



An Exploration into Iraqi EFL Learners' Acceptance of ChatGPT for Language Learning: A Technology Acceptance Model Study

Ahmed Rawdhan Salman¹, Saman Ebadi^{2*}, Sajad Velayati³

¹*Postdoctoral Researcher in ELT, Razi University, Kermanshah, Iran
ahmed.rawdhan@uomus.edu.iq*

²*Corresponding author: Professor of TEFL, Department of English Language and Linguistics, Faculty of Literature and Humanities, Razi University, Kermanshah, Iran; ORCID: 0000-0001-8623-7751
samanebadi@gmail.com*

³*Phd Candidate in ELT, Razi University, Kermanshah, Iran
velayati.sajad@gmail.com*

Abstract

This study adopted a sequential explanatory mixed-methods approach to investigate the variables that govern the acceptance and use of ChatGPT for learning English by 220 Iraqi university students. According to the Technology Acceptance Model (TAM), the study used a survey to measure perceived usefulness, ease of use, attitude, behavioral intention and actual use, as well as perceived enjoyment, facilitating conditions and technological complexity. Later, interviews were conducted in a semi-structured manner. The quantitative analysis revealed that while gender was not a significant predictor of attitude, it influenced actual usage rates. More significantly, prior experience with technology emerged as a critical dividing line, and students with high digital readiness reported significantly more positive perceptions across all constructs, particularly regarding facilitating conditions. Qualitative data revealed a clear pattern showing that English as a Foreign Language (EFL) learners see ChatGPT as a tool that enhances proficiency, increases motivation, and provides personalized learning suggestions. Although there are some benefits of self-assessment, there are nonetheless substantial concerns surrounding the absence of dynamic interactional feedback and the danger of developing over-reliance and ethical considerations. The findings of the study showed that Iraqi EFL learners viewed the ChatGPT as a beneficial tool. However, to ensure its effective and fair implementation, pedagogical frameworks must be designed to scaffold digital literacy and provide clear guidelines to control its practical and ethical shortcomings.

Keywords: ChatGPT, gender, Iraqi EFL learners, mixed-methods approach, Technology Acceptance Model (TAM)

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Introduction

The rise of generative artificial intelligence (AI), which has drastically changed various sectors (Alshahrani et al., 2022; Dennehy et al., 2022; Dwivedi et al., 2021), has affected global education. Since November 2022, there has been serious debate on whether ChatGPT by Open AI can be used in the teaching of EFL or whether it can disrupt language learning (Li et al., 2023; Shiri, 2023; Zhuo et al., 2023). In contexts where EFL writers do not often have access to authentic use of language, the capabilities of instant feedback generation and personalized text and writing support provided by ChatGPT can be beneficial to EFL contexts (Bin-Hady et al., 2025; Hong, 2023; Kostka & Toncelli, 2023; Song & Song, 2023). However, its adoption remains contentious. According to Kohnke et al. (2023) and Liu et al. (2024), it might help enhance engagement and task accomplishment. The use of AI tools may create a risk to academic integrity and ethical issues because of their overreliance (Abdaljaleel et al., 2024; Sallam, 2023). The utilization of ChatGPT by students for educational purposes is increasing; however, there is a lack of clarity regarding whether it is being employed effectively. Therefore, it is imperative to further investigate this issue.

Reports have highlighted that the ChatGPT can be effective in improving a student's language, especially writing and vocabulary acquisition. AI helps them with personalized practice exercises and explanatory feedback on their language use (Han et al., 2023; Javaid et al., 2023; Kasneci et al., 2023; Koraiishi, 2023; Xiao & Zhi, 2023). An exploratory study revealed that students found ChatGPT to be a good learning companion. Furthermore, students modify prompts for better learning (Xiao & Zhi, 2023). With 24/7 availability, ChatGPT helps students enhance their language ability because of critical feedback that stimulates curiosity and proper input difficulty (Kohnke et al., 2023). Studies suggest that it helps learners engage better by self-editing while producing formal texts (Özçelik & Ekşi, 2024). Jeon et al. (2023) reviewed the literature and found that large language models may be more capable than just performing simple conversational tasks, and further research should investigate how to effectively combine visual, text, and auditory modality for language learning.

This study examines the adoption of ChatGPT using the Technology Acceptance Model (TAM) as its framework. According to Chuttur (2009), TAM is probably the most widely known model that explains how technology acceptance takes place. Furthermore, it includes perceived usefulness (the degree to which a user believes that using a technology will enhance his/her performance) as well as perceived ease of use (the degree to which using the technology will be free of effort). Al-Nuaimi and Al-Emran (2021) also reported these two factors as being the most used determinants of technology acceptance. TAM was developed by Davis (1986, 1989). Recent studies have applied TAM with hedonic attributes and contextual factors such as perceived enjoyment (intrinsic) and facilitating conditions (institutional support) relevant in AI-driven learning spaces (Elshaer et al., 2024; Venkatesh et al., 2003). Liu et al. (2024) assert that the enjoyment of the chatbot is a significant factor influencing EFL learners' adoption of ChatGPT. Nonetheless, the primary obstacle is the technological complexity involved.

The Research Gap: AI Adoption in the Iraqi Educational Context

While research on ChatGPT acceptance in EFL is increasing globally, it remains uneven. A growing body of literature exists for East Asia and the Gulf region (e.g., Saudi Arabia and Kuwait) regarding gender and digital literacy in AI adoption. However, Iraq represents a distinct context characterized by unique infrastructural challenges, including intermittent electricity and variable internet connectivity, alongside a higher education system currently undergoing post-conflict reconstruction and digitization. Several authors made a call for culturally responsive studies that take into account variables like gender, prior experience with technology, and local facilitating conditions when modelling acceptance (Alotaibi et al., 2025; Ameen et al., 2021; Bodani et al., 2023; Zhang et al., 2023; Sallam, 2023). In addition, research has highlighted the need to tackle ethical concerns, accuracy, and responsible integration for pedagogically sound use in EFL learning (Cotton et al., 2024; Mhlanga, 2023; Rahman & Watanobe, 2023; Farr, 2024; Liu et al., 2024).

