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The Influence of AI on Business Education: Comparing Learning Experiences in Private and State Universities

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Abstract**.** Artificial intelligence (AI) is reshaping business education by supporting adaptive learning, personalized feedback, and enhanced student engagement. This study investigates the role of AI in improving teaching and learning in business programs across private and public universities in Central Luzon, the Republic of the Philippines. It specifically examines how AI tools influence student learning experiences, institutional challenges, and strategies for sustainable AI integration. Using a descriptive research design, the study surveyed 100 participants—comprising students, faculty, and administrators—selected through stratified random quota sampling. Data were gathered through a validated and pilot-tested questionnaire, and analyzed using both descriptive and inferential statistics, including t-tests and weighted means. The results show that AI significantly improves academic engagement and learning outcomes across both educational sectors. Public universities report positive impacts from AI-driven feedback systems and simulations, while private institutions highlight satisfaction with AI-supported writing and summarization tools. However, disparities in AI implementation were evident. Public universities face resistance from faculty, while private institutions cite infrastructure gaps and financial constraints. Moreover, government-funded AI programs benefit public institutions, whereas private universities depend on commercial platforms. The study underscores the need for institution-specific AI strategies, prioritizing faculty development, infrastructure investment, and sustainable funding. By addressing systemic barriers and promoting equitable access to AI technologies, universities can create more inclusive and future-ready learning environments. Strategic collaboration, AI literacy programs, and ongoing evaluation are essential to fully leverage AI's potential in preparing students for the evolving digital economy.

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1. Introduction
Artificial intelligence (AI) is transforming education by shifting traditional teaching toward dynamic, technologically-enhanced approaches. Tools such as ChatGPT, Coursera and AI Tutor, and adaptive learning systems enable personalized learning, automated assessments, and real-time feedback. In business education, these tools boost student engagement, enhance knowledge retention, and develop critical skills. AI in language learning also promotes critical thinking and global citizenship through interdisciplinary methods (Ezeanya et al., 2024).

As industries adopt AI, business schools are integrating it into curricula to equip students with industry-relevant skills. However, this integration must address ethical concerns to prepare responsible future leaders (Anjum et al., 2023). In Central Luzon, the Republic of the Philippines, both private and public universities have begun implementing AI, though disparities exist in infrastructure, faculty readiness, and funding. These variations raise questions about AI's accessibility and effectiveness across institutional types. Ethical use and data privacy remain central to equitable AI adoption (Abimbola et al., 2024).

Despite AI's increasing use in education, limited comparative research exists on its impact across university types. This study addresses these gaps by examining AI's influence on student engagement, learning outcomes, and institutional preparedness in both private and public universities in Central Luzon, Philippines.

Unlike broader AI-in-education studies, this research compares adoption levels, barriers, and outcomes between private and public institutions. It provides data-informed recommendations for effective AI integration, considering faculty training, infrastructure, and resource challenges. As AI reshapes business education, understanding its varied impacts is essential for developing inclusive, future-ready academic programs (Diloy et al., 2023).

1.1 Conceptual Framework
The study is anchored in the constructivist learning theory and the diffusion of innovations theory. The constructivist learning theory supports research questions 1 and 2, emphasizing that learners actively construct knowledge through experience and interaction. This theory explains how AI-powered tools and personalized learning systems enhance student engagement, learning effectiveness, knowledge retention, and skill acquisition by allowing students to interact with adaptive platforms, simulations, and AI-based feedback systems that support individualized learning paths. Meanwhile, the diffusion of innovations theory aligns with research questions 3 and 4, as it explores how new technologies, such as AI, are adopted—or resisted—within institutions. It was used to understand the differences in technological integration, faculty readiness, and financial constraints between private and state universities.

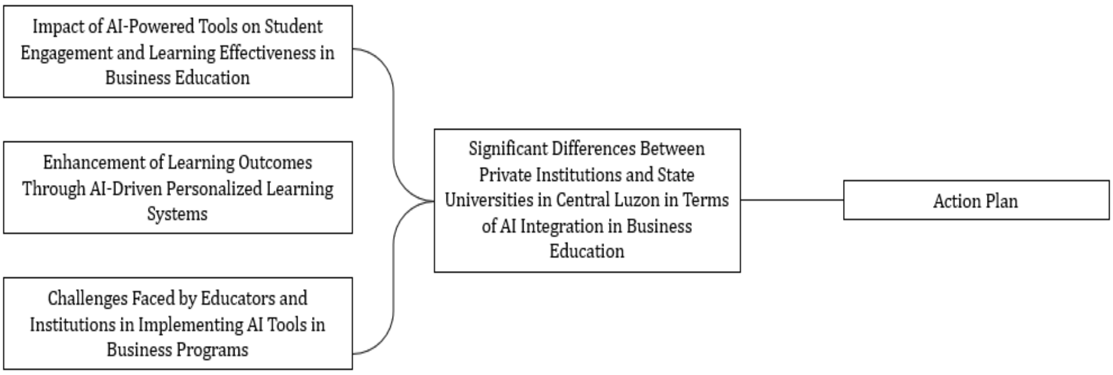

Figure 1: Paradigm of the study

1.2 Research Questions

This study investigated the role of AI in enhancing student engagement and learning effectiveness in business education, while also identifying implementation challenges and institutional differences. Specifically, the study aimed to answer the following research questions:

1. To examine the impact of AI-powered tools on student engagement and learning effectiveness in business education in terms of:
   1.1. Student engagement.
   1.2 Learning effectiveness.
2. To assess how AI-driven personalized learning systems enhance learning outcomes in terms of:
   2.1. Knowledge retention.
   2.2. Skill acquisition.
3. To identify the challenges faced by educators and institutions in implementing AI tools in business programs in terms of:
   3.1. Technological integration.
   3.2. Faculty and institutional readiness.
   3.3. Financial and institutional constraints.
4. To determine whether there is a significant difference between private institutions and state universities in Central Luzon, Philippines with regard to AI implementation in business education in terms of:
   4.1. AI-powered tools on student engagement and learning effectiveness.
   4.2. AI-driven personalized learning systems.
   4.3. The challenges faced by educators and institutions in implementing AI tools.
5. What action plan can be developed based on the findings to guide effective and equitable AI integration in business education?

1.3 Hypothesis

The null hypothesis of this study posits that there is no significant difference between private institutions and state universities in Central Luzon, Philippines. in terms of student engagement and learning effectiveness in business education, the enhancement of learning outcomes through AI-driven personalized learning systems, and the challenges faced by educators and institutions in implementing AI tools in business programs.

1.4 Limitations

This study acknowledges several limitations that may have affected the generalizability and applicability of its findings. First, the use of purposive or convenience sampling may have introduced bias, limiting the representativeness of the sample across all private institutions and state universities in Central Luzon, Philippines. Second, the study's design—primarily quantitative and cross-sectional—captures perceptions at a single point in time, which may not have reflected evolving attitudes or long-term impacts of AI implementation in business education. Third, potential overgeneralization of findings may have occurred due to contextual differences among institutions, such as variations in technological infrastructure or administrative support. These limitations provide a valuable foundation for future researchers to explore underrepresented contexts, adopt more diverse sampling techniques, and employ longitudinal or mixed-method approaches for deeper analysis.

