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Artificial Intelligence in Higher Education Management: Global Applications and Emerging Practices in Vietnam

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Abstract

Artificial intelligence (AI) is increasingly transforming higher education not only through teaching, learning, and scientific research but also through the management and governance of higher education institutions. Universities are beginning to employ AI in admissions, student administration, academic advising, early-warning systems, human-resource management, financial administration, scheduling, quality assurance, institutional planning, communication, and decision support. This development represents a transition from predominantly rule-based and reactive administration toward increasingly data-driven, predictive, and adaptive forms of institutional management. However, the adoption of AI also creates significant challenges concerning data quality, privacy, algorithmic bias, transparency, accountability, institutional autonomy, professional responsibility, and the appropriate boundaries between automated recommendations and human decisions. This article examines the current applications of AI in higher education management internationally and analyses the emerging situation in Vietnam. Drawing on recent international policy literature, empirical research, UNESCO assessments, OECD analysis, and Vietnamese regulatory and research sources, the article argues that AI should not be understood merely as an instrument for administrative automation. Rather, it is becoming an institutional capability that can reshape how universities collect and

interpret information, allocate resources, provide services, identify risks, and make strategic decisions. In Vietnam, the policy environment is moving rapidly toward more systematic integration of digital technologies and AI into higher education management. The newly effective Circular No. 49/2026/TT-BGDĐT explicitly regulates the application of digital technologies and AI in higher education, including governance, management, student services, data integration, analysis, forecasting, and decision-making. Nevertheless, institutional readiness remains uneven, and the quality of management information systems and institutional data remains a critical determinant of successful AI adoption. The article proposes a human-centred model of AI-enabled university management based on strategic alignment, data quality, institutional readiness, risk-based deployment, transparency, human oversight, accountability, and continuous evaluation. The article concludes that the future of AI in higher education management should not be defined by the replacement of administrators with algorithms but by the development of institutional intelligence in which AI expands human analytical capacity while universities retain responsibility for educational, ethical, and organizational judgment.

Keywords: artificial intelligence, higher education governance, AI adoption, responsible AI, Vietnam

1. INTRODUCTION

Artificial intelligence has rapidly evolved from a specialized technological field into a general-purpose technology with implications for organizations, professional practices, and public institutions. Higher education is particularly affected because universities are simultaneously educational institutions, research organizations, professional communities, and complex administrative systems. They manage large populations of students and employees, substantial financial and physical resources, extensive information infrastructures, and increasingly complicated relationships with governments, employers, international organizations, and society. The rapid diffusion of generative AI has intensified this transformation because sophisticated AI capabilities are no longer confined to specialized research laboratories. Conversational systems, predictive analytics, recommendation systems, intelligent search, automated document processing, and large language models are increasingly available to university administrators and institutional service units. OECD analysis published in 2026 explicitly identifies the administration and management of educational institutions as one of the areas being reshaped by generative AI and emphasizes that governments and institutions are developing policies concerning responsible use, procurement, competencies, evidence collection, and specialized AI applications [1].

The significance of AI for university management extends beyond the automation of routine administrative tasks. Traditional university administration has generally relied on institutional rules, professional experience, periodic reporting, and human processing of information. Digitalization has improved the speed and accessibility of administrative information, but many digital systems remain organized around predefined procedures and fragmented databases. AI introduces further possibilities because it can identify patterns across large datasets, classify information, generate summaries, predict possible outcomes, detect anomalies, optimize resources, and communicate with users through natural language. Consequently, AI can potentially change not only how administrative work is performed but also when and on what basis institutional decisions are made. A university may move from identifying student difficulties after academic failure to predicting possible risks earlier; from responding manually to thousands of routine inquiries to providing continuous intelligent assistance; and from relying primarily on historical trends to using predictive models in enrollment, staffing, financial planning, and resource allocation. UNESCO has long recognized education management as an important field for AI applications while emphasizing that such applications must be considered together with questions of equity, human rights, privacy, and responsible governance [2].

