

## **Exploring Public University Undergraduate Students' Experiencing Intention to Use ChatGPT in Academic Purpose: Application of TAM Theory**

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### **Abstract**

This study is all about exploring the public university students' experiencing intention to use ChatGPT in academic purpose with the application of TAM theory along with new extension like enjoyment, informativeness and privacy and security factors. The study was conducted in Rangpur division, Bangladesh. Total 412 data were found valid after data collection. SPSS and Smart PLS software were applied for analysis of the data with TAM theory. The study result shows that, all the factors except perceived enjoyment impacts positively the attitudes of students. Service providers of ChatGPT should consider this factor carefully so that in future they can update some new feature with ChatGPT that may be enjoyable to the users. Teachers of the university should be careful while examining students' different assignments and projects whether they are not directly copied from ChatGPT or not. Future studies can be with other factors with the existing factors and mediation can also be done by the researchers for further study. School and college level students may be considered for this type of study and the sample size should be larger for better result.

**Keywords:** ChatGPT, AI, Rangpur, Bangladesh, TAM.

### **1. INTRODUCTION**

Artificial Intelligence (AI) has almost changed the way of doings in modern life and chatbots are one of the greatest features of it that act like human being [1]. Different types of activities like calendar setting, appointment setting is purely assisted by chatbots [2], [3]. Moreover, chatbots are used in for reserving tickets [4]. The most essential services that AI generated chatbots offered was assistance in the period of Covid-19 situation [5]. The basic service of AI generated chatbots are text-oriented conversation that helps individual and business to accomplish various tasks [3], [6]. By the time the technology advancement has reached to Open AI's GPT-4 model that enables more specialized task through language processing and it acts like human to process data and prepare result as human directs [7]. According to [8] ChatGPT may be the vital tool for education in business, healthcare but users may misuse it and may be unethical for accomplishing tasks with ChatGPT. It is seen that there may be a huge gap regarding the service takers from ChatGPT as developing country like Bangladesh faces digital divide among the people of inside the country and even with the other country because the students from the rich family have the individual smart phones and they can easily use ChatGPT for different purposes and get better benefits than the students who don't have this opportunity [8].

ChatGPT has already become more popular than TikTok, Instagram based on the rate of adaption by the users [1]. It is believed that, ChatGPT can make the other professional obsolete those who engaged in content creation [9]. A huge range of users of ChatGPT and its advantages in different disciplines really surprises me to take this topic as research. The limitations of previous research [10], [11], [12], [13]. The remarkable work done by [12][14], [15] showed that, ChatGPT has been serving a numerous group. Moreover, it is very significant to take into account the beginners opinion using ChatGPT as they are the first adaptors of this technology and they might have such perceptions those influence other to avail the new adaption of technology like ChatGPT [16], [17]. I certainly feel that their valuable opinion can derive me find the objective of this study [18]. We know that, who adopts the new technology first, can identify its problem, challenges and opportunities for future development and their comments, feedback are very crucial for solving the initial problems so that they can't be outburst [19] and thus identifying pattern of acceptance and usages by first adopter of new technology as like ChatGPT is very important because the new technology might have the opportunity to grow and flourish in the business market[1].

There are significant number of studies regarding ChatGPT internationally and in our country also related with education [7], [20], [21], [22], [23], [24], [25], [26], [27]. But there is still opportunity to study with ChatGPT in specific region of Bangladesh. My research aims to identify the undergraduate students' experience intention to use ChatGPT in their academic purpose by using Technology Acceptance Model (TAM) [28]. This topic is chosen firstly, as there is no research on ChatGPT regarding the undergraduate in northern area of Bangladesh specially in Rangpur division. This unique in this purpose that ChatGPT using for academic purpose by the undergraduate based on TAM [28]. This study focuses the experiencing intention for academic purpose and thus it consists a framework that will examine the influencing factors behind the intention to accept and adopt new technology [29], [30], [31]. Secondly, this study entails an expressive detail on ChatGPT adaption and usages intention influencers of TAM factors like perceived ease of use, perceived usefulness [28] and extended factors like perceived enjoyment [32], [33], perceived informativeness [34] and perceived privacy and security [35]. Thirdly, the ultimate result of this study helps to improve the ChatGPT's function so that it will act better than present. Fourthly, this research provides a new area of literature for ChatGPT researchers as this study focuses on a different domain.

