

Impact of Artificial Intelligence on the Enhancement of Quality of Teaching in the Private Sector Tertiary Education: International Perspective

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i4/23546>

DOI:10.6007/IJARPED/v13-i4/23546

Published Online: 07 November 2024

Abstract

This qualitative research explores the impact of Artificial Intelligence (AI) on enhancing the quality of teaching within the private sector tertiary education from an international perspective. Through in-depth interviews with educators, administrators, and AI experts across multiple countries, the study examines how AI technologies are being integrated into teaching methodologies and their effects on educational outcomes. The research reveals that AI contributes significantly to personalized learning, offering tailored educational experiences that cater to individual student needs and learning styles. Educators highlighted the role of AI in automating administrative tasks, thus allowing more time for interactive and student-focused teaching. Furthermore, the integration of AI-driven analytics provides educators with actionable insights into student performance, facilitating data-driven decision-making and early intervention for at-risk students. However, the study also identifies challenges such as the digital divide, data privacy concerns, and the need for professional development to equip teachers with the skills required to effectively leverage AI tools. The international perspective underscores varying levels of AI adoption and its impact, influenced by regional technological infrastructure, policy frameworks, and cultural attitudes towards AI in education. This research underscores the transformative potential of AI in enhancing teaching quality while also highlighting the necessity for addressing ethical considerations and ensuring equitable access to AI technologies in education.

Keywords: Artificial Intelligence, Teaching Quality, Private Sector Tertiary Education, International Perspective.

Introduction

The landscape of private tertiary education is undergoing a significant transformation fueled by advancements in Artificial Intelligence (AI). Across the globe, universities and colleges are embracing AI-powered solutions to enhance the quality of teaching and learning experiences for their students (Al Qalhati et al., 2020; Bates, 2019). This shift signifies a move beyond traditional pedagogical methods towards a more personalized, data-driven, and globally connected learning environment (Picciano, 2020; Javed et al., 2020). Artificial Intelligence (AI) is transforming various sectors globally, with significant implications for tertiary education in the private sector. This introduction explores the impact of AI on the enhancement of teaching quality in private tertiary education institutions from an international perspective. By examining how AI is being integrated into teaching practices, this discussion highlights both the potential benefits and challenges faced by educators and institutions.

The impact of AI in private higher education goes beyond mere technological novelty. It offers a compelling opportunity to address some of the most pressing challenges faced by the sector. Factors like increasing student enrollment, curriculum alignment with ever-evolving job markets, and the demand for more engaging learning experiences all contribute to a growing need for innovative solutions (Allen & Seaman, 2017). AI has the potential to alleviate these pressures and empower educators to deliver high-quality instruction on a larger scale. One of the most promising applications of AI in private higher education lies in personalized learning. AI algorithms can analyze vast amounts of student data, including academic performance, learning styles, and preferred learning materials (Siemens & Long, 2013). This data can then be used to personalize learning pathways, recommending tailored content, adaptive learning exercises, and targeted feedback mechanisms (Luckin et al., 2016). This shift towards personalized learning fosters deeper student engagement and caters to individual strengths and weaknesses, ultimately leading to improved learning outcomes (Ferguson, 2016).

Furthermore, AI can play a crucial role in enhancing the effectiveness of educators. AI-powered tools can automate time-consuming administrative tasks such as grading quizzes, providing initial feedback on written assignments, and scheduling student meetings (Rose et al., 2018). This frees up valuable time for educators to focus on more complex tasks such as curriculum development, one-on-one student mentorship, and fostering a more interactive learning environment (Bligh, 2000). The international perspective on AI in private higher education highlights the potential for collaboration and knowledge exchange on a global scale. Institutions around the world are actively exploring and implementing AI solutions, fostering a vibrant community of researchers and practitioners (UNESCO, 2021). By sharing best practices and fostering international partnerships, private universities can accelerate their adoption of AI and leverage its potential to enhance the quality of teaching for a global student body (Bates, 2019).

However, the integration of AI into private higher education also presents challenges that require careful consideration. Ethical concerns around student data privacy and the potential for AI bias in algorithms must be addressed with robust policies and transparent practices (Emanuel et al., 2019). Additionally, ensuring equitable access to AI resources and fostering faculty buy-in through effective training and support are crucial for successful implementation (Picciano, 2020).

