FACTORS INFLUENCING ACCEPTANCE OF CHATGPT AMONG STUDIOUS STUDENTS FOR ACADEMIC PURPOSES

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Abstract. *As we are living in the digital age, also known as the new media age, there is no denying the fact that our lives are shaped by technology to the extent that we have become dependent on it for our day-to-day matters. Although technology, more specifically Artificial Intelligence (AI) has made our lives easier and efficient. One such tool that gained instant popularity and usage after its invention is ChatGPT. Though ChatGPT is benefitting people in various fields but its use in academia still has acquired mixed reviews. While some see its potential for enhanced learning, other view it as a way for students to cheat and plagiarize (Kirk, 2023). Research on the use of ChatGPT in educational setting has been conducted in a few countries but still it needs a lot of research in the Pakistani context. The current paper will find out factors influencing acceptance of ChatGPT among studious students for academic purpose. Moreover, this paper also has a qualitative part which will review the challenges and opportunities of using ChatGPT in higher education in Pakistan by doing a SWOT analysis. Data for the quantitative part will be collected through questionnaire, from engineering students of National Sciences and Technology (NUST) university. In the light of the results gained after data analysis, a comprehensive discussion on the opportunities and challenges of using ChatGPT in Pakistani academic setting will be done. The potential for abuse and exploitation will also be covered in the paper's discussion of the ethical issues. ChatGPT is one of the first of its kind available to general public and more are on its way. Thus, we have to accept its presence in our lives. We need to open dialogue so that AI in education reaches its full potential, which can have more opportunities than challenges.*

Keywords: Digital age, artificial intelligence, ChatGPT, use of technology in education, higher education in Pakistan, UTUAT model.

Introduction

The use of ChatGPT and artificial intelligence (AI) systems in academia has garnered a lot of attention in recent years. By automating time-consuming and repetitive tasks, supporting data processing and analysis, and opening up new avenues for learning and assessment, artificial intelligence (AI) technologies have the potential to revolutionize research and education. However, there are obstacles and conflicts associated with the use of AI in academia.

The potential advantages of using ChatGPT and artificial intelligence (AI) systems in the academic area have been the subject of numerous research investigations and academic papers. The increased accuracy and efficiency of research is one important advantage. Large volumes of data may be efficiently analyzed by artificial intelligence systems, which can also recognize intricate connections and patterns that may be challenging for people to understand.

As a result, research may be conducted more effectively and efficiently, freeing up academics to concentrate on challenging and creative projects. Artificial intelligence systems are capable of analyzing the learning styles and aptitudes of students and offering tailored advice and support to help them reach their objectives. On the other hand, there are issues and difficulties in using AI in academia. AI systems are susceptible to manipulation or abuse, which could produce biased or unreliable results.

Recent years have seen significant developments in the domains of artificial intelligence (AI) and ChatGPT, which are now widely used in a variety of businesses, including academia. Researchers and academics are realizing the potential of massive data because of its increasing significance and the necessity of fast and effective data analysis. Researchers and academics are seeing the usefulness of AI systems like ChatGPT as useful tools because of the growing significance of massive data and the requirement for rapid and effective data analysis. Very little research has been done so far on the application of artificial intelligence (AI) in the field of education. The hypothesis put forth by the researchers is that there is a persistent and growing interest in investigating the effects of artificial intelligence (AI) in the fields of research and education. Notably, there have only been two research studies done to far on the moral conundrums raised by the usage of ChatGPT in the classroom. The main study was carried out in 2021 by Akgun and Greenhow, with a focus on K–12 pupils. The purpose of Okonkwo and AdeIbijola's second study was to assess the moral ramifications of ChatGPT use in higher education.

OpenAI and ChatGPT

Since2015, OpenAI has led the way in the field of artificial intelligence research and development, and since then, it has made significant strides in democratizing access to AI for the benefit of society (OpenAI, n.d.). One of their most

noteworthy achievements is the creation of ChatGPT, an artificial intelligence model whose user base has grown quickly and significantly (Hu, 2023).

