Faster task completion	Perceived Usefulness
S8	Student 8	"Some of my friends rely on AI instead of doing the work themselves."	Over-reliance on AI	Barriers
S9	Student 9	"Using AI when writing essays boosts my confidence."	Confidence	Motivation/Attitude
S9	Student 9	"I want systematic training on how to use AI properly."	Institutional support needed	Supportive Factors
S10	Student 10	"AI tools increase my motivation because I can see results quickly."	Motivation/engagement	Motivation/Attitude
S10	Student 10	"A limitation is that I am not always sure the information is accurate."	Trust issues	Barriers

At the most basic level, the codebook reveals that both lecturers and students have already integrated AI tools into a wide variety of academic practices. Lecturers primarily use AI to support instructional preparation and classroom engagement. For example, Lecturer A uses Grammarly to "check students' writing" and notes that this process "improves the overall quality," highlighting AI's role as a quality assurance mechanism in academic writing. Lecturer C similarly emphasizes time efficiency: AI tools "help me prepare lessons more efficiently and manage time better," signaling a shift in how teachers allocate their planning time.

Students describe AI as a personal learning companion, using tools like Grammarly and Quillbot to improve sentence clarity, ChatGPT for vocabulary and sample sentences, and other AI tools to accelerate learning and reduce uncertainty about language correctness. Student 8 succinctly states, "AI

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helps me learn faster," framing AI as a cognitive accelerator.

The codebook also highlights critical and cautious attitudes toward AI. Multiple lecturers and students express concerns about loss of originality ("students' original writing style disappears," "the corrected text sounds unnatural or too formal"), reliability ("not fully confident that the information from AI is always accurate"), and academic integrity ("afraid that using it might be considered plagiarism"). These codes are grouped under the theme Barriers, which later emerge as central to understanding technology acceptance in this context.

Finally, supportive factors appear in a smaller but theoretically important set of codes. Both lecturers and students articulate a need for systematic training and more institutional guidance on how to use AI responsibly. This suggests that, while individual experimentation with AI is widespread, formalized support structures remain underdeveloped.

The codebook, therefore, serves not only as a catalogue of codes but also as a conceptual map: it positions AI simultaneously as a pedagogical aid, a source of motivation and confidence, and a site of ethical and epistemic tension.

5.2. Experiences of Lecturers and Students

		Lecture 5 40		Student 10 80		Totals	
Motivation/Attitude	7	2 22.22%	28.57% 6.67%	5 23.81%	71.43% 16.67%	7 23.33%	100.00% 23.33%
Perceived Ease of Use	4	1 11.11%	25.00% 3.33%	3 14.29%	75.00% 10.00%	4 13.33%	100.00% 13.33%
Perceived Usefulness	4	1 11.11%	25.00% 3.33%	3 14.29%	75.00% 10.00%	4 13.33%	100.00% 13.33%
Q1_Experience	15	5 55.56%	33.33% 16.67%	10 47.62%	66.67% 33.33%	15 50.00%	100.00% 50.00%
Totals		9 100.00%	30.00% 30.00%	21 100.00%	70.00% 70.00%	30 100.00%	100.00% 100.00%

Figure 3.
Distribution of Experience Themes by Role.

Research Objective 1 (RO1): To examine lecturers' and students' experiences in using AI tools for English language teaching and learning.

