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"Working Smarter' or 'Working Harder': Is Artificial Intelligence Hurting or Helping Teaching and Learning Approaches in Private Higher Education?

Shamola Pramjeeth[1] and Priya Ramgovind[2]

[1]Faculty of Commerce, The Independent Institute of Education, Emeris, Durban, South Africa
[2]Faculty of Management Sciences, Durban University of Technology, Durban, South Africa

Abstract: *Artificial intelligence (AI) is revolutionising higher education (HE) in ways that were once thought impossible - from personalised learning to predictive analytics. Based on their predisposition towards technology acceptance, higher education institutions' (HEIs) response to AI integration is either proactive or reactive,. The key research objective is to understand perceptions of AI among educators to assess whether AI is seen as a tool for enhancing pedagogical efficiency ('working smarter') or as a source of additional workload ('working harder'). Following an interpretivist paradigm and a purposive sampling approach, 40 academics and Teaching and Learning (T&L) specialists at a private higher education institution (PHEI) in South Africa were consulted using an open-ended online questionnaire. From this analysis, three key themes emerged: Lack of AI Use, Permission of Use, and Enhanced and Efficient T&L. Most participants did not have exposure to AI tools, with a significant number indicating that they intend to engage with AI tools in the future. A favoured response was given to the implementation of AI in PHE, with most indicating that it should be formally permitted and encouraged within the institution. Integrating AI into T&L may create robust engagement if used correctly; however, there are differing views on AI serving as a framework for deeper learning, creativity and innovation.*

Keywords: academic; AI in education; perceptions; private higher education; teaching and learning; technology acceptance model; South Africa

CORRESPONDENCE

Email:
spramjeeth@varsitycollege.co.za

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Introduction

The equitable and comprehensive use of Artificial Intelligence (AI) in education has become a global priority since the 2019 International Conference on Artificial Intelligence and Education, jointly hosted by UNESCO (2023), continuous technological advancement has significantly altered how humans approach life, work and education. AI holds the potential to revolutionise education by shifting the paradigm from lecturer driven instruction to personalised, adaptive learning models that enhance quality, accessibility and inclusivity (Pillai et al., 2024). For instance, schools in Hong Kong have already

integrated AI education into classrooms to develop future-ready learners (Wong, 2019).

Despite its potential benefits, the integration of AI in education presents notable challenges. Ali and Abdel-Haq (2021) argue that AI raises social, pedagogical and ethical risks for educators and learners. PixelPlex (2021) cautions that increased automation may limit essential human interaction, which is critical for social and emotional development. Developing nations such as South Africa face further barriers, which include high implementation costs, limited digital infrastructure and inadequate policy frameworks to guide ethical and effective use (UNESCO, 2023). Consequently, these challenges influence how HEIs conceptualise AI adoption within T&L strategies, often resulting in fragmented or reactive implementation approaches.

Nonetheless, AI offers transformative opportunities for HE. It can automate administrative tasks such as grading, assessment moderation and lesson planning—freeing academics to focus on critical pedagogical activities (MindTitan, 2022; Eager & Brunton, 2023). AI driven tutoring systems, virtual simulations and intelligent assessments can enhance engagement, improve feedback and promote deeper learning (Dilmegani, 2021; AlKanaan, 2022). These capabilities align with Sustainable Development Goal 4, which emphasises inclusive and equitable quality education (Flynn, 2023). However, as Chomsky (News, 2023) warns, unregulated use of generative AI tools like ChatGPT, if not guided by clear institutional policies, may encourage academic dishonesty and superficial learning.

While global discourse on AI in education has accelerated, much of the research focuses on developed contexts, neglecting the distinctive infrastructural and pedagogical realities of developing countries. Within South Africa, the application of AI in PHEIs remains underexplored. Most PHEIs are still formulating institutional policies and ethical frameworks to manage AI's role in T&L. The rapid emergence of generative AI tools since 2022 underscores the urgency to understand its implications for teaching practice, learning outcomes and academic integrity.

This study aims to map and critically interpret academics' and T&L specialists' perceptions of AI adoption within a South African PHEI, focusing on whether these perceptions indicate a potential for 'working smarter', that is, improving efficiency and pedagogical innovation, or whether they reveal risks of 'working harder', that is, increased workload or pedagogical harm. By examining perceptions through this lens, the research seeks to shed light on institutional readiness and the factors influencing AI integration, ultimately informing policy and practical interventions.