Transform architecture is used in the construction of ChatGPT, which is specifically trained to predict the next tokens in a given sequence. It can now operate as a competent chatbot that can answer a variety of questions thanks to this training. It is essentially an AI conversational tool. It can comprehend and create language patterns since it has been educated on a sizable amount of web content. It can therefore yield coherent and pertinent responses depending on the context. (OpenAI, undated)

Two versions of ChatGPT—ChatGPT-3, which are available for free, and ChatGPT-4, a more sophisticated version that costs money—have been made available to the public by OpenAI. The latter is an improved version meant to give users more precise and suitable results for the given situation. Despite having a number of limitations in comparison to human abilities in practical situations, ChatGPT has proven to be remarkably competent, especially when it comes to how well it performs on numerous professional and academic tests. Its exceptional language comprehension skills are demonstrated by its top-ten percentile performance on a simulated bar exam, which is one of its biggest achievements.

In the current discussion and research, the effect of ChatGPT on academics is a topic of significant interest. Due to the technology's rapid growth and student uptake, there is an increasing need for educators and educational institutions to gain a deeper understanding of its capabilities, including its limitations and often unpredictable nature (Kasneci, 2023). There are differing opinions about ChatGPTs' place in the classroom. Some people believe that it will lead to better learning and less work for teachers, but others see it as a way for students to commit academic dishonesty by cheating and plagiarizing (Kirk, 2023).

Despite ChatGPT's widespread acceptance in a number of sectors, adoption and utilization—particularly in higher education—remain poorly understood. With its many features and built-in limitations, ChatGPT is a potentially useful tool for teachers and students alike. Additionally, understanding how ChatGPT is accepted and used may provide helpful feedback to its developers, enabling them to make changes that better suit the requirements of academic users. Because of AI's revolutionary potential and the speed at which technology is developing, it is imperative that we comprehend the real-world implications of this technology, particularly in academic contexts. Gaining this knowledge is essential to encouraging its moral and advantageous application.

The purpose of this research is to identify the variables that affect students' adoption and usage of ChatGPT in their academic endeavours. The primary goals of this investigation are threefold:

First, it can yield insightful observations that help mitigate risks and capitalize on the potential benefits of utilizing ChatGPT in educational contexts. Moreover, comprehending how students embrace and use ChatGPT might shed light on the advantages and disadvantages associated with its use. Lastly, given the paucity of prior research on this topic, this study intends to advance the field of information systems and give developers and decision-makers useful information by offering fresh viewpoints on how students adopt and use ChatGPT in learning settings.

ChatGPT is here to stay, and we cannot deny its immense use in academia by students as well as teachers. Researchers around the world are researching how it is used. It is extremely relevant to students for academic purpose as they can get relevant answers in easy-to-understand conversational English. It is worldwide used by students for the pursuance of their academic goals. In Pakistan, its adoption is also very high. However, the reason behind adoption is unknown. Moreover, its adoption is possible by students at different levels as well as belonging to different categories. A criticism regarding ChatGPT is its usage by weak non-serious students for shortcut purposes. However, it can also be used by hardworking and brilliant students often referred to as studious. ChatGPT by itself is not a bad technology. How it is used is a matter of concern.

There is limited research on factors influencing acceptance of ChatGPT among studious students for academic purposes from Pakistani perspective. This study is significant in the sense that it will confirm application of already developed technology acceptance models in the case of ChatGPT technology. Moreover, the results will be specific to studious students. In the light of the above discussion, it will be interesting to know which factors influence studious students' intention to use ChatGPT for academic purpose. This research paper has also focused on investigating the ethical quandaries and obstacles associated with the use of ChatGPT in an academic context. Based on the research gaps stated above, the following research question and research objective can be proposed.

Research Questions

This paper seeks to examine the possible application of ChatGPT in the academic domain and their ethical implications on research and education. This research is conducted to answer the following two research questions:

Q1: Which factors influence studious students' intention to use ChatGPT for academic purpose. in higher education in Pakistan?