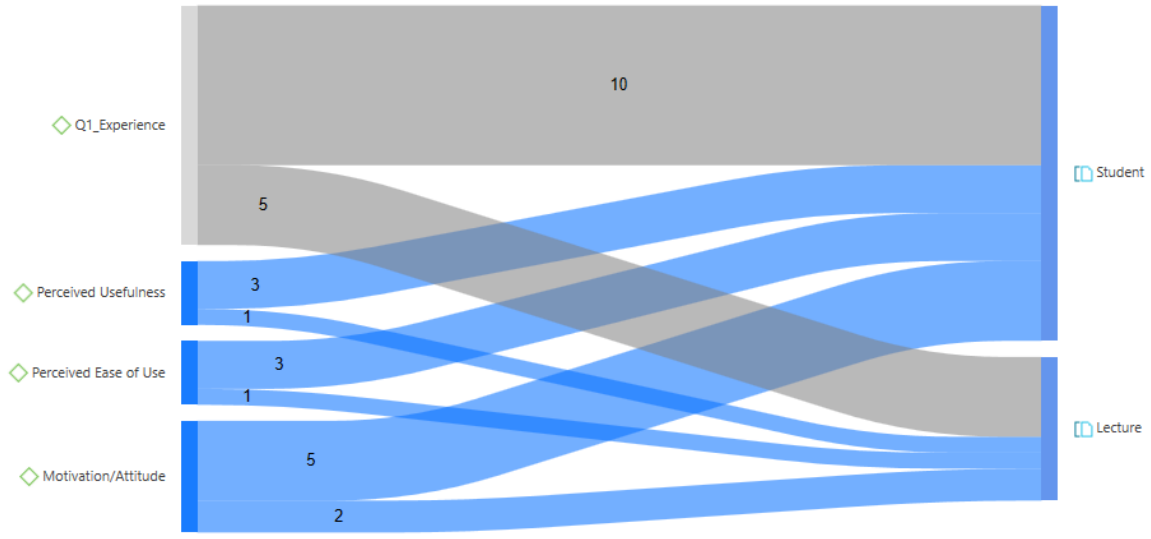

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Figure 4.
Sankey Diagram of Experience Themes Flowing to Lecturer and Student Groups.

Figures 3 and 4 quantitatively summarize and visually represent the experiential codes from Table 2, disaggregated by lecturer and student roles.

5.2.1. Overall Pattern of Experiences

Figure 3 shows that the theme Q1_Experience includes 15 coded instances, with 5 (33.33%) from lecturers and 10 (66.67%) from students. This numerical imbalance is significant, indicating that students who frequently interact with AI tools across various tasks produce a richer, more diverse narrative of AI-mediated learning. Lecturers' experiences, while valuable, are more limited and pragmatic, mainly related to lesson preparation and classroom management.

When disaggregated by thematic category, three experience themes emerge clearly:

- Motivation and attitude comprise seven codes, representing 23.33% of all experience codes. Lecturers contribute two codes (28.57%), while students contribute five (71.43%). This indicates that AI tools are significantly linked to students' emotions, engagement levels, and confidence, highlighting their impact on student experiences.
- Perceived Ease of Use: Four codes (13.33%), one from lecturers (25%) and three from students (75%). Students emphasize usability more, especially regarding convenience for homework and information search.
- Perceived usefulness includes four codes (13.33%), with one (25%) from lecturers and three (75%) from students. This suggests students experience perceived functional benefits more intensely, as they use AI tools at the point of need within their learning processes.

The distributions are visually reinforced in Figure 4, where the Sankey diagram shows thicker flows from each theme into the "Student" node than into the "Lecture" node, especially for Motivation/Attitude, Perceived Ease of Use, and Perceived Usefulness. In other words, students are the primary experiential locus of AI adoption in this context.

5.2.2. Perceived Usefulness and Perceived Ease of Use

The combined pattern of Perceived Usefulness and Perceived Ease of Use shows that students view AI as both valuable and accessible. For example, Student 1 states that Quillbot "helps improve sentence clarity," while Student 6 mentions that AI "helps me save time when searching for information." These comments are more than testimonials; they highlight specific ways AI enhances learning by improving clarity, speeding up information retrieval, and reducing cognitive load during language tasks.

Lecturers recognize AI's usefulness and ease but often view it primarily as a tool for enhancing pedagogical efficiency rather than supporting personal learning. For example, Lecturer C mentioned that AI "helps me prepare lessons more efficiently and manage time better." Their perspective is shaped by professional duties and curriculum limitations, while students' experiences tend to focus more on individual learning strategies and tactics.

5.2.3. Motivation, Confidence, and Affective Engagement

The most prominent experiential theme is Motivation/Attitude, with codes like "Engagement & fun," "Motivation/engagement," and "Confidence." These suggest that AI tools are perceived as affective agents, making learning more enjoyable, increasing motivation, and boosting confidence among users.