Literature review

AI can be defined as computing systems that can engage in human-like processes like learning, adapting, synthesising, self-correcting and using data for complex processing tasks (Holder et al., 2018). For the purpose of this study, 'working smarter' refers to enhancing pedagogical efficiency and 'working harder' = as a source of additional workload. The foundation of AI is the idea that a machine can learn, gather data, evaluate it, look for patterns and make judgements by simulating the human brain using computer systems. As a result, the machine can mimic human behaviours such as thinking, learning and making decisions (AlKanaan, 2022). However, education is elementarily human centric and not technology centric. Since machine learning and AI are advancing rapidly, education must guard against solely relying on technology driven solutions (Irfan et al., 2023). It is increasingly evident that introducing AI generated tools can proactively or reactively change educational teaching pedagogies and the way T&L takes place (Kaziboni, 2023).

Between 2021 and 2022, the number of published studies relating to AI in HE has increased two to threefold (Crompton & Burke, 2023). Typically, AI assistants, educational software and personalised learning management system algorithms have been used as AI tools in T&L (Lacey & Smith, 2023). Professor De Wet, Senior Director of the University of Johannesburg's Centre for Academic Technologies (CAT), acknowledges that "AI tools could be both a powerful asset and a potential liability". The perspective of AI in HE in the Global North mirrors findings and Global South**,** in that there are high levels of engaging research in various disciplines (Hlongwane et al., 2024; Khoalenyane & Ajani, 2024; Van Wyk, 2024).

While technology can potentially improve education, achieving this outcome depends on how technology is harnessed, regulated and utilised responsibly and inclusively" (Kaziboni, 2023). Several studies have been conducted between 2016–2024 that highlight the use of AI in HE. AI can enhance the quality and efficiency of education by providing personalised learning paths, adaptive feedback, intelligent tutoring systems and

automated grading (Luckin et al., 2016; Murphy, 2019; Mahmoud 2020 Hannan & Liu, 2023; Jensen et al., 2025). Given the evidenced use of AI in HE, the recent increase of AI tools in the market means that HEIs have numerous options to consider when incorporating AI into their operational activities and their T&L.

Given that there are numerous AI tools that HEIs can use, the institution has the responsibility of ensuring that the AI tools chosen for integration into T&L align with the strategic objectives of the institution, the T&L pedagogy that underpins the development and facilitation of assessments, as well as the Learning Management System (LMS).

Before HEIs can adopt AI tools, they must understand what they are, how they work, how they complement the institution's strategic objectives and how they can contribute to creating digitally, ethically and competent graduates. As part of the adjudication process any HEI would have to go through to determine the purpose of AI in T&L, understanding the advantages and disadvantages of AI in T&L is crucial, as this will form the basis for adoption (or not) given the evidenced studies. AI tools in HE has resulted in countless academics, administrative support staff and decision makers questioning its use to facilitate an interactive learning environment (Rospigliosi, 2023). AI should be considered for integration into HE, as it can adapt to the various learning styles and needs of students, provide customised and timeous feedback, develop formative and summative assessments as well as grade, assist in lesson plan preparation, create case studies and scenarios, tutor virtually and conduct research (Baidoo-Anu & Owusu Ansah, 2023; Chan & Hu, 2023; Hannan & Liu, 2023). To pave the path for a future in which education truly transforms people and enables them to realise their full potential, educators must change their existing mental models and adapt to the technological revolution. They must do this while proactively engaging with and empowering learners to unlock the full potential of these tools, where AI and humans can work in harmony to achieve constructive, sustainable outcomes for the betterment of society (Kaziboni, 2023). When AI tools are not used as intended, whether intentionally or unintentionally, a discord between HE expectations and student behaviour arises (Rospigliosi, 2023).