Q2: What are the opportunities and challenges posed by the integration of ChatGPT in higher education in Pakistan?

Significance of the Study

This study is focused on hardworking students who have scored high marks since childhood. These students score admission in top tier local and internation universities by giving assessment test as part of admission in undergraduate degree

programs. The focus is on the capital city of Pakistan since it attracts talented students from all over Pakistan. Within universities, NUST has been chosen since it is among the top universities of Pakistan. Moreover, it has a very tough admission process which includes assessment and interview apart from previous academic credentials. Students of computer science are focused. The importance of this research work rests in its ability to improve education, tackle ethical issues, and provide valuable insights to decision-makers on the appropriate and efficient use of ChatGPT in Pakistan's academic environment

This study will contribute to the field of technology, and academia by providing valuable insights regarding factors influencing usage of ChatGPT technology for academic purpose in top tier universities of Pakistan. This study will be of importance to students, teachers and relevant stakeholders who will have an idea which factors influence studious students' intention to use ChatGPT for academic purposes.

Literature Review

The Unified Theory of Acceptance and Use of Technology (UTAUT) serves as the main theoretical framework used in this investigation. This theory aims to provide the necessary theoretical groundwork needed to investigate how students adopt and use ChatGPT in a classroom environment. A complete framework that seeks to explain and forecast people's acceptance and use of technology is referred to as a unified theory of technology acceptance and utilization.

Venkatesh, Morris, Davis, and Davis (2003) developed the unified theory of acceptance and use of technology in an effort to bring together a number of theories that focused on users' acceptance of technology and its adoption as an innovation (Williams et al., 2015). UTAUT's goal is to evaluate new technology's chances of success and identify the variables affecting its adoption (Ammenwerth, 2019). According to the UTAUT paradigm, user behaviour and behavioural intention are influenced by four core traits. Four key moderators impact these elements, as Venkatesh et al. (2003) have proposed. By analyzing how these ideas work in practical settings, academics and industry experts can determine a person's propensity to use a particular technology or system. This methodology makes it possible to identify the critical factors that affect a given setting's acceptance of technology (Williams et al., 2015). Because of this characteristic, the model is perfect for answering the research question of this thesis.

According to UTAUT model, intention (DV) is the factor of main interest. Intention measures a person's relative strength of intention to perform a behavior. Venketash et al. (2003) believed that intention is influenced by four constructs (Performance expectancy, effort expectancy, social influence, facilitation conditions). These constructs are referred to as independent variables (IVs).

Performance Expectancy (PE) is an individual's belief that technology will facilitate daily activities (Vanketash, et al., 2003). A review of the previous literature has established that PE is a major predictor of technology usage in the long run. Effort Expectancy (EE) is a level of one's convenience that they feel like when using a technology. It is also termed as perceived ease of use by various researchers. It can also be described as the level to which an individual perceives the new technology to be easy to use. Social Influence (SI) means the way humans adjust their behavior according to social pressures. In the context of the UTUAT model, Social Influence (SI) refers to the user's personal knowledge that people important to them believe that they as users should use technology or not. Facilitating Conditions (FC) means the degree to which the users believes that they have support available which will aid them in using a technology. Facilitation conditions can be a support group of IT experts or a manual among many possibilities.

Hence, we can say that four constructs form the foundation of the UTAUT model: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), as previously stated. These hierarchies are essential in shaping user behaviour and attitudes towards technology. Behavioural intention (BI) can be divided into three constructs: SI (Social Influence), EE (Effort Expectancy), and PE (Performance Expectancy). Four important moderators impact these four ideas (Venkatesh et al. 2003).

Behavioral Intention

Effort Expectancy (EE), Social Influence (SI), and Performance Expectancy (PE) all affect Behavioural Intention (BI). According to Venkatesh et al. (2003), the three constructs capture a person's behavioural intention towards embracing and using technology.

Behaviour utilization (BU) can be measured by an individual's frequency of technology use and is influenced by both enabling conditions (FC) and behavioural intention (BI). This has to do with the findings of the adoption and use of technology (Venkatesh et al. 2003).

