

Assessing the perception of university students in the use of chat GPT

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Keywords

Challenges, Chat GPT, Opportunities, Perception, University Students.

Abstract

ChatGPT is now a widely used generative AI tool among university students to assist them in their learning journey. Such a technological shift in education however poses essential questions on the extent of its use, academic integrity and ethics, calling for a broader reconsideration of teaching, learning, and assessment practices in higher education. Since AI tools are being more deeply incorporated into education, understanding how students perceive the advantages and disadvantages of such tools is significant, especially in small island developing states, which have certain inherent characteristics.

This study therefore attempts to investigate the perception of university students in Mauritius, a small island state, regarding the use of Chat GPT. It attempts to critically analyse the opportunities and challenges university students face when using Chat GPT as a generative AI tool in their academic pursuits. The Technology Acceptance Model (TAM) was adopted to achieve same. The research design was based on the four dimensions of the TAM, together with another parameter added, that is Trust in the Use (TU).

515 students from 5 different public tertiary institutions agreed to take part in an online survey. Data obtained was analysed using SPSS. Weighted average values of 3.35, 3.44, 2.86, 2.75 and 2.99 were obtained for the five dimensions of the TAM respectively. Findings thus revealed a strong intention among students to use Chat GPT as an AI generative tool because of its efficiency, user friendliness and accessibility. While they displayed a moderate trust in the accuracy of information provided by Chat GPT, they found it to be a valuable tool to find useful information. However, the challenges which students claim to face is the moderate clarity in the responses provided and thus maintained that Chat GPT could not replace their lecturers at the university.

Introduction

Generative Artificial Intelligence (Gen AI) holds transformational potential when it comes to the education sector (Yan et al, 2024). United Nations Educational, Scientific and Cultural Organization (UNESCO), supports that Gen AI can significantly shape teaching and learning processes within any educational context and identifies as follows Chat GPT (Chat Generative Pre-Trained Transformer). With the capacity to enhance or influence teaching and learning as a whole, ChatGPT, released in late November 2022, exceeded 100 million users in two months ((OpenAI, 2022; Hu et al., 2023). Using a conversational interface this Ai chatbot as reported by UNESCO (2023) can be used as “Socratic opponent,” “collaborative coach,” “guide on the side,” “personal tutor,” and “study buddy” among other roles.” At its core, ChatGPT is an autoregressive language model that allows the model to produce contextually relevant and coherent responses (Sahoo et al., 2023). While its user-friendly design has made it a popular resource among university students for research, assignments and academic projects, its integration raises significant ethical challenges regarding academic integrity, prompting reconsideration of traditional teaching, learning, assessment methods (Kasneji et al., 2023; Cotton et al., 2023 and Zhai, 2022) all having a potential impact in influencing SDGs, namely 4, 10 and 12.

Mauritius, a small island state, east of Africa, places AI at the core of its national development strategy to transform the country into a knowledge-based, innovation-led economy (Le Roy, 2023). The 2018 Mauritius Artificial Intelligence Strategy aims to equip the younger generation with digital and AI skills in

a bid to place them to address future needs of the labour market. Despite these policy agendas, little has been researched on the adoption of Gen AI tools like ChatGPT in particular within the higher education sector (Beebeejaun & Gunpath, 2023; Isaacs & Mishra, 2022; Kumar, 2019). This study thus seeks to fill this research gap by exploring university students' views on the use of ChatGPT across different levels of study. It tries to examine the perceived advantages and limitations of ChatGPT, determine students' readiness to use the tool, and give practical recommendations for its effective and ethical use. Last but not least, the study aims to help in guiding holistic institutional policies on Gen AI usage in higher education. Thus, we investigate the perception of university students in Mauritius regarding the use of Chat GPT in their higher educational pursuits. In so doing so, we try to answer the following research questions:

- (i) What are the opportunities and challenges which university students face in the use of Chat GPT as a Generative AI tool?
- (ii) What are the factors which influence the use of Chat GPT among university students in Mauritius?

Literature Review

AI is a key aspect of the fourth industrial revolution (Yau et al., 2023), impacting daily life across fields like psychology, medicine, and education (Su et al., 2023). Its influence on education has been significant, with researchers asserting it is now essential for institutions (Aldosari, 2020; Mc Donald, 2024). Morin (2018) illustrates that universities must transition from traditional roles to embrace technological advancements through innovative teaching methods (Akour and Alenezi, 2022). This transformation brings both opportunities and challenges, placing educational institutions in a new realm of uncertainty (Jafari and Keykha, 2024; Jain and Jain, 2019).