The intentional or unintentional misuse of AI generated tools, such as ChatGPT, can result in the generation of incorrect information, privacy issues and biases in the generated data (Baidoo-Anu & Owusu Ansah, 2023). Kaziboni (2023) posits that educators are overcome by anxiety when they consider how AI can affect learning, noting that if the technology is to be used efficiently to harness the potential benefits, issues like cheating, plagiarism, errors, bias and even harmful use needs to be acknowledged and addressed. One of the key concerns is ensuring the quality and validity of AI generated outputs, as they may contain errors, inaccuracies or biases that can compromise the reliability and credibility of research (Batista et al., 2024). This can happen due to AI misrepresenting the quality or representativeness of the data or algorithms used (Fenwick & Molnar, 2022).

Theoretical framework: Technology acceptance model

The Technology Acceptance Model (TAM), developed by Davis's (1989) and grounded in Ajzen's Theory of Reasoned Action and Theory of Planned Behaviour, explains how individuals accept and use technology. It is driven by two key factors: Perceived Usefulness (PU) - the belief that technology enhances performance—and

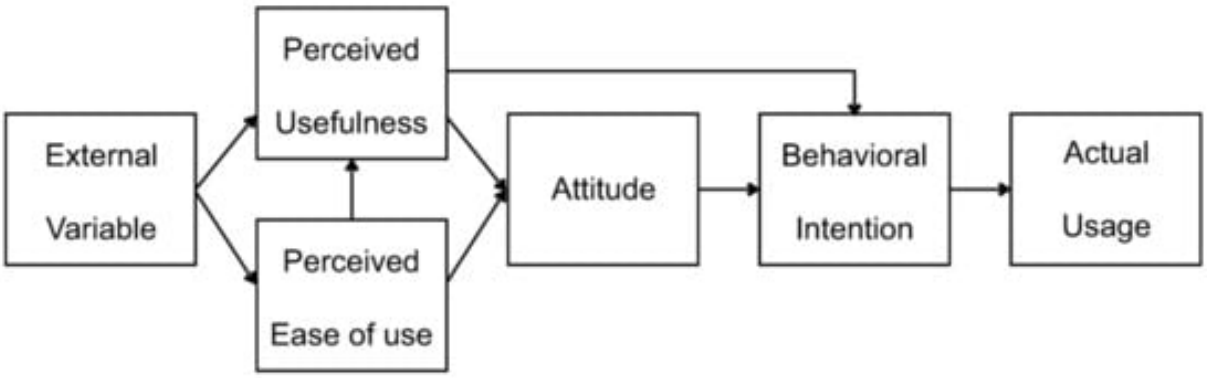

Figure 1. Technology Acceptance Model
Source: Davis (1989).

Perceived Ease of Use (PEOU) - the belief that technology is free of effort. These variables shape users' attitudes, behavioural intentions and actual usage (see Figure 1).

In this study, TAM provides the analytical framework for understanding how academics and T&L specialists perceive, accept and adopt AI tools in PHEIs. Academics' perceptions of AI's usefulness in enhancing efficiency, creativity, and deeper learning (PU), and their confidence in using such tools effectively (PEOU), determine their willingness to adopt AI for T&L.

Research methodology

This exploratory study was guided by the interpretivist paradigm to investigate academics' and T&L specialists' perceptions of GenAI tools, including ChatGPT and other platforms, in South African PHEI. Given the limited research in this context, a qualitative approach was employed to understand participants' views on AI integration in T&L prior to the PHEI formalising its stance.

Using a qualitative methodological approach, this study sought to understand academics and T&L specialists' perceptions of the use of AI tools in T&L at the PHEI prior to the PHEI taking a formal stance on the use of these tools at the institution. An open ended online questionnaire informed by the literature on AI was created to understand academics and T&L specialists' stances on incorporating AI tools into their T&L. For this study, AI tools include but are not limited to ChatGPT, BING, Elicit, Litmaps, Research Rabbit, Perplexity, Scispace, Hello Boo, Consensus, Otter, Lateral ai., O Transcribe, Voyant, Taguette, Quilbot, Midjourney, Socratic, DALL-E, Knowji, Mika, Altitude Learning, Tome and Notably.

