

AI-Driven Student Support in GCC Higher Education

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ABSTRACT: Higher education institutions continue to incorporate Artificial Intelligence (AI) into their different sectors of operation. The implementation of AI in academic advising helps universities worldwide, including institutions in the Gulf Cooperation Council (GCC) countries, to improve educational experiences while supporting students and administrative efficiency in educational institutions. This paper explores how leading institutions in the GCC region have begun using AI-driven advising tools, the pros and cons of these technologies and how they may affect tutors, students and universities. It also highlights how AI can solve the typical advising inefficiencies of incorrect course selection, miscalculated GPAs, and manual mistakes that lead to at-risk students.

KEYWORDS: Artificial Intelligence, Academic Advising, GCC Higher Education, Student Support, AI Chatbots, Machine Learning, University Services

1 INTRODUCTION

Artificial Intelligence (AI) has made a fundamental makeover in healthcare, finance, and education. The GCC experiences rapid digital change within higher education. AI-based academic counselling represents an effective solution that can increase student performance and institutional operational efficiency while maintaining student enrollment. College institutions throughout the region have begun to adopt student-centred data-based counselling to lower administrative workloads while maximizing student achievement. GCC institutions experience problems with their current manual advising system, which produces confused students regarding GPA computation and academic progression rules, thus causing their performance to suffer (Gonzalez, 2025). This paper analyzes GCC academic advisory AI deployment, its benefits and drawbacks, and its impact on upcoming educational tactics.

2 LITERATURE REVIEW

2.1 AI in Higher Education

Higher education institutions use artificial intelligence (AI) as an essential educational tool to transform academic management and boost student involvement. The capabilities of AI-driven systems were proven to deliver personalized learning programs and help students select courses while enhancing their student support framework (Chen et al., 2022). User acceptance of technology follows the Technology Acceptance Model (TAM) since it attributes acceptance to perceptions of usefulness and ease of use (Pan et al., 2024). Through AI applications, education systems acquire automated advising capabilities alongside interactive learning elements and data-driven decision systems, which enhance the efficiency of higher education institutions.

AI-based academic advising systems are being delivered at universities in the United States, United Kingdom, and

Australia, but institutions in the GCC region have been slower in adopting them. Yet, due to the interest, GCC universities are exploring AI-driven solutions (Wilson and Lee, 2023). From administration to prediction, adaptive learning, and intelligent tutoring systems, the use of AI in education nowadays is not only limited to that but also enables institutions to act proactively to address student needs towards a proactive approach and not a reactive one (Brown and Patel, 2021).

2.2 The Evolution of AI in Academic Advising

Academic advising transformed significantly during the previous decade while AI technologies proved fundamental in this transformation. Face-to-face student and advisor interactions have been the conventional paradigm of traditional advising, resulting in subjective recommendations, difficulty of availability, and inconsistent advising (Smith et al., 2023). However, these were conventional methods, and the lack of an advisor often posed a hurdle for the student who could not avail of timely support.

The entry of AI in the academic advising space brings in data-driven, automated solutions that improve accessibility and reduce time spent by advisors. AI-powered advising platform uses machine learning algorithms to analyze student records, previous academic performance and career aspirations to tailor recommendations (Jones et al., 2021). AI chatbots and virtual advisors also give 24/7 support to students to ensure they obtain speedy solutions to their program necessities, course enrollment, artistic work, and career arrangements.

Under the influence of Self Determination Theory (SDT), AI-driven advising follows the adoption of

autonomy, competence and relatedness in the learning process (Deci and Ryan, 1985). AI helps student autonomy by providing personalized academic maps and self-directed courses, allowing the students to make informed decisions without neglecting structured and relevant guidance.

2.3 AI and Predictive Analytics in Student Success

Powered by AI, predictive analytics has become the transforming tool institutions can use to identify at-risk students before they run into dangerous academic measures. AI-driven predictive models incorporating student performance data, course engagement levels, and historical academic patterns can proactively alert advisors and students to potential academic challenges (Taylor et al., 2024).

Georgia State University is an example of an effective implementation of predictive analytics with the success of using it to increase student retention. The AI-driven university's AI-driven advising system is informed about how students behave, what they achieve, and what trends take place to enable academic advisors to intervene early before students fall into an academic decline. Therefore, the retention rates have improved by 22%, and the graduation rates are up 14% in the past decade (Taylor, Simmons and Clark, 2024).