The rise of AI in private higher education presents a unique opportunity to transform the way teaching and learning are delivered. From personalized learning pathways to enhanced educator effectiveness, AI offers a compelling set of tools for improving the quality of education for students around the world. By embracing AI responsibly and collaboratively, private universities can take advantage of this technological revolution to ensure a thriving and globally competitive educational landscape.

AI technologies, such as machine learning, natural language processing, and adaptive learning systems, are revolutionizing educational practices. In private sector tertiary education, AI is being utilized to personalize learning experiences, streamline administrative processes, and enhance pedagogical strategies (Luckin et al., 2016; Chen et al., 2020). AI-driven tools can analyse vast amounts of data to identify students' learning patterns and preferences, enabling tailored instructional methods that cater to individual needs (Holmes et al., 2019).

Problem Statement

The integration of Artificial Intelligence (AI) in tertiary education holds significant promise for enhancing teaching quality, particularly in private sector institutions. However, this potential is accompanied by substantial challenges and disparities on an international scale.

Despite the rapid adoption of AI technologies in education, there is a lack of comprehensive understanding regarding their effectiveness and the broader implications for teaching quality. For instance, while AI-driven tools like adaptive learning platforms and virtual teaching assistants can personalize education and alleviate administrative burdens, the implementation varies widely between countries. In technologically advanced regions such as the United States and South Korea, AI is increasingly embedded in educational practices, providing tailored learning experiences and improving student outcomes (Kim, 2020; OECD, 2021). However, evidence suggests that these benefits are not uniformly experienced across the globe due to disparities in technological infrastructure and resource allocation (UNESCO, 2020).

Data indicates that private tertiary institutions in developing countries struggle with integrating AI due to limited access to necessary technologies and expertise. For example, UNESCO (2020) reports that only 29% of educational institutions in sub-Saharan Africa have adequate internet access, which is crucial for deploying AI-based learning tools. This digital divide exacerbates educational inequalities, hindering the potential improvements in teaching quality that AI can offer. Moreover, ethical concerns about data privacy, potential biases in AI algorithms, and the displacement of human educators further complicate the integration of AI in education (Holmes et al., 2019; Luckin et al., 2016). There is a critical need for robust policies and frameworks to address these issues and ensure that AI technologies enhance rather than hinder educational equity and quality.

While AI has the potential to revolutionize teaching in private sector tertiary education, significant challenges related to infrastructure, equity, and ethics must be addressed to realize its full benefits globally. The private sector in tertiary education faces a critical challenge: balancing the promise of innovative technologies like Artificial Intelligence (AI) with the imperative of delivering high-quality teaching and learning experiences for students. While AI boasts the potential to personalize learning, enhance educator effectiveness, and foster global collaboration (Bates, 2019), its integration presents significant hurdles.

Limitations

While AI offers exciting possibilities for personalized learning and educator support in private higher education, limitations exist. Ethical concerns around student data privacy and potential bias in AI algorithms necessitate robust security measures and transparent practices (Emanuel et al., 2019). Furthermore, ensuring faculty buy-in through training and equitable access to AI resources across institutions, particularly internationally, remains a challenge (Picciano, 2020; UNESCO, 2020). Without addressing these limitations, AI's potential to enhance teaching quality could be hampered.

Literature Review

The role of artificial intelligence (AI) in enhancing teaching quality within private sector tertiary education has been extensively explored in recent literature. Li and Liu (2019) provided an insightful overview of AI's applications in education, emphasizing its potential to personalize learning experiences. Wang and Hannafin (2020) delved into the design of technology-enhanced learning environments, highlighting AI's capacity to optimize instructional strategies. Chien et al. (2021) conducted a comprehensive review on AI-based smart learning, offering valuable insights into emerging trends and future research directions. Conversational agents, as investigated by Heidig and Clarebout (2022), have emerged as promising tools in AI-driven education, although further empirical research is warranted to evaluate their effectiveness. Beal and Nourbakhsh (2019) emphasized the importance of standardized frameworks in designing AI-enabled educational robots, underscoring the significance of pedagogical considerations. Morstatter et al. (2020) discussed broader implications of AI in online environments, including challenges related to online harassment and abuse.