ChatGPT as a Gen AI tool within the educational context

Leah (2022) identifies several chatbot types, including rule-based, self-learning, and hybrid chatbots, with ChatGPT being particularly popular due to its usability and conversational ability (Knox and Stone, 2011; Korngiebel and Mooney, 2021). Clark (2024) notes that ChatGPT distinguishes itself by generating cohesive, human-like responses, using linguistic patterns from a vast body of literature (Stokel-Walker, 2023; Ivanov and Soliman, 2023). In education, Johnson (2019) highlights the transformative impact of AI on traditional practices. Although relatively new, AI tools like ChatGPT are widely used in higher education, enhancing the learning experiences of students, especially in developing countries where access to quality education is limited. ChatGPT's scalability benefits these regions, providing access to high-quality materials (Fahimirad and Kotamjani, 2018). Its significant impact is evident in emerging economies like Brazil, India, and China (Mhlanga, 2023; George and George, 2023), with scholars noting its potential to improve teaching and learning processes (Bernacki et al., 2020; Starkey et al., 2021; Qureshi et al., 2021). Kasneci et al. (2023) emphasize the importance of educators' and students' perspectives in integrating large language models into education, highlighting the need for expertise in understanding the technology's capabilities and limitations. Addressing challenges such as biased outcomes and continuous human oversight is crucial, but if managed well, these technologies can enhance critical thinking and awareness of AI risks. A deeper exploration of ChatGPT's potential in improving education in developing countries, including Mauritius, is necessary.

Opportunities in using ChatGPT in the education sector

Integrating ChatGPT into educational environments has the capacity to improve the overall academic outcomes and student experiences, especially in developing countries where access to quality education is limited. Reasons supporting the same include its ability to address student inquiries, offer tailored comments, and produce teaching materials among others. The scalability of ChatGPT proves advantageous in emerging economies characterised by resource constraints and huge student populations.

Various authors and extant studies put forward a series of opportunities which ChatGPT as a chatbot can offer to the educational sector. For example, Ivanov and Soliman (2023) opined that ChatGPT can offer better equity, personalised learning, enhanced critical and thinking skills and be a motivation enhancement to students (Kang 2023). This is supported by Gao (2019) who advocates that, as far as adult education is

concerned, AI promotes equity, quality and inclusiveness. There are, accordingly, several examples of the possible application of the ChatGPT in classroom setups.

Personalized learning focuses on individual skills, interests, and needs of students and builds an educational experience around those attributes. As reported by Times Higher Education (2023), AI, and more specifically, ChatGPT, is acknowledged for advancing opportunities in personalized learning (Elbanna & Armstrong, 2022). Baidoo-Anu and Owusu Ansah (2023) discuss how AI can individualize tutoring and offer tailored feedback. Johnson (2019) observes that AI adoption in teaching does not substitute for educators, but rather amplifies their potential. AI personalizes assignments and examinations which, according to Felix (2020), guarantees students receive appropriate assistance. Rospigliosi (2023) states that ChatGPT allows students to interrogate the information it generates which can aid in enhancing students' comprehension (Zhai, 2022) and support active and adaptive learning. One of ChatGPT's defining functions is the ability to provide feedback in real time. Johnson (2019) points out that the provision of feedback is one of the fundamental principles of effective tutoring, a task which AI applications readily automate. In addition, AI facilitates adaptive learning by modifying the learning material's difficulty concerning students' performances (Zhai, 2022). This feature makes instructional approaches interactive and responsive (Baidoo-Anu & Owusu Ansah, 2023).

In developing markets, an individual can converse with ChatGPT about a certain topic and receive answers that are salient and precise (Mohd et al., 2023). This may help address the issue of poor educational materials that developing countries face. People from emerging economies may not have traditional educational materials and expert teachers, thus making ChatGPT more appealing with its simple conversational interface. The lack of educational resources in a native language, and the absence of educational materials in a native language, poses a serious challenge (Lin and Chang, 2020). The rapid development of Artificial Intelligence (AI) and Natural Language Processing (NLP) technologies may solve the language barrier problem and help disadvantaged students obtain an education that is more responsive to educational and pedagogical consonance.

