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Strategic Integration of AI in Higher Education and Industry: The AI8-Point Model

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Abstract:

The AI8-Point Model, derived from extensive experience in technology, AI, and higher education administration, addresses the critical need for cost-effective, high-impact strategies tailored to higher education. Despite the transformative potential of AI in enhancing student engagement, optimizing processes, and improving educational outcomes, institutions often struggle with practical implementation. The AI8-Point Model fills this gap by offering strategies that balance cost and impact. Visualized as a circle divided into four quadrants, the model encompasses phases of student engagement and institutional interaction: pre-enrollment beyond institutional control, pre-enrollment within institutional control, post-enrollment within institutional control, and post-enrollment beyond institutional control. Each quadrant contains specific markers for data collection, strategic planning, and outcome tracking, addressing student aptitude, motivation, marketing strategies, enrollment processes, academic support, faculty development, lifelong learning, and employment outcomes. Integrating methodologies from educational research, business strategy, and technology management, the model is grounded in empirical evidence and personal experience, emphasizing a low-cost, high-value approach to AI applications. This comprehensive framework enables institutions to align initiatives with goals, optimize resource allocation, and track progress effectively, fostering a holistic approach to student success and institutional growth. Additionally, the model's adaptability extends its value to non-profit and corporate organizations, offering a versatile tool for enhancing strategic initiatives across various sectors.

Keywords: AI integration, Higher education, Strategic planning, Cost-effective strategies, Student engagement

INTRODUCTION

The integration of Artificial Intelligence (AI) in higher education has emerged as a transformative force, reshaping various aspects of teaching, learning, and institutional operations. Recent scholarship highlights the profound impact of AI on higher education, emphasizing its potential to personalize learning, enhance student engagement, and streamline administrative processes (Zouhaier, 2023). AI technologies, such as intelligent tutoring systems, predictive analytics, and automated grading, are increasingly being adopted to support both students and faculty. These technologies not only facilitate individualized learning experiences but also provide prompt feedback, thus allowing educators to focus more on curriculum development and student interaction (Crompton & Song, 2021). However, the rapid deployment of AI in educational settings also raises significant ethical concerns, including issues related to data privacy, algorithmic bias, and the potential erosion of academic integrity (Tomar & Verma, 2021).

Despite these concerns, the future potential of AI in higher education remains promising. Studies suggest that AI can significantly enhance the educational experience by facilitating the acquisition of new skills, preparing students for future careers, and improving overall educational outcomes (Zhang, 2023). AI's ability to analyze vast amounts of data can help institutions make informed decisions, optimize resource allocation, and develop targeted interventions to support student success (Sharma et al., 2022). Furthermore, the integration of AI into higher education can foster lifelong learning by offering continuous education and skill development opportunities for graduates. To fully realize the benefits of AI, higher education institutions must address the ethical implications and ensure equitable access to AI-driven tools and resources. This balanced approach will enable institutions to harness the power of AI while mitigating potential risks, thus preparing students for the demands of the future workforce (Slimi, 2021).

Regardless of the recognized potential of AI in transforming higher education, there has been a notable lack of strategic planning and institutional frameworks to effectively harness this technology. Many institutions have adopted AI tools in an ad hoc manner, leading to fragmented and inconsistent implementation. This lack of cohesive strategy is evident in the minimal integration of AI into broader educational policies and the absence of comprehensive frameworks to guide its adoption. Research indicates that while AI can significantly enhance educational quality and operational efficiency, the benefits are often not fully realized due to inadequate planning and coordination (George & Wooden, 2023). Furthermore, the strategic adoption of AI requires a thorough understanding of its ethical implications, potential biases, and the need for transparency and accountability, aspects that are frequently overlooked in current practices (Drach et al., 2023). To maximize the potential of AI, higher education institutions must develop robust strategic plans that incorporate AI into their long-term goals, ensuring that AI initiatives are aligned with institutional missions and values (Williams, 2021). This approach will enable institutions to leverage AI technologies effectively, addressing both the opportunities and challenges they present, and ultimately enhancing the educational experience for students and faculty alike.

The AI8-Point Model proposed in this study addresses the strategic integration of AI in higher education by providing a comprehensive framework that aligns with institutional goals and long-term planning. This model is designed to harness the transformative potential of AI to enhance educational quality and operational efficiency systematically. By categorizing AI applications into distinct quadrants and markers, the AI8-Point Model facilitates targeted interventions that can significantly improve student engagement and learning outcomes. Moreover, this model emphasizes a low-cost, high-value approach, ensuring that AI implementations not only drive innovation but also optimize resource allocation. By integrating established methodologies, empirical evidence, and personal experience, the AI8-Point Model offers a balanced strategy that mitigates the ethical and operational challenges associated with AI adoption. Consequently, this model provides a practical roadmap for institutions seeking to leverage AI to foster a more efficient, engaging, and cost-effective educational environment.