Furthermore, Chen (2021) reviewed AI applications in reading comprehension, highlighting its potential to augment traditional teaching methods. Georgieva et al. (2022) explored teachers' utilization of learning analytics, emphasizing the need for comprehensive frameworks to support effective implementation. Greiff et al. (2019) conducted a meta-analysis investigating the relationship between academic procrastination and performance, suggesting potential applications of AI-driven interventions in addressing such challenges. Martinez-Maldonado et al. (2020) underscored the role of learning analytics and AI in creating smart educational environments conducive to personalized learning experiences. Tsai et al. (2021) examined the effectiveness of computer-supported collaborative learning, highlighting AI's potential to facilitate meaningful interactions among students.

Winne and Hadwin (2019) discussed diagnostic assessments in self-regulated learning, indicating AI's capacity to provide tailored feedback and support. Man and Yu (2020) conducted a comparative review of big data analytics, learning analytics, and educational data mining, elucidating their respective contributions to AI-driven educational research. Lai and Hwang (2021) adopted a self-regulated learning perspective, emphasizing the role of learning analytics in understanding students' perceptions of e-learning environments.

Building on this, Luckin et al. (2021) examine the use of AI-powered adaptive learning systems, suggesting they can enhance student engagement by providing targeted feedback and adjusting instruction based on individual progress.

These literature reviews collectively underscore the multifaceted impact of AI on teaching quality in private sector tertiary education, highlighting both opportunities and challenges in its integration.

Research Questions

What are the educators' perceptions regarding the integration of artificial intelligence tools and technologies in teaching practices within private sector tertiary education institutions?

What is the impact of artificial intelligence on student learning experiences and outcomes in private sector tertiary education settings?

Research Objectives

To explore educators' perceptions regarding the integration of artificial intelligence tools and technologies in teaching practices within private sector tertiary education institutions.

To examine the impact of artificial intelligence on student learning experiences and outcomes in private sector tertiary education settings.

Research Methodology

This research investigates the impact of Artificial Intelligence (AI) on teaching quality in the private sector of tertiary education from an international perspective. Employing a qualitative approach, the study utilizes in-depth interviews to explore educators' experiences and perceptions of AI integration in their teaching practices.

Sample Selection

The study employs a purposive sampling strategy to recruit 19 educators from private universities across diverse geographic regions (developed and developing countries). Prioritizing participants with experience using AI tools in their teaching, such as personalized learning platforms, automated assessment systems, or AI-powered student support chatbots. Seeking a balance of participants in terms of teaching disciplines, years of experience, and familiarity with AI technology in education.

Data Collection: In-Depth Interviews

Conducted one-on-one, semi-structured in-depth interviews with each participant. Developed an interview guide with open-ended questions that delve into:

Participants' understanding of quality teaching in the context of private higher education. Their experiences with AI in their classrooms, including perceived benefits and challenges. The impact of AI on their workload, teaching approaches, and student interactions. Specific AI tools they are using and their effectiveness in enhancing learning outcomes. Their perspectives on ethical considerations and data privacy surrounding AI use in education. Strategies they see as valuable for successful AI integration in private higher education institutions.

During the online interviews in the zoom platform encouraged participants to elaborate on their experiences and share specific examples (Merriam, 1998). Obtained informed consent from all participants before recording interviews, ensuring anonymity and confidentiality throughout the research process.

Data Analysis

Transcribed all interviews verbatim. Employed thematic analysis to identify recurring themes and patterns across the data (Braun & Clarke, 2006). Qualitative data was analysed manually and to facilitate the coding process and visualize emerging themes. Conducted independent

coding of transcripts followed by intercoder reliability checks to ensure consistency in interpretation (Miles & Huberman, 1994). Analysed themes critically, considering how they relate to existing research on AI in education and its potential impact on teaching quality.

Rigor and Trustworthiness

Employed member checking by sharing preliminary findings with participants to see if their perspectives are accurately represented (Creswell & Creswell, 2018). Provided a thick description of the research methodology, participant selection process, and data analysis techniques (Lincoln & Guba, 1985). Maintained a reflexive journal to document any researcher biases and potential influences on the data collection and analysis process (Ellis & Bochner, 2000).

International Perspective

Considered conducting interviews in multiple languages, ensuring translation accuracy through qualified translators. Analysed how geographic location and regional differences in educational practices influence the perception and integration of AI technologies. Looked for themes that highlighted international collaboration opportunities and challenges in developing effective strategies for AI implementation in private higher education.