Four Constructs

According to Venkatesh et al. (2003), Performance Expectancy (PE) is the degree to which a person believes that using the system would improve their job performance. Gender and age are the main factors that affect this. There is evidence that there are gender and age differences in this concept, with younger boys showing higher levels of performance expectancy.

According to Venkatesh et al. (2003), Effort Expectancy (EE) is the degree of ease of use related to the system. This is influenced by the gender, age, and experience of the main moderators. This foundation is especially crucial in the early stages of using the technology. According to Venkatesh et al. (2003), Social Influence (SI)

is the degree to which a person feels that powerful people anticipate them to accept and use a new system or technology. The main variables that affect this include age, experience, gender, and voluntary use. Women are more affected by this tendency than men are, especially older women with less experience.

According to Venkatesh et al. (2003), Facilitating Conditions (FC) are the degree to which a person believes that an organization and its resources are available to them in order to use a system. This is influenced by the age and experience of the major moderators. Because they depend on FC so much, seasoned consumers have higher expectations.

Their Behavioural Intention is therefore less affected because they could rely on their past experiences. Older people are more vulnerable to the effects of cognitive decline and may require more support, resources, or direction when using technology.

Important Factors that Influence or Regulate Moderation

The following are the main elements affecting moderation:

Gender norms determine a person's identity and should not be confused with biological characteristics.

- Age: The chronological age of the person.
- Experience: The degree of expertise attained via prior engagement or exposure; and
- Voluntary usage: The decision or readiness to use a specific product or participate in a given activity.

These four major moderators affect the four constructs in different ways and to different degrees.

Advantages, Relevance, and Empirical Evidence of UTAUT 2.4

Numerous studies have made extensive use of the Unified Theory of Acceptance and Use of Technology (UTAUT). The first UTAUT paper, published in 2003 by Venkatesh and Davis, shows that UTAUT can accurately explain 70% of the variation in behavioural intention, making it a highly effective predictor. The UTAUT framework has the capacity to assess and clarify the factors that influence a technology's acceptability and utilization. Using the UTAUT framework, this study aims to do a comprehensive investigation of ChatGPT uptake in the academic context.

The Unified Theory of Acceptance and Use of Technology (UTUAT) model developed by Venketash, et al. (2003) is extensively used by researchers who want

to research factors related to technology acceptance. As ChatGPT is a technology, therefore this model is appliable for measuring acceptance of ChatGPT.

Based on the previous studies, the following four hypotheses were designed for the current study which are related to both the research question and the research objective.

H1: Performance expectancy positively influences studious students' intention to use ChatGPT for academic purposes.

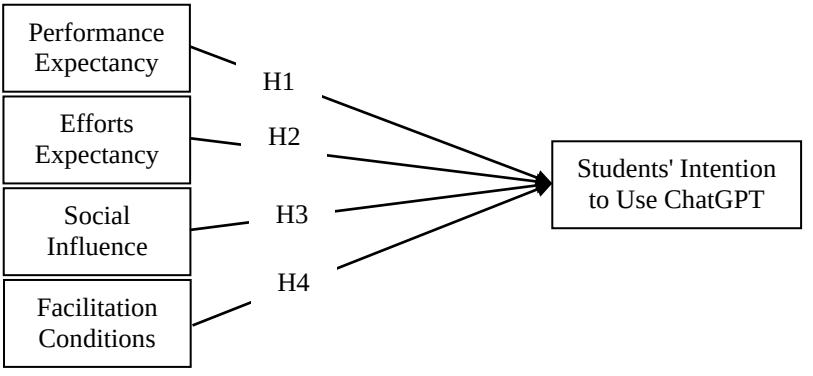
H2: Effort expectancy negatively influences studious students' intention to use ChatGPT for academic purposes.

H3: Social influence positively influences studious students' intention to use ChatGPT for academic purposes.

H4: Facilitation conditions positively influence studious students' intention to use ChatGPT for academic purposes.

A conceptual framework of the current study was designed keeping in mind the four hypotheses. The conceptual framework is given in the figure below.