## 2. MATERIALS AND METHODS

Technology Acceptance Model (TAM) [28], extended TAM [36], Theory of Planned Behavior (TPB) [37], Unified Theory of Acceptance and Use of Technology (UTAUT) [38] are the remarkable theories for accessing the users' intention to use technology. All these theories and models are widely applied in different areas of study on technology adaption, use and intention to continue of using technology. This study focuses the factors of TAM including three perceived informativeness[34], perceived enjoyment [32], [33]and perceived privacy and security[35] to examine the experiencing intention of undergraduate students of Northern region of Bangladesh toward ChatGPT in academic purpose. Technology adaption and uses intention toward ChatGPT was examined by [39] with perceived informativeness and perceived enjoyment. He also suggested more examination with these two variables in different areas of technology use and diverse users of

technology. The consumer's purchasing behavior is significantly affected by perceived informativeness [40]. Previous study [33] incorporated perceived enjoyment with the TAM theory and [41] examined TAM for predicting technology acceptance uses behavior of students. New technology adaption and uses behavior was analyzed with the extended TAM theory therefore the application of this theory is well known and widely applied to examine user behavior of technology adaption [33], [42]. Though wide ranges of researches have been conducted with TAM and extended TAM, I have found the gap to apply TAM in northern division undergraduate students in Bangladesh on their academic purpose. It is suggested to conduct further study with TAM theory with perceived enjoyment, perceived informativeness and perceived privacy and security [8], [32], [33], [34]. From the above research evidence, it is very clear that TAM theory with perceived enjoyment, perceived informativeness and perceived privacy and security factors should be studied and this model would be more reasonable for examining the undergraduate students' technology adaption and use behavior in northern division in Bangladesh.

## 2.1 Perceived Usefulness

Perceived usefulness is defined as degree to which consumers trust adopting new technology will help them achieving their job excellency and efficiency [43]. It also described as important factor that encourages using the new technology [44]. It is very common idea that consumers will adopt a new technology when it will certainly benefit more than the previous technology [45]. If the new technology is something easy and charming to use, it will be adopted by the consumers easily [46], [47], [48]. Moreover, new technology will be embraced by the consumers if they feel that it acts as virtual assistant [49]. From the above research findings, it is very important to study the impact of perceived usefulness in creating intention to experience ChatGPT. For this reason, I proposed the hypothesis as:

***H1: Perceived usefulness has a positive impact on the undergraduate students' attitude to experience ChatGPT.***

## 2.2 Perceived Ease of Use

When a certain technology use needs no mental effort and system seems to user friendly is known as perceived ease of use [28]. For academic purpose undergraduate students seek much information in ChatGPT [50]. The infrastructure which includes user friendliness environment and instant messaging opportunity with internet supported hand set is also called perceived ease of use [27]. Technology which removes the entry restriction and easily manageable apps has the feature of ease of use [51]. It can also be defined as the system which has simple feature along with easily comprehend [52], [53]. Some potential users may have predetermined ideas that the new technology would be simpler than the previous one [41]. For finding the consumers or end users expectation towards a certain technology, researchers examine the easiness of using such technology. [54]. Perceived ease of use thus impacts users' intention to use and adopt such technology and thus this factor should be taken into account while examining users' intention to use technology [15], [52]. If the new technology is like famous apps Facebook, WhatsApp those are easily installed in smart phone and can also be operated from laptop, Tablet PC then, users can easily avail

the app from play store and install their smart phones to use it [55]. As we know that ChatGPT has app version and that is easily operated in smart phones but it should be examined further whether users feel it easy to use or not. For this reason, the hypothesis as formulated as below:

***H2: Perceived ease of use has a significant impact on the undergraduate students' attitude to experience ChatGPT.***

### 2.3 Perceived Enjoyment

It is related with the human's behavior [56]. It is said to be a very significant factor because based on this factor user decides whether to engage in this type of technology that gives them pleasure [57]. It was founded that this factor is influential to encourage users to use internet, messaging and downloading contents from websites [58]. Perceived enjoyment factor is also examined in identifying user's intention to use technology in several studies [33], [59]. The online service seekers attitudes is significantly impacted by perceived enjoyment [60].