Challenges in using ChatGPT in the education sector

In developing markets, an individual can converse with ChatGPT about a certain topic and receive answers that are salient and precise (Mohd et al., 2023). This may help address the issue of poor educational materials that developing countries face. People from emerging economies may not have traditional educational materials and expert teachers, thus making ChatGPT more appealing with its simple conversational interface. The lack of educational resources in a native language, and the absence of educational materials in a native language, poses a serious challenge (Lin and Chang, 2020). The rapid development of Artificial Intelligence (AI) and Natural Language Processing (NLP) technologies may solve the language barrier problem and help disadvantaged students obtain an education that is more responsive to educational and pedagogical consonance.

Hence, the integration of Artificial Intelligence (AI) in education is encouraging, and it is more responsive than traditional pedagogical models. This will enable teachers to concentrate on more research-oriented work. Overall, the strategic integration of AI in education offers a transformative chance to enhance educational experiences, aligning practices more closely with individual needs. This vision frees educators from routine tasks, allowing them to focus on impactful teaching and research activities.

Research Methodology

This study uses the expanded Technology Acceptance Model (TAM) as outlined by Tiwari et al. (2023) to examine how university students in Mauritius perceive the use of ChatGPT. It identifies the opportunities and challenges these students associate with ChatGPT as a Gen AI tool in their academic pursuits. TAM's simplicity lends itself to diverse research applications, including education and online learning (Min., 2021; Wojciechowski and Cellary, 2013). The research framework comprises four core constructs: Perceived Use (PU), Perceived Ease Of Use (PEOU), Attitude Towards Use (ATU), and Behavioral Intention to Use (ITU), along with 'Trust to Use' (TU) as factors influencing technology acceptance. This study thus integrates the key elements of TAM, adding 'Trust' for a more comprehensive understanding of factors affecting ChatGPT usage among students as shown in figure 1.

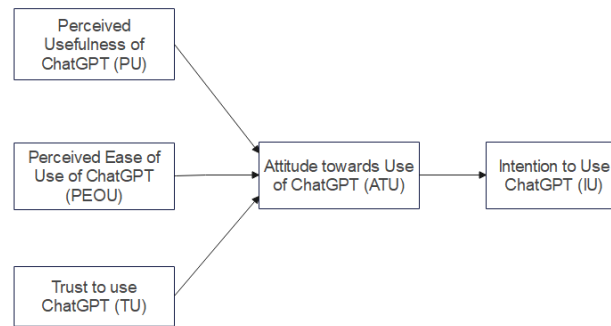


Figure 1: Extended TAM (adapted from Tiwari et al., 2023)

Research Instrument

A quantitative research approach was used to assess the extent to which students in the tertiary education institutions across Mauritius are making use of ChatGPT for their educational purposes. The perception of students in the use of ChatGPT in the educational context was thus assessed the TAM by Davis (1989). The research design was based on the four dimensions of the TAM, that is, Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Towards Use (ATU) and Intention to Use (ITU). An additional dimension, that is Trust in the Use (TU), in line with Suh and Han (2002), was also included in the research design.

The quantitative questionnaire consisted of four sections. Demographic information about the respondents were captured in the first section while the second section of the questionnaire was designed to capture the overall experience of the respondents in using ChatGPT in their academic context. Section three was designed to assess the perception of the respondents based on five dimensions of the research design and comprised a total of 44 items based on a 5-point Likert scale ranging from “1=Strongly Disagree” to “5=Strongly Agree”. The last section was structured for the purpose of measuring the ethical considerations of the respondents while using ChatGPT in their academic contexts.

Sampling methods

The sample size for the quantitative research paradigm was determined from the population of university students in Mauritius, assuming a 95% confidence level and a margin of error of 5%. Given the population of 50,011 (Statistics Mauritius, 2023) of students enrolled in Tertiary Institutions across Mauritius, a sample of 382 or more was required to have a confidence level of 95% and a margin of error of 5%.

The quantitative questionnaire was disseminated online across five tertiary institutions across Mauritius who agreed to take part in the study, from both the public and private sectors. A total of 515 responses were obtained through the survey disseminated. The Statistical Package for Social Sciences (SPSS) Version 26 was used for descriptive and inferential analysis of the data obtained.