While the TAM has traditionally been employed within quantitative, predictive research paradigms (Davis, 1989), its application in this qualitative study is intended as a sensitising framework rather than a deterministic explanatory model. The framework did not inform the development of interview questions. The instrument consisted of four unstructured questions that were phrased in a manner that required the participants to reflect and expand on their responses. The study sought to understand participants' beliefs on incorporating AI tools in T&L as a way to work smarter and not harder and if these AI tools serve as a base or provide a framework for deeper learning, creativity and innovation. Participants were asked if they had or intended to use any AI tools in their teaching and if the PHEI where they are employed should formally permit and encourage the use of AI tools. Participants were asked to elaborate on and explain their viewpoints.

The PHEI Ethics Committee vetted the instrument and two academics at the PHEI reviewed the instrument for clarity. Data was collected through the online survey platform Microsoft Forms from 3 April 2023 to 15 April 2023. The targeted population was academics and T&L specialists across the ten delivery sites at the PHEI sites (Western and Eastern Cape, Durban, Pietermaritzburg, Rumisig, Sandton, Midrand and Pretoria) within South Africa, with an approximate population size of 180. The survey link was emailed to the targeted population using purposive sampling. An online questionnaire was chosen as the most suitable instrument due to the geographical reach of the PHEI's various delivery sites and the targeted population's accessibility and availability. The instrument was anonymous, and the responses were kept confidential. Participation in the study was voluntary. The study included only academics and T&L specialists at the PHEI who were lecturing on any qualification at the PHEI under study. A screening question was included in the survey to ensure participants met the participation requirements. The survey was closed after 40 questionnaire responses due to data saturation being attained. The data was analysed using content and thematic analysis. The software Nvivo 12 Pro was used to analyse the raw data, from which three key themes emerged. The data was imported into the software and codes were created based on the nodes of the keywords from the data. Thereafter, a search query was run for the keywords. Based on the created visual, insights on the findings were recorded. Three key themes and subthemes emerged from the data. To ensure the credibility of the findings, the authors familiarised themselves with the raw data. To assess for overlapping themes' consistency and accuracy of the emerging themes, a review and discussion of the raw and analysed data, the nodes and emerging themes was conducted between the researchers. Thereafter, a summary of the content for each question was done. The themes and subthemes were defined and named. The authors further sought feedback from a qualitative data analyst expert on the findings and the interpretation of the data. Verbatim quotes supported each theme discussion and literature was consulted to establish whether correlation exists or not within this study's findings. A detailed description of the research design, the associated methodology and data analysis has also been provided.

Ethical clearance for the study was obtained from the PHEI Ethics Committee in accordance with its ethics review and approval procedures (R.00084). The ethical considerations extended to participant confidentiality, anonymity, privacy and informed consent. The committee vetted the instrument for clarity, accuracy and alignment with the research purpose and objectives. The committee requested that the questions assessing gender and race be removed.

Findings

This section will provide insight into participants' perspectives and adoption of AI tools at the PHEI. The following section presents the three themes that emerged from the data collected: *Lack of AI Use*, *Permission of Use* and *Enhanced and Efficient T&L*. Table 1 below shows the codes and references.

Demographics

In terms of participants' demographic profile, as per Table 2, most participants (30) were academics from campuses across the country serving as lecturers, Heads of Academics or Heads/Deputy Heads of Schools. The National Academic participants, who oversee the qualifications and modules at a broader/national level, were 9, and 1 T&L Specialist/Manager participated in bringing a specialised perspective on pedagogy and AI's role in education. The largest group (14 participants) has 1–5 years of experience, indicating that a significant portion of respondents are relatively new to higher education.

The second largest group (8 participants) has 11–15 years of experience, showing a mix of midcareer educators, while a fairly even distribution was noted with more senior-career educators, 7 participants with 6–10 years, 6 participants with 16–20 years and 5 participants with over 20 years of experience. The presence of both junior and senior academics ensured a variety of perspectives on AI in teaching and learning. Newer academics (1–5 years) may be more open to AI adoption but may lack institutional knowledge of traditional teaching methods. More experienced educators (16 + years) may offer critical insights into how AI compares with traditional pedagogical approaches and whether it truly enhances or hinders education. The mix of national and campus based academics ensures that both policy level insights and practical classroom experiences are considered when evaluating AI's impact.