Predictive analytics are within the boundaries of Constructivist Learning Theory (Pan et al., 2024) because students build knowledge by interacting with learning environments. AI-powered advising gives personalized interventions and adaptive learning pathways that help the students develop their own personalized education experiences per their needs.

2.4 Challenges in Traditional Academic Advising

Recently, traditional discipline advising in the GCC experienced significant challenges in terms of its structure and operations. A high student-to-advisor ratio creates an issue of receiving insufficient support from the advisor. As many academic advisors have hundreds of students, it is almost impossible to find the time to provide personalized guidance to all of these students, let alone monitor each student's progress at a micro level (Jones et al., 2021).

The reactive nature of traditional advising is another major problem. Traditional advising models first respond to student issues only once they have occurred. If it occurs late, it will fail to provide children with well-informed course selections, higher dropout rates, and greater length of graduation time. Furthermore, manual, paper-based advising processes are highly prone to errors and make student planning of their academic much more complex (Smith et al., 2023).

Automated, real-time data analysis with AI-powered solutions brings promising other proactive and prediction advising options. Institutions can detect early signs of academic struggles and make AI/machine learning-informed decisions to recommend tailored interventions preventing the students from suffering significant setbacks.

AI-Powered Solutions in the GCC

Even though AI applications for academic advising have only begun to be implemented within the region's universities, some have made significant steps toward integrating AI-based solutions.

- An AI-powered chatbot has been implemented by Khalifa University (UAE) to assist students by answering academic inquiries, reducing advisor workload, and improving the efficiency of student support services (Rehman, 2024). Instant response chatbots help students solve frequently asked questions and navigate through educational policies and procedures.
- King Abdulaziz University (Saudi Arabia) has an AI-driven course recommendation system based on student preferences and past performance to recommend the best course for the student to maintain track of graduation (Rehman, 2024).
- Predictive analytics models are deployed by Qatar University that track students' progress to identify the risk of dropping out and intervene early. The insights provided by these AI have enabled the university to boost student retention rates and the general performance of academics (Wilson and Lee, 2023).

Benchmarks from global best practices can be leveraged to help GCC universities speed up the adoption of AI and improve their academic advising framework towards AI-driven, personalized student support services.

2.6 Ethical Considerations in AI-Driven Advising

Nevertheless, the merits of AI in academic advising are palpable but must be managed carefully in terms of ethical consideration for a fair and responsible AI implementation. Another big worry is algorithmic bias, where the data from which our AI model learns (historical student data) may embody some bias. Auditing AI-driven advising systems is needed because if not, they can intensify the inequalities in academic guidance (Anderson, 2022).

Data privacy and security are other ethical issues involved. AI-powered platforms require handling large volumes of sensitive data of students, and concerns arise about the confidentiality of data and meeting regional data protection regulations (Smith et al., 2023). Institutions should implement robust cybersecurity measures and ensure compliance with global data protection laws like GDPR to protect student information.

AI's function should boost human advisors' capabilities rather than eliminate their presence from the process. Combining artificial intelligence data analysis with human counselor emotional support and environment-specific judgment enables a proper academic advising system (Wilson and Lee, 2023).

2.7 Conceptual Framework

The framework demonstrates the data processing mechanism of AI systems when they create individualized

educational guidance, which produces better student achievement results.

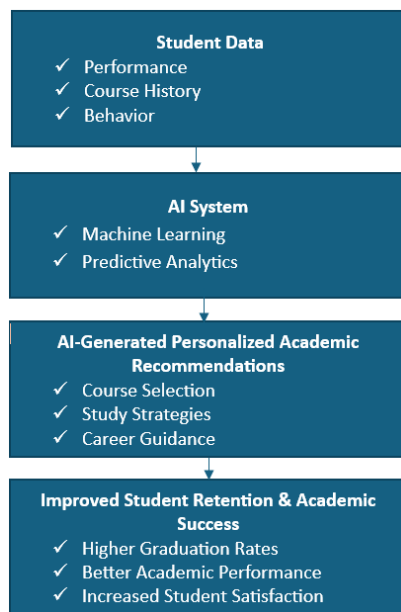


Fig. 1. Conceptual Framework

2.8 Conclusion

Artificial Intelligence operates within educational counseling processes by supplying data-backed scalable and anticipatory solution approaches. Traditional academic advice structures in the GCC encounter substantial barriers, but AI technology can boost student connections and hold more students in place while improving educational success. Educational institutions should take a measured approach to AI implementation. They must solve ethical dilemmas and data protection questions and address human involvement requirements to use this technology responsibly in colleges.