Reliability of Scales

The reliability of the scales was tested using Cronbach’s Alpha at 95% Confidence Level. A Alpha values obtained for the 5 scales were above 0.8, that is, for PU ($\alpha = 0.936$), PEOU ($\alpha = 0.895$), ATU ($\alpha = 0.887$), ITU ($\alpha = 0.899$) and TU ($\alpha = 0.835$). This indicates good internal consistency for the 38 items of the scales.

Findings / Results

Demographic Variables

Out of 515 questionnaires answered, the ratio of male to female responses was 41.9% to 57.1%, with 1% respondents having preferred not to disclose their gender as shown in table 1. The majority of respondents, 57.3%, were aged between 18 to 24 years, while 4.9% were aged between 41 to 50 years and 0.6% were aged 51 years and above.

It is thus observed that the students who took part in this study were on average young. Approximately 84% were enrolled in Undergraduate Programs while around 15% enrolled in Postgraduate Programs and less than 1% enrolled in Doctoral Programs.

Among these, 131 respondents were enrolled in their first year, 177 were enrolled in the second year, while 95 and 112 respondents were enrolled in the third and final year of study respectively.

These sociodemographic variables have been portrayed in Table 1.

Demographic Variables

	Mean	Range	Standard Deviation	Count	Column N %
Age	2	4	1		
Gender	Male			216	41.9%
	Female			294	57.1%
	Prefer not to say			5	1.0%
AcademicLevel	Undergraduate			435	84.5%
	Postgraduate			78	15.1%
	Ph.D.			2	0.4%
Year	1st Year			135	26.2%
	2nd Year			178	34.6%
	3rd Year			95	18.4%
	Final Year			107	20.8%

Table 1: Sociodemographic Variables

Factor Analysis

To achieve the main objectives of the study, a factor analysis was carried out, as depicted at Table 2, for each construct of the TAM used in this study, that is, PU, PEOU, ATU, ITU and TU, in order to determine the items which carry lesser or more weightage in each construct.

SN	Items	Mean	Std. Deviation	Decision	Extraction
1.	PU_Efficiency	3.53	1.15	High Perception	.768
2.	PU_Generating_Resp	3.50	1.19	High Perception	.677
3.	PU_Useful_Tool	3.87	1.17	High Perception	.711
4.	PU_Useful_Info	3.48	1.14	High Perception	.764
5.	PU_Personalised_Learning	3.36	1.21	High Perception	.713
6.	PU_Add_Feedback	2.80	1.26	Low Perception	.668
7.	PU_Helps_Completion	3.23	1.23	Low Perception	.722
8.	PU_Use_For_Completionof Dissertation	2.72	1.32	Low Perception	.568
9.	PU_Understand	3.68	1.24	High Perception	.696
10.	PEOU_Easy	4.22	1.05	High PEOU	.806
11.	PEOU_Userfriendly	4.17	1.05	High PEOU	.818
12.	PEOU_Required_Info	3.72	1.17	High PEOU	.687
13.	PEOU_ClearResponses	3.41	1.16	Low PEOU	.689
14.	PEOU_Accessibility	4.04	1.11	High PEOU	.713
15.	PEOU_HumanResp	2.97	1.23	Low PEOU	.548
16.	PEOU_Like_Lecturers	2.43	1.25	Low PEOU	.635
17.	PEOU_Und_Learningneeds	2.52	1.29	Low PEOU	.652
18.	ATU_ValuableTool	3.71	1.15	High ATU	.768

SN	Items	Mean	Std. Deviation	Decision	Extraction
19.	ATU_Savetime_Studies	3.69	1.20	High ATU	.775
20.	ATU_Replace_Lecturers	2.10	1.28	Low ATU	.688
21.	ATU_Save_Cost	2.77	1.23	Low ATU	.657
22.	ATU_Savetime_Teaching	2.84	1.29	Low ATU	.629
23.	ATU_Prefer_ChatGPT	2.85	1.31	Low ATU	.637
24.	ATU_Learn_Solely_ChatGPT	2.03	1.27	Low ATU	.641
25.	ITU_Continue_Using	3.38	1.26	High ITU	.775
26.	ITU_Recommend_ChatGPT	3.33	1.30	High ITU	.759
27.	ITU_ChatGPT_Traditional_learning	2.71	1.34	Low ITU	.686
28.	ITU_Queries_Lecturers	2.65	1.34	Low ITU	.637
29.	TU_Total_Trust	2.38	1.12	Low Trust	.707
30.	TU_Accurate_Reliable	2.71	1.20	Low Trust	.710
31.	TU_Replace_Teaching	2.14	1.22	Low Trust	.680
32.	TU_Verify_Accuracy	3.64	1.36	High Trust	.426
33.	TU_Private_Secure	2.86	1.27	High Trust	.442