Table 1. Codes and References

Codes	References
Lack of AI use, integration, knowledge, poor buy-in	41
No choice	36
Not fit for purpose	21
AI use	14
Effective T&L	37
The basis from which to critique and extend existing frameworks	47
Tool to support teaching & learning	12
Responsible, regulated, detectable and ethical use	64

Table 2. Participant Demographics

Years of experience	Campus Academics (Lecturers, Head Academic, Head of School/Deputy Head of School)	National Academic Team	T&L Management & Specialists	Total
1–5 years	12	2		14
6–10 years	4	3		7
11–15 years	5	3		8
16–20 years	5	1		6
> 20 years	4		1	5
Grand Total	30	9	1	40

Lack of AI use

Most participants currently engage minimally with AI tools in their teaching practices. While many recognise AI's potential to enhance efficiency and to foster innovative approaches, barriers such as limited familiarity, skills and institutional support impede widespread use. Participants expressed a desire to explore AI further once they gain better understanding and practical exposure. For instance, Participant 11 noted: "I work more with student material and curricula, so I haven't used AI tools yet", indicating that current priorities focus on content rather than technological experimentation. Participant 15 stated: "I'm too scared to use AI for fear of getting into trouble, so I attend training and workshops first", reflecting concerns about responsible use and a need for capacity building.

Participants contemplating future engagement see AI as a means to test its application in assessments, to generate ideas for varied teaching approaches and to reduce workload. Participant 9 remarked: "I'm interested in exploring how AI can be incorporated into assessments", while Participant 7 said: "AI can help reduce my workload and enable me to work smarter". These highlight perceptions of AI as a useful tool that can improve productivity which aligns with the TAM construct of perceived usefulness. Conversely, some participants, like Participant 22, have experimented with AI mainly for personal research and concept clarification, underscoring that current engagement remains peripheral and exploratory.

Overall, perceptions reflect a cautious optimism - recognising AI's potential to facilitate working smarter - but are tempered by concerns about skills, ethical considerations and institutional readiness which influence future adoption intentions.

Permission of use

Participants offered mixed views regarding whether the PHEI should formally permit and encourage AI use. Many agreed that AI is an inevitable aspect of modern education and emphasised the importance of embracing rather than resisting it. Several participants expressed that AI's ubiquity makes it impossible to prevent student use. For example, Participant 4 stated: "Systems will just get cleverer, and we are not called to be police". Participant 16 remarked: "Stopping AI use will be like stopping progress -Google became a research tool, and AI is the next step". Similarly, Participant 28 noted: "This is life. We could not ban Google when it became available - why would AI be any different?". These responses reflect an acknowledgment that controlling AI is impractical and that PHEIs s should instead adapt.

Many participants advocated for formal policies and guidelines to promote responsible and ethical use. Participant 21 suggested: "If guidelines and policies are produced and lecturers are trained, AI can be a useful teaching tool". Participant 20 emphasised: "We don't have a choice; students will use AI, so we must teach them how to use it ethically". Others highlighted that integrating AI aligns with industry realities and future skills development, with Participant 36 stating: "AI is here to stay, and we need to prepare students to work with it ethically and effectively".

Conversely, some expressed caution, warning that unregulated AI use could lead to laziness or diminished skills. Participant 40 argued: "Students should learn writing skills without relying on AI tools", emphasising concerns about overdependence.

The participants' views on AI integration within the PHEI can be effectively understood through the Technology Acceptance Model (TAM), which emphasises perceived usefulness and perceived ease of use as key drivers of technology adoption. The widespread acknowledgment of AI as an inevitable and beneficial tool reflects a high perceived usefulness, with many participants recognising its potential to enhance teaching and to align with industry practices. Their support for formal policies and training suggests an effort to improve perceived ease of use by providing clear guidelines and ethical frameworks, thereby reducing uncertainty and resistance. Conversely, concerns about overdependence and skill erosion highlight potential barriers related to perceived ease of use and perceived risk. Overall, the findings suggest that fostering positive attitudes towards AI -by emphasising its usefulness and facilitating responsible use - can promote its acceptance and integration within the educational environment, aligning well with TAM principles. In sum, the majority view supports formally permitting and guiding AI use, recognising its inevitability and strategic importance, provided that ethical and responsible use is emphasised through clear policies and training.

