

CHATGPT ACCEPTANCE DRIVERS: A STUDY OF UNIVERSITY STUDENTS IN PUNJAB

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ABSTRACT

The usage of Artificial Intelligence (AI) is burgeoning due to its multiple applications in various areas of life. One of the recent advancements in the field of AI is ChatGPT. ChatGPT is short for Chat generative Pre-trained Transformer, an AI-powered chatbot developed by OpenAI which is dedicated to create a safe and beneficial artificial general intelligence for the betterment of the humanity. The current study aims to find out factors affecting the intention to use ChatGPT among university students in the area of Punjab. The primary data collected from 249 university students was further analyzed using SmartPLS4.0. results of the study revealed that effort expectancy and facilitating conditions significantly impact the users intention directly and indirectly through perceived credibility and attitude. Finally, the investigation has uncovered that pupils are in favor of the integration of this technological innovation in the educational sector. The findings can be utilized by the educational institutions and technology developers to integrate ChatGPT in academic arena.

Keywords: ChatGPT; Artificial intelligence; PLS-SEM, Chatbot; UTAUT2.

1. INTRODUCTION

In every aspect of life, artificial intelligence (AI) is being used with ease (Fitria, 2023). With the aid of computer science tools, it is helpful in learning, problem solving, pattern recognition, and comprehending natural language similar to human intelligence (Fitria, 2021; Fitria, 2023). These days, artificial intelligence (AI) is being used more and more for people's leisure and enjoyment in addition to making tasks easier and developing technology. Artificial Intelligence was first introduced to make life easier, but with the use of Natural Language Processing (NLP) techniques, AI now appears to have mimicked human cognition. These days, AI is able to comprehend real language spoken by people and produce responses that are comparable to those of people. According to Fitria (2021), AI responds quickly and typically in a way that is somewhat similar to human response. AI is genuinely a wonderful way to combine human and machine intelligence to produce prompt and insightful replies (Maitri, 2019; Fitria, 2023). The diverse nature of AI expands the realm of technological study and development and offers a wonderful possibility to a range of business fields. Artificial Intelligence (AI) has been found to have various beneficial uses in the industry. One such application is chatbots, which are computer programmes that converse with humans in order to prioritise customer service and satisfaction (Luo et al., 2019; Wei et al., 2018; Fitria, 2023). Because of its many uses, including giving users the necessary information, answering the FAQs just like a human does, chatbots are proven to be highly helpful in the sector (Smutny & Schreiberova, 2020; Huang, W. et al., 2022). The AI-powered conversational chatbots that provide a variety of business solutions are best exemplified by ChatGPT.

The acronym for Chat generative Pre-trained Transformer is ChatGPT. It is essentially a chat bot powered by AI created by OpenAI. Developing a secure and useful artificial general intelligence for the benefit of humanity is OpenAI's primary mission. In keeping with its goal, ChatGPT was created to provide real-time, human-like responses to questions that OpenAI users submit in natural language. OpenAI released ChatGPT on November 30, 2022. Given that ChatGPT successfully attracted one million users in just five days after its inception, it has enormous potential. It took 2.5 months, 2 years, and 10 months, respectively, for a number of well-known social media sites, including Instagram, Twitter, and Facebook, to reach this milestone. In the world of technology, reaching one million users in such a short amount of time is nothing short of a miracle, demonstrating the platform's highly inventive and helpful potential. GPT-3, or Generative Pre-trained Transformer, is a language model that powers ChatGPT and is used to create user responses. With an astounding 175 billion parameters and extensive training data, OpenAI's super robust language model, GPT-3, is capable of generating extraordinary language sentences (Brown et al., 2021). With the help of GPT-3's capabilities, ChatGPT provides excellent conversational and natural answers to user input; more sophisticated versions are soon to be released. With its incredibly strong and powerful GPT-3 language model, ChatGPT is a sophisticated chatbot that excels at using Natural Language Processing (NLP) techniques to reply to natural language inputs. Most of the time, ChatGPT carefully interprets and analyses user input to provide pertinent and appropriate responses. ChatGPT's comments sound more genuine and human because to this functionality. Additionally, ChatGPT provides each user with individualised support, so each user receives a response tailored to his or her needs. Unlike search engines, ChatGPT has memory, which enables it to recognise and respond to past requests, producing results that are akin to those from the past. Through the

provision of personalised recommendations, ChatGPT guarantees a customised experience to its users. For example, it can provide personalised solutions for educational materials and goods according to the preferences and learning objectives of each individual. University students can benefit from it in a number of ways. For instance, they can use ChatGPT's assistance with a variety of academic assignments and use the data it provides to create projects that have purpose. The current investigation aims to investigate the following research questions:

RQ1. What factors are responsible for behavioural intention to use ChatGPT among the university students in the region of Punjab?