3 METHODOLOGIES

3.1 Research Approach

This study employs a qualitative research approach to understand the use of AI in academic advising in the GCC region. This was done by analyzing university reports, peer-reviewed journal articles on universities using AI-driven advising tools, and case studies of universities that have and are going to implement AI-driven advising tools.

3.2 Data Collection Methods

Interviewing academic advisors and university administrators of GCC institutions with active AI involvement in the academic advising processes was conducted. The results derived included identifying the key trends, benefits, and challenges associated with such AI-driven advising systems in the region.

3.3 Scope of the Study

The research examines AI's impact on academic advising in UAE, Saudi Arabia, Bahrain, and Qatar universities. It

also investigates how these universities meet international best standards for AI academic advising.

4 DISCUSSION AND ANALYSIS

4.1 AI-Driven Academic Advising in the GCC

Higher education institutions in Saudi Arabia, Qatar, and the UAE continue to speed up their AI implementation by integrating AI chatbots, automated GPA monitoring systems, and predictive analytics technology to optimize academic support operations. Through AI-driven solutions, students receive immediate support for their inquiries, while the systems help students select courses according to their needs and detect students who struggle academically. The pace at which institutions embrace these solutions differs widely because of their different technological capabilities, faculty training status, and budget constraints (Wilson and Lee, 2023).

GCC universities follow various categories specified by the Diffusion of Innovation framework (Alhammedi, 2024). The adoption of AI-driven student advising occurs at both Khalifa University and King Abdulaziz University who have become early adopters. Many public universities together with smaller institutions continue to operate across the early majority or late majority phases because they face challenges related to AI infrastructure limitations and faculty resistance along with budgetary restrictions.

AI-driven advising in the GCC is expanding yet fails to meet the advanced levels of international educational institutions when it comes to system complexity and adaptability. Using AI-powered predictive analytics at Georgia State University (USA) resulted in a 22% increase of student retention rates together with automated interventions that cut down dropout numbers (Taylor et al., 2024). Through their AI advisory and career path forecasting system at University College London (UK) students can determine the best educational path based on analyzed market labor patterns. The educational technology at Tsinghua University (China) generates personalized study agendas by examining academic outcomes with student competency levels and forthcoming career choices.

AI exists exclusively for academic counseling at GCC universities and shows a limited connection to career counseling and mental health support functions. The establishment of AI-based advising leadership in the region requires regional institutions to develop artificial intelligence applications to provide full student support services, career guidance, and behavioral research capabilities.

4.2 Addressing Mismanagement in Course Selection

Traditional academic advising faces a primary issue due to poor planning of course enrollment. Students who take mismatched courses based on their academic requirements and professional goals experience longer-than-expected graduation timelines and spend more money while having

unsatisfactory universities experiences. Students encounter different learning barriers because of unclear advising standards that cause them academic scheduling problems and unnecessary prerequisite conditions and study inefficiencies.

AI-anchors systems address student advising issues through automatic recommendation tools which enhance enrollment selection and plan scheduling effectiveness. AI-based recommendation platforms study a student's academic records together with course-related requirements as well as necessary prerequisites plus their professional objectives when designing customized recommendations. These predictive systems show when students face class scheduling problems and also verify their course enrollment fulfills academic requirements and avoids excessive workload. AI-based platforms use industry trends and graduate employability statistics to recommend specific courses and specializations which strengthen career prospects through evaluation of teacher performance (Smith et al., 2023).

AI-driven course advising at Qatar University operates through a system that extends real-time suggested courses and notifies students about scheduling faults before decisions are finalized. The introduction of this system has produced significant outcomes including a 30% decline in course changes and a 15% rise in students finishing their degrees on time because the platform provides students organized direction for their degree compliance (Bajahzar, 2024). GCC universities should combine their advising platforms with student learning analytics as well as career guidance systems and real-time faculty availability for students to achieve the best possible outcomes from AI-powered course selection.

