BOARD # 91: WIP: Exploring Stakeholder Perspectives on the Integration of AI: Challenges and Opportunities at a University in Chile

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WIP: Exploring Stakeholder Perspectives on the Integration of AI: Challenges and Opportunities at a University in Chile

Abstract

The integration of artificial intelligence (AI) into higher education has accelerated significantly over the past decade, with AI increasingly being leveraged to personalize learning experiences, streamline administrative processes, and enhance data-driven decision-making. Despite this rapid expansion, there remain considerable challenges and gaps in knowledge regarding the effective and ethical implementation of AI technologies in educational settings. Many institutions continue to grapple with issues related to data privacy, algorithmic bias, and the broader implications of AI on both teaching and administrative practices. This work in progress seeks to explore the perspectives and experiences of key stakeholders, specifically faculty and academic management staff, concerning the adoption of AI in higher education. By examining their expectations, perceived challenges, enablers, and concerns, the research aims to provide a comprehensive understanding of the factors that shape AI integration in teaching and management contexts. Employing a mixed-method approach, the study combines quantitative survey data with qualitative insights gathered from focus groups. These focus groups, comprising faculty members and academic management staff from a private university in Chile, centered on performance expectations, effort expectations, facilitating conditions, perceived risks, behavioral intentions, and attitudes toward AI adoption. The discussions sought to capture participants' current experiences with AI and also their future aspirations and concerns about its broader implementation. Preliminary findings show that faculties and academic managers have high expectations for AI to enhance efficiency and personalize learning. They see potential in streamlining administrative tasks and adapting instruction to students' needs. However, concerns about data security, privacy, and algorithmic bias persist. Access to technology and institutional support are crucial for adoption, along with comprehensive training for educators and administrators. While AI offers transformative potential, ethical considerations such as data privacy and fairness must be addressed. This study provides a basis for future research and strategies for responsible AI implementation in higher education.

Keywords: artificial intelligence, higher education, technology adoption, ethical challenges

Introduction and Related Work

The use of artificial intelligence (AI)-based tools has grown significantly in higher education [1-3], driven by AI's benefits in personalized learning [4-6], task automation [7], and administrative optimization [8]. Chu et al. [1] emphasize AI's role in adapting pedagogy, predicting academic performance, and identifying at-risk students. However, challenges like data privacy, equitable access, and algorithmic transparency must be addressed to ensure AI's effective integration in education.

The lack of adequate infrastructure and training hinders the equitable adoption of AI in developing countries, particularly in vulnerable environments (de la Torre-López et al., 2023; Salas-Pilco, 2021; Phan et al., 2023). In Latin America, although AI is used to predict dropout rates and enhance learning, limited access to technology remains a key barrier [3], [9-10]. Additionally, gender disparities influence access to and the development of AI tools, underscoring the need for an inclusive approach to overcoming these barriers [11-12].

Educational transformation involves technological integration and pedagogical and administrative changes, such as faculty training and adaptation to new expectations [13]. While significant research examines the challenges associated with AI adoption in higher education institutions [13-16], these issues have been less explored in localized contexts. In Chile, AI models have been implemented to predict student dropout rates and optimize academic decision-making [10]. Additionally, tools such as simulations and augmented reality have been used to personalize [17-18].

The growing interest in AI adoption in higher education institutions (HEIs) has led to numerous studies identifying the factors that facilitate or hinder this integration. Models such as UTAUT and UTAUT2 help analyze AI adoption by considering factors like performance expectancy, perceived effort, and facilitating conditions [19-20]. The UTAUT model, developed by Venkatesh et al. [21], includes four dimensions: performance expectancy, effort expectancy, social influence, and facilitating conditions. The extended version, UTAUT2, incorporates three additional dimensions: hedonic motivation, perceived cost value, and habit [19-20].

Trust and privacy are critical in developing countries: while trust increases AI adoption intentions, privacy concerns decrease them [22]. Additionally, infrastructure and faculty engagement are key determinants of successful [23].