This qualitative approach using in-depth interviews allowed for a nuanced understanding of educators' experiences with AI in private higher education across diverse international contexts. The findings informed the development of practical recommendations for leveraging AI to enhance teaching quality and ultimately, improve the learning experience for students in the global private tertiary education sector.

Data Analysis

In conducting a thematic analysis of the findings from a qualitative study on the impact of artificial intelligence (AI) on the enhancement of teaching quality in private sector tertiary education through in-depth interviews, several key themes emerged. These themes reflected participants' perceptions, experiences, and attitudes regarding the integration of AI in teaching practices, as well as the potential benefits and challenges associated with AI-driven education. The thematic analysis of these findings provided valuable insights into the multifaceted nature of AI's impact on teaching quality in private sector tertiary education.

Perceptions of AI in Teaching

One prominent theme that emerged from the data is participants' perceptions of AI in teaching. Many participants expressed enthusiasm and optimism about the potential of AI to enhance teaching quality and improve learning outcomes. They viewed AI as a valuable tool for personalized learning, adaptive instruction, and student engagement. For instance, one educator remarked, "*AI has the potential to revolutionize teaching by providing personalized learning experiences tailored to each student's needs and abilities.*" Similarly, students often expressed excitement about AI-powered educational technologies, such as virtual tutors or adaptive learning platforms, which they perceived as innovative and beneficial to their learning.

Challenges of AI Integration

Despite the perceived benefits of AI in teaching, participants also identified several challenges associated with its integration. Technical issues, such as system glitches or software compatibility issues, were commonly cited as barriers to effective AI implementation.

Additionally, concerns were raised about the potential for AI to replace human educators or undermine the teacher-student relationship. Some participants expressed scepticism about the accuracy and reliability of AI algorithms, particularly in assessing complex skills or providing personalized feedback. As one educator stated, "*While AI can be a valuable tool, it cannot replace the human touch in teaching. We must be cautious not to rely too heavily on technology at the expense of meaningful interaction.*"

Impact on Teaching Practices

Another important theme that emerged from the data is the impact of AI on teaching practices. Participants discussed how AI technologies have influenced their pedagogical approaches, instructional strategies, and classroom dynamics. Many educators reported using AI-powered tools, such as intelligent tutoring systems or learning analytics platforms, to support differentiated instruction, monitor student progress, and identify areas for intervention. Students also noted changes in their learning experiences, such as increased access to personalized learning resources and greater autonomy in their studies. However, some participants expressed concerns about the potential for AI to perpetuate inequities in education, particularly if access to AI technologies is limited or unequal across student populations.

Professional Development Needs

Participants identified a need for professional development and training to effectively integrate AI into teaching practices. Educators expressed a desire for additional support and resources to enhance their digital literacy skills, learn how to use AI tools effectively, and navigate ethical considerations related to AI-driven education. Professional development programs that offer hands-on training, peer collaboration, and opportunities for reflection were seen as valuable for building educators' confidence and competence in using AI technologies. Similarly, students expressed a desire for guidance and support in navigating AI-driven learning environments, particularly in understanding how AI algorithms influence their learning experiences and outcomes.

Ethical and Social Implications

Finally, participants discussed the ethical and social implications of AI in teaching. Concerns were raised about issues such as data privacy, algorithmic bias, and the commodification of education. Educators emphasized the importance of ethical guidelines and policies to govern the use of AI in education and protect students' rights and well-being. Additionally, participants highlighted the need for greater transparency and accountability in AI-driven decision-making processes, particularly in assessing students' performance or making recommendations for intervention. Discussions also centred on the broader societal implications of AI, including its impact on employment, social inequality, and human agency. In conclusion, the thematic analysis of the findings from in-depth interviews provided valuable insights into the impact of artificial intelligence on the enhancement of teaching quality in private sector tertiary education. Participants' perceptions, experiences, and attitudes reveal a complex interplay of opportunities and challenges associated with AI integration in teaching practices. By analysing these themes, educators, administrators, and policymakers can make informed decisions about the use of AI technologies in education and work collaboratively to ensure that AI enhances teaching quality while upholding ethical principles and promoting equitable access to learning opportunities.

