

**Enhancing English Language Acquisition through ChatGPT: Use of Technology
Acceptance Model in Linguistics**

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Abstract

Amidst the ever-changing landscape of English language education, where virtual platforms shape new learning paradigms, this research determines the revolutionary potential of ChatGPT to foster English language acquisition in Pakistan. English is a second language in Pakistan and the learners face multiple challenges in its acquisition. To understand the influence of ChatGPT on English language students, the study relied on quantitative data, using the Technology Acceptance Model (TAM) along with social impact. To test the hypothesized relationships, the study gathered 400 valid responses from English-language students studying at various universities in the southern districts of Khyber Pakhtunkhwa province via purposive sampling. For data analysis, the study applied structure equation modelling through Smart-PLS and found that social influence, perceived usefulness, and perceived ease of use stimulate students' intentions to use ChatGPT for English language learning. The research fills the gap between English language learners and technology usage, which helps to better understand the connection between AI-based platforms and English learning. This study is helpful for teachers, students, and tech firms to focus on solving students' learning problems through AI tools.

Keywords: ChatGPT, English Language Acquisition, Pakistan, Social Impact, TAM

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Doi: <https://doi.org/10.54672/jelle.2024.0604262>

Introduction

The language that is acquired by children in the early years of life is known as the first language. Children acquire the first language without any formal instruction, typically from their cultural environment and family. As the first language is learnt during the critical early years, individuals normally achieve a high level of fluency and power of expression in the mother language (Thao et al., 2023). In contrast, the second language is acquired at the latter stage of life in schools, institutions and formal settings. In this regard, the critical period hypothesis guides us that the early period of biological age is the optimal window for acquiring natural language. In this period, the brain is highly active and responsive, which helps with language acquisition effortlessly (Lenneberg, 1967). Acquisition of a second language is needed for formal education, employment opportunities, travelling, science and technology and other purposes. The second language (e.g., English) is typically an official language or the societal need for recognition and status (Bylund, Khafif, & Berghoff, 2024). There are practical reasons for acquiring a second language, like academic achievement, communication with the residents of other countries, or career needs. Fluency in a second language can vary significantly compared to native-level proficiency in the first language, particularly if acquired after early childhood (Purba, Saputra, & Fatmawati, 2024). Academically speaking, the second language is generally spoken in a country and therefore students feel immersion in learning it. On the other hand, a foreign language is not properly spoken in that country and is only taught in schools or universities.

English has emerged as the lingua franca of all fields, including science, politics, economics, information and communication technology, diplomacy, and other fields of modern society. Every individual desires to learn English, as it is the means of international communication, a language of international trade, science and technology and education (Bacha, Kumar, Bibi, & Yunus, 2021). In non-native countries, English language acquisition is highly significant due to various societal pressures, and socio-economic, educational, scientific and global reasons. English language acquisition involves individuals acquiring and improving proficiency in the English language. It is the gradual development of listening, speaking, reading, and writing skills in English (Gael & Elmiana, 2021). This is done typically through formal education from schools, colleges or universities, practice, and immersion in English-speaking environments. The acquisition of English can help in finding jobs and have economic benefits. Similarly, access to quality education

and literature needs expertise in the English language. It is a symbol of social prestige, a gateway to cross-cultural communication, professional success, and technological advancement. Moreover, it is nowadays the language of research and development (Mahboob, 2021).

The enormous rise in technology has revolutionized English teaching and learning; language acquisition has become simpler and easier than in the past. As a language of international communication, international business, academia, and the language of science and technology, the English language is always a priority in global education. The acquisition of the English language has changed with the advancements in technology, particularly artificial intelligence (AI), which has evolved the process of learning languages (Ghafar et al., 2023). AI has revolutionized languages and their acquisition due to the integration of humans and computers. The most common human-computer interaction is Chatbots, such as ChatGPT (Bansal & Khan, 2018). Humans are continuously using Chatbots for educational, health and other purposes besides conversation and entertainment (Iku-Silan, Hwang, & Chen, 2023). Chatbots have a substantial impact on various industries, including business, e-commerce, education, and information retrieval (Hosseini et al., 2023). The Open AI introduced ChatGPT in November 2022 as a prototype and has undoubtedly attracted students, teachers, entrepreneurs, authors and engineers in their respective fields (Haleem, Javaid, & Singh, 2022).

ChatGPT, one of the AI tools, generates highly refined and creative writing that employs machine learning to obtain data from central text files. The emergence of ChatGPT has enormously changed the scientific and human needs of communities. Various studies justified the use of ChatGPT for students to conduct statistical analysis, prepare various assignments and speeches, find and summarize students' materials, improve multiple documents, and uncover research gaps (Van Dis, Bollen, Zuidema, Van Rooij, & Bockting, 2023). Undergraduate students are eager to employ ChatGPT in their educational journey because of its rapid growth, popularity, ease and rich content, thus helping them understand their learning materials (Van Dis et al., 2023). The speedy replies and relevant answers enable individuals to employ ChatGPT as it can quickly satisfy their need for information on various topics (Cao et al., 2023). ChatGPT is capable of delivering extra explanations even for more complex issues and resolving all the curricular needs (Lund & Wang, 2023). Students rely on ChatGPT to obtain the most relevant

and up-to-the-minute information, thus enabling them to grab the opportunity and give a quick reaction (Baidoo-Anu & Ansah, 2023). Because of the AI tools that have illuminated the educational landscape of students, students must critically evaluate and analyze the AI-generated content and they must not be illiterate in the technically smart world (Abramson, 2023).

