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Accounting teachers' voices on the integration of ChatGPT in Accounting Education: A case of South Africa

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ABSTRACT

This empirical study seeks to explore the perspectives of accounting teachers regarding the opportunities, challenges, and threats associated with integrating generative AI tools such as ChatGPT in accounting classrooms. The inquiry is particularly urgent in light of the findings of the World Economic Forum, which indicate that the South African education system remains at a rudimentary stage regarding the full adoption and complete utilization of Fourth Industrial Revolution (4IR) technologies such as ChatGPT. Despite national policy shifts and global momentum toward digitized education, the practical integration of technologies such as ChatGPT in classrooms and their potential role in developing soft skills within accounting education remain largely uncharted. To gain insights from five purposefully selected accounting teachers, this qualitative case study was framed within the Unified Theory of Acceptance and Use of Technology (UTAUT) and employed semi-structured interviews for data collection. The thematic analysis of the findings revealed that teachers expressed concern regarding their digital and pedagogical competencies to integrate ChatGPT into curriculum practices meaningfully, the inadequacy of digital infrastructure, exacerbating social inequalities among learners, diminished teacher autonomy, and the potential threat to their employment. The study urges governments, particularly those of developing countries, to invest in developing human, technical, and financial capacities to enable teachers to adopt and utilize ChatGPT's potential fully. This research contributes to the growing body of knowledge on how secondary accounting teachers can harness the capabilities of generative AI to enhance the accounting education experience.

Keywords: Generative AI, ChatGPT, Accounting education, Secondary education, Teaching and learning strategies.

INTRODUCTION

The global wave of the Fourth Industrial Revolution (4IR) has profoundly and irrevocably transformed how people interact across the world.[1] The advent of digital technologies such as ChatGPT has necessitated the reconfiguration of business practices, including those within the education sector.

[1] Fabio Morandín-Ahuerma, "What Role Should ChatGPT Play in the Classroom," *International Journal of Science, Engineering and Technology* 13, no. 4 (2025): 1–5.

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Governments worldwide strive to accelerate the digitalization of education systems and align them with the evolving demands of the corporate world.[2]

The emergence of ChatGPT has raised critical questions within the education fraternity, such as: How should learning take place in the presence of AI tools like ChatGPT? How should teaching and assessment be transformed? In light of these uncertainties, it is imperative to explore teachers' perspectives on the role of ChatGPT in the classroom to gain insights into their understanding of the opportunities and challenges this technology presents.

There is growing interest within educational circles regarding the potential impact of AI-driven pedagogical approaches on learner engagement and learning outcomes. Some researchers highlight the importance of AI tools such as ChatGPT in education, provoking discussions on their pedagogical affordances and limitations.[3] Similarly, other researchers have examined the capacity of AI to enhance learners' educational experiences across diverse contexts, emphasizing its transformative potential.[4]

Notwithstanding the global adoption of AI and the significant progress made by countries in the Global North in integrating AI tools such as ChatGPT into education, their meaningful utilization within countries of the Global South, particularly within the South African education context, remains at a rudimentary stage. Digital transformation is hindered by policy constraints, infrastructural limitations, and insufficient teacher preparedness.[5]

As AI tools gain traction, it becomes essential to ensure the provision of fundamental facilities such as electricity, digital devices, and reliable internet connectivity.[6] To fully harness the benefits of digital tools, there must also be sustained capacity building for educators to enhance their digital pedagogical practices. Brown-Martin argues that teachers should seek to embrace new technologies, as this constitutes a form of educational reform.[7] The integration of ChatGPT may, however, present both opportunities and challenges and potential threats to accounting teachers' curriculum practices.[8]

Teachers do not passively accept suggested reforms but critically engage with them by challenging, negotiating, adopting, or even rejecting them. McLaughlin and Ruby further assert that

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[2] Margarita Langthaler and Homa Bazafkan, "Digitalization, Education and Skills Development in the Global South: An Assessment of the Debate with a Focus on Sub-Saharan Africa" (ÖFSE briefing paper, 2020).

[3] Henrik Køhler Simonsen and José Manuel Emiliano Bidarra de Almeida, "Artificial Intelligence and Learning Activities: A Match Made in Heaven?," in *Eden Conference Proceedings*, 2020, 198–206; Helen Crompton and Donggil Song, "The Potential of Artificial Intelligence in Higher Education," *Revista Virtual Universidad Católica Del Norte*, no. 62 (January 2021): 1–4, https://doi.org/10.35575/rvucn.n62a1.

[4] Yulin Zhao et al., "Analyzing the Spatio-Temporal Characteristics and Influencing Factors of 'AI + Education' Network Attention in China," *Mathematical Problems in Engineering* 2022 (May 24, 2022): 1–17, https://doi.org/10.1155/2022/5101967; Christy K Boscardin et al., "ChatGPT and Generative Artificial Intelligence for Medical Education: Potential Impact and Opportunity," *Academic Medicine* 99, no. 1 (January 1, 2024): 22–27, https://doi.org/10.1097/ACM.0000000000005439; Amnuay Kleebayoon and Viroj Wiwanitkit, "Re: Investigating the Impact of Innovative AI Chatbot on Post-pandemic Medical Education and Clinical Assistance: A Comprehensive Analysis," *ANZ Journal of Surgery* 94, no. 3 (March 25, 2024): 492–492, https://doi.org/10.1111/ans.18717.