2. Literature

2.1 AI-Powered Tools on Student Engagement and Learning Effectiveness

According to Ezeoguine and Eteng-Uket (2024), AI tools have been shown to significantly increase student engagement in higher education, with no significant differences between gender or age, suggesting a universal appeal across demographics. Additionally, AI-driven interface design for intelligent tutoring systems has been found to improve student engagement by up to 25.13% (Kim et al., 2020). AI-enabled intelligent tutoring systems can also simulate a one-on-one mentor or guide-based learning experience for vocational students, potentially enhancing their performance, particularly in the United Arab Emirates (Bhattacharya & Nakhare, 2019). Furthermore, modern web and AI technologies have demonstrated the ability to enhance student engagement and learning outcomes by supporting personalized learning platforms, intelligent tutoring systems, and immersive virtual reality experiences (Sangarsu, 2023).

Additionally, AI-powered learning tools have been shown to improve student understanding and academic performance by adapting to individual strengths, weaknesses, and learning styles, leading to better comprehension and knowledge retention (Janaki & Mariyappan, 2024). AI-powered personalized learning systems further contribute to student engagement and performance by analyzing student data to create customized educational experiences based on individual learning preferences (Rekha et al., 2024). Similarly, AI-powered adaptive learning platforms have significantly improved student performance and engagement in Chinese classrooms by customizing learning experiences according to individual needs and learning paces (Luo, 2023).

Moreover, AI-based curriculum development has the potential to revolutionize education by offering personalized, adaptable, and engaging learning experiences, although ethical concerns and equal access require careful management (Ejjami, 2024). These findings highlight the transformative role of AI in education, emphasizing the need for ethical considerations and equitable access to these advanced learning tools.

2.2 Learning Outcomes Through AI-Driven Personalized Learning Systems
AI-driven personalization in higher education enhances learning outcomes and student engagement by customizing learning experiences through adaptive technologies, allowing for a more customized approach to education (Jiao, 2024). Additionally, AI-driven personalized learning enhances customized educational experiences by recognizing individual student characteristics, optimizing content delivery, refining instructional methods, and increasing accessibility, ultimately improving engagement and knowledge retention (Castro et al., 2024).

AI-based personalized learning has been found to enhance educational outcomes by customizing materials to individual student needs, which increases learning efficiency and overall experience (Gu, 2024). Beyond traditional academic settings, AI-driven personalized learning also plays a critical role in workforce development, as it enhances remote team training, prepares future leaders, and maximizes return on investment in the learning and development sector (Elazab, 2024).

Moreover, an AI-based personalized English self-learning system has been shown to improve learner motivation and efficiency by optimizing resource allocation and providing customized learning experiences (Mai & Li, 2024). In professional settings, AI-driven personalized learning has the potential to revolutionize professional development and training by personalizing learning experiences to individual needs, preferences, and learning paces, thereby promoting higher engagement and skill acquisition (Bhatia et al., 2024).

2.3 Challenges Faced by Educators and Institutions in Implementing AI Tools in Business Programs
AI integration in educational management systems has the potential to improve operational efficiency and student performance. However, its successful implementation requires addressing financial limitations, technical expertise, resistance to change, and ethical concerns (Sain et al., 2024). In business education, AI adoption must consider ethical considerations, which can help institutions effectively teach AI, while fostering a strong ethical foundation for future business leaders (Anjum et al., 2023).

Despite the transformative opportunities AI presents in education, ethical considerations and data privacy concerns must be addressed to ensure effective implementation and equitable outcomes (Abimbola et al., 2024). Additionally, AI implementation faces various challenges, including its influence on the labor market and broader ethical concerns, necessitating well-defined ethical frameworks and responsible AI governance (Kondratenko et al., 2023).

AI has the potential to enhance learning and teaching, but concerns surrounding security risks and ethical implications must be addressed for successful integration into educational systems (Satya & Mohammed, 2024). In business applications, AI implementation can drive operational efficiencies and improve decision-making, but financial implications may hinder profitability in certain models (Drave et al., 2021). Furthermore, AI integration in business models can revolutionize processes and foster innovation, yet successful implementation requires robust data governance, talent acquisition, and fostering a culture of innovation and adaptability (Olutimehin et al., 2024).

AI adoption in businesses offers opportunities for automation, personalization, and new revenue streams, but it also presents risks, such as bias, job displacement, and cybersecurity vulnerabilities (Nigmatov & Pradeep, 2023). In education, AI facilitates personalized learning, enhances teaching efficiency, reduces workload for educators, and improves campus management, but challenges related to fairness and autonomous learning must be addressed (Younas et al., 2023). In Israel, AI-driven education aims to strengthen student-centered learning and problem-solving skills by combining machine learning with teachers' expertise (Haddad & Ashqar, 2023).

Lastly, quality assessments are essential for ensuring the reliability, fairness, and effectiveness of AI systems during their implementation, ensuring that AI-driven solutions meet ethical and performance standards (Ralea et al., 2024). These challenges highlight the complexities surrounding AI integration in education and business, emphasizing the need for careful planning, ethical considerations, and robust infrastructure to ensure its successful adoption.

3. Methodology

This research utilized a descriptive research design to explore the influence of AI-driven tools on student engagement and learning efficacy within business education, as well as the obstacles encountered by educators and institutions when incorporating AI into business programs. Additionally, it aimed to assess whether there was a notable difference in AI integration between private institutions and state universities in Central Luzon, Philippines.

The study employed a stratified, random, and quota sampling method to ensure broad and balanced representation of key stakeholders involved in AI adoption in business education. A total of 100 participants were selected, with 50 participants from state universities and 50 from private universities in Central Luzon, Philippines. The sampling process was stratified into three primary groups: (1) business students, (2) business educators and faculty members, and (3) academic administrators and institutional leaders. Undergraduate business students from both private institutions and state universities were included, which ensured the representation of individuals who had interacted with AI-powered learning tools and those who had experienced traditional instructional methods. Faculty members who taught business-related courses and had incorporated AI into their teaching practices, as well as those relying on conventional methods, were also represented.

Furthermore, academic administrators, including deans, program directors, IT (information technology) and e-learning coordinators, and institutional decisionmakers—were surveyed to gather perspectives on the strategic, operational, and technical challenges of AI adoption in business education.

This sampling method was chosen due to its ability to enhance representativeness and minimize sampling bias across key subgroups. By using stratification, the study ensured that each stakeholder group was proportionately represented in the sample, which supported statistical validity and comparability across institutions and roles. Quota sampling further addressed the potential non-random distribution of participants by enforcing minimum participation requirements for each subgroup.

While implementing a stratified random quota sampling approach is methodologically complex, it was justified by the need for rigorous subgroup analysis, particularly to capture variations in perceptions and experiences related to AI use between public and private institutions. This approach ultimately strengthened the reliability, validity, and generalizability of the study's findings. Table 1 shows the distribution of the research participants.