Enhanced and efficient T&L

Participants largely concur that AI tools can support working smarter when used effectively and ethically. Many highlighted benefits such as reducing research and lesson preparation time, improving productivity and fostering creative approaches. Participant 6 asserted: “AI helps us work smarter, and it’s here to stay”, while Participant 22 observed,: “It can assist in finding specific examples or ideas quickly”. Other respondents noted that AI can serve as research assistants, that it can generate test questions and that it can aid in creating engaging activities, thereby allowing educators to focus more on critical thinking and student engagement.

However, some participants cautioned that effective use depends on the user’s knowledge and ethical awareness. Participant 8 remarked: "It depends on the task; if used for early research, it can be helpful, but for developing legal arguments, it may not be reliable”. Participant 16 noted: “AI enables working smarter but does not stimulate creativity unless used thoughtfully”. These insights suggest that perceptions of AI as a tool for working smarter are contingent upon user competence and ethical considerations.

Regarding AI as a framework for deeper learning and creativity, participant views were mixed. Participant 15 stated: “If used properly, AI can support deeper understanding and critical thinking”, whereas Participant 13 warned: “Students might pass without understanding if they rely too much on AI”. Participant 22 emphasised that AI should complement, not replace active learning and that students need training to use AI responsibly.

The participants’ perspectives on AI tools align closely with the constructs of the TAM, particularly regarding perceived usefulness and perceived ease of use. Many recognise AI’s potential to support working smarter by reducing research and lesson preparation time, improving productivity and enabling creative approaches - highlighting its high perceived usefulness. Participants like Participant 6 and Participant 22 emphasise AI’s role in enhancing efficiency which can foster positive attitudes toward its adoption. However, perceptions of ease of use and effectiveness are conditioned by user competence and ethical awareness. Cautions expressed by Participants 8 and 16 indicate that the benefits of AI depend on the user’s knowledge and responsible application, reflecting concerns about potential misuse or superficial engagement. Furthermore, the mixed views on AI’s role in fostering deeper learning suggest that its effectiveness hinges on proper implementation and training, reinforcing the importance of perceived ease of use and understanding. Overall, the findings suggest that promoting positive attitudes toward AI - by emphasising its usefulness, by providing adequate training, and by encouraging mindful, ethical use - can enhance acceptance and integration consistent with TAM principles that link perceived usefulness and ease of use to technology adoption in education.

In summary, perceptions affirm that AI tools can enhance teaching and learning efficiency, provided they are used ethically, with proper training and as part of a broader constructivist approach. The key lies in mindful application that fosters deeper engagement rather than superficial reliance.

Discussion

The findings reveal that most participants were unfamiliar with artificial intelligence (AI) tools and the extent to which they could be applied within the PHE space. This limited exposure influences their willingness and intention to use AI in T&L, as conceptualised by the TAM. According to TAM, two primary constructs - Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) - determine an individual’s behavioural intention to adopt new technologies (Davis, 1989). In this study, the findings suggest that both constructs are still developing among academics and T&L specialists within PHEIs.

From the perspective of PU, participants recognised that AI has the potential to enhance teaching efficiency, to personalise learning, and to improve student engagement. Many agreed that AI could make T&L more efficient by automating repetitive tasks such as information assimilation, grading and lesson planning, allowing educators to focus on higher-order thinking and student engagement. This aligns with Liu and Wang 2024, who argue that AI integration can enhance learning efficiency and cultivate critical thinkers. However, participants also noted that if AI tools are misunderstood or poorly implemented, they may compromise the quality of education and diminish opportunities for transformative change within the PHE landscape. This apprehension indicates that, while participants perceive AI’s usefulness conceptually, their practical understanding remains limited - a key barrier to adoption identified in TAM literature.

In contrast, PEOU emerged as a critical obstacle. Many participants expressed uncertainty and discomfort about using AI tools effectively, emphasising the need for structured training and institutional support. Without

such scaffolding, AI adoption is perceived as complex and risky, potentially leading to resistance. This finding reinforces Tirado et al. (2024) and Kılınç (2024), who emphasise the necessity of developing institutional frameworks that offer practical guidance on AI integration. Participants' resistance to change is also reflective of broader human tendencies toward technological apprehension, highlighting the role of institutional culture and digital readiness in shaping PEOU.