[5] Department of Basic Education, *National Senior Certificate Diagnostic Report Part 1: Content Subjects* (Pretoria: Government Printing Office, 2021); Woongbin Park and Hyuksoo Kwon, "Implementing Artificial Intelligence Education for Middle School Technology Education in Republic of Korea," *International Journal of Technology and Design Education* 34, no. 1 (March 20, 2024): 109–35, https://doi.org/10.1007/s10798-023-09812-2; World Economic Forum, "Schools of the Future: Defining New Models of Education for the Fourth Industrial Revolution," January 2020, https://www.weforum.org/reports/schools-of-the-future-defining-new-models-of-education-for-the-fourth-industrial-revolution; Nur Sakinah Zulkarnain and Melor Md Yunus, "Primary Teachers' Perspectives on Using Artificial Intelligence Technology in English as a Second Language Teaching and Learning: A Systematic Review," *International Journal of Academic Research in Progressive Education and Development* 12, no. 2 (May 13, 2023), https://doi.org/10.6007/IJARPED/v12-i2/17119.

[6] Laura Alfrey and J. O'Connor, "Transforming Physical Education: An Analysis of Context and Resources That Support Curriculum Transformation and Enactment," *Physical Education and Sport Pedagogy* 29, no. 1 (January 2, 2024): 1–17, https://doi.org/10.1080/17408989.2022.2028759; Way Kiat Bong and Weiqin Chen, "Increasing Faculty's Competence in Digital Accessibility for Inclusive Education: A Systematic Literature Review," *International Journal of Inclusive Education* 28, no. 2 (January 28, 2024): 197–213, https://doi.org/10.1080/13603116.2021.1937344.

[7] G. Brown-Martin, "Education & the Fourth Industrial Revolution," 11th Annual International Conference of Education, Research and Innovation, 7270, Seville, Spain, June 19, 2020, https://www.groupemediatfo.org/wp-content/uploads/2017/12/FINAL-Education-and-the-Fourth-Industrial-Revolution-1-1-1.pdf.

[8] Rahime Kübra Akdeniz and Tugba Konakli, "The Emergence, Reasons and Results of Resistance to Change in Teachers," *International Journal on Lifelong Education and Leadership* 8, no. 1 (June 30, 2022): 49–67, https://doi.org/10.25233/ijlel.1107137; Anders Broström, Andreas Feldmann, and Matti Kaulio, "Structured Relations between Higher Education Institutions and External Organisations: Opportunity or Bureaucratisation?," *Higher Education* 78, no. 4 (September 2019): 575–91, https://doi.org/10.1007/s10734-019-0359-1.

teachers are neither passive bystanders nor uncritical participants in reform initiatives.[9] Instead, they provide reflective insights into the decisions they make and the constraints they encounter.

Previous studies indicate that teachers are often perceived as mere implementers of educational reforms and are often neither consulted nor listened to when such reforms are introduced.[10] This study departs from that narrative by investigating accounting teachers' concerns regarding integrating ChatGPT into accounting curriculum practices. It argues that the advent of AI tools such as ChatGPT does not automatically ensure teachers' ability to utilize them effectively in the classroom, nor does it guarantee an improvement in the quality of teaching, as teachers may not be prepared to embrace these tools.

Furthermore, adopting new educational approaches depends significantly on accounting teachers' attitudes toward such innovations, their level of digital skills, and the availability of enabling infrastructure. Drawing on the work of McLaughlin and Ruby, who highlight the importance of "makers in the fog" as a guiding principle, this study seeks to provide insights that illuminate possible pathways toward fully implementing digitalized education.[11] By exploring accounting teachers' concerns regarding adopting Fourth Industrial Revolution (4IR) platforms such as ChatGPT, this study seeks to open new avenues for understanding the change process inherent in the digitalization of education. It further aims to contribute to reimagining teaching and learning approaches in secondary education. The insights generated are intended to inform policy and practice in the design of teacher professional development programmes, thereby advancing the adoption of 4IR in education. The focus of the study is to address the following research questions:

1. What opportunities, challenges, and threats does ChatGPT present in the teaching and learning of secondary school accounting?
2. How can the challenges and threats be mitigated to enable the smooth integration of ChatGPT in the teaching and learning of secondary school accounting?

LITERATURE REVIEW

Conceptualization of AI and ChatGPT

AI systems are technologies designed to imitate human intelligence and solve various societal challenges.[12] ChatGPT, a sophisticated natural language processing model pre-trained on extensive synthetic and structured content, has gained increasing prominence in the education sector. It can repeatedly respond to questions and generate novel opportunities for individualized and flexible learning environments.[13] In addition, it can be employed to develop chatbots and virtual assistants, enabling the creation of conversations that closely simulate human interaction.[14] It is widely acknowledged that ChatGPT possesses significant potential and is already being utilized across a broad range of industries.