A self-made questionnaire served as the primary instrument for data collection. It was developed based on a comprehensive review of literature related to AI in education. The items were structured using a 4-point Likert scale, ranging from "strongly disagree" to "strongly agree." The difficulty level and content of the items were adjusted based on the target group—students, educators, or administrators—to ensure appropriateness and clarity. For instance, technical and policy-related items were directed toward administrators, while user-experience and learning outcome items were customized for students and faculty.

The initial version of the questionnaire was evaluated by subject-matter experts in education and AI for content validity, including clarity, accuracy, and relevance. Based on their feedback, the instrument was revised. A pilot test was then conducted with a small representative sample from each group to assess the questionnaire's reliability. The results of the pilot study were analyzed using Cronbach's alpha, ensuring that the internal consistency of the measurement scales met the acceptable reliability threshold ($\alpha \geq 0.80$). Based on the pilot results, further adjustments were made to enhance the instrument's reliability and overall effectiveness. A competing model strategy was adopted to identify the most parsimonious model that best fit the collected data, thereby strengthening the precision and robustness of the measurement framework.

In addition to the questionnaire, semi-structured interviews were conducted with selected participants across all stakeholder groups to capture their lived experiences, perceptions, and narratives concerning the integration of AI tools in business education. These interviews provided rich qualitative data that complemented the survey findings and offered deeper insights into the opportunities, barriers, and institutional dynamics surrounding AI adoption. The gathered data was examined using descriptive and inferential statistical methods. Weighted mean and verbal description were employed to interpret responses concerning AI adoption, student engagement, and learning effectiveness. An independent sample t-test was utilized to ascertain whether a significant difference existed in AI integration between private institutions and state universities. This statistical methodology facilitated the assessment of variations in perceptions and effectiveness across various educational contexts.

This study upheld ethical research principles to maintain the integrity and credibility of the findings. Before data collection began, informed consent was acquired from all participants, ensuring that participation was voluntary. Participants were assured of confidentiality and anonymity, with their responses used solely for research purposes. Personal identifying information remained undisclosed, and all data were securely stored. Moreover, the study obtained approval from the relevant institutional ethics review board to verify adherence to ethical research standards.

By implementing this research methodology, the study presented a well-founded analysis of the role of AI in business education, identifying both its advantages and challenges while ensuring ethical responsibility in data collection and analysis.

Table 1: Distribution of participants

Category	Private Universities	State Universities
Business Students	30	30
Business Educators/Faculty	10	10
Academic Administrators	10	10
Total	**50**	**50**

4. Results and Discussion

4.1 Impact of AI-Powered Tools on Student Engagement and Learning Effectiveness in Business Education

Table 2: Student engagement

1.1 Student Engagement	Private Universities		State Universities	
	Mean	VI	Mean	VI
1. AI-powered tools (such as ChatGPT and Socratic by Google) significantly increase students' active participation in business course discussions and activities.	2.76	Agree	3.00	Agree
2. Students demonstrate greater motivation to complete business assignments when AI-assisted learning platforms are integrated into the curriculum.	2.38	Disagree	3.12	Agree
3. The company's implementation of AI writing assistants (such as Grammarly and QuillBot) helps students produce higher quality business reports and presentations.	2.82	Agree	3.08	Agree
4. Business students spend more time engaging with course materials when AI-powered tutoring systems provide personalized learning experiences.	2.98	Agree	2.72	Agree
5. AI-enhanced collaboration platforms (such as Edmodo AI) improve the quality and frequency of peer interactions in group business projects.	3.00	Agree	3.06	Agree
6. The integration of AI tools in business courses helps students better understand complex theoretical concepts through interactive explanations.	3.08	Agree	2.20	Disagree
7. Students develop stronger critical thinking skills when using AI-powered research assistants to explore business case studies and real-world problems.	2.26	Disagree	2.48	Disagree
8. The company observes improved student retention rates in business courses that incorporate AI-powered learning analytics and adaptive content.	2.46	Disagree	3.20	Agree
9. AI-driven feedback mechanisms provide students with more actionable insights for improvement compared to traditional assessment methods in business education.	2.62	Agree	3.08	Agree
10. Students report higher levels of satisfaction with their overall learning experience when AI tools are strategically incorporated into business curricula.	3.12	Agree	2.88	Agree
Weighted Mean	2.75	Agree	2.88	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

As shown in Table 2, student engagement levels the weighted mean scores revealed a higher level of agreement among students from state universities (2.88) than those from private universities (2.75) regarding the benefits of AI in enhancing engagement and learning experiences (Fazil et al., 2024). Students from state universities perceived AI tools as more beneficial to their academic activities. AI-facilitated collaborative platforms (e.g., Edmodo AI) received the highest scores in both private (3.00) and state universities (3.06), indicating improved peer interactions in business projects. Similarly, AI writing tools such as Grammarly and QuillBot were recognized for enhancing report and presentation quality, with higher scores in state universities (3.08) than in private (2.82) (Nguyen et al., 2024).

Doctoral students who interacted with AI writing assistants demonstrated better writing performance. However, motivation levels showed contrasting results. Private university students disagreed (2.38) that AI boosted motivation, while state university students agreed (3.12). This contradicted Alonta et al. (2024), who claimed AI reduced retention and critical thinking among public university students in Anambra State. Students from private universities agreed (3.08) that AI helped clarify complex theoretical concepts, while those from state universities disagreed (2.20), suggesting private institutions may have used more advanced AI tools (Hidayat-Ur-Rehman, 2024).

AI-generated feedback was rated more favorably in state universities (3.08) than private ones (2.62), indicating its stronger integration in public institutions. Natural Language Processing techniques were also noted for improving assessment through analysis of student feedback (Shaik et al., 2023). Regarding retention, state university students agreed (3.20) that AI-enhanced learning analytics supported their academic persistence, while private university students showed slight disagreement (2.46) (Wu, 2024). Lastly, satisfaction with AI in business curricula was slightly higher in private universities (3.12) than in state universities (2.88), though challenges such as poor connectivity, lack of skilled instructors, and high costs remained (Paul-Mgbeafulike et al., 2024).