4.3 Impact on Student Retention and Performance

Student retention rates improve along with academic success because artificial intelligence provides effective predictive analytics and early intervention strategies. Students encounter academic difficulties because they choose improper courses while showing insufficient attention and receive no prompt help. AI systems detect students who face difficulties at an early stage which enables universities to activate customized mentoring as well as tutoring and academic coaching support (Taylor et al., 2024).

The greatest AI advancement for student retention comes from its capability to detect academic trouble indicators early on. AI models examine student attendance patterns together with their participation levels as well as their academic performance to recognize those who face the risk of academic failure. The acquired knowledge enables educational institutions to create personalized educational paths which match students' unique requirements thus giving necessary academic support beforehand when crucial problems arise (Liu et al., 2024). AI-powered

virtual advisors with chatbots offer students immediate academic counseling through real-time guidance while also responding to questions thus offering improved accessibility to institutional support services by reducing the requirement of human advisors.

The implementation of AI-powered early intervention systems at Georgia State University resulted in a 22% increase of student retention throughout a period of ten years which shows the effectiveness of AI-driven advising in student engagement (Bajahzar, 2024). GCC universities that implement predictive analytics models will enhance their student retention numbers while maintaining ongoing academic feedback for their students. AI advocacy systems will become more beneficial to students when behavioral analysis and psychological evaluation capabilities are added to the existing academic planning assistance system.

4.4 Challenges in AI Adoption

Several hurdles block the effective implementation of AI in academic advising practices including faculty reluctance to accept the technology as well as moral questions and protection of academic data. The implementation of AI-driven student advising encounters faculty resistance because educators fear their roles might become obsolete and their influence in student decisions will deteriorate (Anderson, 2022). Academic advisors along with faculty members who base their advising on traditional methods show reluctance to adopt AI completely because they worry AI-generated insights could surpass their professional competence. Motivated students find it difficult to adjust from meeting with faculty advisors to AI-based platforms because they prefer human interaction for advice. Higher education institutions should implement AI systems as resources that supplement the work of human academic advisors instead of using them to replace human intervention (Dawood, 2024). Educating students about AI and training faculty members in AI use will create an efficient pathway to utilize AI in student advising.

AI adoption faces difficulties from ethical challenges which primarily stem from problems that arise due to algorithmic biases. The recommendations of AI models depend on historical student data which can create unintentional disadvantages towards specific student groups if there exists bias in these data files. Universities need to perform fairness audits while developing bias detection protocols because these ensure that AI advising systems do not create additional academic inequality gaps (Wilson and Lee, 2023). The decision-making process of AI needs complete transparency because AI algorithms function through black-box models that create difficulties for students and advisors to understand how the decisions are processed. GCC universities require the implementation of distinct AI governance standards which ensure the dedication of fairness and accountability along with explainable AI-produced recommendations.

The adoption of AI faces difficulties because of cybersecurity issues alongside privacy risks. Advantageous AI advising programs analyze extensive personal student records which creates issues about compliance regulation protection and potential cyber threats (Dawood, 2024). Universities must set GDPR-compliant data protection regulations which need to be combined with strong encryption systems to stop unauthorized record access. AI-driven advising systems will require ethical guidelines and security policies to maintain their safety and ethical compliance with student needs and prevent illegal access to student records.

4.5 Future Trends in AI-Powered Advising

AI-driven academic advising will progress through future developments which surpass both predictive analytics and chatbots. Recent trends demonstrate how AI technology will expand its influence in academic diploma management as well as emotional skill recognition and automatic student advising solutions (Thottoli et al., 2024). Several universities enact blockchain integration with AI systems to develop secure academic credential storage which facilitates smooth credit transfer procedures between educational institutions. Blockchain used for academic records creates tamper-proof documentation of student credentials which makes them universally recognized while cutting down paperwork delays in credential reviews.

AI developers work on creating technologies dedicated to enhance student emotional health while measuring their affective states. Diverse AI systems utilize emotion-detection features for identifying student stress levels and identifying anxiety levels together with engagement patterns by analyzing sentiments and tracking behaviors (Thottoli et al., 2024). The system will generate mental health suggestions customized for each student while allowing them to manage scholarly workload and mental wellness techniques. The emergence of complete AI-based educational counseling systems creates doubts about what role human advising professionals will play in academic counseling of the future. AI systems will probably take over standard advising work in the future however advanced academic decisions together with career direction will stay under human supervision.