Table 2: Student responses on the TAM dimensions and factor analysis.

PU measures how students perceive ChatGPT as beneficial for academic tasks. The extraction values range from 0.568 to 0.768, indicating varying degrees of contribution to the PU construct. PU_Efficiency (0.768), PU_Useful_Info (0.764), and PU_Helps_Completion (0.722) have the highest extraction values, suggesting students strongly perceive ChatGPT as efficient, a source of useful information, and helpful for completing academic tasks. PU_Use_For_Completionof_Dissertation (0.568) and PU_Add_Feedback (0.668) have the lowest extraction values, indicating weaker perceptions of ChatGPT's utility for dissertation work and providing additional feedback.

These suggest that students find ChatGPT less effective for complex, research-intensive tasks like dissertations or for offering constructive feedback compared to human instructors. Items like PU_Generating_Resp (0.677), PU_Understand (0.696), PU_Useful_Tool (0.711), and PU_Personalised_Learning (0.713) show moderate extraction values, implying that students see some value in ChatGPT for generating responses, understanding topics, and personalized learning, but these are not as strongly endorsed as efficiency or information provision. Students thus value ChatGPT for general academic support (e.g., quick information access, task efficiency) but are less convinced of its effectiveness for specialized tasks requiring deep feedback or advanced research, such as dissertations.

PEOU assesses how user-friendly and accessible students find ChatGPT. Extraction values range from 0.548 to 0.818. PEOU_Userfriendly (0.818) and PEOU_Easy (0.806) have the highest extraction values, indicating that students strongly perceive ChatGPT as easy to use and user-friendly. This reflects ChatGPT's intuitive interface and straightforward interaction model. PEOU_Human_Resp (0.548), PEOU_Like_Lecturers (0.635), and PEOU_Und_Learningneeds (0.652) have the lowest extraction values, suggesting students do not find ChatGPT's responses comparable to human lecturers or tailored to their specific learning needs. These low values highlight a perceived gap in ChatGPT's ability to replicate the nuanced, personalised support provided by educators. PEOU_Required_Info (0.687), PEOU_ClearResponses (0.689), and PEOU_Accessibility (0.713) show moderate extraction values, indicating that students find ChatGPT reasonably accessible and capable of providing required information, though clarity of responses is less convincing. While students find ChatGPT technically easy to use, they perceive limitations in its ability to deliver clear, lecturer-like responses or address individual learning needs, suggesting a preference for human interaction in complex academic contexts.

ATU evaluates students' overall attitudes toward using ChatGPT in academic settings. Extraction values range from 0.629 to 0.775. ATU_Savetime_Studies (0.775) and ATU_ValuableTool (0.768) have the highest extraction values, indicating that students view ChatGPT as a valuable tool that saves time in their studies. This reflects a positive attitude toward ChatGPT's efficiency and utility for academic tasks.

ATU_Savetime_Teaching (0.629), ATU_Prefer_ChatGPT (0.637), and ATU_Learn_Solely_ChatGPT (0.641) have the lowest extraction values, suggesting students are less enthusiastic about ChatGPT replacing traditional teaching or being their sole learning resource. These low values indicate scepticism about ChatGPT as a complete substitute for human educators. ATU_Replace_Lecturers (0.688) and ATU_Save_Cost (0.657) show moderate extraction values, implying mixed attitudes toward ChatGPT's potential to replace lecturers or reduce educational costs. Students have a generally positive attitude toward ChatGPT as a time-saving and valuable tool but are reluctant to rely on it exclusively or see it as a replacement for traditional teaching methods, reflecting a balanced perspective on its role in education.