A private university student remarked:

> *"AI helps me understand difficult topics better, but I don't always feel more motivated using it – it still depends on how it's integrated into our classes."*

Table 3: Learning effectiveness

1.2 Learning Effectiveness	Private Universities		State Universities	
	Mean	*VI*	*Mean*	*VI*
1. Students demonstrate improved retention of complex business concepts when engaging with AI-powered learning tools such as ChatGPT and Coursera AI Tutor.	2.90	Agree	2.90	Agree
2. The company's integration of AI-driven case analysis tools enhances students' strategic thinking and decision-making capabilities in business scenarios.	3.04	Agree	3.02	Agree
3. Business students who regularly utilize AI writing assistants (such as Grammarly and QuillBot) show measurable improvements in their academic performance on written assignments.	2.82	Agree	2.76	Agree
4. The implementation of AI-powered adaptive learning platforms enables more effective personalization of business course content to match individual student learning styles.	2.94	Agree	3.04	Agree
5. Students receive more timely and constructive feedback on their business projects when instructors utilize AI-based assessment tools.	2.9	Agree	2.96	Agree
6. The company observes that students develop stronger problem-solving skills when using AI research assistants (such as Google Bard) to analyze business problems.	2.82	Agree	2.68	Agree
7. AI-powered summarization tools help students retain key business theories and principles more effectively than traditional study methods.	2.76	Agree	2.36	Disagree
8. The personalized learning paths created by AI tutoring systems lead to more consistent achievement of learning outcomes across diverse student populations in business courses.	2.88	Agree	3.10	Agree
9. Students who interact with AI-powered educational platforms demonstrate improved application of theoretical business knowledge to practical situations.	2.76	Agree	3.16	Agree
10. The company finds that AI-enhanced performance analytics help identify and address learning gaps more efficiently than traditional assessment methods in business education.	2.64	Agree	3.12	Agree
Weighted Mean	2.85	Agree	2.91	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

Table 3 presents comparative data on learning effectiveness, the weighted mean scores of 2.85 for private universities and 2.91 for state universities indicated general student agreement on the positive role of AI in enhancing knowledge retention, problem-solving, and personalized learning (Banerjee & Bhattacharya, 2024). State universities reported slightly higher scores, suggesting a more favorable perception of AI-integrated learning. AI-enhanced case analysis tools received high scores from both private (3.04) and state universities (3.02), reflecting their effectiveness in developing strategic thinking and decision-making skills (Akavova et al., 2023).

Adaptive learning platforms also showed favorable responses, with scores of 2.94 (private) and 3.04 (state), confirming their role in personalizing education. AI performance analytics tools were rated higher in state universities (3.12) than in private ones (2.64), indicating better integration of data-informed assessments (Flores et al., 2019). Regarding AI-assisted writing tools such as Grammarly and QuillBot, private university students (2.82) reported slightly greater benefits than state university students (2.76), suggesting higher usage in private institutions (Nguyen et al., 2024). A notable gap appeared in AI summarization tools: private university students agreed (2.76) on their usefulness, while state university students disagreed (2.36), possibly due to limited access or institutional policies (Santhoshi et al., 2024).

AI research assistants such as Google Bard were rated 2.82 by private university students and 2.68 by state university students, indicating stronger perceived value in private institutions. Ethical concerns surrounding bias, integrity, and over-reliance on AI were also noted (Wan et al., 2024). Finally, state university students (3.16) more strongly agreed that AI tools helped apply business knowledge in real-world scenarios, compared to private university students (2.76). They also rated AI performance tracking tools more favorably, suggesting a more structured AI adoption for student assessment (Rawat et al., 2023).

A state university student stated:

> *"Using AI tools like adaptive platforms really helps me understand and retain complex business concepts. They also show me exactly where I need to improve, especially with performance analytics."*

4.2 Enhancement of Learning Outcomes Through AI-Driven Personalized Learning Systems

Table 4: Knowledge retention

2.1 Knowledge Retention	Private Universities		State Universities	
	Mean	VI	Mean	VI
1. The institution finds that students who regularly interact with AI-powered adaptive learning systems demonstrate stronger comprehension of business concepts when assessed six months after course completion.	2.64	Agree	1.66	Strongly Disagree
2. Students who engage with AI tools such as Coursera AI Tutor that incorporate spaced repetition techniques show significantly improved retention of complex business frameworks compared to traditional study methods.	2.56	Agree	2.82	Agree
3. The school observes that AI-generated personalized learning paths based on individual performance patterns lead to more consistent long-term recall of key business principles across diverse student populations.	2.46	Disagree	2.78	Agree
4. Students who receive automated feedback through AI systems (such as ChatGPT) on case analyses demonstrate enhanced ability to apply business theories to novel situations long after initial instruction.	2.44	Disagree	2.18	Disagree
5. The institution's implementation of AI-enhanced interactive assessments results in measurably improved retention of quantitative business concepts compared to traditional testing methods.	2.18	Disagree	2.52	Agree
6. Students who utilize AI-powered summarization tools (such as QuillBot) to reinforce learning demonstrate superior recall of business terminology and theoretical frameworks in subsequent courses.	2.36	Disagree	2.78	Agree
7. The school reports that AI-driven analytics help identify specific knowledge gaps and subsequently provide targeted reinforcement, resulting in improved comprehensive understanding of integrated business systems.	2.52	Agree	3.20	Agree
8. Students who participate in AI-facilitated collaborative learning environments (such as Edmodo AI) show stronger long-term retention of concepts that were collectively explored and analyzed.	2.46	Disagree	2.32	Disagree

9. The institution finds that AI-enhanced visualization tools significantly improve students' ability to recall complex business processes and their interrelationships months after initial exposure.	2.58	Agree	2.18	Disagree
10. Students who engage with AI-powered question-answering platforms (such as Socratic by Google) for clarifying business concepts demonstrate more accurate application of those concepts in capstone projects and internships.	2.32	Disagree	2.84	Agree
Weighted Mean	2.45	Disagree	2.53	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

As reflected in Table 4, knowledge retention rates. Students from private universities moderately agreed (2.64) that AI-based adaptive learning systems improved comprehension of business concepts, while state university students strongly disagreed (1.66), suggesting challenges in infrastructure, faculty training, or AI exposure in state institutions (Imran et al., 2024).

In contrast, state university students (2.82) rated AI-driven spaced repetition tools higher than private university students (2.56), indicating more effective implementation of specific AI-based revision strategies (Hajja & Hunt, 2021). Similarly, state university students (2.78) expressed stronger agreement regarding AI-generated personalized learning paths than private university students (2.45), reflecting more structured integration in public institutions (Jiao, 2024). AI-powered feedback systems received low ratings across both groups—2.44 in private and 2.18 in state universities—highlighting a continued preference for human feedback, especially in complex business tasks (Tubino & Adachi, 2022). However, AI-enhanced interactive assessments were rated more favorably by state students (2.52) than by private students (2.18), as were summarization tools such as QuillBot, scoring 2.78 in state and 2.36 in private universities (Bhatia et al., 2024).

A major distinction emerged in perceptions of AI-driven learning analytics. State university students (3.20) strongly agreed that such tools helped identify and address knowledge gaps, compared to lower agreement from private university students (2.52), suggesting better adoption of data-informed learning strategies in state universities (Murwaningsih et al., 2024). AI-assisted collaborative platforms such as Edmodo AI garnered low ratings by both private (2.46) and state (2.32) university students, implying limited acceptance of AI for peer collaboration (Islam et al., 2024). Lastly, AI-enhanced visualization tools received moderate agreement from private students (2.58) but lower scores from state students (2.18), indicating stronger integration of such tools in private institutions (Li et al., 2024).

A private university student noted:

"While I find AI visualization tools helpful for understanding concepts, I still prefer getting feedback from professors instead of AI – it feels more accurate and personal."

