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POSTGRADUATE STUDENTS' AWARENESS OF THE USE OF CHAT GPT FOR RESEARCH IN UNIVERSITY OF IBADAN

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Abstract

This research study explores the awareness of postgraduate students at the University of Ibadan regarding the use of ChatGPT, an AI-powered chatbot, for research purposes. The study aims to understand the level of awareness, among students regarding ChatGPT and its potential benefits in enhancing their research endeavors. The research findings indicate that a significant proportion of postgraduate students at the University of Ibadan are aware of the existence of ChatGPT and express positive attitudes toward its potential applications in research, including literature review support, data analysis assistance, and improved research productivity. However, there is variability in information-seeking behaviour, with some actively seeking resources related to ChatGPT and others not. Additionally, the study reveals that a substantial number of students are confident in their ability to integrate ChatGPT into their research activities effectively if the need arises, reflecting a readiness to embrace emerging technology in academia. The findings suggest opportunities for educational institutions to provide targeted awareness campaigns, training programs, and support services to bridge the information gap and empower students to leverage AI technologies like ChatGPT optimally. As technology continues to evolve, educational institutions play a vital role in preparing students to adapt and thrive in an increasingly digital academic landscape. By addressing the awareness and training needs of postgraduate students, universities can ensure

that they are well-equipped to harness the benefits of AI-driven research support tools and enhance the quality and efficiency of their academic work.

Keywords: ChatGPT, Awareness, Postgraduate Students, AI, Technologies

Introduction

The University of Ibadan, located in the ancient city of Ibadan in southwestern Nigeria, has long been recognized as a hub of academic excellence and intellectual pursuits. With a history spanning over seven decades, this esteemed institution has produced numerous scholars, researchers, and leaders who have made significant contributions to various fields of knowledge.

In today's digital era, the landscape of education and research is continually evolving, driven by advancements in technology (Hati & Eze, 2023). Among these technological innovations, ChatGPT have emerged as powerful tools for natural language processing and generation. These chatbots have demonstrated their utility in a wide range of applications, including customer service, content generation, and, notably, academic research.

Postgraduate students are the torchbearers of innovation and knowledge creation within the academic realm. As they embark on their research journeys, it is essential for them to harness the benefits of cutting-edge technology to enhance the quality and efficiency of their research endeavors. ChatGPT, with their capacity to assist with literature reviews, data analysis, and writing tasks, hold great potential to support postgraduate researchers in their academic pursuits.

This study seeks to explore the awareness of postgraduate students at the University of Ibadan regarding the use of ChatGPT for research. By conducting surveys, interviews, and assessments, we aim to gauge their familiarity with these AI-driven tools, identify any barriers or concerns they may have, and assess the extent to which they have integrated chatbots into their research workflows.

In the ever-evolving landscape of academia, the role of technology in facilitating research and knowledge dissemination cannot be overstated. Higher education institutions, including the University of Ibadan, have a responsibility to equip postgraduate students with the tools and resources necessary to excel in their research endeavors. In this context, the emergence of GPT-based chatbots as AI-driven assistants presents a promising avenue for enhancing the research capabilities of students. However, there exists a critical gap in our understanding

of the awareness and utilization of these chatbots among postgraduate students at the University of Ibadan.

The findings of this research will not only contribute to our understanding of the adoption of AI in academia but also provide actionable recommendations for academic institutions and faculty members to better support postgraduate researchers in their quest for knowledge discovery and innovation. Furthermore, it will shed light on the role of technology in shaping the future of research and education at the University of Ibadan and similar institutions across the globe.

Statement of the problem

The problem at hand revolves around the extent to which postgraduate students are aware of the availability and potential utility of GPT-based chatbots for research purposes within the University of Ibadan. Despite the considerable benefits these AI-powered tools offer in terms of literature review support, data analysis assistance, idea generation, and academic writing guidance, it remains unclear whether postgraduate students at this institution are harnessing these capabilities to optimize their research processes.

