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The Effect Of Student Attitude And Social Presence On The Use Of Chatgpt In Students Using The Technology Acceptance Model

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ABSTRACT

This study aims to provide an analysis of the influence of student attitude on the perceived usefulness of ChatGPT, Influence of social presence on the social presence of ChatGPT, the influence of perceived usefulness and perceived ease of use on the behavioral intention of ChatGPT on college student. this study was conducted on student of the Office Administration Education study program with a sample size of 156 from a population of 731 student determined using krejcie table with a significance level 0,05. The data analyzed technique that used in this study uses Stuctured Equation Modeling – Generalized Structured Component Analysis (SEM-GSCA) in processing using the GSCA pro application. The result of the research taken state that Student Attitude has a positive influence on Perceived Usefulness. Social presence has positive influence on Perceived Ease of Use. Perceived Usefulness and Perceived Ease of use has positive influence on Behavioral Intention. This research provides insight into ChatGPT technicians regarding system acceptance in influencing user intentions by providing a system that has Perceived Usefulness and Perceived ease of Use factors.

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1. INTRODUCTION

Introduction The development of artificial intelligence Tiwari et al. (2023) stated that the term Artificial Intelligence or artificial intelligence, which is a part of computer science that is designed so that computers or machines can function the same as and as well as humans do, so that Artificial Intelligence has been used in life in the digital era or in the era of society 4.0, especially in the field of education. (Bukartaite and Hooper 2023) an example of artificial intelligence and AI that is widely used in the education sector is ChatGPT. ChatGPT is a new AI-based technology whose novelty is useful in the education sector. Answer accuracy is moderate which makes ChatGPT an attractive platform for students. They are impressed, interested, motivated and optimistic about it. Educators should investigate how to make the most of this interest. ChatGPT is so interesting and what can be done to maintain students' interest in this platform. This research shows several factors that can be considered such as the quality of explanations and human-like interactions (Abdulahadi Shoufan. 2023). The reason for using ChatGPT is because using ChatGPT helps complete tasks more efficiently by having access to information quickly and accurately, but in its use ChatGPT also has weaknesses such as not including definite journal sources or reference article sources so that carrying out assignments still requires more effort to search. information in accordance with sources and references. ChatGPT also has responses and responses to human behavior which are usually referred to as Student Attitude. Based on research by Tiwari et al. (2023) Student Attitude is a person's tendency to give a positive or negative response to an object, person, institution or event, and other individual components that can be differentiated by the environment. Attitude is an interaction process in which a person provides responses and stimuli received, in other words attitude is related to the object that the receptor complains about. Click or tap here to enter text. The students adopt a determined attitude based on several reasons such as, environment, experiences, and their own responses. (Al-asqah, 2018) Attitude refers to the results of certain individual and subject responses in a social activity where in social activities social presence or social or individual presence plays an important role. Social Presence according to Gunawardena (1995) it is defined as the importance of other people in consequences and interpersonal relationships. In that sense social presence relates to whether the other person is real during interpersonal communication even when using mediated devices, be it computers, smartphones, and other electronic communication tools. In the field of education social presence is defined as the ability of students to carry out social activities and the effectiveness of the learning group in this term social presence often also measured as perceived warmth, conveyance of feelings, interaction contact and interpersonal feelings, sociability and sensitivity contained in a media (Guo, Zeng, and Zhang 2023) ChatGPT is very relevant to searches and the information needed. It also makes it easier for students to search for topics, references and get the information needed to help them complete assignments. Therefore, it can be concluded that ChatGPT can provide benefits and convenience for users so that students are loyal in using ChatGPT. However, in its use there are still many students who complain about the web which can be slow due to an inadequate network and also the availability of ChatGPT which is still in the form of a web so to use it you still have to use the network. Meanwhile, students from the office administration education study program.