Table 5: Skill acquisition

2.2 Skill Acquisition	Private Universities		State Universities	
	Mean	VI	Mean	VI
1. The institution finds that students who regularly engage with AI-driven case analysis tools demonstrate superior critical thinking abilities when addressing complex business problems compared to traditional teaching methods.	2.8	Agree	3.10	Agree
2. Students who utilize AI-powered simulation platforms develop more effective decision-making skills by experiencing the consequences of their strategic choices in risk-free business environments.	2.36	Disagree	3.28	Strongly Agree
3. The school observes that AI-enhanced learning tools such as ChatGPT help students develop stronger analytical reasoning when formulating business strategies for diverse market scenarios.	2.50	Agree	2.24	Disagree
4. Students who participate in AI-facilitated business simulations show greater ability to apply theoretical concepts to practical, real-world business challenges.	3.08	Agree	3.32	Strongly Agree
5. The institution reports that AI-powered adaptive learning systems effectively custom content delivery and difficulty levels to match individual student learning styles, resulting in more efficient skill acquisition.	2.80	Agree	3.34	Strongly Agree
6. Students who receive personalized feedback from AI tutoring systems (such as Coursera AI Tutor) demonstrate faster mastery of industry-specific competencies compared to those receiving generic instruction.	2.76	Agree	3.26	Strongly Agree
7. The school finds that AI-driven learning analytics provide more accurate tracking of skill development, allowing for timely interventions that accelerate students' acquisition of advanced business capabilities.	2.56	Agree	2.64	Agree
8. Students who engage with AI-powered collaborative platforms (such as Edmodo AI) develop stronger communication and team-based problem-solving skills	2.68	Agree	2.20	Disagree

essential in modern business environments.				
9. The institution observes that AI-integrated courses more effectively prepare students with the technological proficiencies demanded by employers in data-driven business sectors.	2.60	Agree	2.22	Disagree
10. Students who utilize AI learning assistants for guided practice demonstrate more consistent progression in developing complex management skills across different business domains.	3.16	Agree	2.12	Disagree
Weighted Mean	2.73	Agree	2.77	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

Table 5 illustrates the skill acquisition. The weighted mean scores of 2.73 (private universities) and 2.77 (state universities) indicated general agreement that AI-supported frameworks enhanced business skill development, with effectiveness varying by application (Louly, 2024). Both groups agreed that AI-driven case analysis improved critical thinking, with higher support from state university students (3.10) compared to private university students (2.80).

Similarly, state university students strongly agreed (3.28) on the usefulness of AI-driven simulations, while private university students disagreed (2.36), suggesting better integration in public institutions (Gibbons et al., 2021). Perceptions of tools such as ChatGPT were mixed; private university students moderately agreed (2.50) it supported analytical reasoning, whereas state students disagreed (2.24). However, both groups highly rated AI-enhanced business simulations—3.08 (private) and 3.32 (state)—for applying theory to practice (Nikolopoulou, 2024).

AI-adaptive learning systems received strong support from both groups, with state university students reporting higher agreement (3.34) than private students (2.80), highlighting state institutions' stronger customization capabilities (Cunningham et al., 2024). AI tutoring platforms were also rated higher by state students (3.26) than private ones (2.76), confirming their value in developing specialized business skills. Learning analytics showed moderate effectiveness for both groups—2.56 (private) and 2.64 (state)—suggesting room for improvement in tracking skill progression. A clear difference emerged in the perception of AI-enabled collaborative platforms: private university students agreed (2.68) they enhanced teamwork, while state students disagreed (2.20), pointing to differing levels of integration (Hamdi, 2024).

Private university students also viewed AI as more effective in preparing for data-driven business sectors (2.60 vs. 2.22). Finally, AI-guided learning assistants received higher ratings from private university students (3.16) than from state university students (2.12), indicating stronger mentorship programs in private institutions (Razmerita, 2024).

A private university instructor remarked:

> *"AI-guided learning assistants have been useful for mentoring students individually, but we still face challenges in using collaborative AI platforms to enhance teamwork skills."*

4.3 Challenges Faced by Educators and Institutions in Implementing AI Tools in Business Programs

Table 6: Technological integration

3.1 Technological Integration	Private Universities		State Universities	
	Mean	**VI**	**Mean**	**VI**
1. The institution faces significant challenges related to network bandwidth and computing resources when implementing AI tools such as ChatGPT and Google Bard in business courses with large student enrollments.	3.28	Strongly Agree	2.98	Agree
2. Students with limited access to high-speed internet and advanced devices experience barriers to fully engaging with AI-powered learning platforms such as Coursera AI Tutor in business education programs.	3.12	Agree	2.58	Agree
3. The school encounters substantial technical difficulties when attempting to integrate AI-driven educational platforms (such as Edmodo AI) with existing learning management systems used across business departments.	2.80	Agree	2.42	Disagree
4. The institution struggles to maintain adequate technical support staff with specialized knowledge required to troubleshoot and optimize AI tools such as Grammarly and QuillBot within business curricula.	3.02	Agree	2.20	Disagree
5. The school finds that frequent updates and changes to AI platforms require continuous investment in staff training and system modifications, creating sustainability challenges for long-term implementation in business programs.	2.78	Agree	1.50	Strongly Disagree
Weighted Mean	3.00	Agree	2.34	Disagree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25-4.00]

As shown in Table 6, technological integration, the study revealed key disparities between private and public universities regarding challenges in implementing AI-driven business education. Private universities (3.00) expressed more concern about AI integration than public universities (2.34), suggesting more complex adoption barriers in private institutions (Hlongwane et al., 2024). Both sectors identified limited bandwidth and computing resources as major challenges, particularly in large classes using tools such as ChatGPT and Google Bard. Private universities (3.28) reported greater difficulties than public universities (2.98), likely due to larger enrollments and more extensive AI use (Li et al., 2019).

Private institutions also reported more challenges with internet access and advanced devices (3.12 vs. 2.58), implying a more diverse student population facing digital access gaps. Public universities appeared to offer stronger institutional support (Francisco et al., 2024). Integration with existing Learning Management System posed technical challenges for private universities (2.80), while public universities (2.42) reported fewer issues, suggesting that private institutions may have more complex digital infrastructures (Banerjee, 2020). Private universities (3.02) also faced more difficulties in hiring and retaining skilled AI support staff compared to public universities (2.20), which may rely more on centralized IT systems (Balakrishnan et al., 2024).

The most notable gap emerged in sustainability concerns. Private universities (2.78) emphasized the need for ongoing investment, staff training, and system upgrades, whereas public universities (1.50) did not view this as a major issue. This suggested that private institutions adopted more dynamic AI systems requiring continuous updates (Okulich-Kazarin et al., 2024).