Research in East Asia and the Middle East has considered elements such as gender and digital literacy (Alotaibi et al., 2025; Hwang et al., 2025), but gaps remain. Gender differences in technology adoption have been extensively studied. For example, Elshaer et al. (2024) reported higher self-efficacy of male learners with the use of AI tools. However, other studies showed no gender effect (Panagiotarou et al., 2020). Having previous experience with technology can help lower barriers to adoption. In Iraq, where English proficiency is crucial for academic and professional success, little is known about these dynamics. There are virtually no empirical studies on the perception of Iraqi EFL learners regarding ChatGPT as a teaching tool. This gap is critical because theories of technology acceptance validated in digitally mature environments may not fully explain adoption behaviors in contexts where Facilitating Conditions are precarious. Furthermore, in Iraq, where English proficiency is increasingly viewed as a gateway for global economic participation, understanding how students leverage AI to bridge educational gaps is essential. To address these gaps, this study applies an extended TAM framework to assess ChatGPT acceptance among Iraqi EFL learners in order to direct the ethical and effective integration of ChatGPT in Iraqi EFL contexts. This study was guided by the following research questions:

1. What are Iraqi EFL students' perceptions and experiences of ChatGPT across TAM dimensions, including perceived ease of use, perceived usefulness, attitudes, behavioral intention, actual usage, perceived enjoyment, facilitating conditions, and technological complexity?
2. Are there differences in participants' perceptions of the ChatGPT across gender groups (90 males vs. 130 females)?
3. Are there significant differences in the perceptions of users with and without prior experience with language-learning technology?
4. How do Iraqi EFL learners perceive the advantages and difficulties they encounter when utilizing ChatGPT for language learning?

Literature Review

ChatGPT in EFL Learning: Global and Regional Perspectives

The use of tools of generative AI, such as ChatGPT, has rapidly transformed English as a Foreign Language education at a fast rate (Xiao & Zhi, 2023). For instance, they provide personalized assistance, instant feedback, and opportunities for autonomous practice. Research has shown positive effects on students' writing and vocabulary, as well as custom explanations and practice (Han et al., 2023; Javaid et al., 2023; Kasneci et al., 2023; Koraishi, 2023). Students often use ChatGPT as a friend, where they give strategic prompts to obtain the best learning outcomes (Xiao & Zhi, 2023). Meanwhile, classroom-specific work points to effective feedback that promotes engagement and progress (Kohnke et al., 2023). According to case-based and mixed-methods evidence, there are also observed gains in self-editing and participation, especially for formal writing tasks (Punar Özçelik & Yangın Ekşi, 2024). In EFL contexts that have not provided enough authentic input, ChatGPT can be continuously available to extend practice opportunities and scaffold grammar, vocabulary, and academic writing (Bin-Hady et. al, 2025; Hong, 2023; Kostka & Toncelli, 2023). Previous studies have also highlighted the growing capacities of large language models and the need to understand multimodal integration in learning (Jeon et al., 2023).

Simultaneously, excessive reliance on AI can undermine creativity and thinking. According to Ali et al. (2023), ChatGPT should be used as an additional tool, not as a pedagogical replacement. There is a growing concern about ethical issues relating to academic integrity (Cotton et al., 2024; Mhlanga, 2023; Rahman & Watanobe, 2023; Utebayeva, 2024). Farr (2024) and Liu et al. (2024) mention other challenges, such as the inability to contextualize and biased and inaccurate answers. Further studies warn that automated feedback can produce easy and sometimes misleading responses that must be moderated (Kim et al., 2023; Weidener & Fischer, 2023). Furthermore, studies have indicated that responses can be incorrect or too simplistic (Kotsis, 2024; Xiong, 2024). Across the Middle East, research highlights how perceptions of usefulness, local digital literacy, and social attitudes shape adoption (Alotaibi et al., 2025; Sallam, 2023). These trends have motivated local studies on ChatGPT and its role in education.

Technology Acceptance Model (TAM) and Its Application to AI Tools

The TAM, developed by Davis (1989), posits that perceived usefulness (PU) and perceived ease of use (PEU) shape users' attitudes, intentions, and technology adoption. Recent studies extend TAM to AI-driven tools, incorporating factors such as perceived enjoyment and facilitating conditions to better predict adoption behaviors (Elshaer et al., 2024; Venkatesh et al., 2003). Studies show that students' intentions to adopt e-learning platforms are affected by perceived ease and usefulness (Granić & Marangunić, 2019). TAM extensions include social influence and facilitating conditions, which positively affect behavioral intentions (Khanchel, 2023). Perceived enjoyment influences ChatGPT adoption among EFL learners, whereas technological complexity hinders uptake (Liu et al., 2024). Hwang et al. (2025) demonstrate that output quality enhances perceived usefulness in AI-driven learning environments. Recent research using TAM found that Norwegian students'

intention to use the ChatGPT was influenced by behavioral intention and performance expectancy (Grassini et al., 2024). However, the impact of cultural and geographic factors on technology adoption remains understudied, particularly regarding AI tool acceptance among Kuwaiti EFL learners (Ma et al., 2024). Studies have indicated that gender, context, and experience are important factors in AI adoption (Ameen et al., 2021; Bodani et al., 2023; Zhang et al., 2023).

Sociocultural and Individual Influences on ChatGPT Adoption

Contextual elements and personal differences influence the choice to implement AI tools. Factors, such as digital literacy, cultural perspectives, and infrastructure, have a significant impact on these areas. This is supported by regional studies conducted in East Asia and the Middle East (Alotaibi et al. 2025; Hwang et al. 2025; Sallam, 2023). Studies on gender deliver mixed results. For instance, some suggest that males have higher AI self-efficacy or more positive attitudes toward technology, possibly due to exposure. However, other studies have shown non-significant effects of gender (Draxler et al., 2023; Elshaer et al., 2024; Sindermann et al., 2022). Prior technology experience is a consistent predictor of positive perceptions of usefulness and ease of use that positively affects acceptance and continued use (Panagiotarou et al., 2020; Liu et al., 2024). According to Wang et al. (2023), knowledge and attitudes influence emotional responses toward AI, which means that emotions do not lead to acceptance by themselves. Research suggests that social influence and facilitating conditions can moderate behavioral intentions (Ma et al., 2024; Porto et al., 2019; Schoonenboom, 2012; Tandon et al., 2019; Tarhini et al., 2015) in conjunction with locality and cultural norms. Thus, it is important to study AI acceptance in national and educational ecologies.