As AI technology continues to transform the acquisition of languages and education, understanding how and why students use the new tools is crucial for effective educational culture and implementation. The Technology Acceptance Model (TAM) presents an inclusive framework to discover how the language students observe and interact with ChatGPT in the context of English language acquisition. The model highlights the usefulness and ease aspects of any technology (Almusharraf & Bailey, 2023). English proficiency can be increased due to ChatGPT's ability to give real-time feedback, encourage conversations, and be suitable to individual needs. This makes ChatGPT a valuable tool for enhancing English language acquisition. Similarly, as ChatGPT's interface is learner-friendly, it is easier and more accessible for learners to engage with it, particularly because it facilitates translations (Salloum, Aljanada, Alfaisal, Al Saidat, & Alfaisal, 2024). Examining the relevance of ChatGPT while using the lens of TAM, the students can better understand their potential to acquire the English language.

This research integrates ChatGPT in acquiring a second language, i.e., English language acquisition, which has become a hot topic of the day but has been ignored in the context of linguistics. Challenges and opportunities exist for students who employ AI-based language acquisition, such as lack of access to quality language education, diverse sub-languages, and the digital divide in Pakistan. The study believes ChatGPT can close the gap by offering smart solutions to enhance English language acquisition. Moreover, the use of the Technology Acceptance Model (TAM) in conjunction with social influence provides a newer approach that will better supplement English language learning. The TAM is a comprehensive information system model and is very rich in specifying the factors that lead to the acceptance of any technology (Urip, Reli, Faruq, & Mujiyono, 2022). Previous studies solely used the TAM-based construct focusing on the adoption of language learning, but this study extends the literature on augmenting the TAM with social influence, which is a novel integration in English language learning, particularly in Pakistan. Specifically, there is a shortage of studies contextualizing the use of ChatGPT for English language acquisition, especially in a developing country like

Pakistan. The acquisition of the English language is massively transforming its landscape due to the considerable entry of AI technology. This phenomenon needs a thorough investigation to determine how these tools can ease and enhance the English learning process. This research could be an intriguing phenomenon for English learners and educators and may help tech firms and other relevant institutions to integrate AI into language education by focusing on user-friendly aspects of the technology.

Literature Review

ChatGPT is transforming various industries and education, reshaping their tasks and performance. ChatGPT plays a mega role in healthcare, services delivery, content creation, marketing, personalized learning, teaching, tutoring and assistance, language acquisition, content creation for students and educators, and many more (G. Liu & Ma, 2024). The capabilities of ChatGPT include refined text generation based on prompts. It assists in conversation, summarization, stories, essays, and poems. It is also capable of question-answering, including factual, definitional, and other questions. The ChatGPT translates languages and classifies texts based on various categories (AlZu'bi, Mughaid, Quiam, & Hendawi, 2024). Besides its capabilities, the ChatGPT has limitations, like contextual understanding, where the learners' intelligence matters in terms of how they perceive it. There is also the issue of common sense, as the ChatGPT lacks it. Similarly, ChatGPT is susceptible to various Biases in text generation and the most important is the sensitivity to inputs (Cong-Lem, Soyooof, & Tsering, 2024). To this end, the learners' understanding and learning are vital to mitigate the ill uses of ChatGPT.

The appropriateness of ChatGPT for English language acquisition can be gauged from the fact that ChatGPT provides a more interactive, accessible, personalized, and student-friendly platform for learning. Technology creates the possibility that students feel enthusiastic, disconnected from themselves, and more engaged in their learning (Patel & Lam, 2023). Though AI is not equivalent to real intelligence, its role in individual learning and organizations' journeys is undoubtedly remarkable. It promotes individuals to meet their educational targets and helps create content that increases productivity (Malik et al., 2023). It simplifies basic jobs and responsibilities and gives ease to completing students' learning tasks, leading to its rapid popularity among professionals and new users (Malik et al., 2023). ChatGPT, an assistant to

human researchers, can sometimes work better than human beings. It can write a better story than men/women with its unique such as compassion, creation, imagination, and critical thinking (Raman et al., 2023; Whitford, 2022).

1.1 Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is an appropriate framework that expounds on how English language learners accept ChatGPT for their language acquisition. The model appropriately captures the factors influencing language students' acceptance and use of AI technology. TAM delves into the factors that learners perceive, taking into account the benefits and challenges of using ChatGPT (Davis, 1989). TAM is a structured approach to unveiling the adoption of technology, making it highly relevant to know how students perceive and use ChatGPT. The two main components of TAM are perceived usefulness and perceived ease of use. The level at which students consider that the ChatGPT can facilitate their competence is perceived usefulness. Conversely, perceived ease of use indicates the level at which the students expect the ChatGPT to provide an easy way to learn the language (Davis, Bagozzi, & Warshaw, 1989).

Recently, several researchers have applied the theoretical base of TAM in the domains of technology and education. For example, in higher education (Shaengchart, 2023); students' completion of academic tasks amid stress and anxiety (Saif et al., 2024); teachers' self-regulated learning (Dahri et al., 2024); Vietnamese students' education (Le, Do, Tran, Dang, & Nguyen, 2024). These studies use the original model in different contexts and countries, but there are rare studies that uncover the acceptance of ChatGPT for English learning acquisition, particularly in Pakistan. This study extends the TAM with social influence to tailor it to the socio-cultural aspects of ChatGPT usage. The study expands the traditional TAM by integrating the roles of friends, peers, society, and colleagues into ChatGPT adoption decisions. This improved model can provide valuable insights into how the English language students decide to use ChatGPT for their language efficiency. This study believes that incorporating internal behavioral factors and external social pressures particularly relevant in English language settings.

1.2 Research Model and Hypotheses Development

This research finds out when and why English language learners opt to use ChatGPT to enhance their language acquisition. The study uses TAM as a theoretical framework for predicting the use of ChatGPT by English language students. The primary constructs of the proposed model, along with the hypotheses, are detailed here.