Finally, it is suggested that if someone enjoys a system like ChatGPT, he or she will use it. Thus, my third hypothesis is developed as below:

***H3: Perceived enjoyment has a significant impact on the undergraduate students' attitude to experience ChatGPT.***

### 2.4 Perceived informativeness

Perceived informativeness refers to attaining accurate and in-depth information on any subject any time any location [61]. For online consumers it is very important that information regarding product and service are accurate and up to date as to make perfect decision as online product doesn't offer trial option [62]. It is very important for online promotion and pricing strategy [63]. Likewise, ChatGPT can be very helpful to the students by providing accurate and up to date information [21]. Thus, I formulated the hypothesis like:

***H4: Perceived informativeness has a positive impact on the undergraduate students' attitude to experience ChatGPT.***

### 2.5 Perceived Privacy and Security

Consumers' online action is preserved in different websites and that are very private information to generate future purchase pattern for the business. It combines all data regarding online surfing by the consumers like personal information, demographic information [64]. Consumers always try to ensure their privacy for online actions. The right of individual information accessing and controlling over internet is known as privacy [65]. All the information of the consumers is then accumulated to generate the final output for e commerce transaction pattern identification purpose [66], [67], [68]. This information is required by business firms for predicting online behavior for future marketing and

promotion purpose [69], [70]. But online consumers feel unsecured as the online business farm may access their information without their consent and may use unauthorized and may sell it to another farm [71]. Internet privacy concern was measured bi-dimensionality in the earlier research [72] where data collection process was taken as first dimension and unauthorized use of data was considered as second dimension [73]. Unawareness in transacting financial information on e-commerce is the main barrier for its development [74], [75], [76], [77], [78], [79], [80].

Perceived security is defined as the state which customers feel safe about their personal information. It will not be collected, stored, transferred, deployed for further use [81]. It was found that Chinese customers are more concern about their information security for mobile banking adaption [82]. As ChatGPT provides different information asked by the users. Some information may be sensitive, may be more private to the users. Therefore, perceived privacy and security is one of the most crucial factors to motivate undergraduate students to experience ChatGPT in their academic purpose. Thus, the hypothesis formulated as:

***H5: Perceived privacy and security have a positive impact on the undergraduate students' attitude to experience ChatGPT.***

## 2.6 Attitudes and Experiencing Intentions to Use ChatGPT

Attitude is basically defined as the human's psychological evaluation process toward certain things like new technology [83]. It is the combination of one's behavioral emotion, belief, perception of any action [84]. It is widely studied with TAM and theory of reasonable action [85]. ChatGPT is used by students in different purpose but how students use it for academic purpose is our main aim to explore. Individual attitude varies from one to another regarding demography [33], [86]. Users' attitudes are not same for different reasons [87]. Different technology application area like e-banking [88], e-payment [89], smart homes [90] are studied with TAM theory and found the relation between attitude and intention to use the technology. Students may feel ChatGPT is good for academic purpose but their attitudes may be otherwise [21]. Thus, it is essential to examine whether attitudes of students differ regarding ChatGPT. For examine this I formed the following hypothesis:

***H6: Attitudes has an impact on the undergraduate students' attitude to experience ChatGPT.***

From the above discussion and evidence, the following model is proposed to conduct in this study as shown in Figure 1.

## 2.6 Population, Sampling, Data collecting & Analysis Tools

Most of the undergraduate students in Bangladesh have smart phone and they used to use many apps on their phone for different purpose. Some of the apps are related to social/professional networking like Facebook, Twitter, Instagram, Linked In [16], [48] while others apps are for specialized purpose like different debit/credit card apps, mobile banking apps, word processing apps, online tv streaming apps and son on. We all know