Conceptual Framework



Framework for SWOT Analysis

Strengths, Weaknesses, Opportunities, and Threats, or SWOT, was initially employed as a framework to examine organizational strategies (Benzaghta and colleagues, 2021). This idea is often applied in education to offer direction for strategic planning and decision-making when situations necessitate considering the skills and viewpoints of several parties (Zhu & Justice Mugenyi,2015). The SWOT analysis summarises the internal (i.e., benefits and drawbacks) and external (i.e., opportunities and threats) factors that could have an impact on the adoption of new technologies in the classroom. It also provides a methodical way to gather data from several sources. Power is understood as an ability or resource that allows new technologies to achieve their goals.

Technology features, whether internal or external, that increase consumer demand for the services that technology may provide are referred to as prospective features. A technological limitation or fault that prevents the achievement of particular goals is called a weakness. Finally, any unfavourable feature of the technology that compromises its methodology might be seen as a threat since it presents a barrier or restriction, hence restricting the achievement of objectives.

Research Methodology

The research paradigm applicable to the current study was post-positivist worldview paradigm (Creswell, 2009). Post-positivism asserts that the particular personality of a researcher has an effect on whatever they observe and therefore influences the conclusions they draw upon based on their observation. "Post-positivism pursues objective answers by attempting to recognize, and work with biases with the theories and knowledge that theorists develop" (Glinchey, 2022). The research design for the current study was adopted from Qasim (2023). This study is confirmatory in nature. Statistical technique is utilized for confirming the conceptual model. Primary data was collected to test the hypotheses.

The instrument of the study was an online instrument with close ended pretested items for the constructs. Responses were measured using the five-point Likert scale. Non comparative scaling technique was used. Single dimension construct operationalization was considered. All the constructs were perceived. Multiple items were used to measure each dimension of the constructs. Moreover, reflective and continuous measurement was done.

Considering the aim of the study, the population is students with high grades in matric and second year (and equivalent qualification). For sampling purpose, the students should be enrolled in universities which have tough assessment criteria for admission in their programs so that follies/ biases in educational boards all over Pakistan can be overcome. Individual technology user is the unit of analysis. The sampling was purposive sampling. The sample decided for the current study were 140 university students belonging to National University of Science and Technology (NUST) in Islamabad, Pakistan. 140 students were selected as it supported the sample size requirement posited by Feiner (2002) which states sample size should be fifteen times the number of predictors. NUST was selected because it is among the top tier public sector-universities in Pakistan along with a tough admission criterion. The students were approached by sending them the online instrument link via their university provided email addresses.

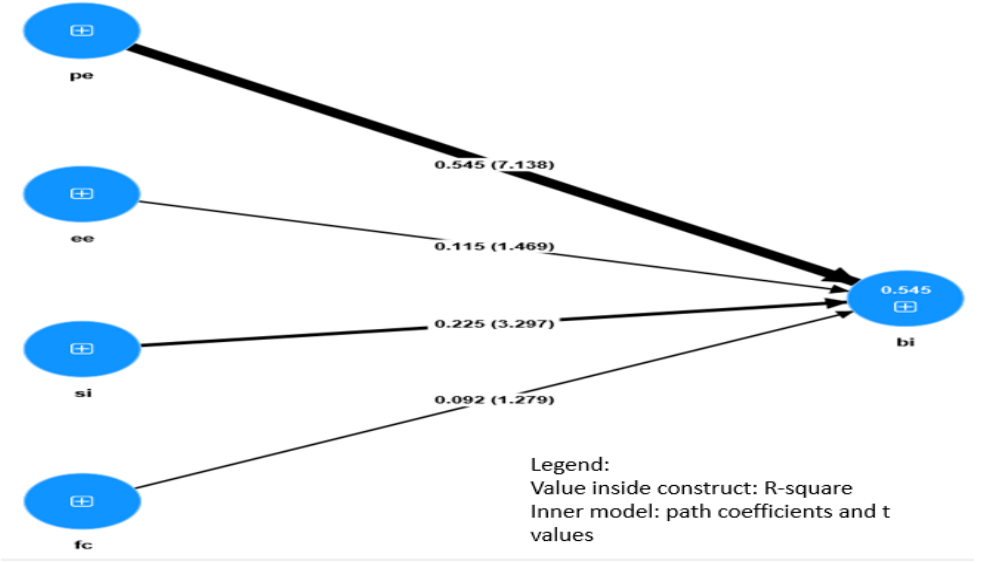
Quantitative cross-sectional data of primary nature was gathered for this research. Before analysis of the data, instrument reliability and validity were assured. Data was screened for anomalies as well as outliers. Before the actual analysis, response rate was measured. Data was analyzed using descriptive analysis and inferential