Research conducted by Tiwari et al., (2023) shows that the samples collected are limited to certain geographies in Oman, the data collected is also based on student responses obtained from the results of experience in a short period of time. In addition, research

conducted by Duong et al. (2023) revealed that the sample used was only tested in Vietnam, which is a developing country in the Asian region, and this study concentrated on examining student intentions and behavior in using ChatGPT. And research according to Pasca and Arcese (2024) states that the study was limited to a small part of the Italian population and the study was conducted qualitatively so that researchers suggest that further research be conducted quantitatively and this study is also limited to geography and culture so that researchers suggest further research to identify related to the acceptance of ChatGPT in other countries and research is conducted in other sectors, such as education, health and industry. The limitations and suggestions given in the study indicate a research gap that must be filled

The Research Gap used in the study is the Methodological gap where there are differences and shortcomings that occur in previous studies involving populations from certain areas so that the results cannot be generalized so that the purpose of this study is to develop knowledge related to previous research that is limited to geographic locations with different variables with research subjects conducted in the field of information systems. And the Research Novelty of this study was conducted in the field of Education with research subjects in Indonesia, precisely conducted in the Office Administration Education study program, Surabaya State University by adding new variables, namely Student Attitude and Social Presence.

This research is important to do to determine the feasibility of the current information system with the needs and desires of students. And based on these problems, research related to acceptance and rejection of ChatGPT and conducting an analysis of factors that influence acceptance and rejection of user intentions in using ChatGPT so that it can be input, suggestions and improvements to the ChatGPT system. Researchers use the Technology Acceptance Model (TAM) to determine the extent to which the ChatGPT system can be accepted by users using external variables (Latifah and Nugraha 2023). Previous research identified four external variables including, Controlled Motivation, Autonomous Motivation, Perceived Learning, and Perceived Challenges (Miao et al. 2023) based on research from Tiwari et al. (2023) revealed that this study has many factors highlighted in this study will determine technology that is more accessible to the community, the usefulness of Social presence and credibility that creates positive behavior.

2. METHODS

This research is included in the category of quantitative research. The method used is Descriptive Correlational, which aims to explain the relationship, estimate, and test the existing theory between two variables, namely student attitude towards ChatGPT with social presence with ChatGPT. This study uses a Cross Sectional Study approach, namely this study is observational where the data on the variables studied are collected at the same time on all predetermined samples (Sugiyono 2014).

1. Type of data

This study uses quantitative data obtained from the number of students and the results of questionnaires distributed and filled out by students.

2. Data sources

The data sources for this study come from two sources:

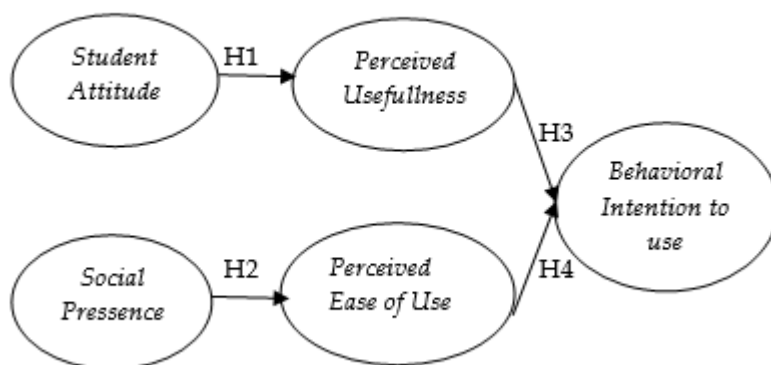
- a. Primary data, namely data collected directly by researchers using interviews conducted with several students and questionnaire instruments using a Likert scale. The Likert scale is used to measure the attitudes and opinions of respondents with choices of 1 to 5, which include "Strongly Agree" to "Strongly Disagree".

b. Secondary Data

According to Sugiyono (2018), secondary data refers to data sources that are not directly obtained by data collectors, for example through other people or documents. In this context, researchers use references from journals and previous research.