This lack of awareness and potential underutilization of GPT-based chatbots may have profound implications for the research productivity and academic success of postgraduate students at the University of Ibadan. Without adequate knowledge of and access to these technological resources, students may face challenges in conducting comprehensive literature reviews, efficiently analyzing data, generating innovative research ideas, and producing high-quality research papers. Consequently, this knowledge gap could hinder their academic progress and research contributions.

Furthermore, the problem extends to identifying any perceived barriers or concerns that postgraduate students may have regarding the adoption of ChatGPT. These concerns may include issues related to data security, the reliability of AI-generated content, or a lack of training and guidance on how to effectively integrate these tools into their research workflows. Understanding these barriers is essential for addressing potential obstacles and facilitating the seamless integration of AI-driven chatbots into the research process.

Literature Review

Artificial Intelligence (AI)

Artificial intelligence (AI) is all around us in the twenty-first century. Nearly every sector is utilising AI, which is developing quickly. The term Al, coined in the

1950s, refers to the simulation of human intelligence by machines. It covers an ever-changing set of capabilities as new technologies are developed. Technologies that come under the umbrella of Al include machine learning and deep learning (Blazquez, & Hipolito, 2023). AI is important for its potential to change how we live, work and play. The rapidly expanding population of generative AI tools will be important in fields ranging from education and marketing to product design. AI has become centre to many of today's largest and most successful companies, including Alphabet, Apple, Microsoft and Meta, where AI technologies are used to improve operations and outpace competitors (Blazquez, & Hipolito, 2023).

Artificial Intelligence (AI) in the field of education every person should place a high value on education because it is essential to living a prosperous life (Huang, 2021). Around the world, a lot of modifications are always being made to the curriculum and teaching methods in order to standardize the educational system for the students. Artificial intelligence is a rapidly developing technology that is transforming practically every aspect of life. Education is one area where artificial intelligence is poised to make significant improvements. The use of AI in education has offered parents, instructors, students, and, of course, educational institutions an entirely new way to see education (Gao, Li, & Liu, 2021).

AI in education refers to the use of computer intelligence to assist instructors and students and improve the effectiveness of the educational system. It does not refer to the use of robots to educate in place of actual teachers. Future education will be shaped by a variety of AI tools that will be integrated into the system. AI has the potential to revolutionize the education sector by enhancing learning experiences, supporting teachers and offering more personalized learning opportunities for students. Teaching students about AI is essential for developing digital literacy, critical thinking skills, and preparing students for future academic and career success. A basic understanding of AI systems enables students to engage and ideate with AI technologies safely, responsibly and ethically. Learning about AI also encourages students to analyze and evaluate question structure, complex information, question assumptions and consider the ethical implications of AI technology usage (Kasneci,et al., 2023). Although AI has been around for a while in the world of educational technology. However, the COVID-19 epidemic prompted a change in the business due to virtual learning. By providing access to appropriate courses, improving communication with tutors and allowing students more time to concentrate on other aspects of their lives, AI helps students' educational processes run more smoothly. AI enhances the personalization of student learning programs and courses, promotes tutoring by helping students improve their weak spots and sharpen their skills, ensures

quick responses between teachers and students, and enhances universal 24/7 learning access. Educators can use AI for task automation, including administrative work, evaluating learning patterns, grading papers, responding to general queries, and more (AlDhaen, 2022).

Artificial Intelligence (AI) has the potential to address some of the biggest challenges in education today, innovate teaching and learning practices, and accelerate progress towards SDG 4. UNESCO is committed to supporting Member States to harness the potential of AI technologies for achieving the Education 2030 Agenda, while ensuring that its application in educational contexts is guided by the core principles of inclusion and equity. UNESCO's mandate calls inherently for a human-centred approach to AI. The promise of "AI for all" must be that everyone can take advantage of the technological revolution under way and access its fruits, notably in terms of innovation and knowledge (UNESCO).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) developed by Davis (1989) can be a foundational framework for your study. TAM focuses on how users accept and adopt new technology. In the context of your research, TAM can help explain the factors influencing postgraduate students' awareness and acceptance of GPT-based chatbots for research (Zaineldeen, Hongbo, Koffi, & Hassan, 2020).