This transformation is particularly important because universities are not ordinary administrative organizations. Decisions made by university managers can directly influence access to education, academic progression, scholarships, employment opportunities, professional careers, and students' broader educational experiences. An AI system that answers a routine question about a university's opening hours presents relatively limited risk. An AI system that predicts whether a student is likely to drop out, ranks applicants, recommends scholarship recipients, evaluates academic staff, or influences resource allocation presents substantially greater institutional and ethical risks. The European Union's regulatory approach to AI provides a useful illustration of this distinction because certain AI applications concerning access to education, admission, and the evaluation of learning outcomes are classified as high-risk under the EU AI Act [9]. The closer an AI system moves toward consequential decisions affecting individuals, therefore, the stronger the requirements for human oversight, transparency, explainability, data protection, and accountability should become.

The emergence of AI also creates a new challenge concerning the relationship between institutional data and institutional knowledge. Universities possess enormous quantities of data relating to students, courses, faculty, research, finance, admissions, employment outcomes, infrastructure, and administrative activities. Yet data availability does not automatically create reliable knowledge for management. Data may be fragmented across systems, stored according to inconsistent standards, inadequately updated, or interpreted differently by different organizational units. Recent empirical research in Vietnamese higher education provides particularly relevant evidence. Kien and Chung [3], drawing on a survey of 450 administrators, faculty members, and students, identified associations linking management information systems with data quality and data quality with AI readiness. Although readiness was associated with downstream outcomes, perceived benefits did not significantly predict acceptance in their final model. Their findings indicate that institutional systems and data conditions are not peripheral issues but critically important foundations for AI adoption. This finding suggests that universities cannot create genuinely intelligent management simply by acquiring AI software. They must first develop the information, data, organizational, and human conditions required for AI to function responsibly.

Vietnam provides a particularly important context in which to examine these developments because the country is simultaneously pursuing digital transformation, university autonomy, modernization of higher education, and technological innovation. National policy is increasingly moving from general digital transformation toward explicit attention to AI and data-driven governance. UNESCO's Artificial Intelligence Readiness Assessment for Viet Nam identifies substantial progress in national AI governance while emphasizing the need for deeper integration of ethical principles and responsible implementation [7]. The assessment also documents the country's continuing efforts to establish institutional and national capacity for responsible AI adoption. The policy direction is particularly significant for higher education because

universities are among the institutions expected to develop stronger digital infrastructures and data-based management capabilities.

A major recent development is Circular No. 49/2026/TT-BGDĐT of the Vietnamese Ministry of Education and Training, issued on June 30, 2026, and effective from August 15, 2026 [8]. The Circular regulates technology application in higher education and vocational education and explicitly includes digital technologies and AI in training, scientific research, governance, management, and services for learners. It defines a digital governance system as an information system supporting the management, operation, and decision-making of an educational institution and requires technology applications to support data creation, management, analysis, forecasting, and decision-making. It also establishes principles of autonomy, transparency, accountability, data protection, cybersecurity, responsible AI use, and the preservation of professional and academic responsibility. This development makes Vietnam an especially relevant case for examining the movement from digital administration toward AI-supported higher education management.

Against this background, the purpose of this article is to examine how AI is being applied to higher education management internationally and how these developments are emerging in Vietnam. The article focuses specifically on management and governance rather than on the broader literature concerning AI-assisted teaching and learning. It addresses three questions. First, what are the principal applications of AI in higher education management internationally? Second, what evidence exists concerning emerging AI-enabled management in Vietnamese higher education? Third, what governance conditions are necessary for AI to improve university management without undermining human responsibility, institutional autonomy, equity, transparency, and the educational mission of higher education? The article argues that AI should be understood as an emerging institutional capability rather than simply as a collection of administrative tools. The central challenge is therefore not whether universities can automate more tasks, but whether they can use AI to develop more intelligent, responsible, transparent, and educationally meaningful forms of institutional governance.