RQ2. What is the level of awareness regarding ChatGPT among university students in the region of Punjab?

The goal of the current study is to analyse how university students in the Punjab region view ChatGPT. Using structural equation modelling, the study examines the effects of attitude and perceived credibility on the intention to use ChatGPT, as well as their serial mediation. The study's conclusions show that the two main things that might lead to more university students using ChatGPT are their expectations and perceptions of the platform's performance as well as the amount of work involved in running it. The study's main findings for scientists and researchers involved in ChatGPT's development and research are that users' perceptions of the platform need to be established with credibility, and that awareness needs to be raised in order to expand the user-base especially in Punjab. The forthcoming sections have detailed review of the studies related to the same topic and report the findings of the data collected on the subject-matter.

2. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The present study takes the extended version of Unified Theory of Acceptance and Use of Technology (UTAUT2) as theoretical base (Venkatesh, Thong and Xu, 2012; Venkatesh et al., 2003) by adding few more constructs to it. This model has been used time and again to prove technology adoption in various contexts by different researchers. The original UTAUT model is based on four constructs, that is, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC). However, it was criticized for not taking factors like Hedonic Motivation (HM), Price Value (PV) and Habit (HB) into consideration. That's when the UTAUT2 was introduced and tested regarding technology adoption in individual's context. The conceptual model of present study takes into account all the factors of UTAUT2 model except Price Value. Because, the basic version of ChatGPT is available to all free of cost. Further, Perceived Credibility (PC) and Attitude (ATT) have been used as mediators to predict the Behavioral Intention (BI) to use ChatGPT among University students in Punjab. A theme-wise literature review of the constructs used in this study has been given below-

PERFORMANCE EXPECTANCY (PE):

PE refers to the individual's expectation of bringing an improvement in his job performance through using a particular technology. In context of ChatGPT, PE would be referred to as the improvement in the academic performance that can be brought about by using an educational technology like ChatGPT. Before UTAUT model was introduced, PE was measured through Perceived Usefulness construct. Several previous researches have found a positive nexus between PE and PC or Perceived Trust towards digital technology (Siagian et al., 2022). Also, a strong relationship between PE and BI to use educational and e-learning technologies has been supported by many researches. For instance, Strzelecki (2023) in his study based on ChatGPT reported that performance expectancy had a positive impact on the intention to use ChatGPT. Against this backdrop, the following hypothesis is proposed-

H1: PE has a significant impact on PC.

EFFORT EXPECTANCY (EE):

EE refers to the user's perception about ease of using a particular technology. There are several reasons for holding EE as one of the most important constructs in adoption of chatbots like ChatGPT. First, the likelihood of user using a particular technology is high if he perceives it to be easy to use. Second, the greater perception of user about the technology being easy to use can influence his perception of self-efficacy which means that if a user perceives a technology to be easy to use then he can successfully use it. Plethora of studies reported a strong connection between EE and BI to use educational technologies (Lin, Huang & Zhang, 2019; Almahri, Bell & Merhi, 2020). The model proposed by Strzelecki (2023) predicted the same about adoption intention of ChatGPT among university students. Also, Moon and Kim (2001) pointed out that the technologies that are easier to use tend to have PC of the users especially in case of e-learning platforms. Against this backdrop, the following hypothesis is proposed-

H2: EE has a significant impact on PC.

SOCIAL INFLUENCE (SI):

SI refers to the degree to which an individual opines that he should use the technology just because significant others who influence him think that he should use it (Dwivedi et al., 2017; Jackson et al., 2013; Venkatesh et al., 2003;

Strzelecki, 2023). This dimension was used as subjective norms (Legris, Ingham & Colletette, 2003; Zafiroopoulos et al., 2012) and was a part of the Theory of Reasoned Actions (Venkatesh et al., 2003). Technically, people are more likely to adopt a technology if they find that their peers are using it. Also, if they see other people using the technology and not encountering any problem then they are more likely to believe that they will be able to use it successfully as well. It ultimately develops the PC of the user towards a technology. Several previous studies have found a significant relationship between SI and BI to adopt e-learning technologies. This nexus has been studied in various contexts such as mobile learning (Nikolopoulou et al., 2020), e-learning (Samsudeen & Mohamed, 2019), and learning management (Ain et al., 2016). Dwivedi et al. (2017) found a significant relation between SI construct and BI to adopt in their study. Against this backdrop, the following hypothesis is proposed-

H3: SI has a significant impact on PC.