LITERATURE REVIEW

Artificial Intelligence (AI) has been a significant player in the education sector for decades, predominantly in supportive roles that enhance educational processes. Initially, AI technologies were implemented through computer-based learning systems and online intelligent education systems, providing a foundation for modern educational practices. For instance, early applications of AI in education included intelligent tutoring systems (ITS) and computer-assisted

instruction (CAI), which offered personalized learning experiences and immediate feedback to students (Chen et al., 2020). These systems have evolved, integrating machine learning and natural language processing to create more sophisticated tools that support both teaching and learning. AI has also been used to automate administrative tasks, such as grading and scheduling, thereby freeing up educators to focus more on student engagement and instructional quality (Nguyen, 2023). Over the years, the application of AI in education has expanded, introducing new capabilities that further transform the educational landscape. AI-driven tools now facilitate personalized learning by adapting educational content to the individual needs of students, thereby improving learning outcomes and retention rates (Harry, 2023). Intelligent tutoring systems, for example, can diagnose learning gaps and provide targeted interventions, helping students to master complex subjects more effectively (Allen & Kendeou, 2023). Additionally, AI applications in education extend to virtual learning environments and digital classrooms, where they support interactive and immersive learning experiences. Despite these advancements, the integration of AI in education continues to raise ethical and practical concerns, such as data privacy, algorithmic bias, and the need for transparency and accountability (Zhang & Aslan, 2021). Nevertheless, the ongoing development and refinement of AI technologies hold great promise for the future of education, providing powerful tools to enhance learning, teaching, and administrative efficiency. At the same time, previous methodological considerations should be revisited.

Established methodologies for integrating technology into higher education administration encompass a variety of approaches that aim to enhance institutional efficiency and effectiveness. One significant methodology involves the development of comprehensive digital environments that support both administrative and educational processes. This includes the deployment of learning management systems (LMS), which facilitate access to educational resources, support communication between faculty and students, and enable efficient management of coursework and grading. The integration of innovative technologies in educational management has been highlighted as a critical aspect, with studies emphasizing the importance of creating virtual educational environments and equipping institutions with the necessary technological infrastructure (Goryacheva & Glushkova, 2020). These digital environments not only streamline administrative tasks but also provide platforms for implementing new pedagogical models, such as blended and flipped classrooms, which have been shown to enhance student engagement and learning outcomes.

Another key methodology involves the strategic integration of technology at both national and institutional levels. This approach necessitates the formulation of policies and development plans that align with broader educational goals and leverage technological advancements to improve educational quality and accessibility. For instance, integrating technology into educational administration includes the use of data analytics to inform decision-making processes, optimize resource allocation, and monitor institutional performance (Hamutoğlu et al., 2020). Additionally, fostering an organizational culture that supports technology adoption and innovation is crucial. This includes providing professional development opportunities for faculty and staff to enhance their technological competencies and encouraging collaborative efforts between educators and technology experts to design and implement effective technology-enhanced learning environments (Wieser, 2020). Adopting these established methodologies, higher education institutions can create a robust framework for integrating technology, thereby enhancing administrative efficiency. However, measurable metrics need to be implemented to move beyond theory.

The utilization of empirical evidence in higher education administration has gained considerable traction, providing robust insights to inform policy and practice. Empirical methods in the economics of education have been pivotal in addressing causal questions, such as the impact of educational policies on student outcomes and the relationship between schooling and earnings. These methods, which include randomized controlled trials and quasi-experimental designs, help distinguish causal relationships from mere associations (Schwerdt & Woessmann, 2020). The pragmatic application of evidence-based approaches is also highlighted in research advocating for the systematic use of empirical data to determine what works in education, emphasizing the need for practical teaching skills and professional development (Newton et al., 2020).

Further, empirical studies have demonstrated the significant role of learning analytics in supporting student success. Learning analytics involves collecting and analyzing data on learners and learning environments to provide meaningful feedback and interventions. Despite its potential, large-scale empirical validation of learning analytics' effectiveness is still needed. However, current evidence suggests that learning analytics can be instrumental in identifying at-risk students and enhancing study success (Ifenthaler & Yau, 2020). Additionally, empirical research underscores the importance of utilizing evidence-based learning activities that contribute to academic performance beyond individual student characteristics like prior knowledge and motivation (Bosch et al., 2021). These findings collectively highlight the critical role of empirical evidence in shaping effective higher education practices and policies.

In addition to considering previous methodologies and empirical studies, adhering to a low-cost, high-value approach in higher education has become increasingly critical in addressing the dual challenges of rising educational costs and the demand for quality education. Research suggests that innovative cost-sharing models can effectively address these issues. For instance, a shared-cost-profit model for teaching materials has been proposed to tackle both sustainability and value concerns in higher education, demonstrating potential to reduce costs while maintaining educational quality (Banfield, 2021). Additionally, the strategic use of open educational resources (OER) and low-cost assessment strategies has shown promise in financially constrained environments, offering practical solutions to enhance educational outcomes without significant financial burdens (Buluma et al., 2020).

Moreover, the implementation of low-cost, high-value educational models in low-income countries illustrates the potential for significant impact. Programs that combine work-based learning with online education, as seen in initiatives in Mozambique, highlight how these models can increase access to higher education and enhance student engagement while keeping costs manageable (Mulligan et al., 2023). Similarly, research on the economic and social value generated by universities underscores the importance of integrating cost-effective strategies that maximize both financial and educational returns (Ayuso et al., 2020). These approaches not only make higher education more accessible but also ensure that the value of education is perceived positively by both students and society.