GCC universities should use their financial resources to develop AI-based student analytics systems while extending AI applications from course guidance into career services and mental health assistance and life-long education guidance. Academic counseling systems powered by artificial intelligence operate beyond technical advancement by creating a fresh approach to university-student interaction for better academic progression.

4.6 Conclusion

Academic advising based on AI technologies within the GCC is developing quickly to provide customized data-

based assistance which boosts student enrollment rates together with academic achievements and college completion results. AI adoption for academic advising progress will require universities to address faculty distrust of technology and create ethical governance standards and successful deployment in additional academic areas. The GCC educational institutions can transform into international leaders of AI-based academic counseling through appropriate financial commitments and regulatory systems.

5 RECOMMENDATIONS

AI-driven academic advising in GCC universities will succeed by using research-based strategic methods which integrate flawlessly and increase efficiency while respecting ethical standards. Academic institutions should deploy AI technology to enhance faculty capabilities instead of manual displacement and to improve student accessibility as well as maintain continuous fairness with compliant global best practices.

5.1 Expanding AI Training for Academic Staff

The implementation of AI academic advising requires faculty members to demonstrate readiness alongside their willingness to embrace technological innovations during their counseling activities. AI-driven advising faces resistance from professors because they dread machine-driven automation of their duties and also lack experience working with artificial intelligence systems (Choudhary et al., 2024). Institutions offering structured AI training to their faculty now demonstrate better acceptance of the technology together with improved staff contentment. Institutions which staff their faculty with AI literacy training achieve both efficient AI-enhanced academic advising transitions combined with enhanced student achievements.

Universities need to create a step-by-step program for faculty AI training which enables structured scalability in education. The immediate action universities should take is launching workshop programs for faculty about AI literacy together with predictive analytics and ethical implementation of AI in student advising (Choudhary et al., 2024). Educational workshops need to teach participants about how AI supplements human faculty members by both cutting administrative tasks and enhancing student counseling precision while simultaneously distinguishing AI from useful human advisors.

Universities need to develop AI certification programs through partnerships with AI educational providers such as MIT Open Learning, Coursera and AI4Education during the medium-term period (Bajahzar, 2024). Every member of faculty should follow specialized courses about AI-human collaboration to learn how AI-generated information can help human advisors produce better results. The implementation of successful AI-human

integration in advising should be presented to faculty members through case study examples from Stanford University and Georgia State University.

AI competency must become a permanent part of faculty development programs because all new academic staff must undergo AI training during their first stage in their careers. Academic advisors need AI competence as a vital requirement due to which universities must establish AI literacy standards for hiring faculty who will lead to tenure promotion (Choudhary et al., 2024). Creating sustainable AI-driven academic advising requires universities to embed AI education into faculty curricula which will avoid reduced adoption rates and ensure its establishment as a long-term transformation of support systems for students.

5.2 Enhancing AI Usability for Students

Some students face difficulties in interacting with computerized advising systems despite their promising benefits in student support. Students face two barriers in adopting AI tools because they either do not know about them or struggle to operate these systems. The findings of researchers at Nanyang Technological University establish that the use of multilingual AI chatbots leads to a 40 percent rise in student engagement (Bajahzar, 2024). Harvard University demonstrated the importance of AI-driven advising system usability through its AI-integrated system which decreased student academic planning time by 35 percent (Bajahzar, 2024).

Higher student engagement can be achieved through active development of multilingual AI interface systems by universities. The AI advising platforms in GCC universities should include support for Arabic alongside English and major regional languages in addition to real-time translation systems. The system will guarantee access and improved user experience for students who speak different languages.

The system should provide mobile compatibility for AI advising tools because students predominantly use their mobile devices for university interaction. The existing mobile university applications should include AI-driven academic advising modules which let students receive live support for their academic guidance along with course recommendations and real-time progress checks (Bajahzar, 2024). AI notifications should alert students through timely reminders for course enrollment cutoffs and academic achievement markers and individual study recommendations starting from their academic achievements and professional targets.