1.2.1 Perceived Usefulness

Perceived usefulness signifies the level to which English language learners apply ChatGPT, which boosts their capability to achieve language proficiency (Davis et al., 1989). Language skill enhancement, personalized learning opportunities, and a real-time feedback system make ChatGPT a helpful tool. In this context, students believe that using the technology (ChatGPT) will be beneficial in accomplishing their tasks (Bhattacharjee, 2000; Tiwari, Bhat, Khan, Subramaniam, & Khan, 2024). The willingness of English language students to employ ChatGPT is contingent on how they feel the technology is helpful for them; especially those who think ChatGPT is beneficial are more willing to accept this emerging technology (Salloum et al., 2024). However, if students are reluctant and perceive that ChatGPT is insignificant, it will lead to no adoption. TAM views perceived convenience and usefulness as influencing individuals' outlook and motivation to employ ChatGPT (Almogren, Al-Rahmi, & Dahri, 2024; DW, 1999). As specified by the TAM, this study believes that English language students will consider the benefits of ChatGPT and that it will positively modify their attitude toward its use. Hence, it is supposed that:

H1: *Perceived usefulness significantly affects English students' attitudes toward employing ChatGPT for English language acquisition.*

1.2.2 Perceived Ease of Use

Perceived ease of use shows the degree to which English language students find ChatGPT an easy way to learn without more effort (Davis et al., 1989). The students' view is based on the premise that ChatGPT is simple and has an intuitive interface. No formalities like higher education are required to use the technology, and there are minimal technical barriers to using it. A technology with a user-friendly interface and minimum formalities is likely to be used by individuals. The perceived ease of use of any technology is closely linked to students' attitudes toward adopting the technology (Venkatesh, 2000). English language Students are more willing

to opt for ChatGPT if they trust that it is easy and simple to operate (DW, 1999). If learners realize that ChatGPT is laborious to employ, they will not be inspired to operate this new technology (Salloum et al., 2024). Suing the rationale of previous studies, this study thinks that English language students will have a positive attitude toward employing ChatGPT because the technology is simpler and easier. Hence, it is hypothesized that;

H2: *Perceived ease of use has a positive impact on the attitude of English language students to use ChatGPT for learning the language.*

1.2.3 Social Influence

In the context of ChatGPT, social influence refers to the societal impact on students that leads to collaborative learning and getting influence from peers, friends, and fellows (Saif et al., 2024). Social pressures of individuals and different groups can considerably mould students' attitudes towards the use of ChatGPT. The social influence construct was developed by Venkatesh (2000) to incorporate society's views. With the additional construct of social influence, TAM uniquely adds to the overall model where the internal and external determinants of technology use can be appropriately linked. Furthermore, users have a greater chance of having a good attitude toward technology and utilizing a system more commonly if they believe that it connects with the principles and norms of their social organizations (Prislin, 2005). So, it is hypothesized that;

H3: *Social influence positively influences the students' attitude toward using ChatGPT for acquiring the English language.*

1.2.4 Attitude

Attitude denotes the students' cognitive, emotional, and behavioural mood toward accepting ChatGPT as a useful tool for refining their English learning abilities. Attitude can further influence students' intentions to engage them with the technology, thereby improving their capabilities (Saif et al., 2024). Attitude clarifies an individual's overall assessment of using any technology, whether having favourable or unfavourable results (Ajzen & Fishbein, 1972). Attitude falls into cognitive, affective and behavioural dimensions. The cognitive aspects include students' abilities to learn grammar, vocabulary, pronunciation and conversation. Affective

attitude refers to enjoyment and motivation, while the behavioural dimension denotes students' interaction with ChatGPT (Dahri et al., 2024). The TAM model considers attitude as a mirror of subjective assessment towards accepting a technology depending on its benefits (Alfadda & Mahdi, 2021). A person with a positive attitude is likely to be inclined toward ChatGPT, while a negative attitude leads to limiting the use of ChatGPT (Peng, Xu, & Xu, 2023). Based on the literature, the study expects that English language students will develop a positive attitude that will lead them towards using ChatGPT for their language acquisition. Hence, it is suggested that;

H4: *The attitude of English language Students will positively affect their behavioural intention to utilize ChatGPT for their learning.*

1.2.5 Behavioural Intention

Behavioural intention is the outcome variable showing the degree to which the English language students are motivated and they intend to use ChatGPT to enhance their language proficiency (Salloum et al., 2024). The likelihood that students are energetically engaged with the ChatGPT/technology, founded on their attitudes, behavioural perceptions, and social-cultural beliefs, is called behavioural intentions (Venkatesh, Morris, Davis, & Davis, 2003). Behavioural intentions are the central theme in the theory of planned behaviour, and in TAM, end users are satisfied for multiple reasons and are now willing to use the technology (Chai et al., 2021). The TAM model is very clear that the two explanatory variables, perceived usefulness and ease of use, are responsible for developing users' attitudes toward their behavioural intention. Users are likely to use any new technology when they have developed their positive attitudes. A proper understanding of technology helps develop attitudes, and the attitude resonates with the actual usage of the technology (Ferede, Elen, Van Petegem, Hunde, & Goeman, 2022). Conversely, someone with a bad or negative attitude will not readily accept the ChatGPT (Kim & Ko, 2010). Based on the rationale, the present study believes that the positive attitude of English language students will lead them to the usage of ChatGPT in Pakistan

H5: *Behavioral intention of English language Students will lead to the use of ChatGPT for their learning.*

The detailed model and the proposed hypotheses are given in Figure 1.