ITU measures students' willingness to continue using ChatGPT for academic purposes. Extraction values range from 0.637 to 0.775. ITU_Continue_Using (0.775) and ITU_Recommend_ChatGPT (0.759) have the highest extraction values, indicating strong intentions to continue using ChatGPT and recommend it to others. This suggests high acceptance of ChatGPT as a supplementary academic tool. ITU_Queries_Lecturers (0.637) and ITU_ChatGPT_Traditional_learning (0.686) have lower extraction values, suggesting students are less likely to use ChatGPT for queries typically directed to lecturers or as a replacement for traditional learning. Students are inclined to keep using ChatGPT and share it with peers, but their intention to use it for tasks traditionally handled by lecturers or as a primary learning method is weaker, indicating a preference for blending ChatGPT with conventional education.

TU evaluates students' trust in ChatGPT's reliability, accuracy, and security. Extraction values range from 0.426 to 0.710. TU_Accurate_Reliable (0.710) and TU_Total_Trust (0.707) have the highest extraction values, suggesting moderate trust in ChatGPT's overall reliability and accuracy. These values indicate that students have some confidence in ChatGPT's outputs but not overwhelmingly so. TU_Verify_Accuracy (0.426) and TU_Private_Secure (0.442) have significantly lower extraction values, indicating low trust in ChatGPT's accuracy verification processes and data privacy/security. These low values highlight major concerns about the trustworthiness of ChatGPT's information and its handling of personal data. TU_Replace_Teaching (0.680) shows moderate trust in ChatGPT's potential to replace teaching, though this is not a strong endorsement. Trust in ChatGPT is a weak construct, with students expressing significant doubts about its accuracy and security. While there is some trust in its general reliability, concerns about verifying outputs and protecting privacy limit its perceived trustworthiness in academic contexts.

Thus, PEOU and ITU have the highest average extraction values, with items like user-friendliness (0.818) and intention to continue using (0.775) indicating that students find ChatGPT accessible and are willing to integrate it into their academic routines. This suggests ChatGPT's technical ease and supplementary utility are well-received. TU has the lowest average extraction values, particularly for accuracy verification (0.426) and privacy/security (0.442), highlighting significant trust barriers. PU also shows weaknesses in specific areas like dissertation support (0.568), indicating limitations in perceived academic utility for complex tasks.

Discussions & Conclusion

Opportunities of using ChatGPT

From the outcomes of the factor analysis, it can thus be observed that students highly perceive ChatGPT as user friendly (PEOU_Userfriendly, 0.818) and easy to use (PEOU_Easy, 0.806). It is also perceived as being highly accessible ((PEOU_Accessibility, 0.713). The perceived ease of use thus enhances the adoption of ChatGPT among students to supplement their learning. These findings concur with Ivanov and Soliman (2023) who stated that ChatGPT helps to offer better equity in education, in line with SDG 4.

Under PU, ChatGPT is seen as efficient (PU_Efficiency, 0.768) and helpful for task completion (PU_Helps_Completion, 0.722). ATU also highlights its time-saving benefits for studies (ATU_Savetime_Studies, 0.775) and its value as a tool (ATU_ValuableTool, 0.768). Students thus appreciate ChatGPT's ability to streamline academic tasks. It can thus be considered as a valuable supplement for brainstorming ideas or accessing resources quickly. This can enhance academic efficiency and reduce time pressures thus contributing towards SDG 10, reduced inequalities.

The ITU construct shows high extraction values for continuing to use ChatGPT (ITU_Continue_Using, 0.775) and recommending it to others (ITU_Recommend_ChatGPT, 0.759), indicating strong student acceptance and willingness to advocate for its use. The positive intention to use and share ChatGPT suggests

it has a robust user base among students, creating opportunities for institutional adoption in educational settings. It could be integrated into curricula as a supported tool, with clear guidelines for its optimal yet ethical use.

PU_Useful_Info (0.764) and PEOU_Required_Info (0.687) indicate that students find ChatGPT effective for providing useful information. This concurs with the findings of Mohd, et al. (2023) making it a practical resource for academic inquiries and promoting SDG 4. Thus, as observed by Lin et Chan (2020), ChatGPT helps to enhance access to information for students of developing countries, including SIDS such as Mauritius.