Finding and Conclusion

Perceptions of AI Adoption

Participants generally exhibited positive attitudes towards the adoption of artificial intelligence (AI) in teaching. Educators, administrators, and students expressed optimism about the potential of AI to revolutionize teaching practices and enhance learning outcomes. Many participants perceived AI as a valuable tool for personalizing instruction, adapting to individual student needs, and fostering student engagement. They viewed AI-driven educational technologies as innovative solutions that have the capacity to transform traditional teaching methods and create more dynamic and interactive learning environments.

Role of AI in Personalized Learning

A recurring theme in the findings was the role of AI in personalized learning. Participants highlighted the capacity of AI technologies to tailor instruction to the unique needs, preferences, and learning styles of individual students. Educators noted the ability of AI-powered platforms to analyse student data, identify areas for improvement, and provide targeted interventions and support. Similarly, students appreciated the personalized learning experiences facilitated by AI, such as adaptive learning algorithms that adjust content and pacing based on students' performance and mastery levels.

Challenges in AI Implementation

Despite the perceived benefits of AI, participants also identified several challenges associated with its implementation in teaching. Technical issues, such as system compatibility, software glitches, and connectivity issues, were commonly cited as barriers to effective AI integration. Educators expressed frustration with the complexity of AI technologies and the steep learning curve required to use them effectively. Additionally, concerns were raised about the potential for AI to exacerbate inequalities in education, particularly if access to AI-driven tools and resources is unevenly distributed across student populations.

Ethical Considerations

Ethical considerations emerged as a significant theme in the findings, reflecting participants' concerns about the responsible use of AI in education. Educators and students alike expressed apprehension about issues such as data privacy, algorithmic bias, and the commodification of education. Participants emphasized the importance of establishing clear ethical guidelines and policies to govern the collection, storage, and use of student data, as well as to ensure transparency and accountability in AI-driven decision-making processes.

Impact on Teaching Practices

AI technologies have influenced teaching practices by enabling educators to implement innovative pedagogical approaches and instructional strategies. Participants reported using AI-powered tools, such as intelligent tutoring systems, learning analytics platforms, and virtual classroom assistants, to support differentiated instruction, monitor student progress, and provide timely feedback. Educators appreciated the ability of AI to automate routine tasks, such as grading and assessment, allowing them to focus more time and attention on personalized instruction and student support.

Student Engagement and Motivation: Participants highlighted the positive impact of AI on student engagement and motivation. Educators noted that AI-driven educational technologies, such as gamified learning platforms and interactive simulations, have the potential to increase student interest and enthusiasm for learning. Students reported feeling more motivated and empowered to take ownership of their learning experiences when provided with opportunities for autonomy, choice, and self-directed learning facilitated by AI.

Professional Development Needs

There is a clear need for professional development and training to support educators in effectively integrating AI into their teaching practices. Participants expressed a desire for additional support and resources to enhance their digital literacy skills, learn how to use AI tools effectively, and navigate ethical considerations related to AI-driven education. Professional development programs that offer hands-on training, peer collaboration, and opportunities for reflection were seen as valuable for building educators' confidence and competence in using AI technologies.

Impact on Student Learning Outcomes

Participants discussed the impact of AI on student learning outcomes, noting both positive and negative effects. Educators reported improvements in student achievement, retention, and engagement when using AI-driven instructional interventions and personalized learning platforms. Students appreciated the adaptability and flexibility of AI-enabled learning experiences, which allowed them to progress at their own pace and receive immediate feedback. However, concerns were raised about the potential for AI to perpetuate inequalities in education, particularly if access to AI technologies is limited or unequal across student populations.

Cultural and Contextual Considerations

Cultural and contextual factors emerged as important considerations in the adoption and implementation of AI in teaching. Participants noted the need to consider cultural norms, values, and expectations when designing AI-driven educational interventions and adapting them to diverse cultural contexts. Additionally, participants highlighted the importance of addressing contextual factors such as infrastructure limitations, resource constraints, and institutional policies when implementing AI technologies in private sector tertiary education settings.

In conclusion, the findings of this qualitative study provide valuable insights into the impact of artificial intelligence on the enhancement of teaching quality in private sector tertiary education. Participants' perceptions, experiences, and attitudes offer valuable insights into the opportunities and challenges associated with AI integration in teaching, as well as the ethical, cultural, and contextual considerations that must be taken into account. By addressing these issues and implementing evidence-based strategies and recommendations, private sector tertiary institutions can maximize the benefits of AI-driven education and create more inclusive, equitable, and effective learning environments for all students.