2. CONCEPTUALIZING ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION MANAGEMENT

Artificial intelligence in higher education management can be understood as the application of computational systems capable of performing or supporting tasks that traditionally depend on forms of human cognitive activity, including classification, prediction, pattern recognition, natural-language processing, recommendation, anomaly detection, optimization, and content generation. This definition encompasses both conventional machine-learning systems and newer generative AI technologies. A university may use machine learning to predict student dropout, natural-language processing to classify administrative requests, optimization algorithms to construct teaching schedules, or generative AI to provide administrative assistance and summarize institutional documents. Although these technologies differ substantially, they share an important characteristic: they expand the institution's capacity to process information and generate outputs that can influence administrative action. UNESCO's policy guidance recognizes education management as one of the domains in which AI can improve organizational processes, while also stressing the need for comprehensive policy and ethical safeguards [2].

The distinction between automation and augmentation is fundamental to understanding the appropriate role of AI in university management. Automation asks whether a task traditionally performed by a human can be performed by a technological system. Augmentation asks whether technology can improve human performance while retaining human responsibility. These two approaches have different implications. Routine activities such as document classification, frequently asked questions, appointment scheduling, data extraction, and administrative notification may be appropriate candidates for substantial automation. More complex activities such as admissions decisions, student disciplinary decisions, staff promotion, scholarship allocation, and strategic institutional planning require a different model because they involve legal, ethical, professional, and educational judgments. AI may provide evidence, identify patterns, or generate recommendations in these areas, but the final decision should remain attributable to an authorized human decision-maker.

This distinction becomes especially important because algorithmic outputs can acquire an appearance of objectivity. A numerical prediction generated by a sophisticated model may appear more authoritative than an administrator's qualitative judgment even when the model is based on incomplete data or correlations that do not establish causation. AI does not eliminate the assumptions embedded in decision-making; it can instead hide those assumptions inside datasets, variables, objectives, model architectures, and evaluation criteria. A student-risk model, for example, implicitly defines what counts as risk and which variables are considered relevant. An admissions system embodies assumptions about what constitutes a desirable applicant. A performance-management system embodies assumptions about what counts as academic productivity. Thus, AI does not remove values from university management. It can make those values less visible by embedding them within technological systems.

Recent scholarship on AI and higher education leadership reinforces this point. Jiménez-Luque, Yang, and Penha Vasconcelos [4] argue that generative AI changes the conditions under which knowledge is produced, distributed, and legitimized in higher education and propose a model of leadership in which responsibility is understood not merely as positional authority but also as ethical and epistemic responsibility. Their argument is particularly relevant to AI-enabled

university management because administrators increasingly operate in environments in which AI participates in the production and interpretation of institutional information. The implication is that university leaders cannot simply delegate difficult judgments to algorithms. They must develop the capacity to interrogate AI-generated knowledge, understand its limitations, and maintain responsibility for how institutional decisions are made.

For analytical purposes, AI in university management can therefore be conceptualized through four levels of increasing institutional integration. At the first level, AI performs administrative automation by reducing repetitive manual work. At the second level, AI provides analytical augmentation by helping administrators summarize information, identify patterns, and generate recommendations. At the third level, AI supports predictive management by identifying potential risks and forecasting future outcomes. At the fourth level, AI becomes part of institutional intelligence by integrating multiple information systems and supporting strategic planning across organizational functions. The fourth level offers potentially the greatest benefits but also creates the greatest governance risks because AI becomes deeply embedded in institutional decision processes. The central challenge for universities is consequently to determine which functions should be automated, which should be augmented, which should remain fundamentally human, and how these boundaries should be reviewed as technologies develop.