Methodology

Research Design

Following Creswell & Clark (2007), this study adopted an explanatory sequential mixed-methods design to examine Iraqi EFL learners' acceptance of the ChatGPT. This approach was implemented in two distinct phases. The first phase involved collecting quantitative data through an online survey. The analysis identified general trends and statistical patterns. The second phase involved qualitative data collection through semi-structured interviews to explain and elaborately deal with quantitative data. This approach allows for a "thick description" of the statistical results, particularly regarding the reasons behind observed gender and experience differences. The use of both types of data enhanced the validity and reliability of the study design.

Participants and Context

The study was conducted in an Iraqi higher education setting, specifically EFL undergraduate students. Convenience and snowball sampling methods were used to recruit participants from various universities across Iraq. This non-probability sampling strategy was deemed appropriate given the exploratory nature of the study and the lack of a centralized national registry of students using AI tools. Furthermore, in a post-conflict context where institutional data are often fragmented, snowball sampling allows access to a broader range of students through peer networks.

A total of 220 students taking part in the quantitative survey phase involved 90 male and 130 female EFL learners. The decision to survey EFL majors specifically ensures that the participants possess the necessary English proficiency (approximating CEFR B1-B2) to comprehend the survey items and the AI tool itself, as the Iraqi curriculum for English majors includes extensive coursework in linguistics, literature, and compositions taught entirely in English. A purposive sampling method was employed in the initial quantitative phase. This sampling strategy aimed to ensure equal gender representation and a comprehensive range of attitudes, both positive and negative, as well as the usage patterns identified in the survey. The researchers adhered to ethical standards in their work. Before data collection, the participants were fully informed of the study's purpose, procedures, and their rights. The researchers assured the study participants that they had the right to withdraw from the study at any time without penalty. Furthermore, it was assured that the information collected from them would be anonymized. All participants provided written informed consent before the commencement of the study.

Data Collection Instruments and Procedure

Phase 1: Quantitative Survey

This study employed a dual-phase approach to data collection, incorporating both a quantitative online survey and qualitative semi-structured interviews. The quantitative data were gathered through an online survey (Appendix A) created using Google Forms, which began with demographic questions using a nominal scale to collect information on participants' gender, age, field of study, English proficiency, academic degree, frequency of ChatGPT usage, and previous experience with language learning technology. The second section utilized a five-point Likert scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5), to assess eight TAM constructs adapted from existing TAM literature (Alotumi, 2022; Bai et al., 2022; Liu et al., 2023). These constructs evaluated participants' perceived ease of use (PEU, five items), PU (five items), attitude (A, five items), behavioral/continuance intention (BI, five items), actual use (AU, five items), PE (three items), facilitating conditions (FC, eight items), and TC (five items) of the ChatGPT for learning English. The adaptation of survey items from previous studies is justified by the robustness of TAM's key elements, which are applicable across various contexts (Alharbi & Drew, 2014) and among diverse users and technologies (Nadri et al., 2018; Solano-Lorente et al., 2013). Participation was voluntary, and informed consent was obtained by presenting participants with an introductory statement at the beginning of the survey, which explained the study's purpose, their right to participate in the survey, or follow-up interviews, and assured their confidentiality (anonymous information sharing in the study).

Reliability and Validity of the Questionnaire

To ensure the psychometric rigor of the adapted instrument, we assessed internal consistency using Cronbach's alpha), Composite Reliability (CR), and Average Variance Extracted (AVE). As shown in Table 1, all constructs demonstrated robust reliability ($\alpha > 0.70$) and convergent validity ($AVE > 0.50$), satisfying the criteria for educational technology research.

Table 1

Psychometric Properties of the Measurement Scales

Construct	Items	Cronbach's α	CR	AVE
Perceived Usefulness (PU)	5	0.88	0.91	0.68
Perceived Ease of Use (PEU)	5	0.86	0.89	0.62
Attitude (ATT)	5	0.84	0.88	0.60
Behavioral Intention (BI)	5	0.87	0.90	0.65
Actual Use (AU)	5	0.81	0.85	0.54
Perceived Enjoyment (PE)	3	0.82	0.86	0.67
Facilitating Conditions (FC)	8	0.79	0.83	0.51
Technological Complexity (TC)	5	0.78	0.82	0.53

Phase 2: Qualitative Interviews

A group of 20 students who volunteered for the additional study provided their email addresses at the conclusion of the survey. Purposive sampling was employed to select participants with diverse academic backgrounds and varying levels of ChatGPT usage. (see Table 2). Semi-structured interviews were conducted using WhatsApp voice chat to ensure ease and accessibility for the participants. Each interview, lasting between 15 minutes, was recorded with participants' consent for later analysis. While English was the primary language, participants were encouraged to code-switch to Arabic when necessary to express complex ethical or emotional concepts, ensuring the validity of the qualitative data. Informed consent was obtained before each interview. The semi-structured interview guide (Appendix B) explored participants' experiences with ChatGPT in learning English, focusing on their assessments of its benefits and drawbacks, factors affecting its use, and any challenges they faced.

Results

Quantitative Data Analysis

Addressing the First Research Question

The initial analysis focused on describing the central tendencies and variability of students' perceptions across the core Technology Acceptance Model (TAM) components. Table 1 displays the descriptive statistics for the TAM components in descending order.