Perceived Usefulness: This component addresses whether postgraduate students perceive GPT-based chatbots as beneficial for their research endeavors. You can investigate how perceived usefulness impacts their awareness and willingness to use these tools.

Perceived Ease of Use: This component relates to the ease with which students believe they can use GPT-based chatbots for research tasks. You can examine how the perceived ease of use affects their awareness and adoption of this technology.

Methodology

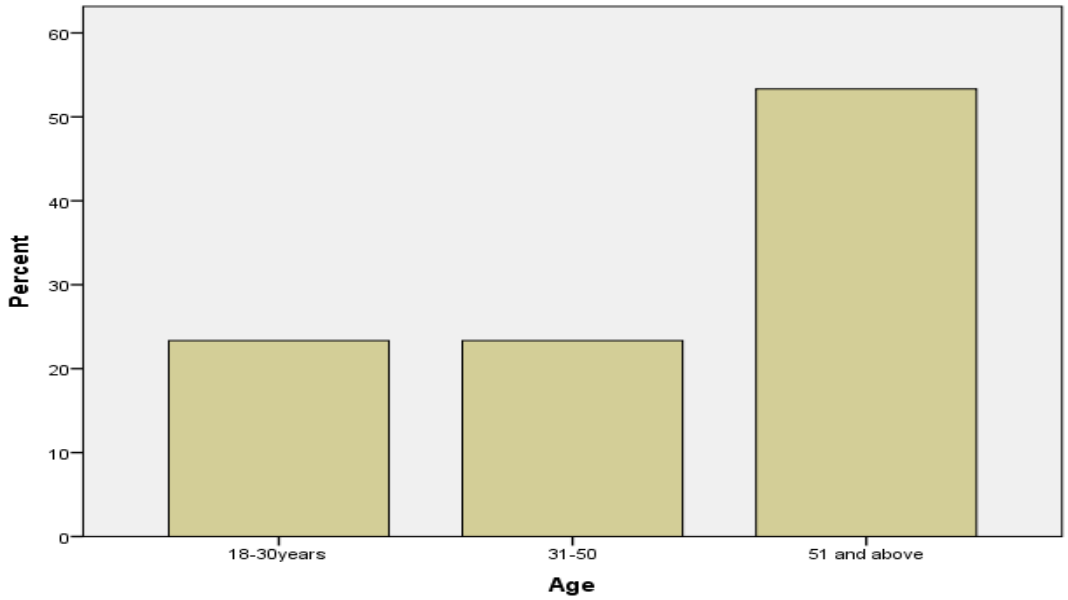
This study employs a mixed-methods approach, combining both quantitative and qualitative methods. Surveys administered to gather quantitative data on postgraduate students' awareness towards the use of ChatGPT. Additionally, semi-structured interviews were conducted to obtain in-depth insights into the awareness of the use of ChatGPT of a subset of participants.

Out of the total population, information was gathered from 100 postgraduate students at the University of Ibadan. A 100-person sample was chosen at random, and each received a standardized questionnaire. The data were analyzed using a straightforward percentage table statistical.

Finding and Discussion

Characteristics of respondents

Characteristics of respondents used, were age and gender to find out the effect on staff development



The research revealed that majority of the respondents 53.3% were aged between 51 years and above, while 31-50 years were 23.3% and 18-30year were 23.3% respectively.

Gender

Table 1: Description of the Respondents' Sex

	Frequency	Percentage
Male	67	67
Female	33	33
Total	100	100.0

Table 2 showed that 67 (67%) of the participants are males, while 33 (33%) are females. It showed that more males participated in the study more than females.