Figure 1. Conceptual Model

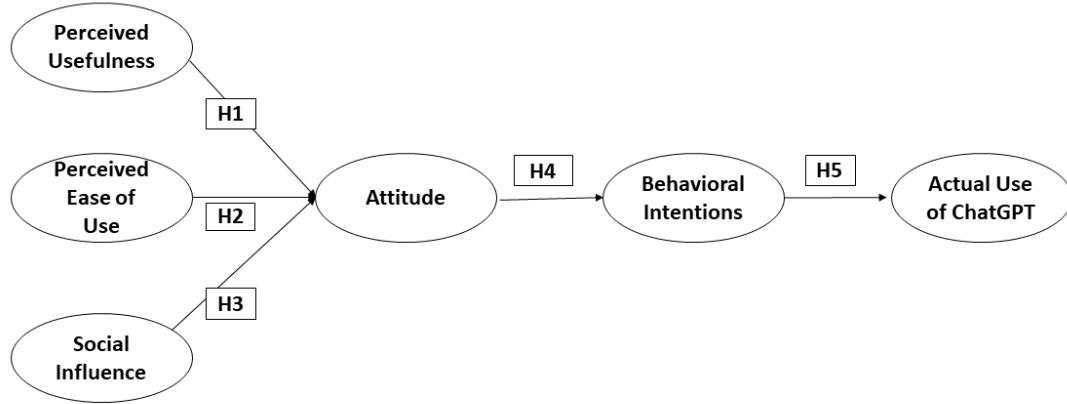


Figure 1: TAM Based Theoretical Model

Methodology

1.3 Data Collection Instrument

The study uses the students' perceptions to check the proposed hypotheses. The main idea used in this research was how they think ChatGPT will help them improve their language acquisition skills. Therefore, a survey method was chosen as an instrument for data collection. Researchers have justified that a survey questionnaire is a more suitable instrument when users' views, beliefs, or perceptions are to be encapsulated (Saunders., Lewis., & Thornhill, 2016). The survey method allows researchers to efficiently target a large and diverse sample for data collection while ensuring generalizability and understanding of the perceptions of various English language learners (Saif et al., 2024). While interviews, observations, or focus groups could be alternatively used and may offer nuanced insights, they are less practical and costly for large-scale studies. To resolve the potential limitation of surveys (questionnaires), we checked the data normality and common method bias.

The study relied on using a validated questionnaire taken from previous studies for its data collection. The questionnaire comprised two main parts. The primary portion of the questionnaire involved personal details, including background information, academic

information, and other personal characteristics. The second part was devoted to the main questions about the usefulness, ease, social influence, attitude and intentions to use ChatGPT. A five-point Likert scale, ranging from “strongly disagree” to “strongly agree” was set to encapsulate the students’ perceptions. The measures in the questionnaire were taken from previous studies (Davis, 1989; Saif et al., 2024; Salloum et al., 2024; Venkatesh et al., 2003) that were already checked and validated.

1.4 Sampling and Data Collection Procedure

The data was collected very responsibly after getting proper approval from the heads of the institutions. The study completely maintained the ethical standards of data collection. Because the study’s context was English language acquisition, the students of English departments/institutes of different universities were considered the study population. The study used a purposive sampling technique to reach students specializing in English linguistics or involved in English language acquisition. To this end, four universities in the southern parts of Khyber Pakhtunkhwa were selected for data collection. The English departments of Gomal University Dera Ismail Khan, Khushal Khan Khattak University Karak, University of Science and Technology (UST) Bannu, and University of Lakki Marwat (ULM) were visited to distribute and fill out the questionnaires.

Before the data collection, the researchers explained the purpose of the study and ensured the participating students that their data would be completely managed with secrecy and only be used for academic purposes. The questionnaires were distributed both online and offline. The offline questionnaires’ data was 60%, while the proportion of online data was 40%, and there was no significant difference in the quality of responses, whether received online or physically. The participants were free to participate, and some small gifts were announced to them to accelerate the response rate. Students were interested in the data collection process as they were involved in using ChatGPT and were understating the study and its contents. The researchers were also available to clarify any query relating to the data and questionnaire.

Table 1 can be viewed, explaining the respondents’ demographic characteristics. The respondents’ ages were divided as follows: 62% were between the ages of 16 and 25, 26.6% were between the ages of 26 and 35, 40 students (10%) were between 36 and 45, and 6 students

were above 46 years of age. According to the data, 30% of the participants were females, and 70% (280 students) were male. As mentioned earlier, the sample was taken from different universities. The majority of the students who participated in the survey were 157 (39.5%) students studying in the Department of English at Gomal University. 15.75% of students were from KKUK, and 27% of number 157 were from the Department of English, UST Bannu. Seventy-one respondents were from ULM.

Table 1: Demographic Statistics (N= 400)

Demographics	Frequency	Cumulative Frequency	Percentage (%)
Gender			
Female	120	120	30.00
Male	280	400	70.00
Age			
Below 24	248	248	62.00
25-35	106	324	26.60
36-45	40	376	10.00
46 & Above	06	400	1.50
Education			
Below Bachelor	49	49	12.25
Bachelor (14 Years)	92	141	23.00
Master/Bachelor (16 Years)	235	376	58.75
MS/M.Phil (18 Years)	24	400	6.00
University			
Gomal University	157	157	39.25
KKUK	63	220	15.75
USTB	109	329	27.25
ULM	71	400	17.75

Note: KKUK = Khushal Khan University Karak; USTB = University of Science and Technology Bannu;