For example, Lecturer B reports that using ChatGPT to generate classroom dialogues makes students more engaged and active, while Student 10 notes that AI tools increase motivation because results are seen quickly. Student 5's description of using AI for pronunciation, "It increases my

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confidence when speaking," highlights AI's role as a non-judgmental interlocutor. This allows learners to experiment with language in a low-risk environment before speaking publicly.

Figures 3 and 4 show that these affective responses are part of a consistent experiential pattern, with a higher density among students. The findings indicate that AI tools are perceived not only as technical instruments but also as emotional and motivational catalysts, particularly for students, supporting the conclusion of RO1.

5.3. Supportive and Hindering Factors

		Lecture 5 40		Student 10 80		Totals	
Barriers	13	5 31.25%	38.46% 11.11%	8 27.59%	61.54% 17.78%	13 28.89%	100.00% 28.89%
Experience_Level	15	5 31.25%	33.33% 11.11%	10 34.48%	66.67% 22.22%	15 33.33%	100.00% 33.33%
Q2_Factors	15	5 31.25%	33.33% 11.11%	10 34.48%	66.67% 22.22%	15 33.33%	100.00% 33.33%
Supportive Factors	2	1 6.25%	50.00% 2.22%	1 3.45%	50.00% 2.22%	2 4.44%	100.00% 4.44%
Totals		16 100.00%	35.56% 35.56%	29 100.00%	64.44% 64.44%	45 100.00%	100.00% 100.00%

Figure 5.
Frequency Table of Barriers, Experience_Level, Q2_Factors, and Supportive Factors by Role.

Research Objective 2 (RO2): To identify factors that support or hinder the use of AI tools in English language learning, focusing on influencing elements.

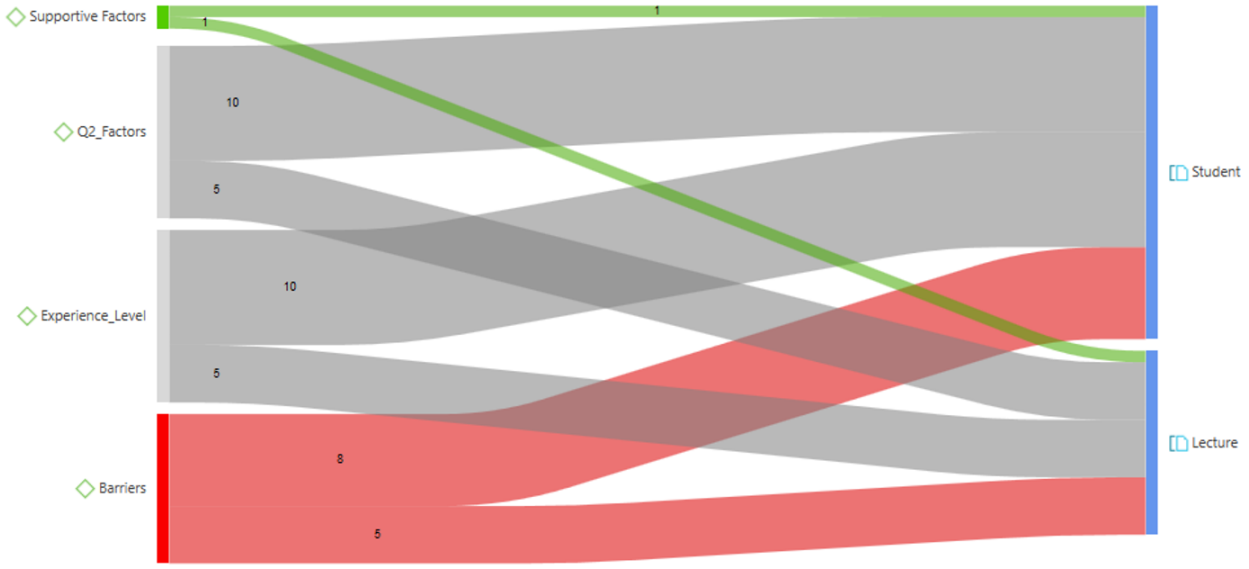

Figure 6.
Sankey Diagram of Supportive and Hindering Factors Flowing to Lecturer and Student Groups.