In this study, the population consisted of students majoring in Economics Education, Office Administration Education Study Program, class of 2020–2023, with a total of 731 students. In determining the sample, the following criteria were set:

- a. Active Students of the Faculty of Economics and Business, Office Administration Education Study Program, Surabaya State University
- b. Have Used ChatGPT once in a period of one year



Picture 1 Research model

Tabel 1 Research instrument

Konstruk	Dimensi	Indikator	Kode	Sumber
Behavioral Intention (BI)	<i>intention to use in future</i>	Saya memiliki keinginan Untuk menggunakan layanan ChatGPT pada bulan selanjutnya.	BI1	Dimension: (Chandan Kumar et al., 2023) Indikator: Davis(1989), Shen et al. (2022)
	<i>Predicting to use for learning experience</i>	Saya memperkirakan saya akan membagikan pengalaman menggunakan ChatGPT di bulan berikutnya	BI2	
	<i>Frequent use Attempt to use for Education</i>	Saya berharap saya dapat meningkatkan Penggunaan ChatGPT untuk menyelesaikan tugas saya di kemudian hari	BI3	
	<i>Predicting to use for learning experience</i>	Saya memiliki keinginan untuk menggunakan ChatGPT dalam membantu kegiatan saya dalam belajar	BI4	
	<i>intention to use in future</i>	Saya akan lebih banyak menggunakan ChatGPT di kemudian hari	BI5	
Perceived Usefulness (PU)	<i>Useful in education</i>	Semua informasi yang diberikan ChatGPT membantu saya dalam menyelesaikan tugas	PU1	Dimension: (Chandan

Konstruk	Dimensi	Indikator	Kode	Sumber
	<i>Enhances the quality of learning</i>	Dengan menggunakan ChatGPT dapat meningkatkan kualitas pembelajaran	PU2	Kumar et al., (2023)
	<i>Useful education</i>	Dengan menggunakan ChatGPT saya bisa menyelesaikan tugas saya	PU3	Indikator : Shen et al. (2022),
	<i>Accomplishes tasks more quickly</i>	Dengan menggunakan ChatGPT saya dapat menyelesaikan tugas dengan lebih cepat	PU4	Venkatesh et al.(2012)
	<i>Enhances learning effectiveness</i>	Dengan menggunakan ChatGPT saya dapat meningkatkan efektifitas dalam menyelesaikan tugas	PU5	
Perceived ease of use (PEOU)	<i>Easy to use</i>	ChatGPT sangat mudah digunakan	PEOU1	Dimension: (Chandan Kumar et al., 2023) Indikator : Shen et al. (2022), Venkatesh et al.(2012)
	<i>Easy to master</i>	Fitur dalam ChatGPT sangat mudah dikuasai	PEOU2	
	<i>Uncomplicated</i>	Fitur dalam ChatGPT tidak rumit sehingga saya tidak kesulitan dalam mengoperasi-kanya	PEOU3	
	<i>interaction is clear and understandable</i>	Interaksi yang disajikan oleh ChatGPT jelas dan saya dapat mudah mengerti	PEOU4	
	<i>less mental efforts</i>	Dalam penggunaan ChatGPT saya tidak memerlukan banyak upaya dalam penggunaanya	PEOU5	
Student Attitude (SA)	<i>Students' attitudes towards private work</i>	ChatGPT dapat membantu dalam mengerjakan pekerjaan pribadi saya	SA1	Dimension: Amnah Al - asqah (2018)
	<i>Factors influencing students' attitudes</i>	ChatGPT dapat mempengaruhi sikap saya terhadap pengerjaan tugas yang saya kesulitan mengerjakanya	SA2	Indikator: (Tiwari et al. 2023)
	<i>Obstacles affecting students' attitudes</i>	ChatGPT menjadi jalan keluar bagi hambatan yang mempengaruhi saya untuk menyelesaikan sebuah tugas	SA3	
	<i>Private sector's role in supporting students' attitudes</i>	Banyak peran ChatGPT dalam mendukung saya dalam menyelesaikan tugas	SA4	
	<i>Private sector's role in supporting students' attitudes</i>	Saya merasa banyak terbantu dengan peran ChatGPT dalam menyelesaikan tugas	SA5	
<i>Social Feeling of being Pressenc involved with a e (SP) person</i>	Dengan menggunakan ChatGPT saya merasa terlibat dengan seseorang	SP1	Dimension: (Chandan	