Despite the significant advancements and insights provided by recent research, a notable gap remains in the literature regarding a comprehensive model that synthesizes these considerations into a cohesive framework for higher education. While individual studies have addressed various aspects such as cost-effective strategies, empirical evidence utilization, and technology integration, there is a lack of an integrated approach that aligns these elements with strategic institutional planning. The fragmented nature of existing research highlights the need for a

unified model that can effectively guide higher education institutions in leveraging AI to enhance operational efficiency, student engagement, and educational outcomes while minimizing costs. The AI8-Point Model proposed in this study aims to fill this gap by providing a structured, holistic framework that brings together these critical considerations. This model will now be discussed in detail, demonstrating how it addresses the multifaceted challenges and opportunities within the higher education sector.

METHODOLOGY

The AI8-Point Model represents a sophisticated combination of various methodologies, empirical evidence, and personal experiences, all filtered through the lens of a low-cost, high-value approach. Developed using extensive background in technology, AI, and higher education administration, this model was initially crafted to implement retention strategies that were either high or low cost and high or low impact. The goal was to identify strategies that, if high cost, were also high impact based on data and research, or low cost and high impact. It is tailored to the unique population of students at the institution. This model was then translated to address the myriad of challenges and opportunities within the higher education sector, particularly in the integration of artificial intelligence (AI), by focusing on quadrants and segmented parts of the university, each deeply connected yet distinct. As such, the model offers a comprehensive framework for higher education institutions to systematically assess, implement, and enhance their strategic initiatives. Visualized as a circle divided into four quadrants (**Figure 1**), this model encompasses critical stages of student engagement and institutional interaction, both within and beyond institutional control.

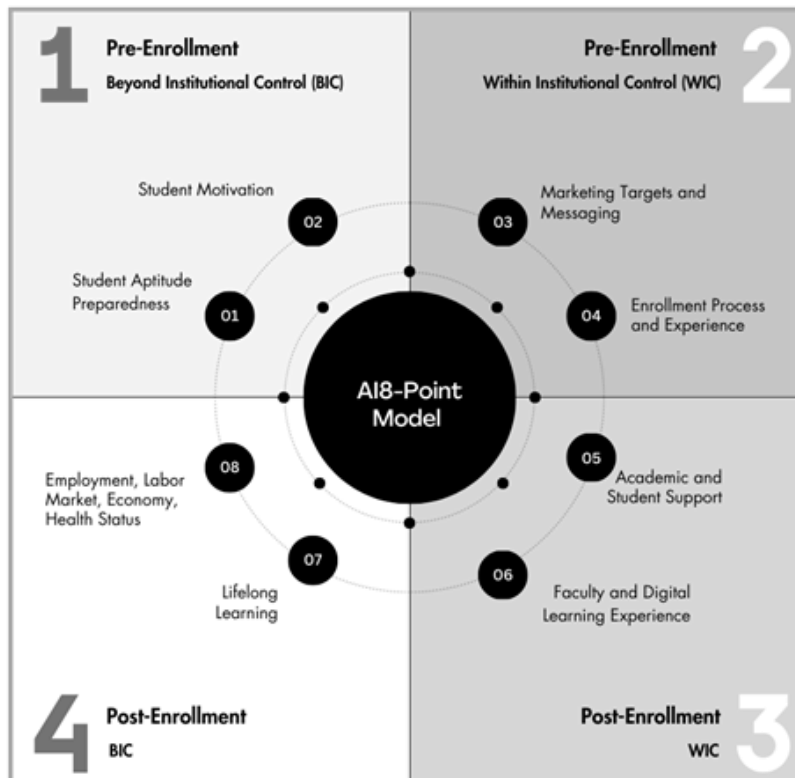


Figure 1: The AI8-Point Model

Each quadrant contains specific markers that represent distinct areas of focus, facilitating data collection, outcomes tracking, strategic measurement, and reporting. This model aids in

spending and resource allocation, ensuring that initiatives are aligned with institutional goals and optimized for student success and institutional growth.

Quadrant 1 - Pre-Enrollment (Beyond Institutional Control)

Marker 01: Student Aptitude and Preparedness:

Seen in **Table 1**, the quadrants and their markers are detailed. Firstly, student aptitude and preparedness play a crucial role in shaping their success in higher education. These factors, which include educational background, academic readiness, and foundational skills, are influenced by prior educational experiences, socioeconomic conditions, and familial educational levels. Research indicates that students' perceptions of their preparedness are strongly linked to their academic performance. For instance, a study on first-year chemistry students revealed a correlation between self-perceived preparedness and academic outcomes, highlighting the challenges faced by students who feel underprepared (Leong et al., 2021). Similarly, the readiness of schools in terms of funding, teacher training, and curriculum significantly impacts students' preparedness for higher education, particularly in STEM fields (Moleta & Yango, 2023). The disparities between secondary and tertiary education systems also contribute to varying levels of student preparedness, necessitating better alignment between these educational stages (Wollscheid et al., 2020).