5.3.1. Relative Weight of Supportive Factors and Barriers

Figure 5 summarizes four factor categories: Barriers, Experience Level, Q2 Factors, and Supportive Factors. Barriers are the largest category, with 13 coded instances (28.89%). Of these, 5 (38.46%) are

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from lecturers, and 8 (61.54%) from students. This indicates both groups perceive significant obstacles to AI adoption, with students slightly more vocal about these challenges.

Supportive Factors are represented by only two codes, accounting for 4.44%, split evenly between lecturers and students. Despite their small number, these codes are conceptually significant as they highlight actionable areas like training and institutional support, which could help address the identified obstacles effectively.

The themes Experience_Level and Q2_Factors each include 15 codes, representing 33.33%, and reflect detailed insights into skills, prior exposure, and contextual influences. When combined with Barriers and Supportive Factors, they offer a nuanced understanding of readiness, opportunities, and constraints.

The Sankey diagram in Figure 6 illustrates distributions with thick red flows indicating barriers affecting both lecturer and student nodes, while a thin green stream shows supportive factors. The visual contrast emphasizes the asymmetry between enabling and constraining conditions, highlighting their differing impacts.

5.3.2. Nature of Barriers

The barrier codes encompass four major sub-themes:

5.3.2.1. Trust Issues

Several participants question the accuracy and contextual appropriateness of AI outputs. Lecturer B admits to being "not fully confident that the information from AI is always accurate," and Student 7 comments that some AI suggestions are "not appropriate for the context." These statements suggest that AI is viewed as a helpful but unreliable tool, useful for generating ideas or drafts but requiring human verification and judgment.

5.3.2.2. Plagiarism Concerns and Over-Reliance

Ethical concerns are prominent, especially regarding plagiarism and dependency. Lecturer D worries that students may become overly dependent on AI, while Student 2 fears that using ChatGPT might be considered plagiarism. Student 8 notes that some friends rely on AI instead of doing the work themselves, indicating emerging patterns of academic outsourcing. These concerns show that acceptance of AI is closely linked to local norms of academic integrity and expectations of learner autonomy.

5.3.2.3. Loss of Originality

Multiple participants highlight the risk that AI may erase personal voice. Lecturer A notes that AI sometimes "over-edits the text, causing the students' original writing style to disappear," and Student 3 comments that corrected texts can sound "unnatural or too formal." This reveals a pedagogical tension: while AI improves correctness, it may undermine the goal of fostering an authentic academic voice.

5.3.2.4. Internet and Technical Issues

Finally, infrastructural constraints like unstable internet connectivity are reported by both lecturers and students. These technical barriers hinder the integration of AI into live classroom practices, especially in contexts where reliable connectivity cannot be assured, limiting effective implementation.

Taken together, these barriers form a complex cluster of ethical, epistemic, and infrastructural issues that influence the positive experiences reported in RO1. AI is viewed as both an opportunity and a potential risk, shaping perceptions accordingly.

5.3.3. Supportive Factors and Conditions for Enabling AI Use

The text highlights that, unlike the detailed discussion of barriers, supportive factors are briefly mentioned but indicate clear institutional intervention pathways. Both lecturers and students stress the

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importance of systematic training and clear guidelines for AI use. Student 9 requests structured guidance, and Lecturer C notes a lack of proper training, suggesting current AI use is mainly self-directed and exploratory.

Confidence functions as a supportive factor when AI assists in pronunciation practice or initial draft creation, making learners feel more prepared and secure. However, this confidence is fragile, coexisting with trust issues and plagiarism concerns. Therefore, confidence is conditional, relying on users' understanding of AI's limitations and the effectiveness of institutional support to guide its responsible use.

The findings indicate that barriers currently outweigh supportive factors both numerically and discursively in response to RO2. For sustainable adoption, institutions must actively reduce perceived risks and establish structured support systems, rather than relying solely on individual initiative to succeed.