Konstruk	Dimensi	Indikator	Kode	Sumber
	<i>Feeling of communicating with intelligent agent</i>	Dengan menggunakan ChatGPT saya merasa berkomunikasi dengan agen yang cerdas	SP2	Kumar et al., 2023)
	<i>Feeling accompanied by an intelligent being</i>	Dengan menggunakan ChatGPT saya merasa memiliki teman yang pintar yang dapat membantu saya	SP3	Indikator : Tsai, Liu, and Chuan (2021)
	<i>Sense of human sensitivity</i>	Saya merasa ChatGPT memiliki rasa kepekaan seperti manusia sehingga saya merasa mudah dalam menyelesaikan tugas	SP4	

The data collection technique in this study used a questionnaire distributed through the Google Form platform. Where before collecting data, a literature study was carried out first in order to obtain the information needed in this writing, the author conducted literacy from various sources of literature and research journals that already exist and referred to as references. The questionnaire was determined from the results of the construct in table 1 and consisted of 2 exogenous variables, namely student attitude and social presence, also consisting of 3 endogenous variables, namely Perceived Usefulness, and Perceived Ease of Use, and Behavioral Intention To use. The results of this study, the data analysis technique used the regression analysis method in this process the information obtained was processed to obtain conclusions and new information that was expected to provide solutions to the problems being studied. The researcher used Structural Equation Modeling-Generalized Structural Component Analysis (SEM-GSCA). Before entering the testing stage, the instrument items will be tested first using validity tests and reliability tests with the help of SPSS. In the validity test, the testing technique uses Pearson Product Moment, while for the reliability test, the Cronbach's alpha technique is used. The collected data will then be retested using SEM GSCA using the GSCA Pro application, which is one of the powerful analysis methods because it is not based on many assumptions. GSCA has a single consistent criterion for minimizing residuals to obtain model parameter estimates, thus providing optimal solutions and mechanisms for evaluating the overall goodness of fit model. Research Design can be seen in table 1

3. RESULTS AND DISCUSSION

The results of the study came from filling in the respondents. The total number of respondents who filled out the questionnaire distributed via Google Form was 156 respondents based on the number of samples determined by the Krejcie table with a significance level of 5%, namely 254, so that researchers conducted limited research on previously determined samples with a return of 64% of respondents (156) because some respondents were removed because they did not meet the respondent criteria. And it can be ascertained that all respondents (100%) are 19-23 years old. And based on descriptive statistics, it can be seen that 88% of respondents (137) are female and 12% of respondents (19) are male. With a percentage of use of 28% of respondents (44) have experience 1-3 times a year, 17.2% of respondents (26) have experience 4-6 times a year, and 54.8% of respondents (86) have experience more than 6 times a year.

Table 2. Frequency distribution of respondents by sex.

Sex	No.	Percentage (%)
Male	137	88
Female	19	12
Total	156	100.0

Table 3. Frequency distribution of respondents by age.

Age	No.	Percentage (%)
> 19 years	0	0
19 – 24 years	156	100
< 19 years	0	0
Total	150	100.0

And it can be ascertained that all respondents (100%) are 19-23 years old. With a percentage of use of 28% of respondents (44) have experience 1-3 times a year, 17.2% of respondents (26) have experience 4-6 times a year, and 54.8% of respondents (86) have experience more than 6 times a year at table 4

Table 4. user experience

Occupation	No.	Percentage (%)
1 – 3 times a year	44	28
4 – 6 times a year	26	17.2
More than 6 times a year	86	54.8
Total	150	100.0

Measurement model assessment

The value of Indicators of Loading on Component in the study. Hair et al., (2014) stated that if the value of Indicators of Loading on Component is ≥ 0.7 then it can be stated that it meets the value requirements. However, according to Chin (1998) the value of Indicators of Loading on Component that is in the range of ≥ 0.5 to 0.6 is considered sufficient. In this study, it can be observed that the overall value of Indicators of Loading on Component has a value of ≥ 0.6 , so this research model meets the requirements in terms of Indicators of Loading on Component. In the Behavioral Intention variable, the highest Loading value is in the BI3 indicator (0.854) while the lowest loading value is in the BI2 indicator (0.768). In the Perceived Usefulness variable, the highest Loading value is in the PU5 indicator (0.871) while the lowest loading value is in the PU2 indicator (0.771). In the Perceived Ease of Use variable, the PEOU3 indicator has the highest loading value (0.894), while the lowest loading value is in the PEOU1 indicator (0.809). In the Student Attitude variable, the highest loading value is in the SA5 indicator (0.841) while the lowest loading value is in the SA1 indicator (0.696). In the Social Presence variable, the highest loading value is in the SP3 indicator (0.914), while the lowest loading value is in the SP1 indicator (0.831). This can be seen in Table 5