ULM=University of Lakki Marwat

1.5 Data analysis technique

The study chose the PLS-SEM (Structural Equation Modeling) for analysis through Smart-PLS 4 due to its suitability in the context of unravelling students' behavioural intentions to use ChatGPT. The PLS-SEM is a more flexible tool that efficiently deals with complex models (Hair, Risher, Sarstedt, & Ringle, 2019). The SEM using smart-PLS can handle non-normal data even with a small sample size and has commendable predictability (Khan, Hameed, & Hamayun,

2019). SEM enhances the analytical power by predicting the unobserved dependent variable and gives an apparent R-square variance (R^2). Many researchers probed users' perceptions with questionnaires and recommended using this model. TAM's constructs can be better embedded in English literature using various behavioural models (Salloum et al., 2024). SmartPLS can provide model evaluation metrics more sophisticatedly, robust bootstrapping and cross-checking of the model fitness tests, with an innate user-friendly interface (Saif et al., 2024). All such factors support the use of Smart-PLS and SEM for TAM analysis. The results of the SEM provide a basis for a logical understanding of the determinants of ChatGPT usage in the English language setting. It suggests developing the technology as per the aspirations, ease, and expectations of the learners.

2. Data Analysis and Findings

The collected data were evaluated using descriptive statistics, including frequency distribution, mean, and standard deviation. In addition, this study tests the hypothesized relationships using SEM. The SEM analysis explains how the TAM model describes students' attitudes and behavioural intentions towards using ChatGPT. This study also examines the external social influence that motivates the students to use ChatGPT. The study enhances the understanding of students' adoption of technology, focusing on ChatGPT.

2.1 Normality of Data and Common Method Bias

Data normality was initially assessed by calculating Skewness and Kurtosis. The data demonstrates a normal distribution, as indicated by the values within the range of ± 2 (George & Mallery, 2010). The probable presence of Common Method Bias (CMB) was considered due to the cross-sectional nature of the study. Harmon's one-factor test is commonly used to evaluate CMB. The findings revealed a variance of 33.3% for the initial component, which falls below the acceptable level of 50% as recommended by (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). These results show that CMB has no significant impact on the outcomes of the current study.

2.2 Measurement Model

Confirmatory Factor Analysis (CFA) was employed to determine and analyze the measurement model (Sarstedt, Ringle, & Hair, 2021). The researchers scrutinized the relevant literature to know whether the method was suitable and conducted a pilot study to ascertain the

precision of the initial results. Several items that did not fit the loading were excluded to have strong measures and actual solid results. Several indicators, such as factor loadings (FLs), Cronbach’s alpha, average variance extracted, and composite reliability (CR), were computed through Smart-PLS to check the reliability and validity. The proposed measure for FLs is 60, for CR is 70, and for AVE is 50, as stated by (Fornell & Larcker, 1981; Hair, Anderson, Tatham, & Black, 1998; Khan et al., 2018; Nunally & Bernstein, 1978). Based on an analysis of both Table 2 and Figure 2, it can be seen that FLs, CR, and AVE are all within the appropriate assortment. Hence, the findings suggest that there is no issue of reliability or validity, and the study is rich in both qualities.

Table 2: Construct Validity

Constructs	Item	Factor Loadings	Cronbach’s Alpha	CR (rho_a)	CR (rho_c)	AVE
Att	ATT1	0.806	0.849	0.853	0.899	0.691
	ATT2	0.889				
	ATT3	0.882				
	ATT4	0.741				
AU	AU1	0.822	0.885	0.886	0.916	0.686
	AU2	0.846				
	AU3	0.808				
	AU4	0.81				
	AU5	0.854				
BI	BI1	0.79	0.831	0.831	0.888	0.665
	BI2	0.832				
	BI3	0.867				
	BI4	0.769				
PEOU	PEOU1	0.875	0.869	0.87	0.912	0.724
	PEOU2	0.916				
	PEOU3	0.881				
	PEOU4	0.718				
PU	PU1	0.713	0.852	0.859	0.895	0.631
	PU2	0.723				
	PU3	0.84				
	PU4	0.846				
	PU5	0.839				
SI	SI1	0.816	0.792	0.816	0.877	0.705
	SI2	0.811				

SI3 0.889

Note: SI=Social Influence; PEOU= Perceived Ease of Use; PU=Perceived Usefulness; ATT= Attitude; BI=Behavioral Intentions; AU=Actual Usage

Various methods can be used to judge discriminant validity by measuring the connections of various variables, i.e., Fornell Larcker criterion (Fornell & Larcker, 1981), examining actual connections (H. Liu, Chu, Huang, & Chen, 2016), and employing the Heterotrait-Monotrait Ratio (HTMT) approach (Henseler, Ringle, & Sarstedt, 2015). The discriminant validity, as proposed by (Fornell & Larcker, 1981), is established when the square root of Average Variance Extracted (AVE) surpasses the co-relations between constructs. Table 3 demonstrates that the obtained results satisfied the specified requirements, suggesting a satisfactory level of discriminant validity. H. Liu et al. (2016) described that discriminant validity is acceptable when the cross-loading values are lower than each construct’s Factor Loading (FL) values. Table 4 confirms that the necessary conditions and psychometric properties were all satisfied.