Marker 02: Student Motivation:

Student motivation encompasses the intrinsic and extrinsic factors that drive students to pursue higher education. Understanding these motivators is essential for tailoring recruitment and support strategies, as institutions cannot directly alter students' past experiences or inherent motivation levels. Intrinsic motivation, such as a genuine interest in the subject matter, plays a significant role in student engagement and persistence. Research shows that students' motivations are complex and multifaceted, influenced by their backgrounds, personal aspirations, and the perceived value of higher education (Gill, 2023). For example, a study on non-traditional students found that their readiness and preparedness for transitioning to work after graduation were shaped by their educational experiences and intrinsic motivations (Wong & Hoskins, 2022). Institutions must consider these motivational factors to effectively support students through their academic journeys.

Quadrant 2 - Pre-Enrollment (Within Institutional Control)

Marker 03: Marketing Targets and Messages, Brand:

Effective marketing strategies are critical for attracting prospective students during the pre-enrollment phase. These strategies involve crafting targeted messages, utilizing data analytics to identify potential student demographics, and enhancing the university's brand image. Research emphasizes the importance of strategic marketing efforts in higher education, which can significantly influence students' decisions to apply and enroll. For instance, a study on branded education highlights the need for private universities to create profitable business and marketing strategies that resonate with students' perceptions of value (Krabec & Čížinská, 2020). Furthermore, the integration of social media outreach and community engagement initiatives can enhance the visibility and appeal of an institution, ultimately improving enrollment rates (Saubier, 2020).

Marker 04: Enrollment Process and Experience:

The enrollment process and experience encompass the entire journey from application to admission, including the user-friendliness of application portals, clarity of admission

requirements, and efficiency of administrative processes. Optimizing these processes is essential for enhancing the applicant experience and increasing enrollment rates. Research indicates that streamlined enrollment processes, supported by effective communication and clear guidelines, can significantly improve student satisfaction and reduce barriers to entry (Money et al., 2020). Additionally, the use of data analytics to monitor and refine these processes can help institutions adapt to the evolving needs and expectations of prospective students (Schwerdt & Woessmann, 2020).

Table 1. Summary of the AI8-Point Model Quadrants and Markers in Higher Education

Quadrant	Marker	Summary
Quadrant 1: Pre-Enrollment (Beyond Institutional Control)	Marker 01: Student Aptitude and Preparedness	Addresses factors influencing student success beyond the institution's control, including educational background, academic readiness, and foundational skills shaped by prior experiences, socioeconomic conditions, and familial educational levels.
Quadrant 1: Pre-Enrollment (Beyond Institutional Control)	Marker 02: Student Motivation	Focuses on intrinsic and extrinsic motivators driving students to pursue higher education. Understanding these factors is crucial for tailoring recruitment and support strategies.
Quadrant 2: Pre-Enrollment (Within Institutional Control)	Marker 03: Marketing Targets and Messages, Brand	Involves strategic marketing efforts to attract prospective students, including crafting targeted messages, utilizing data analytics to identify potential demographics, and enhancing the university's brand image.
Quadrant 2: Pre-Enrollment (Within Institutional Control)	Marker 04: Enrollment Process and Experience	Covers the entire journey from application to admission, emphasizing user-friendly portals, clear admission requirements, and efficient administrative processes to enhance the applicant experience and increase enrollment rates.
Quadrant 3: Post-Enrollment (Within Institutional Control)	Marker 05: Academic and Student Support	Highlights the importance of providing comprehensive support services such as academic advising, tutoring, mental health services, and career counseling to ensure student success.
Quadrant 3: Post-Enrollment (Within Institutional Control)	Marker 06: Faculty and Learning Experience	Focuses on the quality of teaching and the overall learning environment, including faculty development programs, innovative teaching methods, and technology integration to enhance the learning experience.
Quadrant 4: Post-Enrollment (Beyond Institutional Control)	Marker 07: Lifelong Learning	Emphasizes continuous education and skill development through professional development courses, certifications, and access to academic resources. Fosters a culture of lifelong learning.
Quadrant 4: Post-Enrollment (Beyond Institutional Control)	Marker 08: Employment, Labor Market, and Health Status	Recognizes external factors influencing graduates' employment outcomes and well-being. Universities can equip students with relevant skills and promote health and wellness initiatives, including partnerships with industries for internships and career fairs.

Quadrant 3 - Post-Enrollment (Within Institutional Control)

Marker 05: Academic and Student Support:

Academic and student support services are essential for ensuring student success in higher education. These services encompass academic advising, tutoring, mental health services, and

career counseling, which collectively contribute to a supportive learning environment. Research indicates that accessibility to academic support is crucial for diverse student cohorts, as it addresses their varying needs and promotes institutional reputation (Bornschlegl & Caltabiano, 2022). Moreover, the role of professional support staff is pivotal in providing legitimacy and credibility to these support services, helping bridge the gap between students and academic staff (Ryttberg, 2020). Autonomy support from teaching assistants and political instructors has also been linked to enhanced academic engagement and psychological well-being among students, highlighting the importance of supportive academic environments (Jiang & Tanaka, 2021).