Item 1: I am aware of the existence of ChatGPT for research assistance.

		Frequency	Percent
	Strongly Agree	42	42%
	Agree	29	29%
	Disagree	17	17%
	Strongly Agree	12	12%

	Total	100	100.0

Source: Author Field Data (2023)

The research showed that majority of respondents 42% strongly agreed that they are aware of the existence of ChatGpt for research assistance, 29% agree, 17% disagree while, 12% of the respondents strongly disagreed with the statement. The mean is approximately 2.49.

Item 2: I understand the potential benefits that ChatGPT can offer in the research process, such as literature review support and data analysis assistance

		Frequency	Percent
	Strongly Agree	46	46%
	Agree	32	29%
	Disagree	17	17%
	Strongly Agree	12	12%
	Total	100	100.0

Source: Author Field Data (2023)

The research showed that majority of respondents 42% strongly agreed that they aware of the existence of ChatGpt for research assistance, 29% agree, 17% disagree while 12% of the respondents strongly disagreed with the statement.

Item 3: I have actively sought information or resources related to the use of ChatGPT for research during my postgraduate studies.

		Frequency	Percent
	Strongly Agree	23	23%
	Agree	32	32%
	Disagree	39	39%
	Strongly Disagree	6	6%
	Total	100	100.0

As shown in table above, the majority of the respondents 39% disagreed that they actively sought information or resources related to the use of ChatGPT for research while 32% agreed, 23% strongly agreed while 6% strongly disagree with the statement.

Item 4: I feel confident in my ability to integrate ChatGPT into my research activities effectively, if needed.

		Frequency	Percent
	Strongly Agree	34	34%

	Agree	32	32%
	Disagree	21	21%
	Strongly Disagree	13	13%
	Total	100	100.0

The result showed that 34% of the respondents strongly agreed that they feel confident in the ability to integrate ChatGPT into research activities effectively, if needed. While 32% agreed, 21% of the respondents also disagreed and 13% strongly disagreed with the statement.

Item 5: I believe that Chat GPT have the potential to enhance my research productivity and the quality of my academic work.

		Frequency	Percent
	Strongly Agree	51	51%
	Agree	38	38%
	Disagree	9	9%
	Strongly Disagree	2	2%
	Total	100	100.0

The result showed that the majority of the respondents 51% strongly agreed that they believe that Chat GPT have the potential to enhance research productivity and the quality of academic work 38% agreed, 9% of the respondents also disagreed and 2% strongly disagreed with the statement.

Discussion

A significant portion of respondents, with 42%, "Strongly Agree" that they are aware of the existence of GPT-based chatbots for research. Additionally, 29% "Agree" that they are aware, indicating a reasonable level of awareness among the respondents. Overall, the data implies a varying degree of awareness and positive attitudes among postgraduate students at the University of Ibadan regarding GPT-based chatbots for research. While a substantial portion appears to be aware and receptive to these tools, there is room for further exploration of their perceptions and potential barriers to adoption.

A substantial majority of respondents, with 46% "Strongly Agree" and an additional 29% "Agree," express positive attitudes regarding the potential benefits of ChatGPT for research, including literature review support and data analysis assistance. Notably, 46% of respondents "Strongly Agree" with the notion that ChatGPT can offer valuable assistance in research processes. This indicates a high level of confidence in the capabilities of ChatGPT.

The data reveals that a significant proportion of respondents, with 39%, indicated that they "Disagree" with actively seeking information or resources

related to ChatGPT for research during their postgraduate studies. An additional 23% also indicated "Strongly Disagree." These figures suggest that a substantial portion of the surveyed postgraduate students may not have actively pursued information or resources related to ChatGPT for research purposes.