Table 1*Descriptive Statistics for TAM Components in a Descending Order*

TAM Components	N	Min	Max	Mean	SD.	Var
PU	220	1.00	5.00	3.77	.88	.79
PEU	220	1.00	5.00	3.73	.95	.90
Attitude	220	1.00	5.00	3.67	.92	.85
BI	220	1.00	5.00	3.64	.92	.85
PE	220	1.00	5.00	3.61	1.00	1.00
AU	220	1.00	5.00	3.58	1.01	1.04
FC	220	1.00	5.00	3.38	.87	.76
TC	220	1.00	5.00	2.76	1.09	1.19

As indicated in Table 1, Perceived Usefulness (PU) obtained the highest mean score ($M = 3.77$, $SD = 0.88$), followed by Perceived Ease of Use (PEU) ($M = 3.73$, $SD = 0.95$). Attitudes ($M = 3.67$, $SD = 0.92$), Behavioral Intention (BI) ($M = 3.64$, $SD = 0.92$), Perceived Enjoyment (PE) ($M = 3.61$, $SD = 1.00$), and Actual Usage (AU) ($M = 3.58$, $SD = 1.01$) clustered around the midpoint of the scale. Facilitating Conditions (FC) scored lower ($M = 3.38$, $SD = 0.87$), while Technological Complexity (TC) was perceived as the most important barrier, which yielded the lowest mean score ($M = 2.76$, $SD = 1.09$). To complement the tabular data, a visual representation (Figure 1) was created to illustrate the hierarchical order of the mean scores for each TAM component.

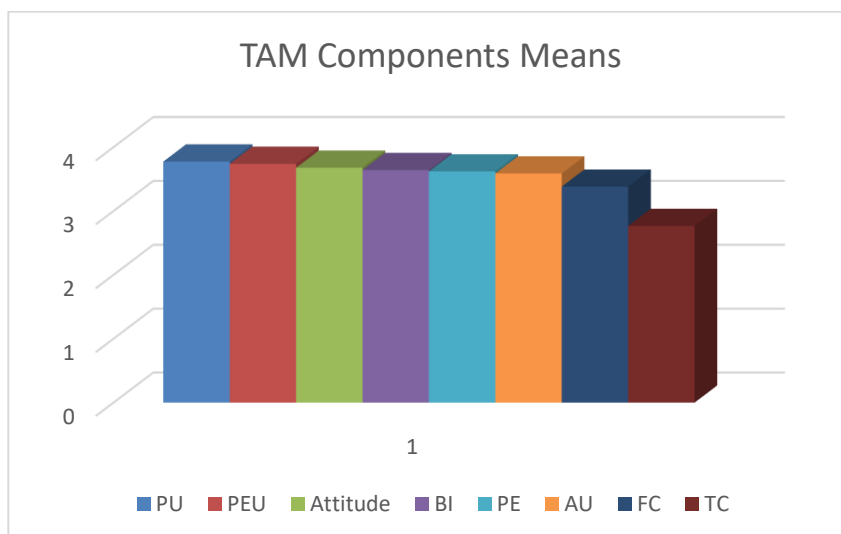
Figure 1*TAM Components Means*

Figure 1 shows the mean values presented in Table 1. The descending bar chart effectively visualizes the continuum of student perceptions from the highest mean (PU) to the lowest (TC).

Addressing the Second Research Question

Prior to conducting inferential tests to compare the groups, it was essential to examine the descriptive statistics and test the assumption of normality for each TAM component separately for male and female participants. Table 2 portrays the descriptive statistics and normality test results for TAM components and TAM total across gender.

Table 2
Descriptive Statistics and Normality Test Results for TAM Components and TAM Total across Gender

TAM Components	Gender	No	Mean	SD	Var	Kolmogorov-Smirnova			Shapiro-Wilk		
						Statistic	df	Sig.	Statistic	df	Sig.
PEU Mean	Male	90	3.74	1.00	1.01	.14	90	.00	.91	90	.00
	Female	130	3.73	.91	0.83	.11	130	.00	.94	130	.00
PU Mean	Male	90	3.83	.91	0.84	.13	90	.00	.90	90	.00
	Female	130	3.73	.87	0.75	.09	130	.00	.95	130	.00
Attitude Mean	Male	90	3.72	.99	0.98	.11	90	.00	.93	90	.00
	Female	130	3.64	.87	0.76	.10	130	.00	.95	130	.00
BI Mean	Male	90	3.73	.95	0.90	.12	90	.00	.92	90	.00
	Female	130	3.57	.90	0.81	.09	130	.01	.96	130	.00
AU Mean	Male	90	3.73	.99	0.98	.14	90	.00	.89	90	.00
	Female	130	3.48	1.03	1.06	.11	130	.00	.94	130	.00
PE Mean	Male	90	3.70	.97	0.94	.15	90	.00	.93	90	.00
	Female	130	3.55	1.01	1.03	.15	130	.00	.93	130	.00
FC Mean	Male	90	3.50	.86	0.75	.12	90	.00	.96	90	.02
	Female	130	3.29	.87	0.77	.11	130	.00	.97	130	.01
TC Mean	Male	90	2.81	1.08	1.17	.12	90	.00	.95	90	.00
	Female	130	2.73	1.10	1.21	.08	130	.01	.95	130	.00
TAM Total	Male	90	3.60	.74	.56	.200	90	.000	.905	90	.000
	Female	130	3.47	.68	.47	.095	130	.006	.972	130	.009

As displayed in Table 2, male participants reported slightly higher mean scores than female participants across all TAM components and for the TAM Total score. The most notable differences appeared for Actual Usage (AU) (Males: $M = 3.73$; Females: $M = 3.48$) and Facilitating Conditions (FC) (Males: $M = 3.50$; Females: $M = 3.29$). However, the normality tests for both groups across all variables yielded statistically significant results ($p < .05$ for most tests, except a few $p > .05$), which leads to the violation of normality for all the comparison pairs. Accordingly, the Mann-Whitney U test was employed for subsequent group comparisons, the results of which are presented in Table 3.