3. GLOBAL APPLICATIONS OF AI IN HIGHER EDUCATION MANAGEMENT

One of the most immediate applications of AI is admissions and enrollment management. Universities receive large numbers of inquiries concerning admission requirements, academic programs, tuition fees, scholarships, deadlines, accommodation, and administrative procedures. AI-powered conversational systems can provide information continuously and personalize responses according to the user's question and circumstances. More advanced systems can connect generative AI to authoritative institutional databases through retrieval-augmented generation, thereby reducing the risk that a language model will generate information that is inconsistent with current university regulations. The administrative value of these systems lies not only in reducing staff workload but also in improving accessibility and responsiveness. Prospective students can receive information outside normal office hours, while administrative staff can devote more time to complex cases that require human judgment. The OECD [1] notes that higher education systems are increasingly considering common approaches to the responsible procurement and use of GenAI tools, demonstrating that administrative applications are becoming part of broader institutional AI strategies rather than isolated technological experiments.

A second major field is student administration and support. Universities manage thousands or hundreds of thousands of interactions involving enrollment, course registration, examination regulations, tuition, scholarships, graduation, academic records, accommodation, and student services. AI can provide a natural-language interface through which students interact with institutional information systems without navigating complicated websites or contacting multiple offices. It can classify and route requests, summarize service cases, identify recurrent problems, and provide personalized administrative guidance. The potential benefit is particularly significant in large institutions where administrative fragmentation can create substantial transaction costs. UNESCO's policy framework identifies student administration and institutional services as important domains for AI because many of these activities involve high-volume processes that can potentially be supported through automation and intelligent assistance [2].

Predictive analytics and early-warning systems represent a more advanced application. Traditional university administration tends to respond to academic problems after they become visible. A student may fail several courses, stop attending, or request withdrawal before the institution recognizes the seriousness of the problem. AI can potentially identify patterns associated with academic difficulty earlier by integrating information concerning academic performance, course enrollment, student engagement, and other institutionally legitimate data. The purpose of such systems should be preventive support rather than classification or exclusion. A predictive model should generate an opportunity for human intervention rather than an automatic judgment about the student's future. Recent conceptual work on AI-powered student digital twins similarly proposes a movement from reactive student-success management toward preventive and predictive approaches, although such systems remain conceptually and empirically demanding and raise important questions about causality, privacy, and governance [5].

The use of AI for student support is particularly relevant to Vietnam. Kien and Chung [3] conducted an empirical study involving 450 administrators, faculty members, and students in Vietnamese higher education and found that management information systems were positively associated with data quality, which in turn was associated with AI readiness. Their results also suggested relationships between readiness and downstream perceptions and acceptance, but perceived benefits did not significantly predict acceptance in the final model. These findings suggest that AI adoption in student support depends not only on users' perceptions of technological benefits but also on upstream institutional conditions. This is an important finding because it challenges a common assumption that the main barrier to AI adoption is simply resistance by users. In reality, universities may be unable to implement reliable AI-supported student services because their information systems are fragmented, their data are inconsistent, or their institutional processes are not sufficiently standardized.

AI can also contribute to scheduling and resource optimization. University timetabling is a complex problem involv-

ing courses, instructors, classrooms, laboratories, student groups, time constraints, and institutional rules. Conventional scheduling often requires substantial manual adjustment because a change in one variable can affect many others. Optimization algorithms and AI-supported planning systems can evaluate large numbers of possible combinations and generate schedules more rapidly. Similar approaches can be applied to classroom utilization, laboratory capacity, staff allocation, infrastructure maintenance, energy management, and other operational problems. The potential advantage of AI in these areas is not simply speed but the ability to process complex combinations of constraints that exceed ordinary human computational capacity. Nevertheless, optimization always depends on the objectives that have been selected. A schedule optimized for classroom utilization may not be optimal for student convenience, faculty workload, or educational quality. AI therefore cannot determine institutional priorities by itself.

Financial administration is another area with substantial potential. Universities process large volumes of invoices, procurement documents, budgets, contracts, payments, and expenditure records. AI can assist in classifying documents, identifying anomalies, forecasting expenditure, summarizing contracts, and detecting patterns that may warrant further investigation. These applications can improve administrative efficiency and potentially strengthen internal controls. However, financial management illustrates the importance of reliable data and clear institutional rules. An AI system trained on inconsistent financial records may produce sophisticated but unreliable recommendations. Furthermore, if AI becomes involved in procurement or resource allocation, institutions need to ensure that the system does not reproduce hidden biases or create opaque decision processes. The appropriate role of AI is therefore to strengthen financial analysis and control while leaving legally and institutionally significant decisions within accountable governance structures.