An IT coordinator from a private institution noted:

> *"In private universities, we constantly struggle with sustaining AI initiatives—not just the cost of licenses but also training faculty and updating systems. Unlike public universities, we don't always have the luxury of centralized funding or technical support."*

Table 7: Faculty and institutional readiness

3.2 Faculty and Institutional Readiness	Private Universities		State Universities	
	Mean	**VI**	**Mean**	**VI**
1. The institution finds that business faculty members demonstrate varying levels of proficiency with AI tools such as ChatGPT and Google Bard, creating inconsistencies in the quality of AI integration across business courses.	3.02	Agree	2.96	Agree
2. The school observes that faculty members who lack comprehensive training in AI applications demonstrate greater resistance to incorporating tools such as Coursera AI Tutor and Edmodo AI into their business teaching methodologies.	3.06	Agree	2.88	Agree
3. The institution encounters significant challenges when attempting to develop structured professional development programs that effectively prepare business educators to utilize AI tools such as Grammarly and QuillBot in their teaching.	3.44	Strongly Agree	2.92	Agree
4. The school notes that senior faculty members show greater reluctance to redesign established business curricula to accommodate AI-driven learning approaches compared to newer faculty.	3.36	Strongly Agree	3.84	Strongly Agree
5. The institution experiences difficulties in establishing clear guidelines for integrating AI tools such as Socratic by Google into business course assessments while maintaining academic integrity and learning outcomes.	3.34	Strongly Agree	2.06	Disagree
Weighted Mean	3.24	Agree	2.93	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

Table 7 highlights the levels of faculty and institutional readiness. The study revealed notable differences in faculty and institutional readiness for AI integration between private and public universities. Private universities (3.24) reported greater challenges related to faculty preparedness than state universities (2.93), indicating more resistance and structural barriers in private institutions (Essawi, 2024).

Faculty from both sectors agreed that uneven AI proficiency (3.02 for private, 2.96 for state) hindered teaching effectiveness. Inadequate AI training was also cited as a barrier to adoption of tools such as Coursera AI Tutor and Edmodo AI, with agreement from private (3.06) and state (2.88) faculty (Daly et al., 2024). Private universities (3.44) faced more difficulty establishing AI-focused training programs than state universities (2.92), suggesting gaps in funding, support, or faculty engagement.

Meanwhile, both sectors reported resistance among senior faculty to revising business curricula, with stronger resistance in state universities (3.84) than private (3.36), reflecting slower adaptability to AI trends (Johnson et al., 2024). Challenges in maintaining academic integrity with AI tools such as Socratic were more prominent in private universities (3.34) than in state universities (2.06), indicating that private institutions approached AI adoption more cautiously, while public institutions appeared to have more established protocols (Jin et al., 2024).

A business program chair from a state university shared:

> *"Many of our senior faculty are hesitant to change the curriculum just to accommodate AI. There's still a lot of skepticism, especially around tools like ChatGPT."*

Table 8. Financial and institutional constraints

3.3 Financial and Institutional Constraints	**Private Universities**		**State Universities**	
	Mean	**VI**	**Mean**	**VI**
1. The institution finds that subscription costs for premium AI services such as ChatGPT Plus and Coursera AI Tutor create significant budget constraints when implementing these tools across multiple business courses.	3.30	Strongly Agree	1.82	Disagree
2. The school struggles to justify investment in AI-powered educational platforms such as Edmodo AI due to difficulties in quantifying their direct impact on student learning outcomes in business programs.	3.28	Strongly Agree	3.10	Agree
3. The institution faces challenges in securing consistent funding to maintain licenses, updates, and technical support for AI tools such as Grammarly and QuillBot beyond initial implementation phases.	3.22	Agree	3.22	Agree
4. The school encounters difficulties in scaling successful AI implementations from pilot programs to institution-wide adoption due to increasing costs and resource requirements.	3.18	Agree	3.20	Agree
5. The institution observes that the rapid evolution of AI technologies such as Google Bard creates financial pressure to continuously upgrade systems and retrain faculty, raising concerns about the long-term sustainability of AI investments in business education.	3.26	Strongly Agree	3.58	Strongly Agree
Weighted Mean	3.25	Agree	2.98	Agree

Legend: 1–Strongly Disagree [1.00–1.74]; 2–Disagree [1.75–2.49]; 3–Agree [2.50–3.24]; 4–Strongly Agree [3.25–4.00]

As shown in Table 8, several financial and institutional constraints. The study revealed financial and institutional challenges in AI integration across both private and public universities, with private institutions (3.25) reporting slightly greater financial constraints than public ones (2.98) (Hillman & Kindschy, 2018). Private universities (3.30) strongly agreed that subscription fees for premium AI tools such as ChatGPT Plus and Coursera AI Tutor posed significant budget challenges, while public universities (1.82) disagreed, suggesting that public institutions relied more on free or subsidized platforms (Rodzi et al., 2023). Both private (3.28) and public (3.10) universities struggled to justify investments in AI platforms such as Edmodo AI due to difficulties in measuring their impact on learning outcomes (Essawi, 2024).

They also faced common issues in maintaining long-term funding for licenses, updates, and support services (3.22 for both), reflecting shared concerns about AI sustainability (Sytnyk & Podlinyayeva, 2024). The scalability of AI initiatives remained a challenge for both sectors, with similar agreement scores—3.18 (private) and 3.20 (public)—highlighting the financial strain of expanding pilot projects to full-scale adoption.

A major concern was the rapid evolution of AI technologies such as Google Bard, which pressured institutions to continually upgrade systems and retrain staff. Public (3.58) and private universities (3.26) strongly agreed on the financial burden of keeping up with AI advancements, stressing the need for adaptive budgeting and strategic investment planning (Tarisayi, 2023).

A private university administrator admitted:

> *"AI tools evolve so quickly—it's hard for our budget to keep up. Even when we see the benefits, the cost of subscriptions, updates, and training adds up fast."*

4.4 Comparative Analysis of AI Implementation in Private Institutions and State Universities in Central Luzon

Table 9: Comparative analysis

Participants	T value	P-value	Decision	Interpretation
Student Engagement	1.505	.136	Accept Ho	Not Significant
Learning Effectiveness	.706	.482	Accept Ho	Not Significant
Knowledge Retention:	.740	.461	Accept Ho	Not Significant
Skill Acquisition	.647	.519	Accept Ho	Not Significant
Technological Integration:	-7.119	.000	Reject Ho	Significant
Faculty and Institutional Readiness:	-4.666	.000	Reject Ho	Significant
Financial and Institutional Constraints	-3.676	.000	Reject Ho	Significant

Table 9 presents a comparative analysis. The study compared AI implementation in business education across private and state universities and found key differences in technological integration, faculty readiness, and financial constraints. However, it showed no significant differences in student engagement

(T = 1.505, p = .136), learning effectiveness (T = .706, p = .482), knowledge retention (T = .740, p = .461), or skill acquisition (T = .647, p = .519), suggesting that AI tools benefited students similarly in both settings.

Significant disparities emerged in technological integration (T = -7.119, p = .000), faculty and institutional readiness (T = -4.666, p = .000), and financial constraints (T = -3.676, p = .000). Private universities faced more challenges related to infrastructure, bandwidth limitations, and Learning Management System compatibility, while state universities experienced fewer technical barriers, likely due to stronger centralized IT support (Henke, 2024).
Faculty readiness also differed notably. Private institutions reported greater faculty resistance and fewer structured AI training programs, whereas state universities showed more institutional support and faculty alignment with AI adoption (Antwi-Boampong, 2022). Senior faculty across both sectors were hesitant to revise curricula, though the resistance was more evident in private institutions. Financial constraints were more pressing in private universities, which struggled with the costs of AI subscriptions, faculty training, and software maintenance. In contrast, state universities reported fewer financial issues, possibly due to public funding or access to more affordable AI tools.