Participants further argued that the responsible use of AI must be regulated by clear institutional policies to safeguard academic integrity. They unanimously supported the implementation of detection tools and ethical guidelines to ensure fair and responsible use. Airaj (2024) similarly contends that unrestricted AI use can undermine institutional credibility and the integrity of qualifications. Therefore, developing regulatory frameworks that balance innovation with accountability is essential for maintaining institutional trust and ensuring sustainable AI adoption. These findings demonstrate that perceived organisational support, an external factor influencing both PU and PEOU, plays a pivotal role in educators' willingness to embrace AI.

While some participants voiced concern that AI could "think for the student," thereby reducing cognitive engagement, others viewed AI as a catalyst for deeper learning if integrated appropriately. Lei et al. (2024) support this view, suggesting that AI can stimulate critical reflection by exposing students to diverse perspectives and prompting comparative critique. Similarly, Aler Tubella et al. (2024) note that AI's ability to synthesise information can facilitate higher-order learning if educators guide students to critique, evaluate and apply AI generated outputs rather than passively accept them. This aligns closely with PU, as educators begin to perceive AI not merely as a convenience tool but as a means to enhance pedagogical effectiveness and intellectual depth.

Participants also highlighted the paradox of AI use in T&L as it allows academics to 'work smarter' but may inhibit creativity if not integrated critically. Some viewed AI as complementary rather than foundational, arguing that it should support rather than replace the cognitive processes inherent in human learning. This nuance reinforces that ease of use alone does not guarantee meaningful adoption; perceived usefulness must be tied to pedagogical enhancement rather than operational efficiency alone.

Furthermore, the discussion reflects a growing realisation that AI integration demands a paradigm shift from traditional, passive learning models toward more active, reflective engagement. Singh and Hiran (2022) and Hazaimeh and Al-Ansi (2024) assert that AI may enable educators to reimagine their mental models and challenge existing teaching frameworks, facilitating innovation and relevance in contemporary education. When seen through the TAM lens, this reflects an evolution in PU - AI is valued not only for its technical efficiency but also for its ability to transform pedagogical practices and learner engagement.

Overall, the findings indicate that participants' acceptance of AI in PHEIs depends on the interplay between usefulness, ease of use and institutional readiness. When educators perceive AI as both beneficial and manageable and when institutional frameworks support ethical and guided use, adoption intentions are likely to increase. However, if AI remains poorly understood or unregulated, PU and PEOU will remain low, constraining innovation in the PHE sector. Thus, the study supports the view that effective AI adoption requires simultaneous attention to individual perceptions, institutional policies and systemic digital literacy initiatives.

Furthermore, the findings illustrate that perceptions of AI among faculty are ambivalent, with some viewing AI as a facilitator of 'working smarter', while others express concerns about 'working harder' and ethical challenges. This dichotomy underscores the importance of institutional support and structured policies to guide AI adoption toward pedagogical benefit rather than operational burden. This research contributes to the theoretical understanding of technology acceptance by contextualising TAM within the African PHE landscape. Unlike traditional applications of TAM, our findings suggest that perceptions are heavily shaped by infrastructural constraints, ethical concerns and institutional priorities - factors that necessitate a nuanced, derivative model of TAM tailored to developing countries' contexts. This model emphasises the importance of socio historical and institutional mediators that influence perceived usefulness and ease of use in African PHEIs. Our findings challenge the universality of TAM's core constructs by revealing that PU and PEOU are mediated by contextual factors such as infrastructural limitations, institutional priorities and ethical considerations. These insights suggest that TAM, in the African PHE context, requires adaptation to include socio-institutional mediators, leading to a more context sensitive, derivative model of technology acceptance.

While AI tools are increasingly being integrated into T&L, PHEIs must be cognisant of the fact that academics may not have the computer literacy skills required to understand and successfully engage with AI in education,

especially in developing countries where access to and success in HE comes with precursor challenges. As a result, PHEIs should actively engage in AI literacy education for students and academics to ensure that there is a comprehensive understanding of the tools and how they can be leveraged for their intended purpose. Therefore, PHEIs should implement targeted AI literacy programs that include practical workshops, scenario based training and ethical guidelines to build comprehensive understanding among both staff and students. These programs should be sequenced strategically with policy development - first establishing clear AI use policies, then designing training initiatives aligned with these policies - to ensure a cohesive implementation process.