The data reveals that a considerable proportion of respondents, with 34% "Strongly Agree" and an additional 32% "Agree," express confidence in their ability to effectively integrate ChatGPT into their research activities if the need arises. This suggests that a significant portion of the surveyed postgraduate students feels capable of using ChatGPT as a research tool. the data demonstrates that a significant proportion of postgraduate students at the University of Ibadan express confidence in their ability to integrate ChatGPT into their research activities effectively if the need arises. However, there is still room for educational institutions to provide support and training to enhance confidence levels across the board, ensuring that students can harness the full potential of AI-driven tools in their academic pursuits. The positive attitudes observed suggest receptivity to the integration of AI technology into the research process, aligning with the broader trend of technological advancements in academia.

A significant majority of respondents, with 51% "Strongly Agree" and an additional 38% "Agree," hold positive beliefs about ChatGPT's potential to enhance their research productivity and improve the quality of their academic work. This indicates a widespread positive perception of the technology's benefits. The combined percentage of respondents in the "Strongly Agree" and "Agree" categories is 89%, which reflects a strong consensus among postgraduate students that ChatGPT has the potential to positively impact their research and academic outcomes. he data highlights that a significant majority of postgraduate students at the University of Ibadan hold positive beliefs about the potential of ChatGPT to enhance their research productivity and the quality of their academic work. These findings underscore the readiness of students to embrace AI-driven tools in their academic pursuits, presenting opportunities for educational institutions to facilitate the integration of such technologies and support students in realizing the benefits they envision.

Conclusion

In light of these conclusions, it is evident that there is an opportunity for educational institutions, including the University of Ibadan, to play a pivotal role in facilitating the integration of ChatGPT and similar AI-driven tools into the research process. To this end, the recommendations outlined earlier in this report provide a roadmap for promoting awareness, offering training and support, and creating an environment conducive to the responsible and effective use of AI technologies in academia.

As technology continues to evolve and shape the landscape of research and education, it is imperative that institutions remain proactive in equipping

students with the knowledge and skills needed to harness the full potential of these tools. By doing so, the University of Ibadan and similar institutions can empower postgraduate students to thrive in the ever-changing world of academic research.

Recommendations

Based on the findings, the following recommendations can be made to enhance the integration of ChatGPT and similar AI-driven tools into the research activities of postgraduate students at the University of Ibadan:

The University should consider launching awareness campaigns to ensure that all postgraduate students are informed about the existence and potential uses of ChatGPT for research. This can include workshops, seminars, and informational materials.

Develop and offer training programs that teach postgraduate students how to effectively use ChatGPT for various research tasks. These programs should focus on practical integration and hands-on experience.

Ensure that ChatGPT and relevant AI tools are readily accessible to postgraduate students through university resources and support services.

Support Services: Establish support services or help desks where students can seek guidance and assistance with using ChatGPT effectively in their research.

Reference

AlDhaen, F. (2022). The use of artificial intelligence in higher education–systematic review. *COVID-19 Challenges to University Information Technology Governance*, 269-285.

Blazquez, S. P., & Hipolito, I. (2023). (Machine) Learning to Be Like Thee? For Algorithm Education, Not Training. *arXiv preprint arXiv:2305.12157*.

Gao, P., Li, J., & Liu, S. (2021). An introduction to key technology in artificial intelligence and big data driven e-learning and e-education. *Mobile Networks and Applications*, *26*(5), 2123-2126.

Hati, S. S., & Eze, A. A. (2023). Fundamentals of Quality.

Huang, X. (2021). Aims for cultivating students' key competencies based on artificial intelligence education in China. *Education and Information Technologies*, *26*, 5127-5147.

Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and individual differences*, *103*, 102274.

Mhlanga, D. (2023). Open AI in education, the responsible and ethical use of ChatGPT towards lifelong learning. *Education, the Responsible and Ethical Use of ChatGPT Towards Lifelong Learning (February 11, 2023)*.

Zaineldeen, S., Hongbo, L., Koffi, A. L., & Hassan, B. M. A. (2020). Technology acceptance model'concepts, contribution, limitation, and adoption in education. *Universal Journal of Educational Research*, *8*(11), 5061-5071.