Table 5. Correlations between indicators and components

	Correlations between indicators and components				
	SA	SP	PU	PEOU	BI
BI1	0.612	0.434	0.521	0.398	0.804
BI2	0.593	0.531	0.530	0.436	0.768

BI3	0.618	0.478	0.592	0.460	0.854
BI4	0.578	0.463	0.569	0.400	0.821
BI5	0.647	0.462	0.617	0.386	0.810
PU1	0.570	0.442	0.771	0.246	0.508
PU2	0.579	0.501	0.762	0.337	0.679
PU3	0.626	0.441	0.830	0.441	0.551
PU4	0.648	0.490	0.805	0.429	0.509
PU5	0.712	0.516	0.871	0.457	0.554
PEOU1	0.390	0.281	0.368	0.809	0.393
PEOU2	0.395	0.339	0.378	0.890	0.421
PEOU3	0.439	0.368	0.421	0.894	0.484
PEOU4	0.389	0.409	0.397	0.829	0.395
PEOU5	0.461	0.406	0.463	0.847	0.489
SA1	0.696	0.493	0.568	0.326	0.512
SA2	0.728	0.471	0.477	0.249	0.458
SA3	0.806	0.579	0.605	0.454	0.599
SA4	0.826	0.527	0.622	0.414	0.658
SA5	0.841	0.586	0.722	0.425	0.672
SP1	0.590	0.831	0.451	0.346	0.499
SP2	0.580	0.896	0.565	0.390	0.548
SP3	0.626	0.914	0.555	0.422	0.533
SP4	0.591	0.839	0.491	0.308	0.446

The results in table 6 are the results of the Construct Quality Measures (Reliability of Indicators) measurement, implying that to obtain research with Convergent validity, Internal consistency, and Composite reliability which has a PVE value of ≥ 0.50 . This is in line with the findings of Ali et al., (2021) which stated that the Alpha and Rho values were above 0.70, and the dimension was 1.0 (Meneau & Moorthy, 2022). The table shows that the PVE values for the SA, SP, PU, PEOU, and BI variables are all above 0.50. In addition, the Alpha and Rho values for the SA, SP, PU, PEOU, and BI variables also exceed 0.70, indicating that all variables in the research model have acceptable levels of convergent validity, internal consistency, and composite reliability.

The results in table 7 state that the Fornier Lacker value criterion shows that all diagonal values representing the square root of AVE exceed the correlation between factors (Fornell & Larcker, 1981). This is important in establishing discriminant validity in research, which basically indicates that the measurement model has acceptable psychometric properties (Adu et al., 2021). The HTMT ratio for all variables in the table above shows a value of ≤ 0.90 where the HTMT ratio value ≤ 0.90 indicates discriminant validity (Ali et al., 2021) Henseler et al., (2015) explained that the HTM value above 0.90 indicates a lack of discriminant validity.

Table. 6 Construct Quality Measures (Reliability of Indicators)

	SA	SP	PU	PEOU	BI
PVE	0.610	0.757	0.653	0.729	0.658
Alpha	0.839	0.893	0.867	0.907	0.870
rho	0.886	0.925	0.904	0.931	0.906

Dimensionality 1.0 1.0 1.0 1.0 1.0

Table 7 Component Validity Assesment

Fornell-Larcker criterion values					
	SA	SP	PU	PEOU	BI
SA	0.781				
SP	0.684	0.870			
PU	0.777	0.594	0.808		
PEOU	0.486	0.424	0.475	0.854	
BI	0.751	0.583	0.699	0.512	0.811
HTMT					
SA <-> SP			0.787		
SA <-> PU			0.896		
SA <-> PEOU			0.547		
SA <-> BI			0.868		
SP <-> PU			0.669		
SP <-> PEOU			0.466		
SP <-> BI			0.660		
PU <-> PEOU			0.531		
PU <-> BI			0.795		
PEOU <-> BI			0.575		