FACILITATING CONDITIONS (FC):

FC refers to the support and resources that assists the users in working smoothly while using a technology. It includes access to hardware and software, and technical support to efficiently use the technology. Previous studies have proved that FC has a profound effect on BI to use an educational technology. Because, if people do not have the requisite resources to use a technology, they are less likely to use it. Additionally, the availability of technological support can assist people when they encounter any problem while using any technology (Zhang & Yang, 2016). Many previous studies in the field of learning management systems have found that FC necessarily have a positive impact on user's BI to use a technology (Osei et al., 2022; Faqih & Jaradat, 2021). However, certain studies have shown no relationship between FC and user's BI signifying the fact that the availability of resources and technical support might not have any impact on the BI of the user to use an educational technology owing to its utility (Strzelecki, 2023; Ameri et al., 2020; Arian et al., 2019). Despite the insignificant relationship between FC and BI proved by several past researches, the following hypothesis is proposed-

H4: FC has a significant impact on PC.

HEDONIC MOTIVATION (HM)-

According to Venkatesh and Xu (2012), HM is the degree of pleasure, fun, or enjoyment obtained from using a technology that the user finds amusing, pleasurable, or enjoyable. College and university students may find use for ChatGPT, a large language model chatbot, for a variety of academic tasks, including writing essays, responding to inquiries, and producing original content. It makes sense that HM can affect perceived credibility in a variety of ways within ChatGPT. First, because ChatGPT is fun to use, people who are motivated by hedonic factors are more likely to think it's credible. Second, they might think that other people will also find ChatGPT to be entertaining and reliable, which increases the likelihood that they will suggest it to others. The positive relationship between HM and PC is supported by some empirical evidence, albeit very little of it (Cheng et al., 2022; Palau-Saumell et al., 2019). However, a lot of research has been done in the past to show that HM can positively affect BI when using ChatGPT for instructional purposes. Foroughi and Senali (2023), for example, discovered in their study that HM and BI have a positive relationship when using ChatGPT to learn English. Also, another study by Strzelecki (2023) revealed the significant impact of hedonic motivation on behavioral intention to use ChatGPT by different university students. In light of this, the following hypothesis is put forth-

H5: HM has a significant impact on PC.

HABIT (HB):

The UTAUT-2 model's HB construct is essential for figuring out the user's intention, particularly when it comes to educational technologies. From the perspective of educational technology, habitual behaviour (HB) describes how much a user uses a specific technology or e-learning platform in his daily life. Any technology can lead to HB if it is used frequently, which boosts productivity and gives users the confidence and trust to use the tool more in the future. The HB construct can have a major positive influence on how a user develops their PC with regard to a specific technology because users who are comfortable with an e-learning platform are more likely to feel that it is dependable and trustworthy. Numerous empirical studies conducted in the past have demonstrated the beneficial effects of the HB construct on PC, particularly when it comes to e-learning technologies.

For instance, Yen & Wu's (2016) study on mobile learning platforms demonstrated the beneficial effects of HB on a user's PC construction. In a similar vein, Wang et al.'s 2003 study discovered a favourable relationship between HB and PC for an online learning environment. We believe that no research has been done to date on how using ChatGPT regularly affects one's perception of its credibility. In light of this, the following hypothesis is put forth-

H6: HB has a significant impact on PC.

PERCEIVED CREDIBILITY (PC):

PC describes how much a user trusts and relies on a specific piece of technology (Erdem and Swait, 2004; Wang et al., 2003). Numerous factors, such as design, quality, and technology usability, affect PCs. Conversely, ATT refers to the user's comprehensive assessment of any technology. Numerous factors, including perceived usefulness, perceived credibility, and ease of use, also influence ATT. Users who believe any e-learning platform is trustworthy and reliable tend to have a positive attitude towards it in the context of educational technologies. Numerous previous empirical studies have demonstrated the positive relationship between PC and ATT. For example, ATT's adoption of mobile banking platform is positively impacted by PCs, according to a 2003 study by Wang et al. PC is a crucial concept to examine in technology-related research because more people are likely to use and adopt a positive attitude towards a technology if it is perceived as trustworthy and reputable. ChatGPT is a chatbot based on Natural Language Programming, in that context also, PC is found to have a positive impact on ATT towards using a chatbot and large language model by Meyer-Waarden et al. (2020). In light of this, the following hypothesis is put forth-

H7: PC has a significant impact on ATT to use ChatGPT.