5.3.4. TAM-Based Conceptual Framework

Research Objective 3 (RO3): To develop a conceptual framework for accepting AI tools in English language education, based on the Technology Acceptance Model (TAM) and informed by qualitative findings.

5.3.5. Core TAM Structure

Figure 7 illustrates an extended TAM model adapted for AI-assisted English learning. The traditional TAM sequence, Perceived Ease of Use → Perceived Usefulness → Motivation/Attitude → Intention to Use (BI), is clearly depicted and strongly supported by empirical data.

- Participants find AI easy to use, such as being convenient for homework and saving time, which enhances their perception of usefulness through improved writing quality and faster learning.
- Perceptions influence motivation and attitude, leading to increased engagement, enjoyment, and confidence.
- Motivation and positive attitudes influence the intention to continue using AI, as students frequently rely on AI tools for various tasks.

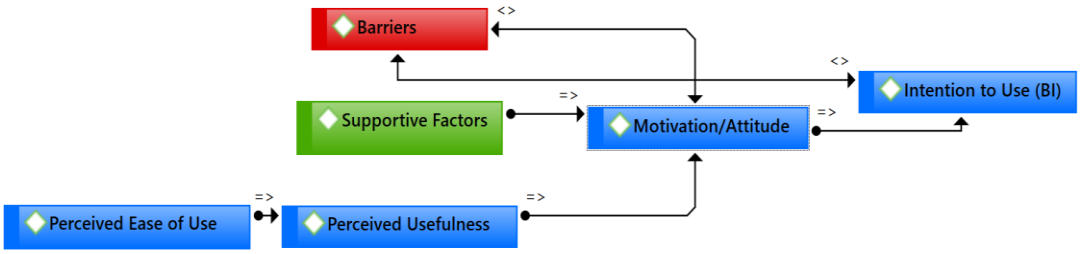

Figure 7.
Conceptual Model of Extended TAM for AI Tools in ELT.

5.3.6. Role of Supportive Factors and Barriers as Moderators

The distinctive contribution of this study lies in integrating Barriers and Supportive Factors as moderating constructs.

- Supportive factors, shown in green in Figure 7, such as confidence and institutional backing, enhance the link between motivation/attitude and the intention to use. When institutions offer training and clear guidelines, and learners gain confidence, the positive impacts of perceived usefulness and ease of use are more likely to lead to consistent, ethical use.
- Barriers, shown in red, have negative moderating effects, weakening the links from Perceived Usefulness and Motivation/Attitude to Intention to Use. For instance, even if students see AI as useful, concerns about plagiarism or accuracy may hinder their reliance on AI for high-stakes

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tasks.

5.3.7. The Final Conceptual Network

Figure 8 provides a more granular view by linking each participant to the codes and themes that inform the TAM constructs. The network view demonstrates that:

- Student nodes are strongly connected to Perceived Usefulness, Perceived Ease of Use, Motivation/Attitude, Barriers, and Supportive Factors, confirming previous findings that students occupy a central experiential role within the AI usage ecosystem.
- Lecturer nodes connect more selectively, mainly to Perceived Usefulness, Barriers, and Motivation/Attitude, reflecting their dual role as technology users and gatekeepers.
- Barriers and motivation or attitude serve as central hubs within the network, mediating the relationship between concrete experiences like writing or lesson preparation and more abstract constructs such as the intention to use.

In summary, the extended TAM derived from these qualitative data extends beyond a purely cognitive model of technology adoption. It emphasizes the emotional, ethical, and contextual aspects of AI acceptance in English language education. AI is accepted when perceived as useful and easy to use. However, this acceptance depends on learners' and lecturers' ability to address issues of trust, originality, academic integrity, infrastructural reliability, and the availability of supportive institutional structures.