that ChatGPT is a new technology that enables users to functions like instant messaging, information seeking, different tasks are done by ChatGPT [23]. Undergraduate students use these types of apps for making their life easier and comfortable[21]. My study takes into account the Public University undergraduate students of northern division of Bangladesh called rangpur Division. There are three public universities in this division called Begum Rokeya University, Rangpur, Hajee Mohammad Danesh Science and Technology and Bangabandhu Sheikh Mujibur Rahman Aviation and Aerospace University. For selecting these university has some reasons like: university undergraduate students are more concern about the recent trends of technology and they are very keen to adopt technology. I used the convenience sampling method [91], [92] for this study. A questionnaire was prepared to collect the data from the undergraduate students. A total 450 questionnaire was distributed to a group of 5 students from my department. They visited the universities and collected the responses from the respondent. Before that I make them understood what to do. If the respondent asks them about any question, then they can able to convince them and they are strictly suggesting them to maintain the respondent's privacy. The respondent's questionnaire was collected from the month of March and April in the year 2024. Total 431 responses were collected and from them 412 responses were found valid and remaining are faulty so that from the distributed questionnaire 96% response are valid response. After collection of data, I used SPSS for demographic analysis and Smart PLS for Structural Equation Modelling (SEM)[3].

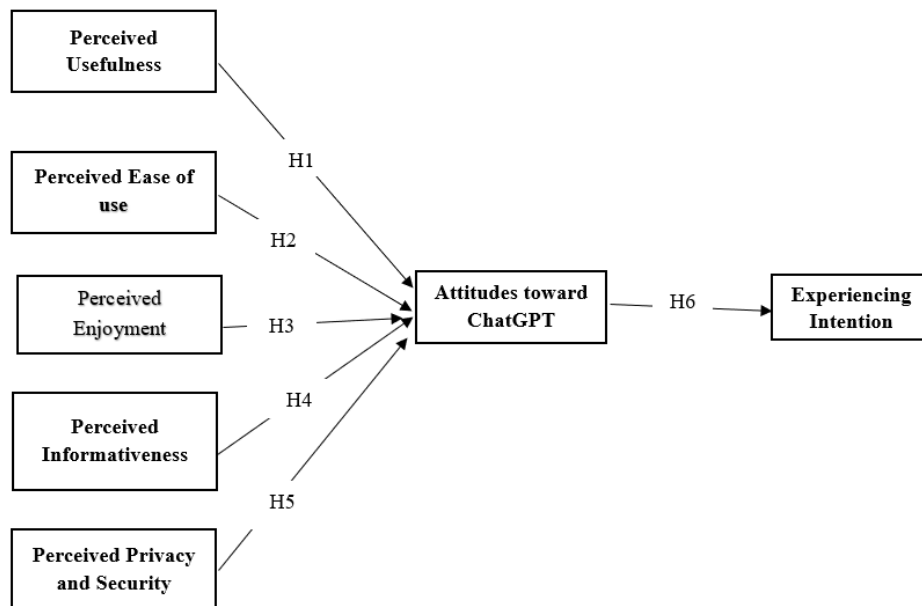


Figure 1. Proposed Model

### 3. RESULTS AND DISCUSSION

#### 3.1. Demographic Description:

The Table: 01 reflects the demographic information about the respondents collected from the three public universities of rangpur division, Bangladesh. Here, we see that maximum respondent (47.33%) are from Hajee Mohammad Danesh Science and Technology (HSTU) as this university is the largest and oldest university in this region. Second position holds by Begum Rokeya University, Rangpur (35.20%). This is the only general university in this region. The remaining one has 17.47% respondent from Bangabandhu Sheikh Mujibur Rahman Aviation and Aerospace University (BSMRAAU) as this is very specialized university and it has only 350 students in their different academic sessions. The following table represents the proportion of male and female respondents and the ration is about to same where male 53.16% and female is 46.84%. I suggested my data collector to collect survey questionnaire equally from both genders so that the study can draw a fare conclusion and gender-neutral evidence. This survey covers most of the common faculties in Bangladeshi universities. Here, it shows that, 25.97% the highest respondents are from Business faculty undergraduate students where 23.06% from Engineering faculty, 21.12% from Social Science faculty and remaining 24.03% from the Arts faculty. The age group of this study is ranges from 18-25 where 18-21 range has 77.91% and remaining 22.09% is in the range of 22-25 and this seems logical as most of the undergraduate students in Bangladesh started their higher study journey at the age of 18-19 after completing their Higher Secondary Certificate (HSC) Exam.