Table 3

Mann-Whitney U Test for the TAM Components and TAM Total across Gender

Dimensions	Total N	Mann-Whitney U	Wilcoxon W	Test Statistic	Standard Error	Standardized Test Statistic	Asymptotic Sig.(2-sided test)
PEU	220	5668.5	14183.5	5668.5	461.923	-0.393	0.694
PU	220	5274.5	13789.5	5274.5	462.72	-1.244	0.214
Attitude	220	5391	13906	5391	462.358	-0.993	0.321
BI	220	5075	13590	5075	462.428	-1.676	0.094
AU	220	4795.5	13310.5	4795.5	462.425	-2.28	0.023
PE	220	5364	13879	5364	459.998	-1.057	0.291
FC	220	4996.5	13511.5	4996.5	463.483	-1.841	0.066
TC	220	5561	14076	5561	462.694	-0.625	0.532
Total TAM	220	4893	13408	4893	464.114	-2.062	0.039

As indicated in Table 3, the Mann-Whitney U tests revealed that the score distributions for male and female participants were not significantly different for the majority of TAM components, including PEU ($U = 5668.5$, $z = -0.393$, $p = .694$), Perceived Usefulness ($U = 5274.5$, $z = -1.244$, $p = .214$), attitude ($U = 5391$, $z = -0.993$, $p = .321$), Perceived Enjoyment ($U = 5364$, $z = -1.057$, $p = .291$), and Technological Complexity ($U = 5561$, $z = -0.625$, $p = .532$). The tests for Behavioral Intention ($U = 5075$, $z = -1.676$, $p = .094$) and Facilitating Conditions ($U = 4996.5$, $z = -1.841$, $p = .066$) approached significance, but did not exceed the alpha threshold of .05. However, a statistically significant difference was found for Actual Usage (AU) ($U = 4795.5$, $z = -2.28$, $p = .023$) and TAM Total score ($U = 4893$, $z = -2.062$, $p = .039$), with males reporting higher levels of actual use and a more positive overall perception across the model.

Addressing the Third Research Question

Before running inferential tests to compare the two groups, it was essential to inspect the descriptive statistics and test the assumption of normality for each TAM component separately for participants with and without prior experience. Table 4 depicts the descriptive statistics and normality test results for TAM components and TAM total across technology experience.

Table 4

Descriptive Statistics and Normality Test Results for TAM Components and TAM Total across Experience of Technology

TAM Components	Groups	No	Mean	SD.	Var	Kolmogorov-Smirnova			Shapiro-Wilk		
						Statistic	df	Sig.	Statistic	df	Sig.
PEU Mean	With Experience	168	3.81	.935	.87	.13	168	.00	.92	168	.00
	Without Experience	52	3.48	.96	.93	.14	52	.01	.94	52	.01
PU Mean	With Experience	168	3.83	.87	.76	.09	168	.00	.92	168	.00
	Without Experience	52	3.58	.92	.853	.15	52	.00	.95	52	.04
Attitude Mean	With Experience	168	3.75	.91	.82	.11	168	.00	.93	168	.00
	Without Experience	52	3.43	.93	.86	.11	52	.08	.96	52	.14
BI Mean	With Experience	168	3.71	.88	.78	.09	168	.00	.94	168	.00
	Without Experience	52	3.38	1.00	1.01	.10	52	.18	.96	52	.12
AU Mean	With Experience	168	3.69	.95	0.90	.12	168	.00	.93	168	.00
	Without Experience	52	3.23	1.15	1.32	.15	52	.00	.92	52	.00
PE Mean	With Experience	168	3.71	.97	0.95	.14	168	.00	.92	168	.00
	Without Experience	52	3.30	1.01	1.03	.15	52	.00	.94	52	.02
FC Mean	With Experience	168	3.51	.82	0.68	.10	168	.00	.97	168	.00
	Without Experience	52	2.94	.89	0.80	.10	52	.200*	.97	52	.42
TC Mean	With Experience	168	2.79	1.12	1.25	.11	168	.00	.94	168	.00
	Without Experience	52	2.67	1.00	1.00	.09	52	.200*	.96	52	.15
Total TAM	With Experience	168	3.61	.68	.47	.13	168	.00	.92	168	.00
	Without Experience	52	3.24	.73	.53	.09	52	.200*	.97	52	.48

As shown in Table 4, participants with prior technology experience reported higher scores on every single TAM component and total TAM compared to those without such experience. The differences were substantial for many variables, such as Facilitating Conditions (With: $M = 3.51$; Without: $M = 2.94$) and Actual Usage (With: $M = 3.69$; Without: $M = 3.23$). The results of the Kolmogorov-

Smirnov and Shapiro-Wilk tests indicate that the data for the "With Experience" group significantly deviated from normality for all components as well as the total TAM ($p < .05$). For the "Without Experience" group, the data for Attitude, BI, FC, TC, and TAM Total were normally distributed ($p > .05$), but not for others. The inspection of normality data reveals the violation of normality for all comparison pairs. Therefore, non-parametric testing was deemed the most appropriate method for analysis. Table 5 displays the Mann-Whitney U Test results for the TAM components and TAM total scores across the experience of technology groups.

Table 5

Mann-Whitney U Test for the TAM Components and TAM Total across Experience of Technology

Dimensions	Total N	Mann-Whitney U	Wilcoxon W	Test Statistic	Standard Error	Standardized Test Statistic	Asymptotic Sig.(2-sided test)
PEU	220	3485.5	4863.5	3485.5	399.14	-2.21	0.03
PU	220	3684.5	5062.5	3684.5	399.83	-1.70	0.09
Attitude	220	3455	4833	3455	399.52	-2.28	0.02
BI	220	3564	4942	3564	399.58	-2.01	0.04
AU	220	3415.5	4793.5	3415.5	399.58	-2.38	0.02
PE	220	3358.5	4736.5	3358.5	397.48	-2.54	0.01
FC	220	2735.5	4113.5	2735.5	400.49	-4.07	0.00
TC	220	3997	5375	3997	399.81	-0.92	0.35
Total TAM	220	3095.5	4473.5	3095.5	401.05	-3.17	0.00

The results of the Mann-Whitney U tests, presented in Table 5, show that there were statistically significant differences between the two groups in most TAM components. Significant differences were found for Perceived Ease of Use ($U = 3485.5, z = -2.21, p = .03$), attitude ($U = 3455, z = -2.28, p = .02$), Behavioral Intention ($U = 3564, z = -2.01, p = .04$), Actual Usage ($U = 3415.5, z = -2.38, p = .02$), Perceived Enjoyment ($U = 3358.5, z = -2.54, p = .01$), and Facilitating Conditions ($U = 2735.5, z = -4.07, p < .001$). Furthermore, the total TAM score was significantly higher in the experienced group ($U = 3095.5, z = -3.17, p = .002$). No significant difference was found for Perceived Usefulness ($U = 3684.5, z = -1.70, p = .09$) or Technological Complexity ($U = 3997, z = -0.92, p = .35$). This confirms that prior technology experience is strongly associated with a more positive acceptance profile for ChatGPT.