analysis. SPSS was used for descriptive analysis of respondents and the item used to measure the constructs. Whereas SmartPLS was used for inferential analysis. Inferential analysis was performed in two steps. Prediction Quality of the Model was measured based on effect size, Predictive Relevance and Model's Overall Goodness of Fit.

Moreover, this paper also has a qualitative part which reviewed the challenges and opportunities of using ChatGPT in higher education in Pakistan by doing a SWOT analysis. In the light of the results gained after data analysis, a comprehensive discussion on the opportunities and challenges of using ChatGPT in Pakistani academic setting was done. The potential for abuse and exploitation was also covered in the paper's discussion of the ethical issues.

Data Analysis and Results

The responses received were 123 out of 140 questionnaires sent. After removing the outliers, 119 responses were used for the analysis. As per the inferential analysis, Performance Expectancy has an impact on Intention as t=7, beta = 0.5. Therefore hypothesis 1 is accepted. The second result showed that Effort Expectancy has no impact on Intention as t=1.4, beta = 0.1. Therefore hypothesis 2 is rejected. The third result revealed that Social Influence has an impact on Intention as t=3.2, beta = 0.2. Hence, hypothesis 3 is accepted. The fourth result revealed that Facilitating Conditions does not influence Intention as t=1.2, beta = 0.0. Hence, hypothesis 4 is rejected.



As per the study results, only Performance Expectancy and Social Influence has a significant effect on Intention. The other two hypothesized relationships among

Intention, Effort expectancy and Facilitating Conditions are not valid. It can be noticed that although Social Influence has an effect on intention, it is dwarfed relative to the effect of Performance Expectancy on Intention.

The model measures 54% intention based on the independent variables (R^2=0.54).

Discussion

It is interesting to note that 54% intention to use ChatGPT for academic purpose is dependent on Performance Expectancy and to a small amount on Social Influence. The other two constructs in the UTAUT model have no significant effect on Intention. The reason Performance Expectancy has influence on intention is that our sample was university students of IT field who are digital natives. Moreover, the study was on computer science students. This segment of society is very result oriented. Therefore, the outcome of the study was as per our expectation.

The reason Effort Expectancy and Facilitation Condition does not have influence on Intention is again because of the sample characteristics in terms of being university students of IT field who are digital natives. Hence, for them, technology is easy to use, so they do not find technology difficult nor find facilitation conditions important. In case, this study was on digital immigrants such as those born before 1990, Effort Expectancy and Facilitating Conditions might have come as significant influencers of Intention. If supposedly the study was on arts and humanities students, for them Effort Expectancy and Facilitating Conditions might have appeared significant influencers of Intention (Gupta, Dasgupta & Gupta, 2008; Chauhan & Jaiswal, 2016).

The reason Social Influence has a small influence on Intention is that the effect of Performance Expectancy is very large. It is understandable. The use of technology for work purposes is a personal decision rather than social. Therefore, the result is logical. In the beginning, Social Influence may influence Intention. However, after a while, it is the Performance Expectancy which will determine Intention to use ChatGPT.

Based on the above discussion, research objective has been achieved. Performance expectancy and social influence have an impact on Intention. While answering the research question, Performance expectancy and social influence are the two factors influencing Intention.