ChatGPT's Educational Potential

The predicted impact of ChatGPT-anchored pedagogy on learner engagement and learning outcomes is generating unprecedented interest in educational research. Incorporating AI tools such as ChatGPT into pedagogical approaches necessitates a shift in how educators and learners interact with technology, underscoring the importance of fostering critical thinking skills and digital literacy in an AI-dominated

[9] Colleen McLaughlin and Alan Ruby, *Implementing Educational Reform: Cases and Challenges* (Cambridge University Press, 2021).
[10] Ani Khoirotun Nisa and Dwi Kartika Kusuma Wardani, "Peran Guru Dalam Mengembangkan Kurikulum Dan Mengimplementasikan Kurikulum Merdeka Di Sekolah Dasar," *Terampil: Jurnal Pendidikan Dan Pembelajaran Dasar* 10, no. 2 (December 21, 2023): 179, https://doi.org/10.24042/terampil.v10i2.19365.
[11] McLaughlin and Ruby, *Implementing Educational Reform: Cases and Challenges*.
[12] Owolabi Paul Adelana, Musa Adekunle Ayanwale, and Ismaila Temitayo Sanusi, "Exploring Pre-Service Biology Teachers' Intention to Teach Genetics Using an AI Intelligent Tutoring - Based System," *Cogent Education* 11, no. 1 (December 31, 2024), https://doi.org/10.1080/2331186X.2024.2310976.
[13] Junfei Li et al., "Evaluating the Role of ChatGPT in Enhancing EFL Writing Assessments in Classroom Settings: A Preliminary Investigation," *Humanities and Social Sciences Communications* 11, no. 1 (September 27, 2024): 1268, https://doi.org/10.1057/s41599-024-03755-2.
[14] Morandín-Ahuerma, "What Role Should ChatGPT Play in the Classroom."

world.[15] One of ChatGPT's capabilities is enabling learners to interact by posting questions and discussing topics without the necessity of simultaneous presence.[16] Furthermore, it provides opportunities for collaboration among learners. For example, ChatGPT can establish student groups, facilitating joint work on assignments and projects.[17]

In addition, ChatGPT can support remote learning, which is particularly beneficial for students who are unable to attend classes due to mental or physical health challenges.[18] Until recently, the emergence of ChatGPT was largely met with fear, suspicion, and uncertainty, particularly within the education sector.[19] However, recent studies have begun to clarify its role, affordances, challenges, and threats. Notably, if effectively utilized, ChatGPT can revolutionize and enhance the quality of teaching and learning while improving learner outcomes.[20]

Recent trends in educational research strongly suggest that ChatGPT has the capacity to personalize learning, refine assessment methods, and amplify teaching techniques.[21] Moreover, scholars such as Moura and Carvalho contend that ChatGPT facilitates transformation in education by enhancing both the accessibility and quality of teaching and learning materials.[22]

ChatGPT's educational challenges and threats

Although ChatGPT promises to unlock the potential of the Fourth Industrial Revolution (4IR), scholars such as Kuzu et al. caution against overlooking the crucial role of teachers as mediators between learners, content knowledge, and technology.[23] Kuzu et al. further argue that educators must possess critical digital literacy, robust pedagogical skills, and substantial computing competencies if learners are to benefit meaningfully from an AI-enabled classroom.[24] Teachers' knowledge of operating ChatGPT represents only one aspect of the implementation process. They must also understand the purposes for which it should be used, the contexts in which its use is appropriate, and how its application aligns with learning objectives and the resources available. Some researchers emphasize that ChatGPT can achieve stronger user acceptance only if teachers are adequately trained in its effective use.[25]

While ChatGPT has the potential to enhance the quality of teaching and learning, it is not without challenges. Literature consistently highlights a tension between the opportunities offered by ChatGPT and the ability to sustain deep learning processes.[26] Although ChatGPT can generate summaries, outlines, or responses to questions within seconds, such automated and immediate feedback

[15] Margaret Bearman and Rola Ajjawi, "Learning to Work with the Black Box: Pedagogy for a World with Artificial Intelligence," *British Journal of Educational Technology* 54, no. 5 (September 22, 2023): 1160–73, https://doi.org/10.1111/bjet.13337.

[16] Chenglu Li and Wanli Xing, "Natural Language Generation Using Deep Learning to Support MOOC Learners," *International Journal of Artificial Intelligence in Education* 31, no. 2 (June 19, 2021): 186–214, https://doi.org/10.1007/s40593-020-00235-x.

[17] Ali Zeb, Rafid Ullah, and Rehmat Karim, "Exploring the Role of ChatGPT in Higher Education: Opportunities, Challenges and Ethical Considerations," *The International Journal of Information and Learning Technology* 41, no. 1 (January 30, 2024): 99–111, https://doi.org/10.1108/IJILT-04-2023-0046.

[18] Brad M. Barber, Adair Morse, and Ayako Yasuda, "Impact Investing," *Journal of Financial Economics* 139, no. 1 (January 2021): 162–85, https://doi.org/10.1016/j.jfineco.2020.07.008.