The study concluded that while AI improved student learning outcomes in both university types, private institutions needed to address technical, institutional, and financial barriers to ensure sustainable AI adoption. Strategies included investing in infrastructure, faculty development, and exploring cost-effective AI solutions. A "points to consider" approach was recommended to guide responsible AI integration, balancing benefits and risks (Dotan et al., 2024).

A private university dean shared:

> *"We see the potential of AI in improving learning, but the reality is—we're constantly battling with outdated systems and limited budgets. Compared to state universities, we lack centralized support, which slows down our adoption."*

5. Action Plan

The following points were recommended:

1. **Enhancing AI integration and technological infrastructure**. Universities must assess current technological systems to identify gaps in AI readiness. Private institutions should invest in scalable, AI-compatible Learning Management System to address bandwidth and compatibility issues. State universities must expand experiential AI tools for simulations and engagement. Both sectors should partner with AI providers to secure affordable, compatible solutions.
2. **Strengthening faculty training and readiness**. Mandatory AI training and certification programs are essential to build faculty proficiency. A mentorship system should be established where AI-trained educators support peers. Special focus is needed for senior faculty in state universities, where resistance to AI remains high.
3. **Addressing financial and institutional constraints**. To manage costs, institutions should seek grants, industry sponsorships, and internal

funding. Private universities should prioritize open-source tools and low-cost licensing. Long-term investment plans must ensure scalable, sustainable AI integration.

4. **Ensuring equitable AI access for students**. AI literacy programs must be provided to all students. Universities should address access gaps by offering AI resource centers, institutional subscriptions, and support for students with limited connectivity—especially in private institutions.
5. **Continuous monitoring and evaluation of AI implementation**. Biannual assessments should track AI's impact on engagement, learning, and faculty readiness. Feedback systems must support ongoing improvements. Annual AI reports should share outcomes and best practices to refine strategies.

6. Research Implications

The findings of this study offer several important implications for the integration of AI in business education across private and state universities. First, the results confirm that AI-powered tools significantly enhance student engagement and learning effectiveness in both settings. However, the variation in specific tool effectiveness suggests that institutions must align AI implementation with their students' learning needs. State universities benefited more from AI-driven feedback systems, learning analytics, and experiential platforms, while private universities found AI-assisted writing and summarization tools more effective. These distinctions imply the need for customized AI strategies that reflect institutional strengths and student preferences.

Second, the study highlights the role of AI-driven personalized learning systems in improving knowledge retention and skill acquisition. State universities demonstrated greater success in utilizing adaptive learning platforms and business simulations, whereas private universities excelled in fostering analytical reasoning and technical skills through AI tools. These findings suggest that AI can support a wide range of learning outcomes, but institutions must identify which tools best support their curricular goals and learner profiles.

Third, the research underscores persistent barriers in technological integration, faculty preparedness, and financial sustainability. Private universities face more challenges related to infrastructure, training, and subscription costs. In contrast, state universities encounter greater faculty resistance, particularly from senior educators reluctant to revise curricula. These differences point to the necessity of developing institution-specific support systems, such as robust IT infrastructure for private universities and targeted change management strategies for public institutions.

Fourth, the uneven adoption of AI across institution types indicates the importance of equity-driven approaches in educational technology policy. Institutions must implement targeted interventions that address gaps in infrastructure, faculty development, and sustainable funding. Doing so will ensure a more balanced and effective integration of AI technologies in business education across both private and state universities.

Finally, to maximize AI's long-term impact, universities should prioritize scalable AI adoption by investing in flexible, cost-effective platforms. Strengthening faculty AI literacy through regular training and professional development is essential, alongside the establishment of institutional policies that support responsible AI use. Ensuring equitable access and continuous monitoring of AI tools will enable institutions to adapt to evolving educational demands and prepare students for AI-driven workplaces.

7. Conclusion and Recommendation

Regarding AI's impact on student engagement and learning effectiveness, both private and public institutions recognized its benefits, but state university students reported slightly greater engagement and perceived usefulness. Private students found AI more helpful in clarifying complex concepts, suggesting a divergence in tool availability and training quality.

Regarding learning outcome enhancement, state universities showed stronger adoption of personalized AI learning tools, especially in knowledge retention and skill acquisition, likely due to more structured institutional strategies. However, private universities outperformed in using advanced visualization and mentorship tools, indicating differing institutional priorities.

In terms of challenges, private institutions faced more severe barriers, particularly in technology integration, faculty preparedness, and financial sustainability. Issues such as bandwidth limitations, complex Learning Management System structures, and lack of AI-trained personnel were more prevalent in private institutions. Public universities benefited from centralized support and funding, but still encountered resistance in curriculum updates and training uptake.

Comparatively, AI benefited student learning similarly in both sectors, but private universities suffered the most during implementation challenges. These findings suggest that sustainable AI integration in business education requires targeted investment, faculty development, and adaptive strategies customized to each institution type.

8. Abbreviation

LMS-Learning Management System

NLP- Natural Language Processing

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Appendix 1

Research Instrument

Please respond to the following questions by placing a check mark (√) in the answer box thatcorresponds to your response and/or fill in the blank where indicated.
Name: (optional)__________________
Part I. Impact of AI-Powered Tools on Student Engagement and Learning Effectiveness in Business Education

	1.1 Student Engagement:	**4-Strongly agree**	**3-Agree**	**2-Disagree**	**1-Strongly disagree**
1.	AI-powered tools (such as ChatGPT and Socratic by Google) significantly increase students' active participation in business course discussions and activities.				
2.	Students demonstrate greater motivation to complete business assignments when AI-assisted learning platforms are integrated into the curriculum.				
3.	The company's implementation of AI writing assistants (like Grammarly and QuillBot) helps students produce higher quality business reports and presentations.				
4.	Business students spend more time engaging with course materials when AI-powered tutoring systems provide personalized learning experiences.				
5.	AI-enhanced collaboration platforms (such as Edmodo AI) improve the quality and frequency of peer interactions in group business projects.				
6.	The integration of AI tools in business courses helps students better understand complex theoretical concepts through interactive explanations.				
7.	Students develop stronger critical thinking skills when using AI-powered research assistants to explore business case studies and real-world problems.				
8.	The company observes improved student retention rates in business courses that incorporate AI-powered learning analytics and adaptive content.				
9.	AI-driven feedback mechanisms provide students with more actionable insights for improvement compared to traditional assessment methods in business education.				
10.	Students report higher levels of satisfaction with their overall learning experience when AI tools are strategically incorporated into business curricula.				