Most studies on AI in education focus on students, leaving the perspectives of faculty and management staff less explored [2]. This study addresses these gaps by examining perceptions, expectations, and challenges regarding AI adoption at a private university in Chile, focusing on access, gender, training, and infrastructure. By analyzing the attitudes of faculty (including instructors and researchers) and management staff, this study aims to understand the factors that facilitate or hinder AI integration in higher education [24]. The research will identify barriers, provide insights to guide inclusive and sustainable strategies, and help define training needs and policy frameworks for the ethical use of AI.

Methodology

This study analyzed faculty and academic management staff perceptions of AI adoption in higher education through focus groups. These discussions provided insights into opportunities and challenges related to AI integration.

Twelve participants were selected: six faculty members (four men, two women) from various disciplines and six academic managers (three men, three women) responsible for course design and implementation. This ensured a balanced representation of roles and

gender. Participation was voluntary, with confidentiality maintained through transcript anonymization and the option to withdraw without consequences. Virtual focus groups on Zoom lasted 90 minutes and were moderated by a trained facilitator with a researcher recording key points. Participants received study details and provided informed consent. Discussions were recorded and anonymized to ensure confidentiality.

Data were transcribed, thematically coded using Atlas.ti, and analyzed by two researchers, ensuring reliability through consensus.

Results

This study analyzes the discussions from two focus groups composed of faculty members and academic management staff regarding adopting and implementing artificial intelligence (AI) in higher education. A co-occurrence network analysis was conducted to identify key thematic categories and their interrelations, complemented by a qualitative analysis to illustrate key perceptions and concerns. Figure 1 presents the categories and sub-categories for analysis and the code used to tag them. A summary of the most relevant findings is given below.

Code	Category- Sub category	Code	Category- Sub category	Code	Category- Sub category
At_1	Attitude towards AI - Attitude towards AI educators and managers	**FC_1**	Facilitating conditions - Teacher training	**PE_4**	Performance expectancy - Optimization of Interactions
At_2	Attitude towards AI - Ethics in the use of AI	**FC_2**	Facilitating conditions - Infrastructure and resources	**BI_1**	Behavioral intention - Student willingness
At_3	Attitude towards AI - Experience and use of AI	**FC_3**	Facilitating conditions - Policies and regulations	**BI_2**	Behavioral intention - Teacher willingness
At_4	Attitude towards AI - Institutional preparedness	**EE_1**	Effort expectancy - Effort required for implementation	**BI_3**	Behavioral intention - Management use
At_5	Attitude towards AI - Usefulness_Learning	**EE_2**	Effort expectancy - Ease of learning	**R_1**	Risks and threats - Accuracy and reliability
At_6	Attitude towards AI - Usefulness Institutional Efficiency	**EE_3**	Effort expectancy - Perception of generational gap	**R_2**	Risks and threats - Impact on equity and access
Ad_1	Adoption of AI in Higher Education - Social and economic impact	**PE_1**	Performance expectancy - Efficiency in Teaching-Learning	**R_3**	Risks and threats - Data privacy and security
Ad_2	Adoption of AI in Higher Education - Interactivity and user experience	**PE_2**	Performance expectancy - Efficiency in Administrative Processes	**R_4**	Risks and threats - Perceived risk_general
Ad_3	Adoption of AI in Higher Education - Relevance to future demands	**PE_3**	Performance expectancy - Improved Decision-Making	**R_5**	Risks and threats - Bias and discrimination

Figure 1. Categories and sub-categories for analysis.

Faculty Members' Perceptions of AI adoption

The discourse network for faculty members presented in Figure 2, reveals that At_1 ("Attitude towards AI - Educators and Managers") is the most influential category, exhibiting the highest degree of connectivity and structural centrality. This category strongly correlates with PE_1 ("Performance Expectations - Teaching Efficiency"), reflecting the perceived potential of AI to enhance teaching and learning processes; R_4 ("Risks and Threats - Perceived Risk - General"), indicating concerns about AI's negative impact on education; BI_2 ("Behavioral Intention - Professors' Willingness"), showing faculty members' willingness, but also reservations, regarding AI adoption. Less central categories, such as FC_3 ("Facilitating Conditions - Policies and Regulations"), suggest that institutional considerations were secondary in faculty discussions.