Human-resource management presents both opportunities and risks. Universities can use AI to assist with workforce planning, recruitment administration, professional-development recommendations, workload analysis, and identification of staffing needs. In large institutions, AI may help administrators process large numbers of personnel records and identify organizational patterns that would otherwise be difficult to detect. Yet academic work is multidimensional and cannot be reduced to a small set of measurable indicators. Publication counts, citations, student evaluations, teaching hours, research income, and administrative outputs can provide useful evidence, but none of them alone captures academic contribution. An AI system that evaluates staff primarily according to measurable indicators may therefore reinforce narrow definitions of productivity and disadvantage forms of academic work that are less visible in the data. AI-based human-resource management should consequently be treated as decision support rather than automated evaluation, particularly when the output can affect promotion, employment, remuneration, or professional reputation.

AI is also increasingly relevant to quality assurance and institutional research. Universities collect large quantities of information for internal quality improvement, accreditation, rankings, graduate-employment analysis, strategic planning, and regulatory reporting. AI can assist in data cleaning, document analysis, report preparation, trend identification, and anomaly detection. This may allow institutional research offices to move from labor-intensive data preparation toward more substantive interpretation and strategic analysis. At the same time, universities must avoid assuming that the indicators generated by AI constitute a complete representation of institutional quality. Educational quality includes dimensions such as intellectual development, academic culture, student experience, social responsibility, and professional formation that may be difficult to reduce to numerical measures. AI should therefore support meaningful institutional reflection rather than encourage the belief that whatever can be measured is necessarily what matters most.

4. AI AND THE TRANSFORMATION OF UNIVERSITY GOVERNANCE

The deeper significance of AI may lie not in the automation of individual administrative processes but in the transformation of university governance. Conventional management is often retrospective: administrators examine reports, interpret past performance, and then determine future action. AI creates the possibility of predictive and anticipatory management. Instead of asking only how many students dropped out last year, managers can examine patterns associated with future dropout. Instead of relying solely on historical enrollment, institutions can construct alternative scenarios for future demand. Instead of identifying financial problems after expenditure has exceeded expectations, AI-supported systems can detect emerging anomalies earlier. In this sense, AI can shift university management from retrospective reporting toward continuous institutional intelligence.

However, predictive management also creates a new form of institutional power. A prediction can influence behavior even when it is uncertain. If an AI system identifies a student as being at high risk of dropout, administrators may interact with that student differently. If an algorithm predicts that a program will experience declining demand, university leaders may reduce resources before the decline actually occurs. If a model predicts that a faculty member has lower productivity, the prediction may affect professional evaluation. Consequently, AI-generated predictions do not merely describe reality; they can participate in producing the institutional reality that follows. University leaders therefore need to distinguish carefully between prediction, explanation, and causation. A statistical association may be useful for identifying cases requiring attention, but it does not necessarily explain why an outcome occurs or determine what intervention will be effective.

AI also has implications for institutional autonomy. Universities increasingly depend on external technology providers for cloud computing, learning-management systems, data platforms, AI models, and specialized software. If critical administrative functions become dependent on proprietary AI systems, universities may face risks concerning vendor lock-in, data ownership, cybersecurity, interoperability, and long-term institutional independence. OECD [1] identifies procurement, compliance, competencies, evaluation, and institutional policy as emerging dimensions of responsible GenAI adoption in higher education. This means that procurement should no longer be treated simply as a technical or financial decision. When an AI system processes institutional data or influences administrative decisions, procurement becomes a governance issue involving institutional autonomy and accountability.