**Table 1 Demographic Information**

Variable	Frequency	Percentage
<b>Gender</b>	Male	219
	Female	193
<b>Age</b>		0.00
	18-21	321
	22-25	91
<b>Faculty</b>		0.00
	Engineering	95
	Business	107
	Arts	99
	Social Science	87
		21.12
	Others	24
<b>University</b>		5.83
	BRUR	145
	HSTU	195
	BSMRAAU	72
		35.20
		47.33
		17.47



### 3.2. Measurement Model

From the study test result, measurement model is validated by constructs' reliability and validity. These assures that the proposed model is fit for study. In order to assure the measurement model validity different types of testing like discriminate validity, convergent validity, and internal reliability are checked and it is highly recommended to test the validity and reliability onwards examining the proposed hypotheses [93], [94].

#### 3.2.1. Internal Reliability

In order to make sure about the internal reliability of the data set researcher checks the Cronbach's alpha and composite reliability test result [95]. It is suggested to accept the value of Cronbach's alpha should be greater than 0.60 [96] and for composite reliability it should be greater than 0.70 [96]. From this suggestion, it is preferable that the value of above mention factors should be above the mentioned range for completely alright for reliability [97]. But it is suggested that, the value should be higher than 0.70 for best result of reliability [98]. Here, in Table: 02 shows the composite reliability, average variance extracted and Cronbach's alpha values.

**Table 02 Item loading with CR, AVE, Cronbach's Alpha**

Construct	Item	Loading	CR	AVE	Cronbach's Alpha
Perceived Usefulness	P_Use (1)	0.861	0.901	0.713	0.901
	P_Use (2)	0.869			
	P_Use (3)	0.851			
Perceived Ease of Use	P_Eas (1)	0.881	0.911	0.692	0.909
	P_Eas ((2)	0.769			
	P_Eas (3)	0.781			
Perceived Enjoyment	P_Enj (1)	0.961	0.927	0.825	0.924
	P_Enj (2)	0.919			
	P_Enj (3)	0.931			
Perceived Informativeness	P_Inf (1)	0.811	0.897	0.726	0.895
	P_Inf (2)	0.819			
	P_Inf (3)	0.721			



Construct	Item	Loading	CR	AVE	Cronbach's Alpha
Perceived Privacy and Security	P_Pri (1)	0.771	0.829	0.693	0.826
	P_Pri (2)	0.819			
	P_Pri (3)	0.831			
Attitudes Towards ChatGPT	ATC (1)	0.801	0.879	0.619	0.879
	ATC (2)	0.709			
	ATC (3)	0.751			
Experiencing Intention	E_Int (1)	0.881	0.921	0.727	0.920
	E_Int (2)	0.829			
	E_Int (3)	0.849			

[NB. Here, **CR**: Composite Reliability; **AVE**: Average Variance Extracted]

The lowest value for CR and Cronbach's alpha is 0.829 and 0.826 for the construct perceived privacy and security. For Cr the value ranges from 0.829 to 0.927 and for Cronbach's alpha it ranges from 0.826 to 0.924 which indicates both are in good condition for analysis.

### 3.2.2. Convergent Validity

Whether the items are related to each other or not and how much are related is defined as convergent validity. It is measured with the result of AVE [97]. If the value is greater than 0.50, it assures the convergent validity of that construct[95]. From the above Table: 02, it is seen that the values of AVE of construct of this study are above from the suggested range. The lowest value of AVE is 0.619 (attitudes toward ChatGPT) and highest value is 0.825 (perceived enjoyment). So, it can be said that this result confirms the convergent validity of the study.

### 3.2.3. Discriminant Validity

Discriminant validity is measured with the cross loading and the square root of AVE [99]. It was suggested that, the square root of AVE should be higher than the correlation between constructs and AVE [100]. The following table (Table 03) indicates that, the square root of AVE is higher than the correlation between constructs and AVE. That assures the suggested values of the previous researchers [99], [100].