Marker o6: Faculty and Learning Experience:

The quality of teaching and the overall learning environment are critical components of student success. Faculty development programs, innovative teaching methods, and the integration of technology in classrooms significantly enhance the learning experience. Research emphasizes the need for professional development and continuous learning for faculty to adapt to changing educational landscapes and to employ effective teaching strategies (Beasy et al., 2022). Additionally, student support programs designed and delivered by academics can foster a sense of connectedness and self-management skills among students, thereby improving their academic capabilities and professional identity (Baloyi, 2023). These initiatives are essential in creating a conducive learning environment that promotes student engagement and academic excellence.

Quadrant 4 - Post-Enrollment (Beyond Institutional Control)

Marker o7: Lifelong Learning:

Lifelong learning is increasingly recognized as a critical factor in maintaining professional relevance and personal growth. Higher education institutions play a vital role in supporting lifelong learning through professional development courses, certifications, and access to academic resources. Research underscores the importance of fostering a culture of continuous education, particularly in the context of rapid technological advancements and evolving job market demands (Nakimuli, 2023). Moreover, integrating academic support in transnational education programs highlights the strategic importance of sustainability goals in lifelong learning initiatives (Jiang et al., 2023).

Marker o8: Employment, Labor Market, and Health Status:

The external factors influencing graduates' employment outcomes and overall well-being are critical considerations for higher education institutions. While universities cannot directly control the labor market or health conditions, they can equip students with skills relevant to current job trends and promote health and wellness initiatives. Partnerships with industries for internships, job placements, and career fairs are essential activities that support students' transition from education to employment (Newton et al., 2020). Furthermore, understanding the dynamics of social support networks can enhance academic success and well-being among underrepresented student groups (Mishra, 2020). By addressing these external factors, institutions can better prepare their graduates for successful careers and healthy, fulfilling lives.

The AI8-Point Model offers a comprehensive framework designed to strategically integrate AI into higher education, addressing various phases of student engagement and institutional interaction both within and beyond institutional control. Divided into four quadrants, the model focuses on key aspects such as student aptitude, motivation, marketing strategies, enrollment processes, academic support, faculty development, lifelong learning, and employment outcomes. By aligning these markers with institutional goals, the model ensures a holistic

approach to enhancing educational quality, operational efficiency, and student success while optimizing resource allocation. Additionally, the AI8-Point Model's versatility extends beyond academia; it can be effectively adapted for use in industry to support customer engagement and satisfaction. By employing similar strategies, businesses can improve customer experiences, optimize marketing efforts, streamline onboarding processes, provide comprehensive support services, and foster lifelong customer relationships. The next section will delve into the practical application of the AI8-Point Model, supported by case studies that illustrate its effectiveness in both educational and corporate settings.

RECOMMENDATIONS: USE CASES

The AI8-Point Model serves as a versatile framework for guiding institutional initiatives across various domains. Below are several use cases demonstrating its application:

Use Case 1: Enhancing Student Preparedness

An initiative aimed at improving college readiness among junior high school students can be categorized under Marker 01 (Student Aptitude and Preparedness) in Quadrant 1. By implementing outreach programs that provide academic support and mentorship to younger students, the university can track the impact of these initiatives on student preparedness. Data collected from these programs can inform future strategies and resource allocation to enhance their effectiveness. Additionally, the model can be used to monitor real-time resource allocation and usage, ensuring that funds are being effectively utilized to support these outreach efforts. For example, tracking the number of mentoring sessions held, the academic progress of participating students, and the allocation of financial resources to different components of the program can provide valuable insights for ongoing improvement (Moreno et al., 2022).

Use Case 2: Optimizing Marketing Strategies

In Quadrant 2, an institution may focus on refining its marketing efforts under Marker 03 (Marketing Targets and Messages, Brand). By leveraging data analytics to identify potential student demographics and tailoring marketing messages to resonate with these groups, the university can enhance its recruitment efforts. For example, targeted social media campaigns and community engagement activities can attract a diverse student population, thereby improving enrollment rates. Real-time tracking of marketing campaign performance, such as engagement metrics and conversion rates, can help the institution allocate marketing budgets more effectively and adjust strategies dynamically (Krabec & Čížinská, 2020).

Use Case 3: Streamlining Enrollment Processes

Under Marker 04 (Enrollment Process and Experience) in Quadrant 2, a university might seek to streamline its application and admission procedures. By optimizing application portals for user-friendliness and providing clear admission requirements, the institution can enhance the overall applicant experience. Initiatives such as virtual admission workshops and dedicated support services during the enrollment process can lead to higher conversion rates and better student satisfaction (Money et al., 2020).

Use Case 4: Improving Academic and Student Support

In Quadrant 3, an initiative focused on Marker 05 (Academic and Student Support) might involve expanding tutoring services and mental health resources. By implementing personalized learning plans and peer mentoring programs, the university can provide tailored support to meet individual student needs. Tracking the utilization and outcomes of these services can help refine

support strategies and ensure they effectively contribute to student success. The model allows for real-time monitoring of resource allocation, such as the distribution of tutors and counselors, ensuring that support services are available where and when they are most needed (Bornschlegl & Caltabiano, 2022).