H7a: PC mediates the relationship between PE and ATT to use ChatGPT.

H7b: PC mediates the relationship between EE and ATT to use ChatGPT.

H7c: PC mediates the relationship between SI and ATT to use ChatGPT.

H7d: PC mediates the relationship between FC and ATT to use ChatGPT.

H7e: PC mediates the relationship between HM and ATT to use ChatGPT.

H7f: PC mediates the relationship between HB and ATT to use ChatGPT.

ATTITUDE (ATT):

ATT is the user's comprehensive assessment of any technology. ATT towards the use of any technology can be impacted by several elements, such as HM, SI, PC, PE, and PC. In general, ATT is in charge of how users engage with the technology. Individuals who have a favourable attitude towards technology are more likely to use it in the future, whereas those who have a negative attitude are less likely to do so. A positive relationship between ATT and BI to use a technology has been discovered by several empirical studies conducted in the past from the perspective of educational technologies (Venkatesh et al., 2011; Davis, 1989; Taylor & Todd, 1995).

There is a body of research on the relationship between ATT and BI to use a chatbot or AI in the context of large language models like ChatGPT (Kumar & Krishnan, 2020; Namahoot & Rattanawiboonsom, 2022). ATT is a strong predictor of BI to use technologies with Natural Language Processing techniques, according to a large number of studies. In light of this, the following hypothesis is put forth:

H8: ATT has a significant impact on BI to use ChatGPT.

H8a: ATT has a mediating effect on the relationship between PC and BI to use ChatGPT.

Our study also studies the effect of serial mediation of PC and ATT on the relationship between various constructs and BI to use ChatGPT.

H8b: PC and ATT have a significant mediating effect on the relationship of PE and BI to use ChatGPT.

H8c: PC and ATT have a significant mediating effect on the relationship of EE and BI to use ChatGPT.

H8d: PC and ATT have a significant mediating effect on the relationship of SI and BI to use ChatGPT.

H8e: PC and ATT have a significant mediating effect on the relationship of FC and BI to use ChatGPT.

H8f: PC and ATT have a significant mediating effect on the relationship of HM and BI to use ChatGPT.

H8g: PC and ATT have a significant mediating effect on the relationship of HB and BI to use ChatGPT.

BEHAVIORAL INTENTION (BI):

Our study's outcome variable is BI. According to Davis (1986; Venkatesh & Xu (2012), it refers to the likelihood or chances that a person will use a technology in the future. For the purposes of our research, the term "construct BI" refers to the likelihood that students will utilise ChatGPT in order to meet their academic objectives. Numerous constructs, such as PE, EE, SI, FC, HM, HB, and so on, influence an individual's BI when it comes to using a specific technology. In the context of ChatGPT, we ask university students in the Punjab region the same questions in an effort to ascertain the variables influencing their BI to use ChatGPT to achieve their learning objectives.

Our conceptual model is presented in Figure 1 which comprises six constructs originally from UTAUT2 model and includes 2 additional constructs, namely, "PC" and "ATT" as mediators to finally analyze the outcome variable of the study, that is, "BI".

3. RESEARCH METHODOLOGY

3.1 Data collection- Data was gathered through online link sent in various WhatsApp groups and on emails. 249 people were anticipated, including 149 ChatGPT clients and 100 non-clients. Since the recommended size is at least 120, the example size is deemed sufficient. This review focused primarily on ChatGPT users since determining their mindfulness and stage usage was one of its goals. Following the removal of ChatGPT nonusers, 149 respondents were included in the analysis. The beneficiaries were provided with a report outlining the purpose of the survey and assuring the participants that "all data proffered would appreciate privacy and outright non-revelation of individual information" before the poll was distributed. The mysterious study was led to block any type of decidedly slanted input. Of the polls that were gathered, 100 were not viewed as because of an absence of familiarity with ChatGPT. Out of the excess 149 respondents who gave usable studies, 61 were females, representing 41% of the members, while 88 were guys, representing 59%. The age conveyance of the members demonstrated that 26% were matured under 20 years, 48% were matured between 21-25 years, and 13% had a place with age 25-30, in the age bunch 30-35 respondents were 5% just, or more 35 were 8%. Quite 78% of the members had finished their college degree. The sample attributes are additionally explained in Table1.