**Table 3.** Discriminant Validity

	P_Use	P_Ease	P_Enj	P_Inf	P_Pri	ATC	E_Int
P_Use	0.807						
P_Ease	0.817	0.691					
P_Enj	0.687	0.619	0.92				

	P_Use	P_Ease	P_Enj	P_Inf	P_Pri	ATC	E_Int
P_Inf	0.823	0.819	0.827	0.851			
P_Pri	0.721	0.729	0.719	0.751	0.651		
ATC	0.809	0.719	0.772	0.759	0.518	0.695	
E_Int	0.797	0.841	0.713	0.729	0.695	0.729	0.819

### 3.3. Structural Model

The purpose of hypothesis testing, I used SEM-PLS software for adopting structured equation model. Five independent factors called perceived usefulness, perceived ease of use, perceived enjoyment, perceived informativeness and perceived privacy and security were analyzed here and I found that, except perceived enjoyment all the factors have positive relation with attitudes toward ChatGPT and finally it influences the experiencing intention to use ChatGPT by the undergraduate students of Rangpur Division. Table 04 shows the Beta value, P value and T statistics value of the constructs. From the following table it is seen that only hypothesis H3 is proved to false as the beta value is 0.002; t value is 0.539 and p value is 0.553 [101], [102], [103], [104]. Table 04 shows that perceived usefulness positively influences the undergraduate students' attitude to experience ChatGPT (H1) and thus, this hypothesis is accepted with the test result. Likewise perceived ease of use, perceived informativeness and perceived privacy and security have positive impact on the undergraduate students' attitude to experience ChatGPT (H2, H4, H5). Finally, hypothesis 6 (H6) is also accepted that means attitude toward ChatGPT has positively linked with undergraduate students' experiencing intention of ChatGPT.

**Table 4 Hypothesis test result**

Hypothesis	Relation	Beta	P Values	T Values	Result
H1	P_Use>ATC	0.131	0.041	2.071	Yes
H2	P_Eas>ATC	0.149	0.031	2.490	Yes
H3	P_Enj>ATC	0.002	0.539	0.553	No
H4	P_Inf>ATC	0.117	0.000	2.953	Yes
H5	P_Pri>ATC	0.129	0.000	5.089	Yes
H 6	ATC>E_Int	0.113	0.001	6.919	Yes

[Here, **P\_Use**: Perceived Usefulness; **P\_Eas**: Perceived Ease of Use; **P\_Enj**: Perceived Enjoyment; **P\_Inf**: Perceived Informativeness; **P\_Pri**: Perceived Privacy and Security; **ATC**: Attitudes Towards ChatGPT; **E\_Int**: Experiencing Intention]

### 3.4. Discussion

The study aims to examine the factors those are influential to encourage undergraduate students of Rangpur division, Bangladesh to experience ChatGPT for their academic purpose. This study follows the well accepted and widely used TAM [28] theory and Extended TAM theory [36]. Also, I added perceived informativeness [34] and perceived privacy and security[81] with TAM theory that was previously used. From this study results it is seen that the perceived usefulness positively impacts undergraduate students' attitude to experience ChatGPT and this result resembles the previous study of [21]. They also found the positive relation exists between perceived usefulness and attitudes in Bangladeshi students including private and public university. This means that the

undergraduate students of rangpur division is alike with the other private and public university students in their thoughts and perception regarding ChatGPT. But my study result is opposite of [105]. They found that, who have previous usage experience of such type of technology, they don't think perceived usefulness of new technology. In their result perceived usefulness has less significant to attitude building toward experiencing intention to new technology. But in my study this item is very significant and students marked it important for their academic purpose.

In this study, the second hypothesis (H2) perceived ease of use is positively linked with students' attitude towards using intention to ChatGPT for their academic purpose and this result is supported by previous study [106]. According to them when students find some new technology like ChatGPT is useful and easy to operate form them, they are keen to use that technology. In my study I also found from my result that, ease of use is very important factor for the students as they found it easy to operate from different devices like smart phones, laptops, desktops, Tablet PCs.

From my result of the analysis, it is seen that, the third hypothesis (H3) is proved false that means perceived enjoyment has no relationship with attitudes of the students to experience ChatGPT. This result is same as the study conducted on Bangladesh private and public universities [21]. The reason behind the result that, students don't take ChatGPT using as enjoyment. They use it for information seeking and mostly for academic purpose and they also find enjoyment using Facebook much than any apps. Unlikely the study from [107] revealed that, using ChatGPT is enjoyable for the young generation, and they find it this variable encourage them towards using intention of that technology.