Table 3: Discriminant Validity

	ATT	AU	BI	PEOU	PU	SI
ATT	0.831					
AU	0.597	0.828				
BI	0.753	0.743	0.815			
PEOU	0.6	0.675	0.648	0.851		
PU	0.73	0.572	0.645	0.708	0.823	
SI	0.749	0.53	0.578	0.567	0.802	0.84

Note: SI=Social Influence; PEOU= Perceived Ease of Use; PU=Perceived Usefulness; ATT= Attitude; BI=Behavioral Intentions; AU=Actual Usage

Table 4 confirms that the necessary conditions were satisfied. The HTMT technique demonstrated acceptable levels of discriminant validity when the HTMT values were below 85. The outcomes of the HTMT analysis shown in Table 5 demonstrate strong discriminant validity, as indicated by the values below 0.85 (Henseler et al., 2015)

Table 4: HTMT

ATT	AU	BI	PEOU	PU
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ATT					
AU	0.686				
BI	0.801	0.86			
PEOU	0.698	0.772	0.761		
PU	0.818	0.658	0.773	0.832	
SI	0.809	0.622	0.704	0.673	0.821

Note: SI=Social Influence; PEOU= Perceived Ease of Use; PU=Perceived Usefulness; ATT= Attitude; BI=Behavioral Intentions; AU=Actual Usage

2.3 Structural Model Results

After getting satisfactory results from the outer model, the research proceeded to investigate the inner model, i.e., testing the hypotheses and validating the measurement model. The present study employed bootstrapping methodology, with 5000 subsamples, within the Smart PLS 4 software. Table 5 shows that PEOU ($\beta = 0.18, p < 0.001$), PU ($\beta = 0.21, p < 0.001$), and SI ($\beta = 0.47, p < 0.001$) are especially relevant and motivating attitudes. Similarly, students' attitude ($\beta = 0.75, p < 0.001$) was significantly related to Behavioural Intentions. In addition, BI ($\beta = 0.74, p < 0.001$) affects AU positively and significantly.

Table 5: Hypotheses Results

	Beta	Sample Mean	Standard Deviation	T statistics	P Values
ATT -> BI	0.753	0.753	0.025	29.732	0.00
BI -> AU	0.743	0.744	0.028	26.199	0.00
PEOU -> ATT	0.185	0.186	0.046	4.012	0.00
PU -> ATT	0.211	0.211	0.074	2.866	0.004
SI -> ATT	0.469	0.469	0.063	7.394	0.00

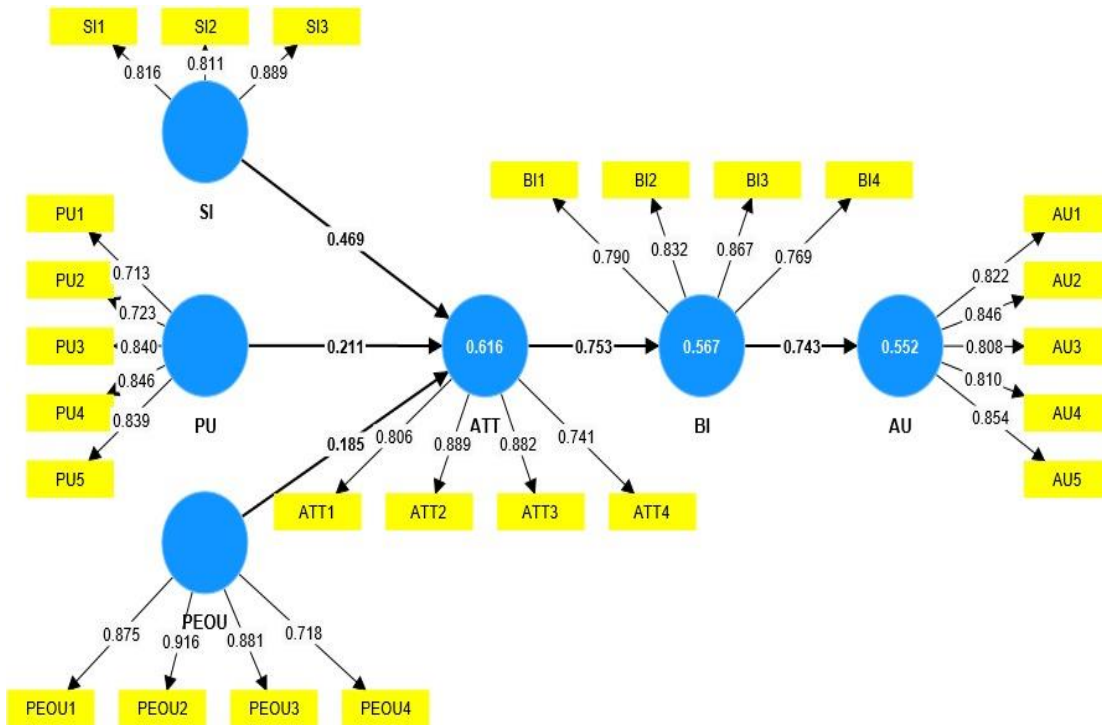
The indirect effects, represented by Table 6, also evidence the effects of the given variables on students' attitudes and subsequent behavioural intentions. The Table offers insights into investigating the mediation in the model. Indirect effects are particularly suitable when mediating variables like attitude and behavioural intentions are tested in our model.

Table 6. Indirect Effects

	Original sample (O)	Sample mean (M)	Standard deviation	T Statistics	P values
SI -> BI	0.353	0.353	0.048	7.298	0
PEOU -> BI	0.139	0.141	0.036	3.901	0
PU -> BI	0.159	0.159	0.056	2.82	0.005
PEOU -> AU	0.104	0.105	0.027	3.775	0
SI -> AU	0.263	0.263	0.038	6.894	0
PU -> AU	0.118	0.119	0.042	2.796	0.005
ATT -> AU	0.56	0.561	0.032	17.733	0

Note: SI=Social Influence; PEOU= Perceived Ease of Use; PU=Perceived Usefulness; ATT= Attitude; BI=Behavioral Intentions; AU=Actual Usage

Figure 2: Model with Results



3. Discussion

The study explores how social influence, perceived usefulness and perceived ease of use initiate the use of ChatGPT for English language acquisition in Pakistan. Using the technology acceptance model, the study first determines the students' attitudes and behavioural intentions in adopting ChatGPT. The ultimate goal is to know how to use ChatGPT to enhance English proficiency effectively. Uncovering the digital language-acquiring landscape gives a deeper understanding of how AI-powered ChatGPT improves educational outcomes in developing countries. ChatGPT can potentially impact students' attitudes towards English language acquisition. Students with positive views can utilize ChatGPT as a beneficial instrument for enhancing their English proficiency. However, the negative perception can undermine the quest to use technology to improve language skills.