Use Case 5: Enhancing Faculty Development and Learning Experiences

Under Marker 06 (Faculty and Learning Experience) in Quadrant 3, an institution may invest in professional development workshops for faculty to adopt innovative teaching methods and AI tools. Enhancing the learning experience through active learning techniques and integrating technology in classrooms can significantly improve educational outcomes. For example, training faculty on using AI-driven assessment tools can provide more personalized feedback to students, fostering a more engaging and effective learning environment. The AI8-Point Model can track the allocation of resources for faculty development programs and measure their impact on teaching quality and student performance (Beasy et al., 2022).

Use Case 6: Supporting Lifelong Learning

In Quadrant 4, an initiative under Marker 07 (Lifelong Learning) could involve offering alumni access to professional development courses and certification programs. By promoting continuous education and skill development, the university can support graduates in their career advancement. Data on alumni engagement in these programs can inform the development of new lifelong learning opportunities and partnerships with industry leaders. The model can also track real-time participation in lifelong learning initiatives and allocate resources effectively to support these programs (Nakimuli, 2023).

Use Case 7: Enhancing Employment Outcomes

Finally, under Marker 08 (Employment, Labor Market, and Health Status) in Quadrant 4, a university might focus on strengthening partnerships with industries to offer internships, job placements, and career fairs. By aligning academic programs with current job market trends and providing robust career services, the institution can improve graduates' employment outcomes. Tracking employment rates and job satisfaction among alumni can help refine career support strategies and ensure they meet the evolving needs of the labor market. The AI8-Point Model can facilitate real-time monitoring of job placement success and resource allocation to various career services, ensuring that students receive the support they need for successful employment (Newton et al., 2020).

The AI8-Point Model, originally designed for higher education institutions, can be effectively adapted to enhance strategic initiatives in non-profit and corporate settings. By modifying the markers to suit organizational contexts, the model provides a structured framework for assessing, implementing, and enhancing various initiatives aimed at improving organizational effectiveness. In the corporate sector, strategic AI frameworks are being utilized to optimize marketing efforts, streamline operational processes, and improve customer engagement. For instance, companies are leveraging AI for market segmentation, targeting, and positioning to refine marketing strategies and enhance brand communication (Huang & Rust, 2020). Additionally, AI-driven customer insights are helping firms tailor their services to meet specific customer needs, thereby increasing satisfaction and retention (Lida, 2020).

In non-profit organizations, the AI8-Point Model can enhance outreach programs and optimize resource allocation. By understanding customer or client knowledge and motivations, non-profits

can design more effective educational materials and engagement strategies. For example, health service non-profits might assess the baseline health literacy of their target audience to develop better educational resources (Fatima et al., 2020). Furthermore, AI can streamline client acquisition processes by optimizing application portals and providing clear communication, thereby enhancing the overall user experience (Newton et al., 2020). The model's adaptability in tracking real-time data allows organizations to efficiently allocate resources and address potential barriers quickly, improving both operational efficiency and client satisfaction.

CONCLUSION

The AI8-Point Model represents a significant advancement in the strategic integration of AI within higher education and beyond. Initially developed to address the multifaceted challenges and opportunities presented by AI in academic institutions, this model provides a comprehensive framework that balances cost-effectiveness with high-impact outcomes. It systematically categorizes AI applications into distinct phases of student engagement and institutional interaction, thereby aligning initiatives with institutional goals and optimizing resource allocation. The need for such a model is underscored by the rapid proliferation of AI technologies and the corresponding demand for strategic frameworks that can guide their implementation. Despite the transformative potential of AI, many institutions and organizations struggle with fragmented and inconsistent adoption strategies. The AI8-Point Model addresses this gap by offering a structured approach that integrates established methodologies, empirical evidence, and practical experience, ensuring a holistic enhancement of educational quality, operational efficiency, and student success.

The significance of the AI8-Point Model extends beyond higher education, demonstrating its versatility and applicability in non-profit and corporate settings. By adapting the markers to suit organizational contexts, the model can optimize operations, enhance customer engagement, and improve resource allocation across various sectors. This adaptability highlights the potential of the model as a universal framework for leveraging the full capabilities of AI. Future research should focus on further validating the AI8-Point Model through longitudinal studies and case analyses in diverse educational and organizational environments. Additionally, exploring the ethical implications of AI integration and developing guidelines for responsible AI use will be crucial. Investigating the impact of AI on equity and access to education and services will also provide valuable insights. As AI continues to evolve, ongoing research and refinement of the AI8-Point Model will ensure that it remains a robust and effective tool for strategic planning and implementation in the digital age.

Data Availability

Data available upon request.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Authors' Contributions

Conceptualization, E. Barnes; Methodology, E. Barnes; Validation, J. Hutson; Investigation, J. Hutson – Original Draft Preparation, E. Barnes; Writing – Review & Editing, J. Hutson.;

Visualization, E. Barnes.