Challenges of using ChatGPT

Students perceive ChatGPT as less useful for specialized tasks such as completing dissertations (PU_Use_For_Completionof_Dissertation, extraction value = 0.568) and providing additional feedback on academic work (PU_Add_Feedback, 0.668). It also has a moderate contribution to understanding specific topics (PU_Understand, 0.696). This indicates that ChatGPT struggles to meet the demands of research-intensive or feedback-driven tasks, where specialized input or feedback from human instructors is preferred. This limits its utility in higher-level academic contexts.

Under PEOU, students find that ChatGPT does not provide responses comparable to those of lecturers (PEOU_Like_Lecturers, 0.635), lacks clear responses (PEOU_ClearResponses, 0.689), and fails to understand individual learning needs (PEOU_Und_Learningneeds, 0.652). Similarly, ATU shows low preference for learning solely with ChatGPT (ATU_Learn_Solely_ChatGPT, 0.641). Students thus prefer human interaction for complex and tailored academic support. They also perceive ChatGPT as being unable to provide context-specific or individual guidance, thus highlighting its inability to replace human lecturers. This contradicts Baidoo-Anu and Owusu Ansah (2023) and Elbanna and Armstrong (2022) who identified personalized learning as an opportunity of ChatGPT.

The TU construct reveals significant trust issues, with very low extraction values for accuracy verification (TU_Verify_Accuracy, 0.426) and privacy/security (TU_Private_Secure, 0.442). Even overall trust (TU_Total_Trust, 0.707) and perceived accuracy/reliability (TU_Accurate_Reliable, 0.710) are only moderately endorsed. This indicates that students are sceptical about the reliability of ChatGPT's outputs and concerned about data privacy, which undermines its credibility in academic contexts where accuracy and confidentiality are paramount. This could lead to reluctance in using ChatGPT for sensitive or high-stakes tasks.

Items like ATU_Replace_Lecturers (0.688), ATU_Savetime_Teaching (0.629), and ITU_Chat GPT Traditional_learning (0.686) have moderate to low extraction values, indicating students' reluctance to see ChatGPT as a substitute for traditional teaching or lecturer interactions. This indicates that students view it as supplementary rather than transformative. Table 3 summarises these findings accordingly:

Category	Challenges	Opportunities
Utility	Limited usefulness for dissertations and feedback (PU low values: 0.568, 0.668).	High efficiency and task completion support (PU high values: 0.768, 0.722).
Interaction	Cannot replicate lecturer-like responses or meet learning needs (PEOU low values: 0.548–0.652).	User-friendly and accessible interface (PEOU high values: 0.806–0.818).
Trust	Low trust in accuracy and privacy (TU low values: 0.426, 0.442).	Moderate trust in reliability (TU moderate values: 0.707–0.710).
Adoption	Resistance to replacing traditional learning (ATU/ITU low values: 0.629–0.686).	Strong intention to use and recommend (ITU high values: 0.759–0.775).
Information	Moderate clarity in responses (PEOU_ClearResponses: 0.689).	Valuable for accessing useful information (PU_Useful_Info: 0.764).

Table 3: Summary of opportunities and challenges

Conclusion

Our study thus indicates that Chat GPT as an AI generative tool can leverage the performance of students in Mauritius and help the island achieve SDGs 4 and 10 in particular. However, it is perceived

that Chat GPT cannot replace the guidance students receive from their lecturers in their traditional learning settings. This comes as an important element for decisions being taken in Our study confirms that the use of Chat GPT as a Generative AI tool is undeniable among university students in a small island developing state. While they welcomed its accessibility and ease of use, students surveyed moderately accepted its efficiency and reliability as far as providing accurate information is concerned. The students also had reserves as to its accuracy and firmly indicated that it could not replace their lecturer's guidance SIDS as far as the digitalisation and use of Chat GPT, or any other Gen AI tool to support teaching and learning in higher education institutions. Our findings tend to indicate that Chat GPT is a potential effective tool in a blended learning environment guided by relevant resource persons.

Limitations and Directions for Future Research

Our study limited itself to one GEN AI product, Chat GPT and the perception of university students only. While the findings of this study could be generalised for other SIDS, future research could hence investigate the perception of academics in their use of Chat GPT. The study could also be extended to other GEN AI products. This could help policy makers in SIDS come up with adequate and effective measures for the adoption of AI in the higher education sector in SIDS which already have few predetermined characteristics as far as the use of technology in higher education is concerned.

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