1.2 Learning Effectiveness:		4- Strongly agree	3- Agree	2- Disagree	1- Strongly disagree
1.	Students demonstrate improved retention of complex business concepts when engaging with AI-powered learning tools such as ChatGPT and Coursera AI Tutor.				
2.	The company's integration of AI-driven case analysis tools enhances students' strategic thinking and decision-making capabilities in business scenarios.				
3.	Business students who regularly utilize AI writing assistants (like Grammarly and QuillBot) show measurable improvements in their academic performance on written assignments.				
4.	The implementation of AI-powered adaptive learning platforms enables more effective personalization of business course content to match individual student learning styles.				
5.	Students receive more timely and constructive feedback on their business projects when instructors utilize AI-based assessment tools.				
6.	The company observes that students develop stronger problem-solving skills when using AI research assistants (such as Google Bard) to analyze business problems.				
7.	AI-powered summarization tools help students retain key business theories and principles more effectively than traditional study methods.				
8.	The personalized learning paths created by AI tutoring systems lead to more consistent achievement of learning outcomes across diverse student populations in business courses.				
9.	Students who interact with AI-powered educational platforms demonstrate improved application of theoretical business knowledge to practical situations.				
10.	The company finds that AI-enhanced performance analytics help identify and address learning gaps more efficiently than traditional assessment methods in business education.				

Part II. Enhancement of Learning Outcomes Through AI-Driven Personalized Learning Systems

2.1 Knowledge Retention:		4-Strongly agree	3-Agree	2-Disagree	1-Strongly disagree
1.	The institution finds that students who regularly interact with AI-powered adaptive learning systems demonstrate stronger comprehension of business concepts when assessed six months after course completion.				
2.	Students who engage with AI tools like Coursera AI Tutor that incorporate spaced repetition techniques show significantly improved retention of complex business frameworks compared to traditional study methods.				
3.	The school observes that AI-generated personalized learning paths based on individual performance patterns lead to more consistent long-term recall of key business principles across diverse student populations.				
4.	Students who receive automated feedback through AI systems (such as ChatGPT) on case analyses demonstrate enhanced ability to apply business theories to novel situations long after initial instruction.				
5.	The institution's implementation of AI-enhanced interactive assessments results in measurably improved retention of quantitative business concepts compared to traditional testing methods.				
6.	Students who utilize AI-powered summarization tools (like QuillBot) to reinforce learning demonstrate superior recall of business terminology and theoretical frameworks in subsequent courses.				
7.	The school reports that AI-driven analytics help identify specific knowledge gaps and subsequently provide targeted reinforcement, resulting in improved comprehensive understanding of integrated business systems.				
8.	Students who participate in AI-facilitated collaborative learning environments (such as Edmodo AI) show stronger long-term retention of concepts that were collectively explored and analyzed.				
9.	The institution finds that AI-enhanced visualization tools significantly improve students' ability to recall complex business processes and their interrelationships months after initial exposure.				
10.	Students who engage with AI-powered question-answering platforms (like Socratic by Google) for clarifying business concepts demonstrate more accurate application of those concepts in capstone projects and internships.				

	2.2 Skill Acquisition	4- Strongly agree	3- Agree	2- Disagree	1- Strongly disagree
1.	The institution finds that students who regularly engage with AI-driven case analysis tools demonstrate superior critical thinking abilities when addressing complex business problems compared to traditional teaching methods.				
2.	Students who utilize AI-powered simulation platforms develop more effective decision-making skills by experiencing the consequences of their strategic choices in risk-free business environments.				
3.	The school observes that AI-enhanced learning tools like ChatGPT help students develop stronger analytical reasoning when formulating business strategies for diverse market scenarios.				
4.	Students who participate in AI-facilitated business simulations show greater ability to apply theoretical concepts to practical, real-world business challenges.				
5.	The institution reports that AI-powered adaptive learning systems effectively custom content delivery and difficulty levels to match individual student learning styles, resulting in more efficient skill acquisition.				
6.	Students who receive personalized feedback from AI tutoring systems (such as Coursera AI Tutor) demonstrate faster mastery of industry-specific competencies compared to those receiving generic instruction.				
7.	The school finds that AI-driven learning analytics provide more accurate tracking of skill development, allowing for timely interventions that accelerate students' acquisition of advanced business capabilities.				
8.	Students who engage with AI-powered collaborative platforms (like Edmodo AI) develop stronger communication and team-based problem-solving skills essential in modern business environments.				
9.	The institution observes that AI-integrated courses more effectively prepare students with the technological proficiencies demanded by employers in data-driven business sectors.				
10.	Students who utilize AI learning assistants for guided practice demonstrate more consistent progression in developing complex management skills across different business domains.				

Part III. Challenges Faced by Educators and Institutions in Implementing AI Tools in Business Programs

3.1 Technological Integration:		**4- Strongly agree**	**3- Agree**	**2- Disagree**	**1- Strongly disagree**
1.	The institution faces significant challenges related to network bandwidth and computing resources when implementing AI tools like ChatGPT and Google Bard in business courses with large student enrollments.				
2.	Students with limited access to high-speed internet and advanced devices experience barriers to fully engaging with AI-powered learning platforms such as Coursera AI Tutor in business education programs.				
3.	The school encounters substantial technical difficulties when attempting to integrate AI-driven educational platforms (like Edmodo AI) with existing learning management systems used across business departments.				
4.	The institution struggles to maintain adequate technical support staff with specialized knowledge required to troubleshoot and optimize AI tools such as Grammarly and QuillBot within business curricula.				
5.	The school finds that frequent updates and changes to AI platforms require continuous investment in staff training and system modifications, creating sustainability challenges for long-term implementation in business programs.				

	3.2 Faculty and Institutional Readiness:	4- Strongly agree	3- Agree	2- Disagree	1- Strongly disagree
1	The institution finds that business faculty members demonstrate varying levels of proficiency with AI tools such as ChatGPT and Google Bard, creating inconsistencies in the quality of AI integration across business courses.				
2	The school observes that faculty members who lack comprehensive training in AI applications demonstrate greater resistance to incorporating tools like Coursera AI Tutor and Edmodo AI into their teaching methodologies.				
3	The institution encounters significant challenges when attempting to develop structured professional development programs that effectively prepare business educators to utilize AI tools like Grammarly and QuillBot in their teaching.				
4	The school notes that senior faculty members show greater reluctance to redesign established business curricula to accommodate AI-driven learning approaches compared to newer faculty.				
5	The institution experiences difficulties in establishing clear guidelines for integrating AI tools such as Socratic by Google into business course assessments while maintaining academic integrity and learning outcomes.				

	3.3 Financial and Institutional Constraints:	4- Strongly agree	3- Agree	2- Disagree	1- Strongly disagree
1.	The institution finds that subscription costs for premium AI services such as ChatGPT Plus and Coursera AI Tutor create significant budget constraints when implementing these tools across multiple business courses.				
2.	The school struggles to justify investment in AI-powered educational platforms like Edmodo AI due to difficulties in quantifying their direct impact on student learning outcomes in business programs.				
3.	The institution faces challenges in securing consistent funding to maintain licenses, updates, and technical support for AI tools such as Grammarly and QuillBot beyond initial implementation phases.				
4.	The school encounters difficulties in scaling successful AI implementations from pilot programs to institution-wide adoption due to increasing costs and resource requirements.				
5.	The institution observes that the rapid evolution of AI technologies like Google Bard creates financial pressure to continuously upgrade systems and retrain faculty, raising concerns about the long-term sustainability of AI investments in business education.				