[19] Alicia Bolívar-Cruz and Domingo Verano-Tacoronte, "Is Anxiety Affecting the Adoption of ChatGPT in University Teaching? A Gender Perspective," *Technology, Knowledge and Learning* 30, no. 4 (December 20, 2025): 2373–92, https://doi.org/10.1007/s10758-025-09830-0.

[20] Morandín-Ahuerma, "What Role Should ChatGPT Play in the Classroom"; Qian Niu et al., "Large Language Models and Cognitive Science: A Comprehensive Review of Similarities, Differences, and Challenges," *ArXiv Preprint ArXiv:2409.02387*, 2024.

[21] Katarína Žáková et al., "Exploring Student and Teacher Perspectives on ChatGPT's Impact in Higher Education," *Education and Information Technologies* 30, no. 1 (January 29, 2025): 649–92, https://doi.org/10.1007/s10639-024-13184-y.

[22] Adelina Moura and Ana Amélia A Carvalho, "Teachers' Perceptions of the Use of Artificial Intelligence in the Classroom," in *International Conference on Lifelong Education and Leadership for All (ICLEL 2023)* (Atlantis Press, 2024), 140–50.

[23] Taha Ertuğrul Kuzu, Thomas Irion, and Wolfgang Bay, "AI-Based Task Development in Teacher Education: An Empirical Study on Using ChatGPT to Create Complex Multilingual Tasks in the Context of Primary Education," *Education and Information Technologies* 30, no. 16 (November 1, 2025): 23041–75, https://doi.org/10.1007/s10639-025-13673-8.

[24] Kuzu, Irion, and Bay, "AI-Based Task Development in Teacher Education: An Empirical Study on Using ChatGPT to Create Complex Multilingual Tasks in the Context of Primary Education."

[25] Kwan Yin Chan, Tsz Hon Yuen, and Michael Co, "Using ChatGPT for Medical Education: The Technical Perspective," *BMC Medical Education* 25, no. 1 (February 7, 2025): 201, https://doi.org/10.1186/s12909-025-06785-9; M. Said Doğru and Emily K. Faulconer, "ChatGPT as a Virtual Laboratory Teaching Assistant in Undergraduate Biology," *Research in Science Education* 56, no. 1 (February 19, 2026): 379–99, https://doi.org/10.1007/s11165-025-10271-z.

[26] Michael D'Addario, "A Taxonomy of Standardized Terms for Generative AI Use in the Composition Classroom," *Discover Education* 4, no. 1 (July 1, 2025): 220, https://doi.org/10.1007/s44217-025-00655-8; Morandín-Ahuerma, "What Role Should ChatGPT Play in the Classroom."

may discourage learners from developing augmentation skills, critical thinking abilities, and reflective writing capacities essential in contemporary education.[27] Anders further warns that caution is necessary, as reliance on ChatGPT may foster passive learning and hinder the cultivation of the knowledge, values, and skills that curricula are designed to develop.[28]

Accounting Education and ChatGPT

As a discipline and profession, accounting demands accuracy, efficiency, and promptness.[29] The subject continues to evolve in response to transformations in global economies driven by technological innovations, globalization, and market pressures.[30] Given these demands and transformations, there is an increasing need for technological tools to enhance the teaching of the subject. In the past, the teaching of Accounting was primarily focused on transmitting information and procedures to enable learners to solve financial problems and meet assessment requirements.[31] However, due to the rapidly changing socio-economic environment, teaching Accounting requires not only "technical knowledge and skills, but a broader scope of skills and analytical abilities.[32]

It is therefore imperative that the teaching and assessment of Accounting stimulate learners to think critically and analytically, as well as to communicate effectively and solve the ever-increasing global economic challenges. With technologies such as ChatGPT evolving at an accelerated pace, the accounting profession stands to benefit significantly, as these tools have the potential to revolutionize and transform accounting teachers' pedagogical practices.[33] Proponents of ChatGPT argue that it has emerged as a powerful tool with the capacity to enhance Accounting teaching and learning by advancing learner-centered pedagogical approaches, improving classroom interaction, and fostering critical thinking and problem-solving skills.[34] Learners require more effective and efficient means to comprehend abstract concepts embedded in the Accounting curriculum, and teachers are increasingly expected to create learning environments that not only build technical proficiency but also nurture essential soft skills.

THEORETICAL FRAMEWORK

A wide range of models has emerged from research, examining how users accept and intend to use novel technologies.[35] This study is framed by the Unified Theory of Acceptance and Use of Technology

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[27] Brent A. Anders, "Is Using ChatGPT Cheating, Plagiarism, Both, Neither, or Forward Thinking?," *Patterns* 4, no. 3 (March 2023): 100694, https://doi.org/10.1016/j.patter.2023.100694.

[28] Anders, "Is Using ChatGPT Cheating, Plagiarism, Both, Neither, or Forward Thinking?"