Swot Analysis Framework

This evaluation, which makes use of the SWOT paradigm, provides a comprehensive grasp of ChatGPT's capabilities and makes it easier to identify the variety of learning possibilities it provides. It also clearly illustrates ChatGPT's drawbacks. This will make it possible to develop a special plan and strategy to deal with and eliminate these risks and dangers.

Strengths of ChatGPT

The following are ChatGPT's primary advantages, as shown by the analysis of scholarly literature.

Generating plausible responses: ChatGPT uses transformer architecture to parse natural language, which allows it to model word relationships to produce logical and pertinent responses (Xue et al., 2023; Li et al., 2019).

Self-improvement capability: ChatGPT can learn from human feedback to improve its responses through reinforcement learning by using generative pre-training, which allows it to be flexible and always improving (Mann, 2023; Shen et al., 2023).

Personalized responses: ChatGPT offers personalized and adaptable conversational experiences by maintaining context and adapting responses to user preferences based on prior discussions and learning from interactions (Haque et al., 2022; Aljanabi & ChatGPT, 2023).

Providing real-time responses: ChatGPT's sophisticated natural language processing model enables it to comprehend intricate requests and provide pertinent responses instantly, streamlining the information retrieval process (Deng & Lin, 2022).

Possibilities for Education

Improving information accessibility: ChatGPT makes it simple to obtain information on a variety of platforms by summarizing pertinent information and offering textual responses. This increases the effectiveness of acquiring detailed information (Cascella et al., 2023).

Encouraging individualized learning: ChatGPT facilitates individualized learning experiences by retaining context and offering pertinent answers, allowing for meaningful conversations and a greater comprehension (Azaria, 2022).

Complex learning facilitation: ChatGPT functions as an intelligent tutoring system that offers tailored guidance and feedback for challenging assignments, encouraging the development of critical thinking and skill (Zhai, 2022; Biswas, 2023).

Reducing teaching workload: ChatGPT makes course management more efficient by providing feedback on assignments, generating many exam formats, and automating grading procedures. (Qadir, 2022; Cotton et al., 2023).

These advantages and possibilities demonstrate ChatGPT's capacity to completely transform education by improving the efficiency, accessibility, and personalization of the teaching and learning process.

Weaknesses of ChatGPT

Despite its strengths, ChatGPT has also certain limitations and weaknesses as listed below.

Lack of deep understanding: ChatGPT's processing is unable to fully comprehend the meanings of words, which occasionally leaves responses shallow or irrelevant, especially when dealing with complex tasks (Gao et al., 2023; Bogost, 2022).

Difficulty in evaluating response quality: ChatGPT has trouble determining the accuracy of generated information since it cannot determine the reliability of training data (Lecler et al., 2023; Sallam, 2023).

Risk of discrimination and biases: ChatGPT raises ethical questions akin to those raised by other AI applications since it has the potential to reinforce biases derived from algorithmic design, training data, and societal context (Zhai, 2022).

Lack of higher-order thinking skills: Because ChatGPT depends so heavily on contextual comprehension, it may not be able to do difficult learning tasks that call for deeper knowledge and critical thinking (Rudolph et al., 2023).

Threats to Education

Lack of contextual awareness: ChatGPT runs the danger of giving incorrect advice if it lacks a thorough awareness of the context in which it is being used. (Susnjak, 2022).

Academic integrity is at risk: ChatGPT's ability to produce language that resembles that of a human being raises questions about plagiarism and cheating, endangering the credibility of academic assignments and online tests (Garg & Goel, 2022).

Perpetuating discrimination: According to Kasneci et al. (2023), biases in ChatGPT's training data may cause unfair discrimination in educational settings, aggravating inequality and impeding equitable learning chances.

Democratization of plagiarism: According to Gašević et al. (2023), ChatGPT's capabilities could potentially incite academic dishonesty and plagiarism among students, resulting in moral quandaries and compromising the credibility of academic research.