Subject matter experts should use user-focused design techniques to create AI-based advising systems after gathering student feedback. Universities need to perform periodic studies with students which evaluate their AI tool use to determine obstacles to acceptance and development opportunities. The layout of AI advising systems should present intuitive interfaces which minimize usability

problems thus motivating students to use automated academic guidance.

5.3 Implementing Continuous AI Monitoring and Evaluation

AI-driven academic advising achieves maximum results when institutions regularly monitor its processes to check for accuracy and fairness while following proper ethical guidelines. The analysis by AI models changes dynamically through use of new information but this process becomes flawed without proper supervision due to potential biases and wrong outcomes. According to Stanford University research universities achieved 30 percent better advising accuracy through implementing real-time AI feedback loops across three years (Bajahzar, 2024). The establishment of monitoring systems by institutions stands essential for checking that AI advising systems correctly follow institutional strategies alongside student requirements.

The responsibility for AI-driven advising tool oversight rests with a team focused on AI governance at the institution. Periodic audits conducted by this team allow both evaluation of AI system operations along with bias assessments and verification of academic success-based recommendation quality (Al Ibrahim, 2024). Unveiling the methods by which AI recommends decisions remains crucial so universities must deploy explainable AI models to enable both students and counselors to follow AI recommendation creation.

Student and faculty feedback systems need to become part of university operations so users can notify the university about inaccurate AI guidance or system usability issues and potential biased recommendations. This feedback should direct the AI governance team to apply continuous improvements which maintain AI responsiveness toward academic policies and curriculum adjustments and student requirements.

Student groups should undergo fairness audits of AI models to verify any biased disadvantages against specific groups. Historical data imbalances create bias problems within AI models because these biases result in recommendation discrimination that influences student academic performance decisions (Al Ibrahim, 2024). Educational institutions need outside teams to check AI systems for fairness while conducting compliance examinations which prevent discriminatory practices during student academic counseling.

5.4 Addressing Ethical and Data Privacy Concerns

The processing of extensive student confidential data through automated advising systems creates privacy problems along with security issues which affect transparency of algorithmic processes. Educational institutions need strong data governance policies for protecting student data which should comply with GDPR and all GCC data protection laws.

Universities need to create AI Ethics Committees with faculty members along with students and AI experts as part of this ethics oversight body dedicated to protecting the ethical application of AI-driven advising (Khine, 2024). AI Ethics Committees comprising experts must create guidelines for unbiased student recommendations which will also guarantee transparent data handling and secure algorithms for student information.

Educational institutions must monitor AI systems actively by publishing yearly AI fairness accounts that describe the operative methods of their AI recommending models together with their data sources and recommendation creation processes (Khine, 2024). Responsible AI governance powered by faculty-student trust strengthens when such guidelines are implemented.

University implementation of decision-making models which combine human and AI elements will help avoid mistakes while maintaining student-focused academic counseling. The use of AI systems should provide data-driven recommendations to advisors who must make the final decisions regarding academic guidance because personalized decisions require human judgment.

6 CONCLUSION AND FUTURE RESEARCH

GCC universities transform their student support platforms through AI-driven academic advising which helps students maintain enrollment and select optimal courses and leads to more effective institutional operations. To reach complete effectiveness AI needs universities to build an ethically-oriented student-friendly structure with proper faculty learning combined with continuous monitoring that protects student data while meeting all legal requirements.

Academic advising using AI technology holds numerous additional prospects that go further than creating predictive models and building chatbots. Studies must analyze AI effects on student decision performance along with their academic freedom and educational completion measurements. New research investigations should analyze the capacity of AI systems to guide students professionally by combining workplace prediction models. Interdisciplinary studies should examine the mental health capabilities of AI-based support systems through research on their ability to identify student mental stresses and burnout signs and behavioral warning signals related to academic withdrawal.

The development of an AI advising platform needs collaboration between different GCC universities to enable student movement and credit sharing between institutions. Enhanced ethical AI frameworks require additional development to confirm data security while reducing bias and establishing systems that blend automated AI functions with human management controls.

Accomplished academic advising through AI requires continuous enhancement by maintaining human involvement across educational purposes and accepted

ethical guidelines and institutional objectives enabling GCC universities to become major leaders in AI-based learning methodologies that support students' future educational and professional development.

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