Table 1 Demographic Data

Respondents' Characteristics	Description	Frequency	%
Age (in years)	Below 20	38	26
	21-25	72	48
	25-30	19	13
	30-35	08	5
	Above 35	12	8
	Total	149	100
Gender	Female	61	41
	Male	88	59
	Total	149	100
Qualification	Under graduation	69	46
	Post-graduation	48	32
	Ph.D./doctorate	26	18
	Other	06	4
	Total	149	100

3.2 Measurement- Using laid out and approved hypotheses, we acquired the advantage of breaking down a singular's direct with regards to embracing ChatGPT. To guarantee ideal confirmation, we utilized prior estimations adjusted from the writing. The estimations for Execution Hope (PE), Exertion Anticipation (EE), Social Impact (SI), Working with Conditions (FC), Libertine Inspiration (HM), Propensity, Saw Believability (PC), Disposition (ATT), and Expectation to take on ChatGPT (BI) were gotten from the current writing. All markers were evaluated utilizing a 5-point Likert scale with endpoints going from emphatically differ to firmly concur.

4. DATA ANALYSIS

A variance-based SEM technique was used through the Brilliant PLS 4 programming to lead an investigation. Lately, halfway least squares underlying condition demonstrating (PLS-SEM) has earned respect in different disciplines, like showcasing, bookkeeping, and human asset the executives. The creators of this study picked PLS-SEM in light of multiple factors. It, first and foremost, considers surveying complex models containing numerous develops, markers, and connections. Also, late rules have demonstrated better than different methods while assessing intervention investigations. Thirdly, PLS-SEM is a superior choice for models with higher-request builds. Fourthly, PLS-SEM offers more prominent factual power. Finally, it is similarly compelling for both exploratory and expectation-situated research. A two-stage approach was used to assess the consequences of PLS-SEM, including both estimation model assessment and primary model assessment.

4.1. Measurement Model Evaluation

In the present segment, it is imperative to initially contemplate the differentiation between 'reflective' constructs and 'formatively' designed. It must be noted that all the constructs that have been devised are inherently of a 'reflective' nature.

4.1.1. Reliability

Initially, the assurance of the dependability of each individual indicator was attained by means of the utilization of standardized factor loadings. It was determined that an indicator exhibited a standardized factor loading of ≥ 0.70 on its corresponding construct. The subsequent phase encompasses an assessment of the internal consistency-reliability of the constructs. Table 2 presents values of factor loadings, ρ_A , Cronbach's alpha, and 'CR' that range between 0.7 to 0.9. These values unanimously confirm the internal consistency/reliability of the constructs. The evaluation of the measurement model's third stage necessitates the establishment of convergent validity of the constructs. The average variance extracted (AVE) metric is widely employed in this regard. A value of 0.5 or greater suggests that the construct accounts for more than half of the variance of its constituent indicators. The results presented in confirm that all constructs surpass the recommended threshold for AVE values. Discriminant validity was assessed through the utilization of the Fornell-Larcker criterion as well as the Heterotrait-Monotrait ratio of correlations (HTMT) criterion. The Fornell-Larcker criterion necessitates that the square root of the Average Variance Extracted (AVE) for each construct should surpass the inter-construct links (Fornell and Larcker, 1981), while the HTMT value between two constructs should be beneath 0.85 (Henseler et al., 2015). Based on the results presented in Table 3(a & b), it is evident that the issue of discriminant validity is not a focus of this study.