[29] Hashem Alshurafat, Hamzah Al-Mawali, and Mohannad Obeid Al Shbail, "The Influence of Technostress on the Intention to Use Blockchain Technology: The Perspectives of Jordanian Auditors," *Development and Learning in Organizations: An International Journal* 37, no. 3 (April 20, 2023): 24–27, https://doi.org/10.1108/DLO-06-2022-0103; Zaid Jaradat et al., "Factors Influencing Business Intelligence Adoption: Evidence from Jordan," *Journal of Decision Systems* 33, no. 2 (April 2, 2024): 242–62, https://doi.org/10.1080/12460125.2022.2094531.

[30] Thabiso Jonah Motsoeneng and Boitumelo Moreeng, "Exploring Accounting Teachers' Effective Implementation of Assessment for Learning in the Classroom," *Research in Social Sciences and Technology* 8, no. 4 (December 18, 2023): 257–82, https://doi.org/10.46303/ressat.2023.42.

[31] EY Global, "How AI Is Transforming Business Right Now," August 8, 2019, https://www.ey.com/en_gl/insights/innovation/how-ai-is-transforming-business-right-now.

[32] Motsoeneng and Moreeng, "Exploring Accounting Teachers' Effective Implementation of Assessment for Learning in the Classroom."

[33] Mohannad Obeid Al Shbail et al., "The Moderating Effect of Job Satisfaction on the Relationship between Human Capital Dimensions and Internal Audit Effectiveness," *Cogent Business & Management* 9, no. 1 (December 31, 2022), https://doi.org/10.1080/23311975.2022.2115731; Jaradat et al., "Factors Influencing Business Intelligence Adoption: Evidence from Jordan."

[34] Xin An et al., "Modeling English Teachers' Behavioral Intention to Use Artificial Intelligence in Middle Schools," *Education and Information Technologies* 28, no. 5 (May 29, 2023): 5187–5208, https://doi.org/10.1007/s10639-022-11286-z; Fatma Gizem Karaoglan Yilmaz, Ramazan Yilmaz, and Mehmet Ceylan, "Generative Artificial Intelligence Acceptance Scale: A Validity and Reliability Study," *International Journal of Human–Computer Interaction* 40, no. 24 (December 16, 2024): 8703–15, https://doi.org/10.1080/10447318.2023.2288730.

[35] Dana Rad et al., "A Preliminary Investigation of the Technology Acceptance Model (TAM) in Early Childhood Education and Care," *BRAIN. Broad Research in Artificial Intelligence and Neuroscience* 13, no. 1 (March 2, 2022): 518–33, https://doi.org/10.18662/brain/13.1/297; Hussein Gibreel Musa et al., "Marketing Research Trends Using Technology Acceptance Model (TAM): A Comprehensive Review of Researches (2002–2022)," *Cogent Business & Management* 11, no. 1 (December 31, 2024), https://doi.org/10.1080/23311975.2024.2329375; Rong Wu and Zhonggen Yu, "Do AI Chatbots Improve Students Learning

(UTAUT), initially proposed by Lai.[36] The theory is grounded in four core constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions.[37] Proponents of the theory maintain that these constructs directly shape behavioral intention and, ultimately, user behavior. They further contend that the influence of these constructs is moderated by factors such as age, gender, experience, and voluntariness of use.

Within the framework of UTAUT, performance expectancy refers to the belief that using a system will enhance one's job performance. Social influence relates to the extent to which an individual perceives that they should use the system based on the perceptions of others. Facilitating conditions concern the belief that adequate organizational and technical infrastructure is available to support system use. Gender and age may moderate the relationship between effort expectancy and intention to use. According to Lai, the use of technology is closely tied to self-belief and confidence. Lai contends that confidence and positive attitudes enable individuals to make informed decisions, shaping constructive behaviors.[38]

Drawing from the constructs of UTAUT, this study argues that the integration of generative AI depends on teachers' beliefs that such tools can improve their lesson delivery and support learners' comprehension of accounting concepts. Teachers' conviction that they can easily utilize generative AI also influences the extent to which they embrace it. Moreover, given the technological orientation of the current generation, many learners find instruction more engaging and easier to comprehend when technology supports delivery. Guided by the UTAUT construct of facilitating conditions, this study further argues that teachers' effective use of AI is contingent upon the availability of Information and Communication Technology resources, including devices, electricity, and reliable internet connectivity.

In practical terms, applying UTAUT in education presents both opportunities and challenges. On the one hand, when effectively embraced, technology can transcend the barriers of space and time within the educational sphere, enhance teachers' pedagogical practices, and amplify learning outcomes. For example, AI tools can support teaching and learning by improving instructional efficiency and fostering greater learner engagement. On the other hand, UTAUT also highlights potential challenges. It may exacerbate educational inequalities in contexts where teachers feel unprepared to use technology or where facilitating conditions are inadequate. Furthermore, because UTAUT is primarily grounded in users' perceptions, it may be difficult to objectively assess teachers' preparedness and willingness to adopt digital technologies.