[H1] The Influence of Student Attitude on Perceived Usefulness

The findings of this study indicate that Student attitude has a significant positive impact on Perceived usefulness, and this result is in line with the findings of previous research by Tiwari et al. (2023), which showed that perceived usefulness is significantly influenced by Student Attitude. This finding is also consistent with research conducted by Chen, Chen, and Lin (2020) and Hasan (2022), which confirmed that student attitude positively and significantly affects the perceived usefulness of ChatGPT.

[H2] The Influence of Social Presence on Perceived Ease of Use

The results of this study state that social presence has a significant positive influence on perceived ease of use where users can assess the features in ChatGPT as easy to

understand and the chatbot features in ChatGPT can provide a sense of social interaction like humans, so that students can be sure of the answers to the tasks given by using ChatGPT, so that it can be assessed that the easier it is to use ChatGPT will increase user loyalty, based on this it can be concluded that social presence has a significant positive influence on perceived ease of use ChatGPT.

[H3] The Influence of Perceived Usefulness on Behavioral Intention

The research findings show that perceived usefulness has a significant and positive impact on behavioral intention. This means that the more benefits perceived by users (perceived usefulness), the higher the students' intention to use ChatGPT (behavioral intention). This finding is in line with previous research conducted by Tiwari et al. (2023), which also confirmed that perceived usefulness has a significant and positive impact on behavioral intention in using ChatGPT. Other studies conducted by Tahar et al. (2020) and Romero-Rodríguez et al. (2023) also support this finding by stating that the more useful a system is, the greater its influence on consumer behavior in using the system significantly. Therefore, perceived usefulness has a positive and significant impact on behavioral intention.

[H4] The Effect of Perceived Ease of Use on Behavioral Intention

The results of this study indicate that perceived ease of use has a significant positive impact on behavioral intention. This is consistent with the results of previous studies, such as those conducted by Tahar et al. (2020) which concluded that ease of use of the system has an influence on user loyalty (behavioral intention), so that perceived ease of use has a significant positive effect on behavioral intention. This finding also supports the research of Hasan (2022) and Tiwari et al. (2023) which found that perceived ease of use has an influence on behavioral intention.

4. CONCLUSION

In Based on the research results, it can be seen that ChatGPT is an Artificial intelligence that can be accessed by anyone anytime and anywhere so that with the high intention of students in using ChatGPT, it will improve the quality of education that can be evenly distributed that can be received by all students. With the large number of students using ChatGPT, it shows significant growth for technological innovation in education. This can also realize the sustainable development goals (SDGs) program on the objectives in the field of Education, namely organizing inclusive, quality, and equal education that can also be accessed by everyone, and is able to support lifelong learning opportunities for everyone.

5. AUTHORS' NOTE

Based on the research results, there are several suggestions In this study, the sample was not evenly distributed (convenience sampling), more were taken from the class of 2023 and suggested that further research can be done using a more even sample. ChatGPT user intention (behavioral intention) is influenced by other variables that are not explained in this study. Therefore, it is hoped that further research can add other system characteristic variables such as user satisfaction (usability) and security of use (user security). The use of the TAM model in this study to evaluate technology acceptance, it is hoped that in the acceptance of the next model, other models such as UTAUT and TTF can be used. The artificial intelligence used as the object in this study is ChatGPT which

researchers consider to be a website that is widely accessed by students today. And it is hoped that further research can use other artificial intelligence research objects such as Virtual Assistants and Translators (Grammarly). This study does not use intervening variables so that in further research intervening variables can be added. The results of this study cannot be generalized to other samples and research objects. The research method in the study using SEM - GSCA in future research can use other research methods such as SEM PLS or WARPLS. The R square results in further research can use other variables such as Actual System Use and Attitude Toward Using (ATU).

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