In conclusion, ChatGPT's SWOT analysis highlights its potential to revolutionize education through enhanced instructional processes. While its strengths offer opportunities for personalized learning and reduced teacher workload, its weaknesses, such as shallow comprehension and bias risks, pose significant challenges. To maximize benefits and mitigate risks, proactive measures are

necessary, including improving ChatGPT's comprehension and promoting ethical standards in education. Ultimately, careful integration and continuous improvement are essential for leveraging ChatGPT to enhance learning outcomes and enrich the educational experience.

Conclusion

This study has confirmed that the UTAUT model is partially relevant in measuring studious students' intention to use ChatGPT for academic purposes. Our study investigated the factors influencing university students' intention to use ChatGPT for academic purposes, focusing on IT students. The findings revealed that Performance Expectancy significantly affects intention, reflecting the importance of perceived usefulness. However, Effort Expectancy and Facilitating Conditions did not have a significant impact, likely due to students' familiarity with technology. Social Influence had a minor effect, overshadowed by Performance Expectancy. In conclusion, it can be stated that studious students' intention to use ChatGPT for academic purposes is influenced by performance expectancy and to a small degree by social norms. Overall, our research contributes to understanding technology adoption behaviors in educational contexts, emphasizing the importance of perceived performance and individual preferences in shaping intention. Further research could explore these dynamics across different student demographics for broader insights.

ChatGPT's SWOT analysis provides a comprehensive insight of its strengths, weaknesses, opportunities, and threats in the education sector. The efficacy and efficiency of instructional processes are improved by ChatGPT's exceptional qualities in producing believable responses, self-improvement capabilities, tailored interactions, and real-time response generation. These advantages present a plethora of chances to enhance the accessibility of knowledge, enable customized learning, assist challenging learning assignments, and lighten the burden of teachers. But ChatGPT also has flaws. These include a shallow comprehension, trouble assessing the caliber of responses, bias and discrimination risk, and a lack of higher order thinking abilities. Due to possible answer errors, difficulties upholding academic integrity, the persistence of prejudice and discrimination, and the democratization of plagiarism, these flaws represent serious risks to education.

In order to fully utilize ChatGPT while minimizing its disadvantages, customized plans and tactics must be created. This could entail improving ChatGPT's comprehension and contextual awareness, putting strict evaluation procedures in place for response quality, resolving biases in the training set, and encouraging critical thinking in addition to the application of AI techniques. Furthermore, proactive steps are required to maintain ethical standards in education, advance diversity and inclusivity, and protect academic integrity.

To sum up, even if ChatGPT has the potential to completely transform education, integrating it needs to be done so carefully, taking into account both its advantages

and disadvantages. By making well-informed decisions, carefully planning ahead, and continuously improving, ChatGPT can be used to improve learning outcomes and enhance the educational experience for both teachers and students. Performance is the main force driving usage of ChatGPT. Therefore, ChatGPT should be further developed to provide more utility. New features should be promoted as they are of main interest to the users. Social influence is of limited importance therefore social media is not the most relevant platform to promote ChatGPT technology. Other channels should also be used to promote ChatGPT technology such as collaboration with technical products or software organizations.

Limitations and Future Research Avenues

The moderators Gender, Age, Experience and Voluntariness of Use considered given in the UTUAT model should be considered in future studies as they may result in different outcomes. Apart from Performance Expectancy, other variables makeup up to 46% impact on intention. Therefore, other theories should be researched to find appropriate factors that may influence the intention to use ChatGPT for academic purpose. Apart from theories, other related studies should also be reviewed to identify relevant factors. Exploratory study should also be conducted to identify appropriate factors that may influence studious students' intention to use ChatGPT for academic purposes.

Lastly, as also mentioned by Leiber et al. (2018), it should be highlighted that although SWOT analysis can offer a thorough examination of ChatGPT in education, it has limits in terms of ranking the difficulties found in each area. Consequently, empirical research using quantitative methods. To expand on the results of the current review, techniques like the best-worst method (refer to Rezaei, 2015) are required. To do this, in-depth interviews with pertinent specialists can be used to determine the relative weights and significance of the identified opportunities and weaknesses.

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