The role of university leadership must therefore change as AI becomes more deeply integrated into institutional processes. Leaders need sufficient technological literacy to understand the capabilities and limitations of AI, but technical knowledge alone is insufficient. They must also understand the epistemic status of AI-generated information. An algorithmic prediction is not the same as a fact, and a generated recommendation is not the same as a legitimate institutional decision. Jiménez-Luque et al. [4] argue that AI requires higher education leadership to reconsider authority as an ethical and epistemic responsibility, particularly because generative AI participates in changing how knowledge is produced and legitimized. For university governance, this means that leaders must be able to ask not only whether an AI system works but also whether the objective it is optimizing is educationally legitimate, whether its data are appropriate, and whether its consequences are acceptable.

This transformation suggests that the most appropriate model for university management is neither fully automated administration nor conventional human-only administration. It is human-AI institutional intelligence. AI is particularly effective at processing large volumes of information, identifying patterns, generating summaries, forecasting potential outcomes, and performing repetitive tasks. Human professionals remain stronger at contextual interpretation, ethical reasoning, communication, negotiation, empathy, and responsibility. The institutional objective should therefore be to combine these complementary capacities. AI should extend the cognitive and analytical capacity of university managers while humans retain responsibility for decisions involving educational values, individual rights, professional judgment, and institutional priorities.

5. ETHICAL, ORGANIZATIONAL, AND INSTITUTIONAL CHALLENGES

Data quality is one of the most fundamental challenges to AI-enabled university management. AI systems cannot reliably compensate for poor data infrastructures. If student records are incomplete, academic information is stored in incompatible systems, financial data are inconsistent, or institutional definitions vary across departments, AI may produce outputs that appear sophisticated but are fundamentally unreliable. The empirical evidence from Vietnamese higher education is particularly relevant because Kien and Chung [3] found that management information systems and data quality are important upstream conditions associated with AI readiness. This implies that universities should treat data governance as a prerequisite for AI governance. Before investing heavily in advanced models, institutions should establish clear standards for data collection, interoperability, accuracy, access, retention, security, and accountability.

Privacy and personal-data protection represent another major challenge. University information systems may contain academic records, financial information, identification data, disciplinary records, employment information, and other sensitive information. When AI systems integrate multiple datasets, the potential value of institutional analysis increases, but so does the risk associated with unauthorized access, inappropriate secondary use, and data leakage. UNESCO's policy framework emphasizes privacy, security, equity, and human-centred approaches as central conditions for responsible AI in education [2]. OECD's [1] analysis similarly identifies data protection as one of the central challenges associated with the growing use of generative AI in higher education. Universities therefore need explicit rules concerning which data may be used by AI systems, for what purposes, under whose authority, and with what safeguards.

Algorithmic bias presents a related challenge. AI systems learn from historical data, and historical data may contain structural inequalities or institutional biases. If a predictive system is trained on historical dropout patterns, it may reproduce the conditions that contributed to previous inequalities. If a staff-evaluation system relies heavily on publication metrics, it may reproduce disciplinary differences in publication practices. If an admissions model learns from previous decisions, it may reproduce historical preferences that were never explicitly justified. The computational nature of the system does not make the result neutral. On the contrary, algorithmic outputs can make existing biases appear more objective because they are expressed numerically. Responsible university management therefore requires continuous assessment of data, variables, model performance, and consequences rather than assuming that algorithmic decisions are inherently fair.

Transparency and explainability are also essential. Students and staff should understand when AI materially influences decisions concerning them, especially when those decisions have significant consequences. Transparency does not necessarily mean revealing every technical detail of a machine-learning model. It means that the institution should be able to explain the purpose of the system, the type of data used, the role of AI in the decision process, the extent of human review, and the mechanisms available for appeal or correction. OECD [1] emphasizes the importance of institutional

policies, compliance, responsible procurement, and evidence-based evaluation as countries respond to the increasing use of GenAI in higher education. The principle is particularly important in universities because trust in institutional decisions depends not only on their outcomes but also on whether affected individuals perceive the decision process as legitimate.