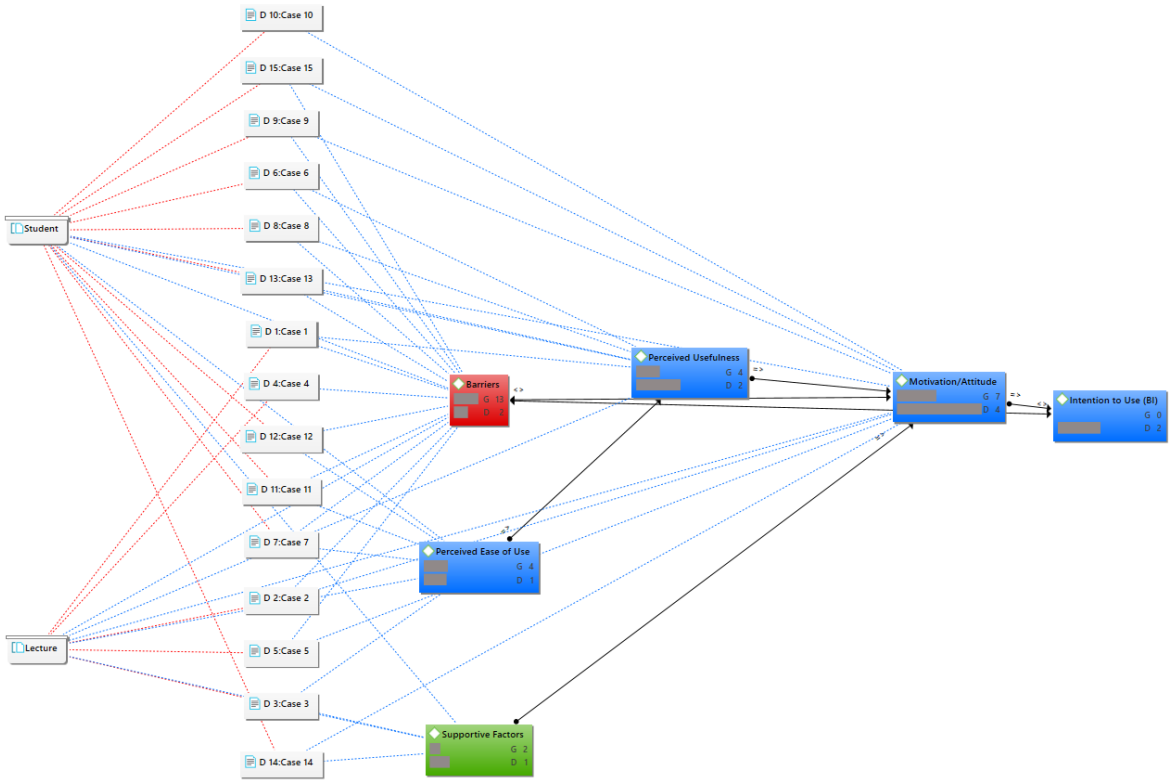

Figure 8.
Final Conceptual Network Linking Participants, Codes, Themes, and TAM Constructs. (Source: The authors' own work).

6. Discussion

This study aimed to develop an empirically grounded and theoretically extended understanding of how lecturers and students in Thai higher education experience, negotiate, and interpret AI tools such

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as ChatGPT, Grammarly, and Quillbot within English language teaching and learning. Using an interpretivist qualitative approach and informed by the Extended Technology Acceptance Model (E-TAM), the findings reveal a complex interaction of cognitive, affective, ethical, and contextual factors influencing technology acceptance. This section synthesizes the results concerning the research objectives (RO1–RO3), existing literature, and the broader theoretical framework.

6.1. Interpreting Lived Experiences of AI Use (RO1)

The findings indicate that students experience a broader and more intensive range of AI-mediated interactions than lecturers, as evidenced by the higher number of coded instances and stronger thematic flows in Figures 3 and 4. Students' narratives focus on improved writing clarity, quick access to linguistic resources, enhanced learning efficiency, and increased confidence. AI is viewed as a "non-judgmental companion," especially for tasks involving linguistic experimentation, such as vocabulary exploration or pronunciation practice. These results support existing research showing that AI can foster learners' autonomy, engagement, and reflective practices [9, 11].