In this study, we can see that the perceived informativeness positively impacts the attitude of using intention of ChatGPT. That means undergraduate students find ChatGPT as important tool for searching authentic information and updated information they asked. This result is similar to [21]. They also found that informativeness is significantly associated with the attitudes creating intention to use ChatGPT. The reason behind it may the clear and concise answer provided by ChatGPT to their users and also made their assignment and presentation within seconds. This study result is also similar to [108]. They revealed that this item is very much important than perceived usefulness and perceived ease of use. Though my study covers a narrow area in Bangladesh and only with the three public university in the norther part of this country, it resembles with the previous study as well [50], [105].

Perceived privacy and security is one of the important factors in this model and I found it significant. In this study hypothesis five (H5) is proved true means perceived privacy and security has positive and significant association with attitudes towards intention to use ChatGPT. The study result shows us that, when the students feel, ChatGPT is safer in terms of privacy and security, they feel eager to use it. But they are always concern about their privacy in ChatGPT. Most of the respondents feel it all safe to use and thus study results show positive relation with attitudes that means more they feel secured with ChatGPT, more they intend to use it. This result is also supported by the previous study [1]. Some researchers show trust has positive association with attitudes [21] and in my study, trust is treated as privacy and security. When the users feel that some new system can assure their privacy and maintain their personal information security they trust the

system. Finally, attitude towards ChatGPT and experiencing intention has got positively lined in this study according to the result (H6). Attitudes always impacts on intention to use. In this study it is found that attitudes significantly impact experiencing intention of the public university undergraduate students in rangpur division, Bangladesh. This result supports the previous studies in this type in different domain [7], [21], [23], [24], [26], [44].

#### 4. CONCLUSION

The objective of this study is to highlight the public university undergraduate students' experiencing intention of ChatGPT in Rangpur division, Bangladesh. Such type of study has conducted by some researcher in Bangladesh and other countries but in the context of Rangpur division, it is the unique study. From this study it is found that norther division undergraduate public university students are very much keen to use ChatGPT but their concern is about privacy and security. This study revealed that perceived usefulness, ease of use, informativeness and privacy and security are positively influenced their attitude toward experience ChatGPT as a trending tool of AI. Unlikely, it is seen that perceived enjoyment has no significant impact on their attitudes.

##### 4.1. Thermostical implication

In this study I used three external factors named perceived informativeness, perceived privacy and security, perceived enjoyment with the basic TAM theory. The result resembles that perceived enjoyment has no impact on usage intention of ChatGPT while the other two factors perceived informativeness and perceived privacy and security has significant influence on attitudes toward usage intention of ChatGPT by public university undergraduate students in norther part of Bangladesh. How far I know this the only study which combines these three factors along together to identify the attitudes of undergraduate students' intention to use ChatGPT. Unlike the previous studies, this study relates a specific region of any country.

##### 4.2. Practical implication

From this study the authority of ChatGPT gets clear idea about how norther area's public university undergraduate students of Bangladesh treat ChatGPT. The authority should pay more concern about the privacy and security of the users. Though it is seen that perceived enjoyment hasn't impacted the students' attitude toward intention to use ChatGPT, the authority should think it to make more enjoyable apps so that user feel using this apps enjoyable. University teachers should be careful while checking the students' assignment whether they are totally copied from AI Chatbots or not. They should encourage students to behave ethically regarding making their academic tasks done by ChatGPT. Finally, this study will help the service providers to take decision regarding ChatGPT about how and what to improve in this technology and what factors should be considered more.

##### 4.3. Limitations and future research scope

This study is done only with the undergraduate students in public university in Rangpur division, Bangladesh. So, it is suggested to the future researcher to take more university as

sample and also include post-graduate students in this criterion to get actual result. In this study I used no mediation factor to determine the mediation effect of this model. So, it has further opportunity to apply any mediation factor to get clear idea about ChatGPT. This research is focused in only attitudes towards usage intention of ChatGPT but researcher can find out continuance intention to use ChatGPT. This study doesn't consider the factors like trust, perceived risk, perceived control. Thus, it is an opportunity to conduct future research considering the factors like trust, perceived risk, perceived control.

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