Table 2 Reliability

Construct	Items	Factor Loading	Cronbach's alpha	CR	AVE
Performance Expectancy	PE1	0.899	0.89	0.931	0.819
	PE2	0.9			
	PE3	0.916			
Effort Expectancy	EE1	0.832	0.87	0.878	0.717
	EE2	0.862			
	EE3	0.867			
	EE4	0.826			
Social Influence	SI1	0.9	0.837	0.854	0.757
	SI2	0.921			
	SI3	0.781			
Facilitating Conditions	FC1	0.859	0.835	0.843	0.751
	FC2	0.88			
	FC3	0.86			
Hedonic Motivation	HM1	0.889	0.893	0.912	0.822
	HM2	0.917			
	HM3	0.915			
Habit	HB1	0.921	0.932	0.932	0.88
	HB2	0.953			
	HB3	0.94			
Perceived Credibility	PC1	0.896	0.927	0.931	0.82
	PC2	0.9			
	PC3	0.901			
	PC4	0.926			
Attitude	ATT1	0.906	0.924	0.924	0.814
	ATT2	0.915			
	ATT3	0.89			
	ATT4	0.897			

Behavioural Intention to adopt ChatGPT	BI1	0.904	0.934	0.936	0.836
	BI2	0.891			
	BI3	0.932			
	BI4	0.929			

Table 3a Fornell & Larcker Criteria

	ATT	BI	EE	FC	HM	Habit	PC	PE	SI
ATT	0.902								
BI	0.750	0.914							
EE	0.639	0.594	0.847						
FC	0.529	0.390	0.522	0.866					
HM	0.653	0.547	0.580	0.525	0.907				
HB	0.546	0.676	0.535	0.252	0.479	0.938			
PC	0.688	0.667	0.591	0.450	0.574	0.608	0.906		
PE	0.677	0.730	0.737	0.512	0.537	0.555	0.626	0.905	
SI	0.662	0.714	0.693	0.461	0.589	0.582	0.687	0.714	0.870

Table 3b HTMT Criterion

	ATT	BI	EE	FC	HM	Habit	PC	PE	SI
ATT									
BI	0.806								
EE	0.707	0.652							
FC	0.602	0.436	0.620						
HM	0.712	0.590	0.656	0.612					
Habit	0.586	0.726	0.577	0.277	0.515				
PC	0.740	0.712	0.644	0.503	0.616	0.653			
PE	0.744	0.795	0.832	0.597	0.592	0.601	0.678		
SI	0.752	0.804	0.808	0.554	0.668	0.646	0.772	0.829	

4.2. Structural Model Evaluation

The relationships among the dependent and independent variables were assessed while scrutinizing the structural model through determining path coefficients' size and direction, the coefficient of determination's values, and the t-values.

4.2.1. Path Coefficient (β)

A method for assigning weights to paths was implemented by employing the default configurations of the Smart-PLS 4 software. The process of bootstrapping consisted of 5000 subsamples and did not incorporate the option of sign change. In addition, the procedure was conducted with significance levels for one-tailed testing and the percentile bootstrap option. In order to determine the statistical significance of the hypotheses, the magnitude of path coefficients was examined **Table 4** should be determined through the percentile bootstrapped confidence interval, while ensuring that the direction is consistent with the respective hypotheses.

Table 4 Path coefficients

Hypothesis	Path	Path weights	Inference
Direct Effect			
H ₁	PE -> PC	0.126	Not Supported
H ₂	EE -> PC	0.014	Supported
H ₃	SI -> PC	0.309	Not Supported

H ₄	FC -> PC	0.096	Not Supported
H ₅	HM -> PC	0.142	Not Supported
H ₆	Habit -> PC	0.259	Not Supported
H ₇	PC -> ATT	0.688	Not Supported
H ₈	ATT -> BI	0.75	Not Supported
Indirect effects			
H7a	PE -> PC -> ATT	0.087	Not supported
H7b	EE -> PC -> ATT	0.009	Supported
H7c	SI -> PC -> ATT	0.213	Not supported
H7d	FC -> PC -> ATT	0.045	Supported
H7e	HM -> PC -> ATT	0.097	Not supported
H7f	HB -> PC -> ATT	0.178	Not supported
H8a	PC -> ATT -> BI	0.517	Not supported
H8b	PE -> PC -> ATT -> BI	0.065	Not supported
H8c	EE -> PC -> ATT -> BI	0.007	Supported
H8d	SI -> PC -> ATT -> BI	0.159	Not supported
H8e	FC -> PC -> ATT -> BI	0.050	Supported
H8f	HM -> PC -> ATT -> BI	0.073	Not supported
H8g	HB -> PC -> ATT -> BI	0.134	Not supported
Quality indicators of the structured model			
R ² ATT = 0.474			
R ² BI = 0.563			
R ² PC = 0.581			

4.2.2. Coefficient of Determination (R²)

The R² coefficient associated with the endogenous construct denotes the predictive effectiveness of the structural model within the selected sample. An R² value of 0.25, 0.50, and 0.75 corresponds to classifications of 'weak', 'moderate', and 'strong' for the traits, respectively. The R² value for the primary target construct, namely the Intention to use ChatGPT, is established to be 0.56, indicating that the preceding factors account for a significant proportion of the variance in BI. The R² values of all endogenous constructs are tabulated in Table 4.