Automation bias creates another danger. Administrators may place excessive trust in AI outputs because they appear objective, sophisticated, or data-driven. A prediction expressed as a numerical probability can appear more authoritative than a qualitative judgment even when the model's underlying data are incomplete. This is particularly problematic in higher education because many institutional decisions involve human development rather than purely technical optimization. A student identified as being at risk of dropout is not simply a statistical case; the individual may be experiencing financial difficulties, family responsibilities, health problems, social isolation, or other circumstances that are not adequately represented in the data. AI can help identify cases requiring attention, but human professionals must interpret those cases within their social and educational context.

Organizational culture also affects AI adoption. Staff may perceive AI as a threat to employment, professional autonomy, or institutional identity. Others may overestimate AI's capabilities and assume that implementation will automatically solve existing management problems. Both reactions can undermine responsible adoption. OECD [1] emphasizes the importance of developing competencies and systematic institutional approaches rather than allowing AI adoption to occur through isolated experimentation. Universities therefore need to create opportunities for meaningful staff participation, professional development, experimentation, and evaluation. AI literacy should extend beyond technical specialists to administrators, academic leaders, faculty members, and other employees who will interpret or be affected by AI-generated outputs.

6. EMERGING AI-ENABLED HIGHER EDUCATION MANAGEMENT IN VIETNAM

Vietnam's development of AI-enabled higher education management should be understood within the country's broader digital transformation and AI governance agenda. UNESCO's Artificial Intelligence Readiness Assessment for Viet Nam identifies significant progress in national AI governance and emphasizes the importance of further integrating ethical considerations into AI development [7]. The assessment was conducted through a process involving literature review, interviews, and consultations with government, private-sector, academic, civil-society, and other stakeholders. This national context provides an important foundation for higher education because universities increasingly operate within a broader public digital infrastructure in which data, technology, cybersecurity, and AI governance are interconnected.

A particularly important recent development for higher education is Circular No. 49/2026/TT-BGDĐT, issued by the Vietnamese Ministry of Education and Training on June 30, 2026, and effective from August 15, 2026 [8]. The Circular explicitly regulates the application of digital technologies, AI, and related technologies in higher education and vocational education. Its scope includes training, scientific research, governance, management, and services for learners. Significantly, it defines a digital governance system as an information system supporting the management, operation, and decision-making of an educational institution. It also states that technology application should be linked to the creation, development, management, and effective exploitation of data for governance, operation, analysis, forecasting, and decision-making. This language is highly significant because it moves beyond a narrow understanding of digitalization as the computerization of administrative procedures and establishes data-supported governance as an explicit institutional objective.

The Circular also establishes a number of principles that are directly relevant to responsible AI management [8]. It requires technology application to respect institutional autonomy while connecting autonomy to self-control, transparency, and accountability. It states that technology and AI should function as supporting tools rather than replacing the professional and academic responsibilities of institutions, faculty members, and learners. It also emphasizes interoperability, data sharing, information security, cybersecurity, personal-data protection, responsible AI, ethics, and academic integrity. These provisions provide a particularly strong normative foundation for the human-centred model proposed in this article. They suggest that the Vietnamese regulatory approach does not conceptualize AI as an autonomous substitute for institutional responsibility but as a technology that should strengthen institutional capacity while remaining subject to professional and legal accountability.

The empirical evidence concerning AI adoption in Vietnamese higher education remains more limited than the policy ambition, and this distinction should be maintained carefully. The most directly relevant recent study is that of Kien and Chung [3], which examines AI adoption in student-support information systems in Vietnamese higher education. Their survey of 450 administrators, faculty members, and students provides preliminary empirical evidence that management information systems, data quality, AI readiness, perceived benefits, and acceptance are interconnected. Importantly, the study suggests that system and data conditions may matter alongside user perceptions when determining AI adoption outcomes. This finding implies that Vietnamese universities should not interpret AI readiness simply as a matter of whether employees are willing to use ChatGPT or another generative AI tool. Institutional readiness is broader and includes infrastructure, data, organizational processes, governance, competencies, and the ability to integrate AI into existing information systems.