METHODOLOGY

This empirical study investigated accounting teachers' perspectives on the opportunities, challenges, and threats associated with integrating generative AI in accounting classrooms. The research was designed as a descriptive and interpretive case study within the qualitative paradigm. The choice of the interpretive paradigm was informed by its underlying axiom that reality is subjective, value-laden, and multiple, and that human beings construct it. This contrasts with the positivist approach, which is primarily grounded in measurement and statistical procedures. Consistent with the guidance of Pandey and Pandey, participants were selected based on the researchers' judgment that they possessed "rich information."[39]

Using semi-structured interviews, the data was collected from five purposively selected teachers from five schools in the Frances Baard District, as this study did not seek to conduct a complete population census.[40] The five schools were chosen to represent the diversity of school types found in urban, peri-urban, and rural areas of South Africa. The participating teachers were selected because

Outcomes? Evidence from a Meta-analysis," *British Journal of Educational Technology* 55, no. 1 (January 3, 2024): 10–33, https://doi.org/10.1111/bjet.13334.

[36] Ming-Ling Lai, "Technology Readiness, Internet Self-Efficacy and Computing Experience of Professional Accounting Students," *Campus-Wide Information Systems* 25, no. 1 (January 4, 2008): 18–29, https://doi.org/10.1108/10650740810849061.

[37] Viswanath Venkatesh et al., "User Acceptance of Information Technology: Toward A Unified View1," *MIS Quarterly* 27, no. 3 (September 1, 2003): 425–78, https://doi.org/10.2307/30036540.

[38] Lai, "Technology Readiness, Internet Self-Efficacy and Computing Experience of Professional Accounting Students."

[39] Prabhat Pandey and Meenu Mishra Pandey, *Research Methodology: Tools and Techniques* (Buzau: Bridge Center, 2015).

[40] Jennifer Mason, "Linking Qualitative and Quantitative Data Analysis," in *Analyzing Qualitative Data* (Routledge, 2002), 89–110.

they represented schools from different quintiles and possessed varying levels of experience in teaching Accounting. It was therefore anticipated that their integration of ICT would differ, providing perspectives representative of both novice and experienced teachers. Furthermore, all participants were trained in accounting and were thus able to contribute relevant insights that aligned with the study's objectives.

However, given the small sample size, the findings should not represent all Accounting teachers' perspectives on the opportunities, challenges, and threats of integrating generative AI in Accounting classrooms. Within the limited scope of this study, the credibility and generalizability of the conclusions are confined to the specific qualitative context in which the research was conducted.[41]

Data was generated through in-person, semi-structured interviews lasting between 40 and 60 minutes, which were transcribed verbatim. Participants were invited to review their transcripts to ensure accuracy and credibility. To enhance the trustworthiness of the analysis, an independent coder examined a sample of the transcripts. Any discrepancies in coding were discussed and resolved collaboratively. This intercoder verification process served to minimize research bias while enhancing analytical rigor.

Inductive and deductive data analysis were conducted using Braun and Clarke's six-phase process.[42] This approach was chosen for its systematic yet flexible structure, making it particularly suitable for qualitative research. The six phases comprise familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. The data was analyzed for recurring patterns, which were then developed into themes that capture participants' lived experiences of integrating AI into Accounting education.

Ethical Considerations

In adherence to ethical practices, ethical clearance was obtained from the Central University of Technology Ethics Committee. Thereafter, permission was sought from the Northern Cape Department of Education. Following these approvals, consent was also obtained from the District Director of the Frances Baard District. Permission was further requested and granted by the principals of the selected schools, who subsequently assisted in identifying the Accounting teachers.

The identified teachers were invited to participate in the study, and those who agreed signed informed consent forms per the guidelines of De Vos et al.[43] Prior to the interviews, participants were informed of the study's purpose and assured that all findings would remain confidential. They were also advised that pseudonyms would be used in the report to prevent the data from being linked to their identities. Consent was additionally sought and granted to audio-record their accounts and discussions.

PRESENTATION OF FINDINGS AND DISCUSSION

The primary aim of the study was to address the following two research questions:

1. *What are the opportunities, challenges and threats presented by ChatGPT in the teaching and learning of secondary school accounting?*
2. H*ow can the challenges and threats be addressed to enable a smooth integration of ChatGPT in the teaching and learning of secondary school accounting?*

The findings from the semi-structured interviews are presented below under three overarching themes: opportunities, challenges, and threats associated with integrating ChatGPT into Accounting education. The data analysis was guided by the UTAUT framework, focusing on the constructs of performance expectancy, effort expectancy, and facilitating conditions. Participants' responses were coded and organized into categories aligned with these constructs, which were subsequently synthesized into the three main themes. The teachers' perspectives are presented, analyzed, and

[41] Pandey and Pandey, *Research Methodology: Tools and Techniques*.
[42] Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101.
[43] Annemie De Vos et al., *Research at Grass Roots* (Pretoria: Van Schaik Publishers, 2014).

discussed regarding the opportunities, challenges, and threats of adopting ChatGPT, as well as in relation to the UTAUT constructs and relevant literature.