5. DISCUSSION

There is a lack of scholarly works on the examination of the inclination to utilize ChatGPT. The current study unveils that the inclination to employ the aforementioned technology is impacted by the level of ease expected and the enabling circumstances. This aligns with the discoveries of preceding investigations carried out by other academics, for instance, who exhibited that the anticipation of exertion is a noteworthy determinant impacting the students' trustworthiness in employing ChatGPT (Foroughi et al., 2023). Similarly, found that facilitating conditions, such as the availability of mobile phones, laptops, internet connection, and communication ability, have a significant impact on the adoption of ChatGPT (Strzelecki, 2023). This inquiry has additionally unveiled an absence of association between PE and the PC of ChatGPT. This suggests that the exclusive utilization of ChatGPT for conventional activities does not generate any reaction among students. However, the significance of EE on PC; EE on ATT through PC; EE on BI via PC and ATT is noteworthy as corroborated by De Groot and Steg (2009). The employment of PC and ATT as a sequential intermediary is unparalleled in this particular investigation. It has been ascertained that learners encounter a sense of convenience in their communication endeavors when acquiring information from ChatGPT pertaining to their pertinent subject matter. Consequently, this engenders a sense of reliability towards ChatGPT and ultimately fosters a propensity to utilize it. This serves as an indication that their motivation to employ ChatGPT is substantial. The present study examines FC as an additional activator denoted by Fig 1. It has been established that FC plays a significant role in shaping both PC and the BI of ChatGPT. The serial mediation of PC and ATT has not been previously investigated,

which postulates that FC is the most crucial variable in terms of behavioral intention. Essentially, consumers exhibit a preference for the accessibility of smartphones, laptops, internet connectivity, and the ability to communicate, as it enhances their intention to utilize ChatGPT. Consequently, a greater availability of these products is directly proportional to a higher intention to employ ChatGPT. (Bonsu & Baffour-Koduah, 2023).

Further, it has been noted that the usage among male students is more than females. In the age group of 21-25, meaning GenZ is more competent to use it. Students of UG and PG are more interested in the usage of new tools in education system as it can save time and provide results as required.