Lecturers primarily use AI to enhance lesson preparation and administrative efficiency, aligning with the 'pedagogical facilitation' role noted by Almegren, et al. [5]. Their approach emphasizes strategic implementation over dependence. Additionally, lecturers acknowledge AI's emotional impact on learners, highlighting its broader educational significance, echoing Chan and Tang [15] who argue that AI-generated contexts can elevate engagement when pedagogically orchestrated.

The prominent presence of the Motivation/Attitude theme, especially among students (71.43%), indicates that affective responses are crucial for AI acceptance in ELT. This expands previous research [6, 12] by showing that emotional engagement is a key mechanism, influencing perceptions of ease of use and usefulness, thereby fostering continued reliance on AI tools.

6.2. The Dual Nature of Supportive Conditions and Barriers (RO2)

Results related to RO2 reveal a significant asymmetry: barriers are more prevalent with 13 codes and more densely connected than supportive factors, which have only 2 codes, as shown in Figures 5 and 6. This imbalance indicates that although AI provides pedagogical benefits, adoption remains limited by ongoing concerns.

6.2.1. Ethical and Epistemic Concerns

Trust issues expressed through doubts about accuracy and contextual appropriateness mirror global findings that AI-generated outputs require human verification [15, 25]. Concerns regarding plagiarism and over-reliance reflect ethical dilemmas noted by Suello and Alda [7] and Al-khresheh [4], indicating that academic integrity remains a key moderating factor in learners' willingness to use AI in high-stakes assignments.

Loss of originality is particularly salient in this study. Both lecturers and students described AI-generated or AI-edited texts as "overly formal," "unnatural," or "removing personal voice." This aligns with Fazal [6] warning that excessive reliance on AI may dilute authentic academic expression and with Lee, et al. [3] caution that AI may homogenize linguistic identity.

6.2.2. Infrastructural and Institutional Challenges

Internet instability and inadequate training emerged as structural barriers. These resonate with the global disparities in digital readiness noted by Qutub, et al. [8] and by Wang [19], who highlight gaps in AI-related digital literacy in the Global South. Participants' repeated calls for "systematic training" indicate that AI adoption is not simply a matter of individual disposition but requires coherent institutional support structures, clear policies, and guided practice, echoing Xu and Liu's [23] emphasis on TPACK-informed professional development.

6.2.3. Supportive Factors as Actionable Levers

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Although few in number, supportive factors provide valuable insights. Confidence in speaking tasks and structured training indicate that institutions can improve AI acceptance by creating scaffolded learning environments and clear guidelines for responsible AI use. These findings support the need for ethical governance, AI literacy education, and culturally responsive AI integration to foster trust and effective implementation [29, 36].

6.3. Interpreting the Extended TAM Model (RO3)

The Extended TAM model developed in this study (Figures 7 and 8) advances traditional TAM in three notable ways.

6.3.1. Affective Pathways as Central Drivers

The findings show that Motivation/Attitude has the highest density with four links, serving as a central hub connecting ease of use, usefulness, and behavioral intention. This extends prior TAM-based AI research [14, 37] by empirically confirming that emotional engagement, not just cognitive evaluation, significantly influences acceptance.

6.3.2. Barriers as Negative Moderators

Barriers weaken the pathways from Perceived Usefulness and Motivation/Attitude to Intention to Use. Participants may find AI useful and easy to use, yet concerns about plagiarism, accuracy, or loss of authenticity lead to cautious or selective adoption. This aligns with Yin and Feng [30] and Binu [33], who argue that technostress, algorithmic opacity, and ethical uncertainty may undermine sustained use.

6.3.3. Supportive Factors as Positive Moderators

Supportive factors such as confidence-building, training, and institutional guidance enhance the attitudinal-to-behavioral pathway. When integrated with TPACK- and DIGCOMP-aligned pedagogical design, these supports foster responsible, meaningful, and sustainable AI adoption, aligning with current ELT-AI framework recommendations [20, 21].