REFERENCES

- Allen, L. K., & Kendeou, P. (2024). ED-AI Lit: An Interdisciplinary framework for AI literacy in education. *Policy Insights from the Behavioral and Brain Sciences*, 11(1), 3-10. <https://doi.org/10.1177/23727322231220339>.
- Ayuso, S., Sánchez, P., Retolaza, J. L., & Figueras-Maz, M. (2020). Social value analysis: the case of Pompeu Fabra University. *Sustainability Accounting, Management and Policy Journal*, 11(1), 233-252. <https://doi.org/10.1108/sampj-11-2018-0307>.
- Baloyi, G. P. (2023). Strategies to Increase Higher Education Access in Selected Higher Education Institution. *International Journal of Social Science Research and Review*, 6(10), 308-316.
- Banfield, M. (2021). A shared-cost-profit model of teaching materials for higher education. *American Journal of Economics and Sociology*, 80(1), 231-252. <https://doi.org/10.1111/AJES.12374>.
- Beasy, K., Morrison, R., Coleman, B., & Mainsbridge, C. (2022). Reflections of a student engagement program designed and delivered by academics. *Journal of Applied Learning & Teaching*, 5(1), 40-51. <https://doi.org/10.37074/jalt.2022.5.1.7>.
- Bornschelegl, M., & Caltabiano, N. J. (2022). Increasing accessibility to academic support in higher education for diverse student cohorts. *Teaching and Learning Inquiry*, 10. <https://doi.org/10.20343/teachlearninqu.10.13>.
- Bosch, E., Seifried, E., & Spinath, B. (2021). What successful students do: Evidence-based learning activities matter for students' performance in higher education beyond prior knowledge, motivation, and prior achievement. *Learning and Individual Differences*, 91, 102056. <https://doi.org/10.1016/J.LINDIF.2021.102056>.
- Buluma, A., Najjuma, R., & Ezati, B. (2020). Adopting the Use of Low-Cost Assessment Strategies in Resource-Constrained Higher Education Institutions. *Interdisciplinary Journal of Education*, 3(2), 94-111. <https://doi.org/10.53449/ije.v3i2.130>.
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264-75278. <https://doi.org/10.1109/ACCESS.2020.2988510>.
- Crompton, H., & Song, D. (2021). The potential of artificial intelligence in higher education. *Revista virtual Universidad catolica del Norte*, 62. <https://doi.org/10.35575/RVUCN.N62A1>
- Drach, I., Petroye, O., Borodiyenko, O., Reheilo, I., Bazeliuk, O., Bazeliuk, N., & Slobodianiuk, O. (2023). The use of artificial intelligence in higher education. *International Scientific Journal of Universities and Leadership*, (15), 66-82. <https://doi.org/10.31874/2520-6702-2023-15-66-82>.
- Fatima, S., Desouza, K., & Dawson, G. (2020). National strategic artificial intelligence plans: A multi-dimensional analysis. *Economic Analysis and Policy*, 67, 178-194. <https://doi.org/10.1016/j.eap.2020.07.008>.
- George, B., & Wooden, O. (2023). Managing the strategic transformation of higher education through artificial intelligence. *Administrative Sciences*, 13(9), 196. <https://doi.org/10.3390/admsci13090196>.
- Gill, A. (2023). 'Looking forward': non-traditional students' perceptions of their readiness and preparedness for the transition to work after graduation. *Research in Post-Compulsory Education*, 28, 149 - 172. <https://doi.org/10.1080/13596748.2023.2166697>.
- Goryacheva, T. V., & Glushkova, Y. O. (2020, May). Innovative Aspects of Digital Transformation in Socio-Cultural Sphere. In *International Scientific Conference "Digitalization of Education: History, Trends and Prospects" (DETP 2020)* (pp. 342-346). Atlantis Press.