Furthermore, stakeholder buy-in is essential for successful AI integration. PHEIs should identify and engage key stakeholders - such as faculty, IT staff, and administrative leaders - early in the process. Utilising the TAM, PHEIs can assess and address PU and PEOU among stakeholders, tailoring training and communication strategies to foster positive attitudes and behavioural intentions toward AI adoption.

In addition, the selection of AI tools must be carefully aligned with pedagogical goals and accessibility considerations. PHEIs should collaborate with knowledge experts - educators, IT specialists and software developers - to evaluate and choose AI solutions that do not create additional barriers to access or success for students. PHEIs must engage with knowledge stakeholders who are able to correctly align AI algorithms and software requirements with the T&L pedagogical needs. In addition, PHEIs must ensure they have the capital, capacity (physical and human), infrastructure and IT support to facilitate the seamless integration of AI tools into T&L.

Finally, PHEIs should develop continuous professional development programs that not only train staff on AI functionalities and applications but that also incorporate ongoing evaluation and feedback mechanisms. By understanding external factors (such as infrastructural constraints) and personal variables (such as attitudes and self-efficacy), PHEIs can formulate targeted strategies to enhance positive perceptions and behaviours toward AI, ultimately fostering an environment conducive to responsible and effective AI use in T&L. While PHEIs invest in ensuring appropriately qualified individuals are tasked with integrating AI tools into T&L online platforms, it remains the PHEIS' responsibility to educate and train facilitators on the various AI tools, its functionalities and applications. Failure to do so can be disastrous for the PHEI, the academics and the students alike since AI tools are often misused if not understood.

A significant number of published studies outline the link between AI and HE (Ocaña-Fernández et al., 2019; Zawacki-Richter et al., 2019; Hinojo-Lucena et al., 2019; Lacey & Smith, 2023), and AI and T&L (Batista et al., 2024). However, there remains a dearth of literature that explores practical applications of AI in T&L, together with an analysis of its impact and quality. Therefore, areas of future research could include the impact of incorporating AI into T&L in HE in the context of private and public HEIs, evaluating the usefulness of various AI tools for T&L practical applications, as well as proposing a derivative of the TAM which actively incorporates the nuances of AI. The researchers acknowledge that, by prioritising understanding and contextualising perceptions, the framework underpinning the study aligns with interpretivist principles rather than testing causal relationships. Furthermore, given the historical inequalities in the South African HE landscape, demographic information pertaining to race and gender should also form key constructs in future studies.

Since this study was limited to one PHEI in SA, it is recommended that the study, using a mixed methods study, be conducted at other SA PHEIs, public HEIs and international HEIs. A lack of pilot testing of the instrument can also be noted as a limitation. Given that this study was conducted in 2023, it would benefit from a contemporary retest to corroborate or dispute behaviours.

Conclusion

This study clarifies that perceptions are pivotal in shaping AI adoption trajectories. Recognising whether these perceptions align with 'working smarter' or 'working harder' provides a critical basis for designing institutional strategies that promote effective, ethical AI integration. The PHE landscape is changing at an unprecedented rate. As such, the onus remains on PHEIs to ensure they evolve with technology. This parallel growth and integration will cultivate critical thinkers, future leaders and empowered graduates. While PHEIs are responsible for facilitating the growth of T&L alongside technology and, by extension, AI, they are also responsible for ensuring that academics and T&L specialists are comprehensively equipped with the knowledge and skills needed to navigate the new and unfamiliar terrain of AI in T&L. This will allow for synergies between the two to be leveraged, subsequently promoting maximum organisational performance and student competence.

Declarations

Interdisciplinary Scope: This article bridges higher education studies, educational technology, management sciences, and ethics by examining academics' perceptions of artificial intelligence in teaching and learning within South African private higher education. Drawing on the Technology Acceptance Model, the study integrates pedagogical, organisational, and socio-technical perspectives, offering insights relevant to education researchers, policymakers, institutional leaders, and scholars interested in digital transformation, innovation adoption, and ethical technology use across disciplines.

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