Opportunities (Performance Expectancy)

Efficiency in Teaching

There was consensus among the teachers that ChatGPT enhanced the efficiency of their lesson planning and assessment processes. They regarded it as a powerful tool that supported the design of lesson plans aligned with acquiring the intended subject knowledge and skills. P2 stated:

> *ChatGPT enables me to generate materials, objectives and case studies within a short space of time and adapt them to my classroom context.*

Sharing this view, P3 echoed:

> *This tool is like having an assistant teacher – it assists me in designing activities which mirror typical examination questions and the marking guidelines in no time*

The experiences of these participants align with the findings of Vadisetty.[44] Previous studies have shown that ChatGPT, along with other AI tools, reduces teachers' administrative workload, allowing them to devote greater attention to pedagogical practices in the classroom. These participants' experiences closely correspond with the UTAUT construct of performance expectancy, which posits that the perceived usefulness of a technology influences adoption.

Customized and Engaged Learning

Several participants highlighted ChatGPT's potential to facilitate differentiated learning. P1 noted:

> *ChatGPT helps me to explain abstract accounting concepts to my learners based on their abilities. I can differentiate my explanations depending on the ability of the learner.*

Another participant, P5, reported that learners benefited from the immediacy of responses:

> *No learner will wait for the teacher to do corrections, as ChatGPT provides prompt feedback to the learners on their responses.*

The study's findings support those of Žáková et al., who suggest that ChatGPT facilitates adaptive learning, enabling teachers to tailor instruction according to learners' abilities.[45] In this way, fast learners are not held back by peers who may struggle, as they have the opportunity to progress at their own pace, while learners who require more time to grasp concepts are not rushed through the material.

Professional Development and Resource Access

It was noteworthy that teachers also regarded ChatGPT as a resource that could be utilized for their own professional development. As P4 stated:

> *Due to resource constraints at the school I am stationed at, I find ChatGPT handy for generating materials I couldn't easily access elsewhere.*

It becomes evident that ChatGPT has the potential to democratize access to information, particularly in under-resourced contexts. Similarly, research indicates that tools such as ChatGPT can expand professional development opportunities for educators.[46]

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[44] Rahul Vadisetty, "ChatGPT for Lesson Planning," *AI & ChatGpt Tools for Teaching Learning Process* 33 (2024).
[45] Žáková et al., "Exploring Student and Teacher Perspectives on ChatGPT's Impact in Higher Education."
[46] Heidi Reichert et al., "Empowering Secondary School Teachers: Creating, Executing, and Evaluating a Transformative Professional Development Course on ChatGPT," in *2024 IEEE Frontiers in Education Conference (FIE)* (IEEE, 2024), 1–9, https://doi.org/10.1109/FIE61694.2024.10893106.

Challenges (Effort Expectancy and Facilitating Conditions)

Ease of Use

Several participants expressed concerns regarding ChatGPT's responses' reliability, accuracy, and adaptability. One participant, P4, observed:

> *In some instances, the responses are not always accurate with accounting standards, especially given our local context*

P4 expressed concern regarding the authenticity of the responses generated by this tool, a point that was further emphasized by P2, who asserted:

> *Personally, I sometimes find the responses too generic, and then I must spend more time adapting and fine-tuning them for my curriculum suitability.*

The challenges highlighted reflect the effort expectancy construct of the Unified Theory of Acceptance and Use of Technology (UTAUT). Teachers may experience discomfort in using ChatGPT, as literature such as Lai suggests that ease of use directly influences teachers' perceptions of the value of technology.[47]

Training and Confidence

A recurring concern among participants was the lack of confidence in using ChatGPT effectively. P1 highlighted this issue, stating:

> *The problem is that we are expected to integrate digital technologies, which we were never trained to use.*

He lamented this situation, further positing that:

> *Personally, I have limited knowledge about ChatGPT, and if I were to use it, I would have to spend a lot of time and effort researching it.*

Echoing the same concern was P3, who had this to say:

> *I am still not confident about whether I am using this tool correctly. Yes, I can use it, but I still need training.*

Many teachers have not yet advanced beyond a basic understanding of ChatGPT to the content creation stage or the ability to utilize it on collaborative platforms. The situation was particularly pronounced for P2, who stated:

> *The days I trained to be a teacher, these AI tools were not there; now, suddenly, I am expected not only to comprehend what they are all about but to use them in my curriculum practices to make learning enjoyable.*

It is also noteworthy that, although teachers could identify their shortcomings in using digital technology, they could equally propose solutions to the challenges they faced in fully integrating digital tools such as ChatGPT into their curriculum practices. This is evident from the observation of P5, who echoed:

> *I feel that there is a need for continuous teacher development and redesigning of teacher training curricula so that teachers are trained in using these platforms.*

Whereas P5 advocated for teacher development, P4 expressed dissatisfaction with the quality of the workshops to which they had been exposed, asserting:

> *We are always going to be found wanting in terms of digital pedagogical practices because when we go for workshops, our officials have pre-determined items they wish to discuss. They don't delve into sharpening our pedagogical practices concerning the ever-increasing digital tools.*

[47] Lai, "Technology Readiness, Internet Self-Efficacy and Computing Experience of Professional Accounting Students."