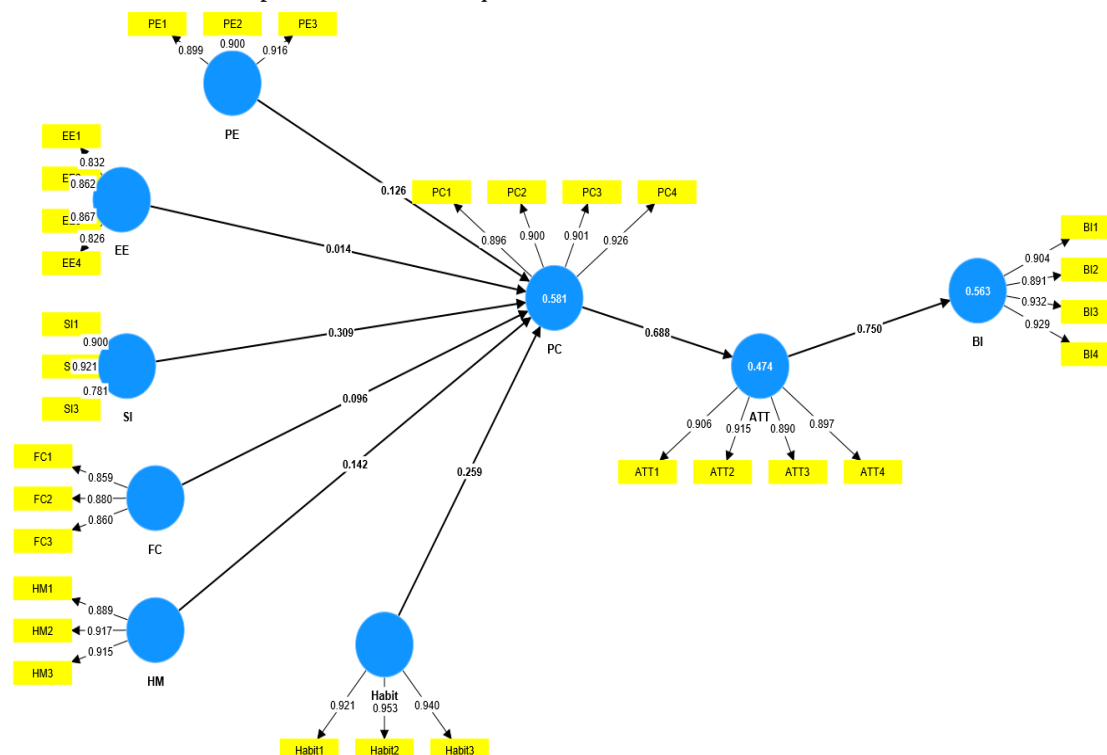


Fig 1 Structural equation modeling

Awareness of ChatGPT

In the current investigation, it has been observed that among the 249 participants, 100 were excluded from the data analysis due to their lack of awareness or non-usage of the ChatGPT application for any purpose. Based on this data, it can be inferred that approximately 50% of the population remains uninformed about the AI app ChatGPT. This situation demands immediate attention from educational institutions and app developers to integrate ChatGPT into the student community, aiming to enhance their scholastic efficacy. Educational institutions should impart knowledge to students regarding the assimilation of ChatGPT, as it holds the potential to furnish requisite information within an infinitesimal span of time. Furthermore, it can assist young individuals in fostering creativity by generating innovative content with a mere single click.

5.1 Managerial implications

Considering that Effort expectancy (EE) is a significant indicator of Behavioral intention (BI), it is suggested that publicizing content ought to put more noteworthy accentuation on the effect of EE on the utilization expectation of ChatGPT. Whenever purchasers are presented to this urgent data, they are bound to show an eagerness to utilize and consume ChatGPT in their everyday daily practice. The discoveries of the current review have demonstrated that both EE and Facilitating Conditions (FC) fundamentally foresee the use aim of ChatGPT. In particular, FC has arisen as one of the imperative indicators of BI, which suggests that the usage of ChatGPT is profoundly dependent upon the accessibility of fundamental assets like cell phones, web network, and conversational capability (Technology, 2014; Wu et al., 2007; Yu, 2012). Therefore, companies could integrate advertising messages that underscore the significance of interacting with ChatGPT through diverse communication modes.

5.2 Theoretical implications

This examination has made critical hypothetical commitments to scholastic writing. Right off the bat, it has checked the viability of an extended model in estimating purchasers' BI towards ChatGPT. The experimental information has affirmed that the model has a high prescient force of R^2 . Furthermore, the review has expanded the first UTUAT2 system

by integrating two extra factors, in particular Decadent inspiration and propensity, to anticipate PC and BI. Thirdly, the review has examined the sequential intervention impact of PC and ATT. The discoveries of the review have shown that work hope and working with conditions affect apparent validity. Besides, saw believability and mentality sequentially intercede the relationship with (EE; FC) and aim to utilize ChatGPT, and PC is a critical middle person. These discoveries recommend that these elements straightforwardly impact purchasers' BI as well as actuate buyers' ethical constraint.

6. CONCLUSION

The current review has exhibited the helpfulness and thoroughness of the exploration model in explaining the elements that influence the goal of ChatGPT users. In particular, it has been uncovered that people having an uplifted familiarity with ChatGPT are more disposed towards using it later on as stated by (Mhlanga, 2023). Moreover, the review has laid out that expanded exertion hope and working with conditions contribute towards a more grounded aim. The viability of PC as a middle person has been thoroughly examined and has been viewed as a strong go between. In spite of the previously mentioned difficulties, the examination has revealed that students are supportive of the reconciliation of this mechanical advancement in the instructive area through boundless execution and oversight through managerial frameworks (Cooper, 2023; Lund & Wang, 2023; Rospigliosi, 2023; Zielinski et al., 2023). While the report acknowledges the assimilation of ChatGPT in advanced education, further inquiry is requisite to substantiate the feasibility of this technology in tertiary institutions.

7. LIMITATIONS

The current study suffers from various limitations which the future research scholars can combat. This study has focused on university students with limited sample population specifically in the area of Punjab. Future researchers can contribute by improving their target population. This study can act as a basis for comparative study in two states. There are limited studies on ChatGPT being novel. Further, exploration can provide more insights.

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