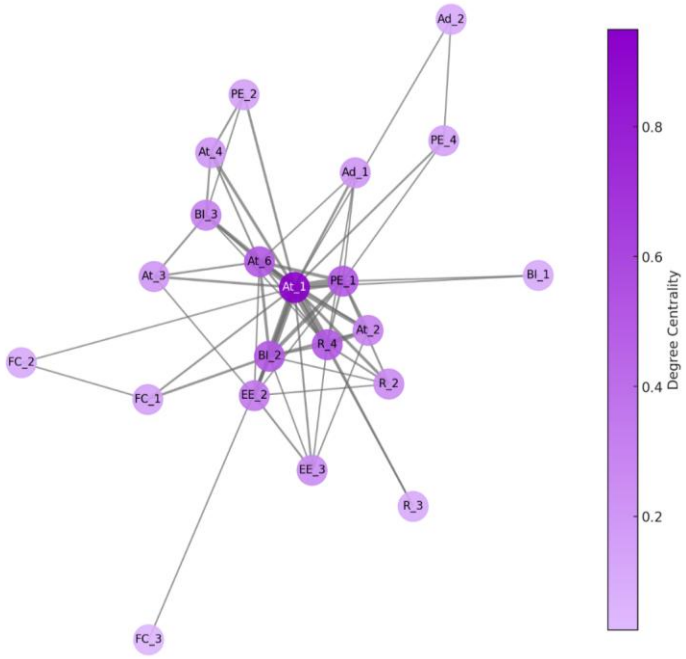

Figure 2. Co-occurrence network for faculty members group.

A deeper examination of the discourse analysis allows for the presentation of examples of the main co-occurrences. The interaction between At_1 and R_4 highlights an ambivalent stance: while faculty members acknowledge AI's potential for optimizing educational tasks, they also express concerns about technological dependency and the erosion of critical thinking. One professor noted: *"The greatest challenge is ensuring students use AI critically rather than relying on it unreflectively."* The intersection between At_1 and PE_1 suggests an expectation that AI will enhance teaching efficiency, with comments such as: *"AI can be useful for personalized learning and interactive activities."* However, concerns were raised regarding traditional assessment methods: *"The traditional evidence of learning may become obsolete with AI."* Ultimately, At_1 and BI_2 demonstrate faculty members' readiness to integrate AI into education as long as its implementation is mindful and ethical. The importance of AI literacy training for both faculty and students is underscored, encouraging a critical and reflective approach to using AI. For example, one professor states: *"I would like to teach them how to use these tools [...] as part of the structure of a lesson on a specific topic."*

Academic Management Staff's Perceptions of AI adoption

For academic management staff the discourse network presented in Figure 3 shows that At_1 also emerges as the core category, followed by BI_3 ("Behavioral Intention - Management Use"), reflecting interest in leveraging AI for administrative decision-making; R_4 ("Risks and Threats - Perceived Risk - General"), indicating concerns about institutional implications of AI; PE_1 ("Performance Expectations - Teaching Efficiency"), highlighting expectations for AI to optimize educational processes. Peripheral categories, such as Ad_2 ("Adoption of AI - Interactivity and User

Experience"), suggest that usability considerations were not a primary focus in this group.

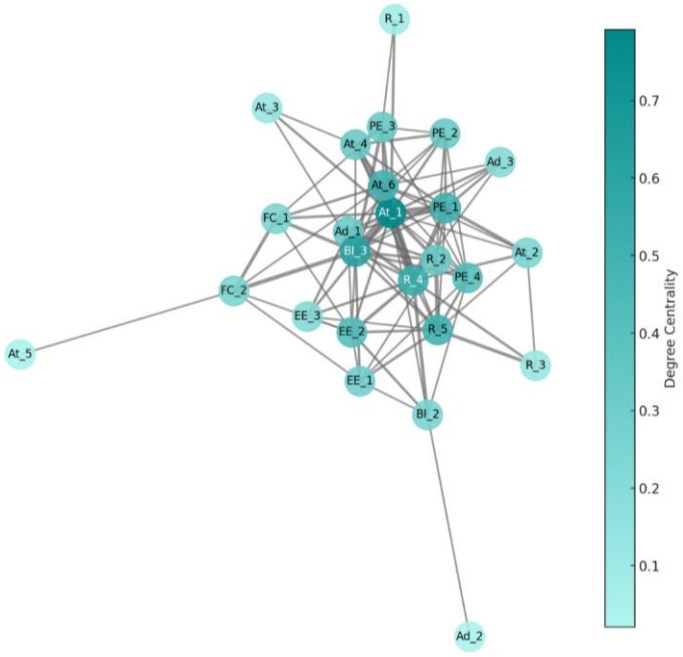

Figure 3. Co-occurrence network for academic management staff group.