The desire to utilize ChatGPT for language acquisition is the ability of ChatGPT to give instant feedback on sentence structure, grammar, and vocabulary. This real-time response manifests as a time-efficient tool and practical application of the technology without waiting for a human teacher's response. Students who prefer utilizing ChatGPT to create language content or explain the language are more inclined to employ this innovative technology daily. The ChatGPT meets individual learning needs and is more feasible for different proficiency levels. This study finds that perceived usefulness is positively related to the attitude of English language students to use technology for their language efficiency. The result is at par with the previous studies that found PU to form attitude (Wong, Hui, & Kong, 2023). Given the multiple challenges of English language acquisition in Pakistan, like quality teachers, learning resources, and the required environment, learners take ChatGPT as an efficient tool that can bridge such gaps. The tangible progress in their English proficiency due to ChatGPT fosters a positive attitude toward using it for language. This result is aligned with TAM, which states that perceived usefulness determines users' attitudes toward adopting any new technology (Saif et al., 2024).

The English language students believe that utilizing ChatGPT makes it easy to assist in English language learning pursuits. This belief considerably affects how they positively discern this innovative technology. ChatGPT, with its in-built interface and ubiquity, is easier to use, especially for those who are digitally literate. Past literature also supports our result (Sallam et

al., 2024) because English language students give importance to the intuitive design and learner-friendly interface of ChatGPT. ChatGPT is easy to navigate, so students are more likely to use it as a reliable tool for English language learning (Salloum et al., 2024). The TAM assumption that perceived ease of use influences attitude is true here in the case of ChatGPT.

The study assumed that social influence inspires students' attitudes toward using ChatGPT, and the result confirms the hypothesis. It shapes students' attitudes toward learning English. Important people, such as friends, peers, colleagues, teachers, family, or even online motivators or influencers, compel users to use specific technology. Our result is in line with the prior studies (Sallam et al., 2024; Yilmaz, Maxutov, Baitekov, & Balta, 2023), which found that such influence is solid and matters in users' opinions. In collectivist cultures, societal influence is considered a significant factor in technology adoption. If people around students recommend ChatGPT for English language learning, it will strengthen their attitude to use the platform. This highlights the prominence of social norms and societal recommendations in students' minds. Similarly, it is established that attitude leads to the formation of behavioural intentions. Once students cultivate a favourable attitude towards ChatGPT, it logically leads to their behavioural intentions, which is their willingness to employ the technology. Other scholars found similar results (Alzoubi, 2024; Yilmaz et al., 2023). A negative attitude is a barrier, while a positive attitude is a motivator of any new technology.

The TAM model specifies that the usage of ChatGPT for English language acquisition depends on students' behavioural intentions. Hypothesizing that BI predicts the actual use of the technology, the study verified the claim and proved that students who developed their intentions were engaged with ChatGPT. Integrating ChatGPT into learning routines is the outcome, and the result supports previous studies (Alzoubi, 2024; Saif et al., 2024). Using ChatGPT for language-related exercises, writing corrections, different language styles, translations, and vocabulary expansion refers to the actual usage of the technology. Summing up, English language acquisition with ChatGPT grants several exciting benefits, considering Pakistan's unique educational and cultural challenges. Even a remote area student can use ChatGPT to enrich English proficiency without heavily depending on a live tutor. It is like a virtual tutor, offering personalized guidance and real-time explanations.

4. Conclusion and Implications

This study aimed to explore how ChatGPT is a useful tool for English language acquisition in Pakistan. Focusing on perceived usefulness, perceived ease of use, and social influence as predictors of students' attitudes, the study demonstrated that there is a positive link among the given variables. TAM is appropriate for capturing the formation of attitudes and behavioural intentions and for using ChatGPT for English language acquisition. The study concludes that ChatGPT holds great potential for improving English language learning among university students.

Moreover, the study underlines the Technology Acceptance Model in English language acquisition, explaining how technology shapes discourses in educational settings. The study highlights the need to foster a supportive environment where students can comfortably use their talents along with technology to augment their abilities. To meet our objective of whether ChatGPT's usage enhances English language acquisition, the study concludes that considering the educational and linguistic landscape of Pakistan, where students have little access to quality English, ChatGPT offers an alternative which is an accessible, ubiquitous, cost-effective, and students-tailored platform that can meet their diverse linguistic needs. It can accelerate the learning pace of students' English skills, making it an invaluable resource for students in Pakistan. The positive findings suggest that the integration of ChatGPT into English language education should be implemented, which will have a profound impact on students across the country. ChatGPT can bridge the gaps in English language education by stimulating independent learning, improving engagement, and furnishing practical language usage scenarios. This is to empower students to achieve proficiency in the English language. Aligned with the cultural and linguistic context of Pakistan, the ChatGPT can offer learning materials, filled with local and relevant examples, which meet the needs of English language students. This customization helps learners become proficient in the English language. There are multiple linguistic barriers in Pakistan, including differences in syntax and accent compared to native speakers and vocabulary. Such obstacles can be covered with the inclusion of AI or technology-based solutions. The pedagogical issues like a limited number of qualified English instructors, especially in the less-developed parts of the country, and the non-availability of personalized language learning can also be streamlined using ChatGPT.