Qualitative Data Analysis

Addressing the Fourth Research Question

Thematic analysis of the interviews provided an explanatory context for the survey results. Table 6 presents the demographic profiles of the interview participants.

Table 6

Demographic Profile of Interview Participants

Participant ID	Gender	Year of Study	Self-Reported Proficiency	ChatGPT Usage Frequency
S1, S2, S3	Male	4th Year	Advanced	Daily
S4, S5	Female	4th Year	Advanced	Daily
S6, S7	Male	3rd Year	Upper-Intermediate	Weekly
S8, S9, S10	Female	3rd Year	Upper-Intermediate	Weekly
S11, S12	Male	2nd Year	Intermediate	Weekly
S13, S14, S15	Female	2nd Year	Intermediate	Monthly
S16, S17	Male	1st Year	Intermediate	Rare
S18, S19, S20	Female	1st Year	Pre-Intermediate	Rare

The audio-recorded interviews were transcribed verbatim and analyzed thematically following Braun and Clarke’s (2006) inductive, data-driven approach. NVivo 12 software was used to assist with systematic coding and theme management. For confidentiality, pseudonyms (S1–S20) were used in the interview quotes.

Comprehensive explanations for these survey results were provided through semi-structured interviews. Twenty participants were purposively selected from a larger cohort for the interviews (N=220; 90 males, 130 females). Analysis of the interview transcripts revealed several themes related to their experiences with ChatGPT and their resulting perceptions. The themes presented below largely corroborate the survey findings, offering a balanced perspective on the advantages and disadvantages of using this tool for language learning.

Theme 1: Perceived Usefulness as a Multifaceted Learning Aid. The survey scores showed high levels of perceived usefulness (PU) for ChatGPT, which participants described as a useful and helpful pedagogical tool. Its usefulness is manifested in several ways. First, students perceived ChatGPT as a private tutor to enhance their language skills. As one learner said, "ChatGPT can check my answers and note the spelling mistakes, suggest a better way to write it, and suggest different words" (S5). Many students feel that it develops their writing and speaking skills. One student commented, "I like that it can converse with me and fix my grammatical errors, which I think will eventually help me develop my L2 skills" (S6).

Second, usefulness was strongly related to efficiency and performance. Students highlighted that the tool saved them a lot of time and effort, which was crucial to their demanding academic lifestyle. According to one participant: "The technology helps me to find the information easily which saves my time and efforts. Saving time is important for me as a college student because I would have more time to focus on other things such as analyzing, interpreting, and thinking critically." (S1) Aligning with the high PU scores, students described ChatGPT as a necessary substitute for limited teacher availability. S5 remarked, "ChatGPT can check my answers and note spelling mistakes... it suggests different words." S6 added, "While

real language partners sleep and get busy, ChatGPT never does." This theme highlights how AI fills a pedagogical void in the context of Iraqi as a surrogate tutor.

Theme 2: High Perceived Ease of Use and Accessibility. The interviews were consistent with the survey results, confirming that Perceived Ease of Use (PEU) is a major determinant of students' adoption of ChatGPT. The tool's usability was rated unanimously as easy to use, intuitive, and no special training was required. One student explained, "I think I am a user of ChatGPT because it is easy to use. I do not have to develop my IT skills to use or to attend any training to be able to use it" (S7). Another participant said, "I like ChatGPT because it is easy once you logged in you can start using it" (S10). The students valued the fact that they could use it anytime, anywhere easily, as it is ubiquitous. As one learner noted, "While real language partners sleep and get busy, ChatGPT never does." (S6).

Theme 3: Enhanced Engagement, Motivation, and Positive Attitudes. According to the responses, the ChatGPT also helped in improving engagement and motivation backed by positive attitudes. According to the students, the tool was interesting as it was interactive and personalized. Being able to role-play real-life situations was an advantage, as one student highlighted: 'When you play a job interview or a debate about a hot topic, learning grammar and building vocabulary feel like an exciting journey, which I find motivating and engaging' (S20).

They believed that by adding this knowledge to their communication and adaptation, their confidence could be enhanced and cross-cultural communication could achieve success. One student stated, "I feel convenient to talk with ChatGPT. It works quite easy on me." I do not worry about making mistakes; I love it because I feel my speaking skills are getting better." (S 17). The students were motivated to take risks and practice more freely in this non-judgmental space.

Theme 4: Drawbacks and Technological Limitations. The participants identified several major weaknesses. A major concern is accuracy and reliability. In this context, students perceived AI as lacking human contextualization. This could also create the risk of misunderstood feedback or misinterpretations. This caused them to "doubt my knowledge" (S11). The findings of the survey highlighted technological complexity as a major hurdle.

One of the limitations of this study is its text-based nature. According to the learners, ChatGPT conversations were not as interactive as human interaction. As one student put it, "ChatGPT is a great way to practice, but it doesn't quite work the same as in real life where people go back and forth." (S4) Lack of interaction can be uncomfortable. One student mentioned "It makes it hard for me to learn how to start talking, ask follow-up questions and read body language" (S18). The absence of real-time, genuine conversation was viewed as a huge disadvantage. Students were acutely aware of AI's limitations in capturing cultural and pragmatic nuances. S4 noted, "It doesn't quite work the same as in real life... it lacks body language and true interaction."