6.4. Contributions to Theory and Practice

6.4.1. Theoretical Contributions

The study contributes to TAM scholarship by demonstrating that:

1. Affective factors are not optional expansions but core determinants of AI acceptance.
2. Ethical concerns function as central barriers that directly shape behavioral intention.
3. Institutional support is critical in translating positive attitudes into sustained use.

This positions the Extended TAM as a more ecologically valid framework for AI research in education.

6.4.2. Practical Implications

For educators and policymakers in Thai higher education, the findings suggest the following:

- AI integration should include structured training on academic integrity and responsible use to ensure proper understanding.
- AI tools function best when supported by sound pedagogical design rather than used as standalone solutions.
- Institutions must invest in digital infrastructure to ensure equitable access and stable use.
- Curriculum design should focus on linguistic accuracy, fostering personal voice, and critically evaluating AI outputs.
- *6.5 Synthesis: AI as Both Empowering and Contested*

  The findings ultimately depict AI as a dual agent in ELT:
- It empowers learners through convenience, speed, clarity, engagement, and confidence.
- It complicates learning due to ethical dilemmas, identity tensions, reliability issues, and

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infrastructural constraints.

This duality aligns with critical literature [32, 34, 35], which views AI not only as a pedagogical tool but also as a socio-technical force connected to cultural, ethical, and institutional factors.

Thus, AI acceptance in ELT is best understood not as a straightforward adoption process but as an ongoing negotiation among opportunity, risk, and context, a dynamic that the Extended TAM model captures with greater fidelity than classical models.

7. Limitations

This study has several limitations that should be acknowledged. First, although the sample size was appropriate for qualitative inquiry, it was limited to a single institutional context, which may restrict the transferability of findings to other educational settings with different technological infrastructures or pedagogical cultures. Second, the study relied on self-reported experiences obtained through interviews, which could be affected by recall bias or participants' perceptions of socially acceptable responses. Third, while ATLAS.ti supported systematic coding and visualization, qualitative statistics such as groundedness and density do not represent inferential measures, and cannot establish causality. Finally, the study examined only three AI tools, ChatGPT, Grammarly, and Quillbot, so future research should explore a broader range of emerging GenAI systems to better understand the evolving landscape of AI-assisted language learning.

8. Conclusion

This qualitative study explored how lecturers and students in Thai higher education experience, adopt, and negotiate the use of AI tools such as ChatGPT, Grammarly, and Quillbot in English language teaching and learning. Three main conclusions are drawn from the findings.

Participants' experiences indicate that AI tools serve as both cognitive and emotional learning supports. Students reported improved clarity in writing, greater convenience, increased confidence, and higher engagement. Lecturers mainly used AI for lesson planning and efficiency. These findings suggest AI is not merely a neutral tool but actively influences learners' emotions, motivation, and sense of capability, emphasizing its role as an active mediator in the educational process.

Addressing RO2, the study reveals a significant imbalance between enabling conditions and barriers. While students and lecturers acknowledged the benefits of AI-assisted learning, adoption was limited by concerns over accuracy, plagiarism, loss of originality, over-reliance, and unstable internet connectivity. Participants stressed the importance of systematic institutional training and clear guidelines. These findings suggest that effective AI integration depends not only on technological skills but also on ethical awareness, infrastructure, and supportive pedagogical frameworks.

Third, in line with RO3, the study proposes an Extended Technology Acceptance Model (E-TAM) that captures the interplay of cognitive judgments (usefulness, ease of use), affective responses (motivation, confidence), contextual enablers (training, support), and ethical or practical barriers. This extended model offers a more comprehensive and ecologically valid explanation of AI acceptance in ELT than classical TAM alone, emphasizing that adoption results from socio-technical negotiations rather than individual cognition in isolation.

The findings indicate that AI tools have significant potential to improve English language learning. However, their effectiveness depends on how individuals and institutions manage the balance between opportunities and risks. Sustainable adoption requires pedagogical coordination, ethical oversight, and investment in digital literacy and infrastructure. As AI continues to evolve, future research should explore diverse contexts, additional tools, and long-term effects to better understand how AI influences learning identities, practices, and pedagogical cultures.

Transparency:

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The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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