The discourse analysis shows that the intersection between At_1 and BI_3 highlights a strong interest in using AI for data-driven decision-making and academic management. One participant stated: *"AI can facilitate the analysis of student performance patterns and improve pedagogical strategies."* However, barriers such as insufficient training were noted: *"There are limited opportunities for professional development in AI for academic management."* The connection between At_1 and R_4 reveals ethical concerns regarding algorithmic biases. One participant pointed out: *"AI systems reflect the biases of those who program and use them, which must be actively addressed."* Additionally, concerns were raised that prioritizing efficiency might compromise the quality of educational assessments: *"The risk is that we prioritize speed over the depth of assessment methods."* Finally, the relationship between At_1 and PE_1 shows optimism about AI's ability to enhance institutional efficiency while emphasizing the need to preserve the educator's role. One manager reflected: *"AI should enhance, not replace, the fundamental role of educators."*

Discussion

This study highlights the factors shaping AI integration in teaching and university administration. A comparative analysis reveals distinct priorities. Faculty members focus on AI's pedagogical applications, emphasizing its role in enhancing engagement and personalized learning. However, concerns about insufficient training and institutional support persist, reinforcing prior research on the need for faculty development [13]. In

contrast, academic managers prioritize AI's potential to optimize administrative processes, emphasizing efficiency gains. Their concerns center on ethical issues and data privacy, reflecting broader debates on algorithmic bias and the necessity of clear institutional policies [25]. Both groups generally support AI adoption but from different perspectives. Faculty see it as a teaching aid, though they express concerns about technological dependence. Managers view AI as a strategic tool for streamlining operations but acknowledge risks related to the educator's role.

Ethical and technical concerns differ between groups. Faculty prioritize pedagogical benefits over long-term ethical considerations [13], [25], whereas managers focus on data privacy and algorithmic bias, highlighting the need for regulatory frameworks [8]. Barriers and facilitators also differ. Faculty cite a lack of training and institutional support but show willingness to integrate AI into teaching [7], [11]. Managers focus on systemic challenges, such as infrastructure limitations and policy gaps, while recognizing AI's potential to enhance efficiency [13], [15]. Despite differing perspectives, both groups recognize AI's value. Addressing their concerns through faculty training, infrastructure investment, and policy development is crucial for responsible AI integration in higher education. A structured approach will maximize benefits while mitigating risks, aligning with broader AI governance recommendations [11], [26].

The main limitations of this study are its methodological approach and the sample, which limits generalizability. The specific institutional context further constrains the applicability of the findings, as different university dynamics could yield varied results. Additionally, faculty and management training backgrounds may have influenced the outcomes, reducing their extrapolation to other settings. Despite these limitations, the study remains relevant. Prior research underscores how cultural, social, and organizational barriers shape AI adoption in diverse educational contexts [27-28].

Conclusions

This study provides valuable insights into faculty and academic management staff perspectives on AI adoption in higher education. The findings highlight both the potential and challenges of integrating AI into teaching and administrative processes. While participants recognize AI's capacity to enhance efficiency, personalize learning, and optimize institutional management, concerns persist regarding data privacy, algorithmic bias, and the need for adequate training and technological infrastructure.

Given these preliminary findings, further research is necessary to deepen the understanding of AI adoption in higher education. To achieve this, the study will continue by expanding the number of focus groups to reach theoretical saturation in the qualitative analysis. This next phase will allow for a more comprehensive exploration of diverse institutional perspectives and refine the recommendations for AI implementation. Future research should also consider cross-institutional comparisons to identify common challenges and best practices in AI adoption across different educational contexts. The results of this ongoing research will contribute to developing evidence-based strategies that ensure responsible and equitable AI adoption in higher education institutions.

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