Theme 5: Concerns Regarding Over-Reliance and Academic Integrity. The interviews highlighted the concern that motivation, self-regulation, and ethics may suffer in connection with technology. Some students also believed that ChatGPT's

assistance created overreliance, which contributed to their lack of ability to write and solve problems. One student admitted, "I am worried because using ChatGPT too much will undermine my writing ability, sometimes I feel unable to write without using ChatGPT (S8)."

This fear has extended to the issue of academic misconduct. The participants were conscious of the urge to copy-paste. One person said, I'm scared of using ChatGPT especially while doing my assignment because I think I might cheat (S16). Students have also raised more general ethical issues surrounding ChatGPT's generation and the spread of misinformation. It was stated by one participant that "Since Chat GPT can produce textual content that appears real and sounds real, it could produce deep fakes and spread misinformation. I have to be especially vigilant about verifying the information I receive through it' (S20).

Overall, according to the findings, Iraqi EFL learners view ChatGPT as a tool that is highly useful and easy to use, and enhances their motivation by providing them with valuable support for learning. Nonetheless, they remain aware of its limitations in terms of accuracy and conversational realism, as well as the potential risks associated with overreliance and plagiarism. Students' statements indicated that they perceived technology as an effective study friend. However, they also acknowledge that ChatGPT is imperfect and occasionally provides incorrect prompts.

Discussion

This study examined the factors governing Iraqi EFL learners' acceptance of ChatGPT using an extended Technology Acceptance Model (TAM) framework to integrate quantitative survey data with qualitative interview insights. The findings reveal a generally positive disposition towards ChatGPT, primarily driven by high Perceived Usefulness (PU) and Perceived Ease of Use (PEU). However, this acceptance is significantly mediated by learners' prior technology experience and constrained by perceived technological complexity and inadequate facilitating conditions.

Interpreting the Hierarchy of TAM Perceptions

The initial descriptive analysis showed that students prioritized the different categories of their perceptions. ChatGPT is rated as an appealing and useful tool by learners. Its usefulness ($M=3.77$) and ease of use ($M=3.73$) are the two highest-rated constructs. Studies show that technology that is both useful and easy to use creates positive attitudes and behaviors (Belda-Medina & Calvo-Ferrer, 2022; Liu et al., 2023). Afterwards, Attitude ($M = 3.67$), Behavioral Intention (BI) ($M = 3.64$), Perceived Enjoyment (PE) ($M = 3.61$), and Actual Usage (AU) ($M = 3.58$) cluster near the midpoint of the scale. This suggests the existence of a learner community that is both eager and motivated, yet it has not translated their positive perceptions into frequent utilization.

In particular, the lower end of the hierarchy is revealed. Facilitating Conditions (FC) ranked second lowest as indicated by the mean score ($M=3.38$), while Technological Complexity (TC) received the lowest rating with the mean

score ($M=2.76$), which shows that this was the most important perceived barrier. This finding is significant in the Iraqi context as students are aware of the importance of ChatGPT; however, they do not use it frequently due to inconsistent institutional support, lack of training, and flaws in the tool itself. Students found the impact of ChatGPT hallucinations, issues connecting to ChatGPT, and difficulty with prompts to be the main concerns mentioned in the interviews.

The discrepancy between high Behavioral Intention and moderate Actual Use points to a specific "Technological-Pedagogical Gap" in Iraq. While students perceive the tool as useful (PU) and easy (PEU), the Facilitating Conditions, which include Internet stability, access to devices, and institutional support, lag behind. Facilitating conditions are often assumed in digitally mature contexts; in Iraq, they are a variable that actively mediates adoption. The low score for Technological Complexity indicates that the barrier is not the tool itself, but the ecosystem surrounding it

Gender Differences

The second research question explored gender differences. The analysis revealed no statistically significant differences between males and females concerning the core Technology Acceptance Model (TAM) perceptual constructs: Perceived Ease of Use (PEU), Perceived Usefulness (PU), Attitude, Perceived Enjoyment (PE), and Trust in Technology (TC), as determined by Mann-Whitney U tests. However, males reported a higher level of Actual Usage ($U = 4795.5$, $p = .023$) and a higher TAM Total Score ($U = 4893$, $p = .039$), with both differences reaching statistical significance. The tests for Behavioral Intention (BI) ($p = .094$) and Facilitating Conditions (FC) ($p = .066$) did not achieve statistical significance, although they exhibited a similar trend.

This suggests that, while both males and females think the tool is worthwhile and easy to use, they use it differently. The current study finding contrasts with studies suggesting no gender effects (e.g., Grassini et al., 2024) but is consistent with research indicating differences in gender use profiles (i.e., Belda-Medina & Calvo-Ferrer, 2022). Importantly, our interview data did not imply that this was due to gender differences in technology preferences. On the contrary, learners identified external factors such as social norms, unequal access to devices, and weak Internet access, which directly led to the second major finding of the study.

Our finding that gender does not affect attitude but does affect actual use invites a sociocultural interpretation. In the conservative and often gender-segregated context of parts of Iraq, male students may have greater access to personal digital devices and less scrutiny of their time use, thus facilitating higher actual usage. Conversely, female students in the interviews expressed higher anxiety about "rule-breaking" and plagiarism, suggesting that their lower usage may be a result of higher self-regulation and adherence to perceived institutional norms. However, some female participants also noted that ChatGPT offers a "safe space" to practice English without the social anxiety of speaking in front of male peers, indicating a complex, dual role of AI for female learners.

Prior Technology Experience

This study revealed that prior experience with technology plays a large role in differentiating services. What learners with experience reported was significantly more positive perceptions regarding all TAM components: PEU ($p = .03$, attitudee ($p = .02$, BI ($p = .04$, AU ($p = .02$, and PE ($p = .01$). The greatest difference observed was for Facilitating Conditions ($U = 2735.5$, $z = -4.07$, $p < .001$), and as a result, the Total TAM score was also significantly higher ($p = .002$) for the experienced group.