- Hamutoğlu, N. B., Başarmak, U., Sezen-Gültekin, G., & Elmas, M. (2020). The Views of the quality ambassadors on quality management in higher education and the technological barriers encountered. *Cukurova University Faculty of Education Journal*, 49(1), 316-351.
- Harry, A. (2023). Role of AI in Education. *Interdisciplinary Journal and Hummanity (INJURITY)*, 2(3), 260-268. <https://doi.org/10.58631/injurity.v2i3.52>.
- Huang, M., & Rust, R. (2020). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49, 30-50. <https://doi.org/10.1007/s11747-020-00749-9>.
- Ifenthaler, D., & Yau, J. Y. K. (2020). Utilising learning analytics to support study success in higher education: a systematic review. *Educational Technology Research and Development*, 68(4), 1961-1990. <https://doi.org/10.1007/S11423-020-09788-Z>.
- Jiang, J., Dong, C., & Liu, J. (2023). Toward a model of academic support in transnational education in China: Under the strategic goal of sustainability. *Cogent Education*, 10. <https://doi.org/10.1080/2331186X.2023.2184926>.
- Jiang, J., & Tanaka, A. (2021). Autonomy support from support staff in higher education and students' academic engagement and psychological well-being. *Educational Psychology*, 42, 42 - 63. <https://doi.org/10.1080/01443410.2021.1982866>.
- Krabec, T., & Čížinská, R. (2020). Value of branded education. *Financial Internet Quarterly*, 16, 42 - 46. <https://doi.org/10.2478/fiqf-2020-0027>.
- Leong, E., Mercer, A., Danczak, S. M., Kyne, S. H., & Thompson, C. D. (2021). The transition to first year chemistry: student, secondary and tertiary educator's perceptions of student preparedness. *Chemistry Education Research and Practice*, 22(4), 923-947. <https://doi.org/10.1039/d1rp00068c>.
- Lida, M. (2020). A Strategic Marketing Intelligence Platform. *Operations Management Research*, 12-30. <https://doi.org/10.51697/OMR.12.4.1>
- Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'underrepresented' students. *Educational Research Review*, 29, 100307. <https://doi.org/10.1016/j.edurev.2019.100307>.
- Moleta, N. M., & Yango, A. R. (2023). Schools' Readiness, Teachers' Proficiency, and Science Technology Engineering and Mathematics (STEM) Students' Preparedness for Higher Education. *Technium Soc. Sci. J.*, 44, 145. <https://doi.org/10.47577/tssj.v44i1.8944>.
- Money, J., Nixon, S., & Graham, L. (2020). Do educational experiences in school prepare students for university? A teachers' perspective. *Journal of Further and Higher Education*, 44, 554 - 567. <https://doi.org/10.1080/0309877X.2019.1595547>.
- Moreno, M., McKinney, L., Rangel, V., Burrige, A., & Carales, V. (2022). The Impact of Academic Momentum on Postsecondary Matriculation among Early College High School Students. *Community College Journal of Research and Practice*, 47, 307 - 326. <https://doi.org/10.1080/10668926.2022.2035852>.
- Mulligan, B., Press, P., & Fletcher, C. (2023). New Models of Higher Education for Low-Income countries. *Ubiquity Proceedings*. <https://doi.org/10.5334/uproc.108>
- Nakimuli, A. (2023). Delivery of Non-Academic Student Support Services by Staff at Kyambogo University. *East African Journal of Education Studies*, 6(2), 302-314. <https://doi.org/10.37284/eajes.6.2.1339>.
- Newton, P. M., Da Silva, A., & Berry, S. (2020, December). The case for pragmatic evidence-based higher education: A useful way forward? In *Frontiers in Education* (Vol. 5, p. 583157). Frontiers Media SA. <https://doi.org/10.3389/feduc.2020.583157>.

Nguyen, N. D. (2023). Exploring the role of AI in education. *London Journal of Social Sciences*, (6), 84-95. <https://doi.org/10.31039/ljss.2023.6.108>.

Ryttberg, M. (2020). Legitimacy Dynamics of Professional Support Staff at Higher Education Institutions. *Higher Education Policy*, 35, 218-233. <https://doi.org/10.1057/s41307-020-00206-w>.

Saubier, A. (2020). A Question of Value: Exploring Perceptions of Higher Education Value in Academic and Popular Literature. *Economics and Culture*, 17, 62 - 74. <https://doi.org/10.2478/jec-2020-0006>.

Schwerdt, G., & Woessmann, L. (2020). Empirical methods in the economics of education. *The economics of education*, 3-20. <https://doi.org/10.1016/b978-0-12-815391-8.00001-x>.

Sharma, A., Pareta, A., Meena, J., & Sharma, R. (2022). A long-term impact of artificial intelligence and robotics on higher education. *2022 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI)*, 1-4. <https://doi.org/10.1109/ACCAI53970.2022.9752633>

Slimi, Z. (2021). The impact of AI implementation in higher education on educational process future: A systematic review. <https://doi.org/10.21203/rs.3.rs-1081043/v1>

Tomar, P., & Verma, S. (2021). Impact and role of AI technologies in teaching, learning, and research in higher education. In *Impact of AI Technologies on Teaching, Learning, and Research in Higher Education* (pp. 190-203). IGI Global. <https://doi.org/10.4018/978-1-7998-4763-2.ch012>.

Wieser, D. (2020). Integrating technology into the learning process of higher education: A creative inquiry. *Industry and Higher Education*, 34(3), 138-150. <https://doi.org/10.1177/0950422219895773>.

Williams, D. A. (2021). Strategic planning in higher education: a simplified B-VAR model. *International Journal of Educational Management*, 35(6), 1205-1220. <https://doi.org/10.1108/ijem-08-2020-0382>.

Wollscheid, S., Lødding, B., & Aamodt, P. (2020). Prepared for higher education? Staff and student perceptions of academic literacy dimensions across disciplines. *Quality in Higher Education*, 27, 20 - 39. <https://doi.org/10.1080/13538322.2021.1830534>.

Wong, B., & Hoskins, K. (2022). Ready, set, work? Career preparations of final-year non-traditional university students. *Higher Education Pedagogies*, 7, 88 - 106. <https://doi.org/10.1080/23752696.2022.2100446>.

Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. *Computers and Education: Artificial Intelligence*, 2, 100025. <https://doi.org/10.1016/J.CAEAI.2021.100025>.

Zhang, J. (2023). Impact of artificial intelligence on higher education in the perspective of its application of transformation. *Lect Notes Educ Psychol Public Medium*, 2(1), 822-830. <https://doi.org/10.54254/2753-7048/2/2022483>.

Zouhaier, S. (2023). The Impact of Artificial Intelligence on Higher Education: An Empirical Study. *European Journal of Educational Sciences*, 10(1), 17-33. <https://doi.org/10.19044/ejes.v10n01a17>