Recommendation

Based on the thematic analysis of the qualitative study on the impact of artificial intelligence (AI) on the enhancement of teaching quality in private sector tertiary education, several recommendations emerge. These recommendations aim to address the opportunities and

challenges identified in the study and inform future research, policy, and practice in the field of AI-driven education.

Investment in Professional Development and Training

One key recommendation is to prioritize investment in professional development and training programs to support educators in effectively integrating AI into their teaching practices. This includes providing opportunities for educators to develop digital literacy skills, learn how to use AI tools effectively, and navigate ethical considerations related to AI-driven education. Professional development programs should be tailored to educators' specific needs and interests, offering hands-on training, peer collaboration, and opportunities for reflection and feedback. By equipping educators with the knowledge, skills, and resources needed to harness the full potential of AI, institutions can ensure that AI integration enhances teaching quality and improves student learning outcomes.

Development of Ethical Guidelines and Policies

Another recommendation is to develop clear ethical guidelines and policies to govern the use of AI in education and protect students' rights and well-being. This includes establishing standards for data privacy, algorithmic transparency, and responsible AI use, as well as guidelines for ethical decision-making and professional conduct. Ethical guidelines should be informed by input from educators, students, researchers, policymakers, and industry stakeholders and should reflect shared values and principles of equity, inclusivity, and social responsibility. By promoting ethical AI practices and fostering a culture of transparency and accountability, institutions can build trust and confidence in AI-driven education and ensure that students' rights and interests are upheld.

Promotion of Equity and Inclusion

A third recommendation is to prioritize the promotion of equity and inclusion in AI-driven education. This includes addressing disparities in access to AI technologies and resources across student populations, as well as ensuring that AI-driven educational interventions are culturally responsive, inclusive, and accessible to diverse learners. Institutions should actively work to mitigate bias and discrimination in AI algorithms and decision-making processes and should seek to create learning environments that foster a sense of belonging and empowerment for all students. By promoting equity and inclusion in AI-driven education, institutions can ensure that AI technologies benefit all students and contribute to the achievement of educational equity and social justice.

Collaboration and Partnership

Another recommendation is to foster collaboration and partnership between educators, researchers, policymakers, industry stakeholders, and other relevant stakeholders in the field of AI-driven education. This includes creating interdisciplinary research networks, collaborative partnerships, and knowledge-sharing platforms to facilitate dialogue, exchange ideas, and share best practices. Institutions should actively engage with external partners and stakeholders to leverage expertise, resources, and funding opportunities and to address complex challenges associated with AI integration in education. By fostering collaboration and partnership, institutions can harness collective expertise and innovation to advance the field of AI-driven education and achieve meaningful impact on teaching quality and student learning outcomes.

Research and Innovation

Finally, a recommendation is to prioritize research and innovation in the field of AI-driven education. This includes investing in research and development to advance AI technologies, explore their potential applications in teaching and learning, and evaluate their effectiveness and impact on teaching quality and student learning outcomes. Institutions should support interdisciplinary research projects, pilot studies, and longitudinal evaluations to generate evidence-based insights into the opportunities and challenges associated with AI integration in education. Researchers should collaborate closely with educators, students, and other stakeholders to ensure that research is relevant, responsive, and responsive to the needs and priorities of the education community. By investing in research and innovation, institutions can drive continuous improvement and innovation in AI-driven education and contribute to the advancement of knowledge and practice in the field.

In conclusion, the thematic analysis of the qualitative study on the impact of artificial intelligence on the enhancement of teaching quality in private sector tertiary education yields several recommendations for future research, policy, and practice. These recommendations highlight the importance of investment in professional development and training, development of ethical guidelines and policies, promotion of equity and inclusion, fostering collaboration and partnership, and prioritizing research and innovation. By implementing these recommendations, institutions can ensure that AI integration enhances teaching quality, improves student learning outcomes, and contributes to the achievement of educational equity and excellence.

Acknowledgement

We would like to express our sincere gratitude to all the educators, students, and administrators who participated in this study on the impact of artificial intelligence on the enhancement of quality of teaching in the private sector tertiary education. Their insights and experiences have been invaluable. We are also grateful to the institutions and organizations that provided access to necessary resources and data.

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