The study concludes that the information system models can effectively provide structured frameworks for understanding how AI interacts with English language learning in developing countries. Particularly, the TAM constructs like perceived usefulness, ease of use, and social influence justify the aim that students' needs and preferences can be materialized with the adoption of ChatGPT. The conclusion facilitates universities and regulators to proactively integrate AI technology (ChatGPT) in curricula and classrooms.

4.1 Theoretical and Practical Implications

This study offers many theoretical implications in the context of ChatGPT, English language acquisition, and Pakistan. The contributions advance the understanding of how technologies like ChatGPT can stimulate language learning behaviours among non-native citizens. Extending the TAM framework in English language acquisition is beyond its traditional application in business or other technology contexts. This application of technology serves as a base for integrating educational technology into educational settings. The reaffirmation of TAM in the domain of language education highlights the TAM's flexibility across different fields and diverse contexts, particularly in emerging economies like Pakistan. The inclusion of social influence suggests that TAM can be extended to incorporate additional sociocultural factors, particularly in educational settings where teacher, parent and peer play a pivotal role in approving a behaviour.

The study deepens the literature on English language acquisition in the context of technology in language learning. The study underscores the relevance and growing importance of AI-driven tools in English language education. The empirical evidence strengthens the arguments to integrate AI technologies into English language acquisition, theorizing that future language learning will inculcate intelligent systems like ChatGPT into its domains. The study augments the theoretical argument to support student-centered learning models. These models suggest that there are social and behavioural factors that predict learning outcomes. Educational technologies should cater to the learners' psychological needs, which will foster their positive attitudes and ultimately encourage the use of technology.

The study engages various stakeholders in promoting English language acquisition using ChatGPT. AI technology needs to be integrated into education to improve personalized learning experiences, allowing continuous English language practice and real-time feedback. Such

ubiquitous learning platforms are unavailable in traditional classrooms. Educational administrators and universities can devise policies to integrate ChatGPT into the curriculum, thus promoting blended learning approaches. This will help complete the human instructions with AI-driven technology. There is a lack of resources and quality language education in Pakistan, particularly in remote areas, so implementing ChatGPT will bridge the gap by providing virtual tutoring services across the country. This can be done by collaboration between government, educational institutions, non-governmental organizations, regulators, and tech companies to holistically enhance English language acquisition. The use of ChatGPT will ease teachers and reduce their workload.

4.2 Limitations and Future Research Work

Despite the valuable findings, the study admits that it is not free of limitations. First, the setting of the study was limited to a specific geographical area where undergraduate and postgraduate students participated in the study. The findings may not be properly applicable to regions or countries with different learning systems, technological setups or changing levels of educational emphasis on technology. The self-reported data from students may generate response bias or social desirability biases. The cross-sectional design is also a limitation as the longitudinal design is considered a better one in social sciences. Due to the nature of the study, the study did not focus on the technological infrastructure that could be covered in future studies. There are internet and technology issues in many parts of Pakistan that can be investigated in future work. The study was limited to ChatGPT, while there are alternative platforms available that can be a good research idea for comparing their effectiveness. The AI-driven and traditional English language learning can be compared through experimental designs. Qualitative research could also be a viable option for further research. Moreover, as emerging technologies are integrating into the educational realm, it is important to find out the long-term impacts of ChatGPT on acquiring the English language acquisition. It is also mentionable that the perceived usefulness of any technology can vary in different cultural backgrounds and the ChatGPT's versatility may not accurately capture such differences or provide human-like empathy. Future studies can determine how AI-based learning can be better integrated into different cultural contexts and levels of emotional intelligence.

Ethical Standards: The data collection process was adequately approved, considering all the data collection ethics and codes.

Statement of Conflict: There is no conflict of interest to be reported.

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Appendix: Cross loadings

	ATT	AU	BI	PEOU	PU	SI
ATT1	0.806	0.427	0.51	0.481	0.635	0.748
ATT2	0.889	0.585	0.652	0.537	0.639	0.644
ATT3	0.882	0.54	0.676	0.526	0.625	0.616
ATT4	0.741	0.42	0.664	0.447	0.523	0.476
AU1	0.475	0.822	0.634	0.514	0.454	0.398
AU2	0.492	0.846	0.642	0.535	0.471	0.466
AU3	0.496	0.808	0.601	0.509	0.463	0.46
AU4	0.488	0.81	0.585	0.626	0.477	0.417
AU5	0.521	0.854	0.613	0.615	0.505	0.456
BI1	0.716	0.462	0.79	0.465	0.568	0.541
BI2	0.63	0.567	0.832	0.505	0.533	0.424
BI3	0.619	0.595	0.867	0.573	0.592	0.518
BI4	0.496	0.782	0.769	0.563	0.415	0.404
PEOU1	0.486	0.656	0.574	0.875	0.594	0.49
PEOU2	0.533	0.59	0.56	0.916	0.628	0.479
PEOU3	0.498	0.619	0.589	0.881	0.608	0.489
PEOU4	0.515	0.428	0.477	0.718	0.57	0.464
PU1	0.522	0.364	0.508	0.599	0.713	0.507
PU2	0.534	0.451	0.54	0.657	0.723	0.57
PU3	0.595	0.504	0.513	0.578	0.84	0.741
PU4	0.641	0.492	0.532	0.492	0.846	0.711
PU5	0.6	0.454	0.479	0.515	0.839	0.735
SI1	0.604	0.521	0.512	0.5	0.75	0.816
SI2	0.519	0.303	0.384	0.373	0.624	0.811
SI3	0.734	0.49	0.541	0.534	0.708	0.889