There was no difference in PU or TC. Both groups perceived ChatGPT as equally beneficial for all users. However, the experienced group found the system more user-friendly, exhibited more favorable attitudes towards it, and demonstrated greater support, which consequently led to increased intention to use and actual usage. To effectively transform value into practical application, it is essential to possess prior experience with technology and readiness to engage with it. Qualitative data indicate that users with experience in utilizing this tool employ advanced prompting strategies and demonstrate a superior ability to navigate its complexities.

The strong influence of prior experience on all constructs, especially Facilitating Conditions, suggests that digital literacy acts as a form of capital. Experienced users possess the "troubleshooting resilience" to navigate Iraq's spotty Internet and access AI tools effectively. They perceived the same environment as more facilitating than their novice peers ($p < .001$), proving that "access" is not just about infrastructure but also about the user's capability to exploit that infrastructure.

Learners' Perspectives

The results of this qualitative analysis indicate that Iraqi EFL learners view ChatGPT as a versatile personal tutor. ChatGPT is presumed to positively influence writing and speaking, while saving time and sparking interest. At the same time, the respondents believe that ChatGPT has some risks, including the accuracy of information provided, ability to have dialogues, over-reliance, and academic honesty.

Technology acceptance theories closely align with the observed results. Specifically, perceived usefulness and ease of use are fundamental to acceptance (Davis, 1989). Moreover, these factors have been demonstrated to influence the adoption of AI chatbots by EFL and EFL/ESL learners (Qu and Wu 2024). The emphasis students place on ease of use and 24/7 accessibility mirrors previous research on chatbot partners for language learning, as well as the concept of ubiquitous, low-friction practice (Fryer et al., 2019).

Learners have reported reduced communication anxiety and greater confidence, which echoes the early L2 literature. The findings highlight low-stakes practice affordances (Fryer et al., 2019) and recent accounts of ChatGPT's capacity to scaffold language production and writing processes (Kohnke et al., 2023; Song & Song, 2023). Participants' concerns about accuracy, reliability, and the need for critical evaluation reflect the documented risks of hallucination. They also refer to misinformation and context insensitivity, which are more relevant to ChatGPT-type systems (Kasneji et al., 2023). As demonstrated by studies calling attention to the

lack of empirical pragmatic sophistication and cultural sensitivity of AI in EFL writing and interaction (Hwang et al., 2025), there is a perceived gap between chatbot exchanges and genuine reciprocal human conversation. In conclusion, students' ambivalence regarding over-reliance and academic integrity reflects emerging evidence in higher education: learners seek efficiency but express concerns about the erosion of authorship, temptation to plagiarize, and ambiguous boundaries of responsible use (Johnston et al., 2024; Kasneci et al., 2023). The qualitative data revealed that students are operating in a "policy vacuum." The Ministry of Higher Education has yet to issue comprehensive guidelines on Generative AI. Consequently, students are left to construct their own ethical frameworks, oscillating between seeing ChatGPT as a helpful "tutor" and a tool for "cheating." This ambiguity created the anxiety observed in Theme 5, highlighting the urgent need for institutional guidance.

Conclusion

The findings of this study show that Iraqi EFL learners view ChatGPT as a beneficial, "surrogate tutor" that enhances proficiency and motivation. However, effective implementation is stratified by gender and digital experience and is hampered by infrastructural limitations. These findings have several pedagogical implications. It is recommended that universities implement foundational digital literacy workshops ("AI Clinics") to scaffold digital literacy. They should also initiate structured onboarding processes for students with limited experience to ensure equitable access to technology. These should focus on prompt engineering and critical evaluation of AI outputs to bridge the gap between experienced and novice users. The construct of FC was identified as having a low score, suggesting that it serves as an optimal institutional investment differentiator among experience groups. The research findings propose solutions such as ensuring Internet availability, formulating an ethical use policy, and providing training on effective prompting, which can directly address these barriers. While students acknowledged the utility of ChatGPT, they also recognized the risks associated with inaccuracies and over-reliance. Consequently, educational curricula must evolve to include instruction on verifying AI-generated messages, validating information, and utilizing the tool as an aid, rather than as a substitute for developing core language skills. The Ministry of Higher Education must formulate clear bilingual (Arabic/English) policies that define responsible AI use. This will alleviate student anxiety regarding plagiarism and legitimize the tool as a learning aid. Administrators must prioritize reliable Internet access in campus libraries to ensure equity for students who lack "facilitating conditions" at home. The study relied on convenience sampling, which may have overrepresented students with better digital access. Future research should employ longitudinal designs to track adoption over time and use Structural Equation Modeling (SEM) with larger, representative samples to map causal pathways more precisely.

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Appendix A: Online Survey

Here is the link to the online survey

<https://docs.google.com/forms/d/e/1FAIpQLSfDA7Stu8x5bpKhLvLamPlxBtpUr019-A1zyEoMuySJBPS6IA/viewform>

Appendix B: Interview Guiding Questions

1. How familiar are you with ChatGPT? Have you ever used it for language learning?
2. What are your overall impressions of using ChatGPT for language learning?
3. What are the biggest benefits of using ChatGPT for language learning?
4. How would you compare ChatGPT and traditional language learning methods?
5. Can you describe a specific instance where ChatGPT helped you learn something new or overcome a language learning challenge?
6. Have you found any limitations in ChatGPT's ability to provide accurate or helpful information?
7. Do you ever feel frustrated or confused by ChatGPT's responses?

Authors' Biography



Ahmad Rawdan Salman is postdoctoral researcher of English language and applied linguistics at Razi University in Iran. His academic interests include educational technology, digital literacy development, and innovations in English language teaching. He has published research articles in national and international journals.



Saman Ebadi is a full professor of applied linguistics at Razi University, Kermanshah, Iran. His areas of interest are dynamic assessment, CALL, an artificial intelligence in language teaching. He has authored books and published papers in national/international conferences and journals.



Sajad Velayati is a researcher and PhD student in Applied Linguistics at Razi University, Kermanshah, Iran. His research interests include dynamic assessment, CALL, sociocultural theory, flipped instruction and the integration of artificial intelligence in language education. He has authored books and published papers in national/international conferences and journals.