In the absence of targeted professional development, teachers may struggle to integrate tools such as ChatGPT effectively. This, in turn, may lead to reluctance in adopting ChatGPT, as they recognize that its integration into the teaching of accounting will require considerable effort. This finding aligns with previous studies indicating that teachers can successfully mediate educational technology only when they possess adequate digital literacy.[48] Without sufficient digital skills, this gap limits the potential of digital technology to enhance learning in schools, particularly in underprivileged areas.[49]

Institutional and Infrastructure Barriers

Infrastructural constraints emerged prominently as a significant impediment to the full integration of ChatGPT. P3 lamented:

> *Internet connectivity is a serious issue here- how can we infuse ChatGPT when there is no adequate internet connection?*

Adding to the limitation of resources, P1 echoed:

> *Whilst I appreciate that ChatGPT may turn around the learner outcomes, I wonder how that can happen because most of my learners do not have access to computers, laptops or smart cellphones, nor does the school have a computer lab.*

It was disheartening to learn that, at one school, classrooms have lacked electricity for the past three years due to vandalism and theft by criminals. P3 lamented:

> *There has been no electricity in our classrooms at our school for the past three years due to criminal elements who stole the electrical cables.*

The findings of this study highlight critical challenges related to the much-needed infrastructure. Township schools and rural areas experience inadequate internet connectivity and limited access to equipment, which negatively affects teachers' attitudes toward integrating digital technologies. This observation aligns with the facilitating conditions construct embedded in the UTAUT theoretical framework underpinning this study. When facilitating conditions are unfavorable, teachers tend to be skeptical about using technology.

Threats (Performance Expectancy and Facilitating Conditions

Ethics and equity emerged as major concerns raised by the participants. Regarding equity, P3 lamented:

> *Learners from better socio-economic backgrounds can freely use ChatGPT; however, many learners from poor societies can't even afford reliable devices or data. This widens inequality gaps.*

The findings highlight a pertinent issue concerning educational inequalities. The South African government has made considerable efforts to equalize educational opportunities; however, most rural and township schools continue to face marginalization in terms of access to resources.

In addition to the challenges posed by resource disparities, P2 raised ethical concerns regarding using ChatGPT.

> *This tool comes with some ethical concerns regarding how secure the data is and who has access to it.*

[48] Stella Bolanle Apata et al., "Digital Transformation in Teaching: The Preparedness of in-Service Teachers in Nigeria for the Fourth Industrial Revolution (4IR)," *British Journal of Contemporary Education* 5, no. 1 (2025): 16–33; Matthew J. Koehler et al., "The Technological Pedagogical Content Knowledge Framework," in *Handbook of Research on Educational Communications and Technology* (New York, NY: Springer New York, 2014), 101–11, https://doi.org/10.1007/978-1-4614-3185-5_9.

[49] Apata et al., "Digital Transformation in Teaching: The Preparedness of in-Service Teachers in Nigeria for the Fourth Industrial Revolution (4IR)."

These findings indicate that facilitating conditions encompass both technical and social dimensions, prompting discussions about ethics, fairness, and the intended focus of specific AI tools.

RECOMMENDATIONS

Based on the findings and discussion of this study, it is recommended that accounting teachers adopt ChatGPT within the teaching and learning environment, as it facilitates the effective implementation of the accounting curriculum and supports the development of both accounting competencies, such as data analysis, and learner competencies, including critical thinking and problem-solving. ChatGPT enables teaching, learning, and assessment to extend beyond the physical boundaries of the classroom, allowing teachers and learners to collaborate with relevant stakeholders to address learning gaps identified during instruction. Fundamentally, there is a compelling need for the DBE to organize capacity-building workshops to equip teachers with the technological and pedagogical knowledge and skills necessary for meaningful integration of educational technology. Subsequently, establishing vibrant professional learning communities will support educational technology's sustained and seamless integration within accounting classrooms.

CONCLUSION

The study has examined accounting teachers' perspectives on the opportunities, challenges, and threats associated with integrating ChatGPT into Accounting instruction. The findings have revealed that teachers perceived ChatGPT as a facilitative tool that promotes flexible, personalized, and impactful teaching and learning. Additionally, it emerged as a powerful tool for providing prompt assessment feedback. However, the study also highlighted significant limitations, particularly in terms of infrastructure and technological, pedagogical, and content knowledge, which hinder the effective integration of ChatGPT in Accounting. The study has recommended an urgent need for teacher professional development to equip accounting teachers with the knowledge and skills required to integrate educational technology. Furthermore, it has emphasized the importance of establishing functional professional learning communities to sustain capacity building. In conclusion, the study argues that it is imperative for teachers to be supported and provided with the requisite capabilities to integrate educational technology such as ChatGPT effectively, thereby enhancing the quality of teaching, learning, and learner outcomes in Accounting. This study highlights the need for the Department of Education to provide facilitating conditions for all schools to equally tap into the affordances of ChatGPT. Moreso, there is a need to design policies which will guide both learners and teachers on the use of ChatGTP more especially in assessment practices. Lastly, it should be noted that the results of this exploratory study cannot be generalised as only a limited sample in Frances Baard was used. A large scale research with a much larger sample might need to be conducted in future if the results are to be generalised.

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