Another emerging direction is AI-supported student information management. The verified study by Kien and Chung [3] examines the links between integrated management information systems, data quality, AI readiness, and the adoption of AI-enabled student support services. Potential applications in this broader research area include personalized administrative assistance, learning-risk prediction, and managerial decision support; however, the existence of such potential applications does not establish that they are already implemented successfully across Vietnamese institutions. Although emerging research should not be interpreted as evidence that all Vietnamese universities operate mature AI management systems, it demonstrates the development of an agenda connecting AI with management information systems and student services. This distinction matters because the future of AI in Vietnamese higher education is likely to depend less on isolated chatbots and more on sustained, responsible integration of AI into reliable institutional information architectures.

Vietnam's policy direction also indicates a movement toward greater data integration. Circular 49/2026/TT-BGDĐT [8] requires educational databases to connect and share data with relevant national and sectoral databases and refers to the development of data architecture, data-governance frameworks, and education-sector data dictionaries. This development creates significant opportunities for AI because predictive and analytical systems depend on access to standardized and interoperable data. At the same time, it creates new responsibilities. The greater the degree of data integration, the greater the importance of cybersecurity, access control, privacy, data accuracy, and institutional accountability. Vietnam's challenge is therefore not simply to create more data but to create trustworthy institutional data capable of supporting responsible AI.

The emerging Vietnamese model can consequently be described as a transition from digital administration to data-enabled management and potentially toward AI-supported institutional governance. Digital administration digitizes existing processes. Data-enabled management integrates information to improve reporting and analysis. AI-supported governance goes further by using computational systems to identify patterns, predict risks, generate recommendations, and support institutional decisions. Circular 49/2026/TT-BGDĐT provides an explicit regulatory basis for this trajectory because it connects technology application with governance, analysis, forecasting, and decision-making. Nevertheless, the transition should not be assumed to be complete. Differences in institutional resources, data maturity, technological infrastructure, staff competencies, and governance capacity mean that Vietnamese universities are likely to progress at different speeds.

7. FROM AI ADOPTION TO RESPONSIBLE AI GOVERNANCE: A FRAMEWORK FOR VIETNAMESE UNIVERSITIES

The first requirement for responsible AI-enabled university management is strategic alignment. Universities should begin not with the question of where AI can be installed but with the question of which institutional problems require improvement. This distinction is important because technological adoption can easily become an end in itself. A university may purchase multiple AI applications without addressing the underlying problems of fragmented information systems, inefficient administrative procedures, poor data quality, or unclear organizational responsibilities. A responsible strategy should instead identify specific institutional objectives, such as improving student services, reducing administrative processing time, strengthening institutional forecasting, improving resource allocation, or identifying students who may require additional support. AI should then be evaluated according to whether it contributes measurably to these objectives.

The second requirement is data governance. The available empirical evidence from Vietnam supports the argument that AI readiness depends substantially on the quality of management information systems and institutional data [3]. Universities should therefore establish clear standards for data definitions, interoperability, accuracy, access, retention, security, and accountability before deploying AI systems at scale. Data governance should not be treated as a technical issue confined to information-technology departments. It is a management issue because data determine what the institution can know about itself and what decisions it can make. Circular 49/2026/TT-BGDĐT's emphasis on data management, system interoperability, and data use for governance and forecasting provides a strong basis for developing this institutional capability in Vietnam.

The third requirement is risk-based AI deployment. Universities should not govern all AI applications in the same way because the consequences of different applications vary substantially. A system that answers routine administrative questions has different risks from a system that predicts dropout or influences admission. AI used in high-consequence decisions should therefore be subject to stronger testing, documentation, human review, monitoring, and appeal mechanisms. This approach is consistent with the broader international movement toward responsible and systematic AI adoption identified by OECD [1], which emphasizes policy frameworks, procurement, competencies, evidence collection, and institutional evaluation. The principle is also consistent with Vietnam's Circular 49 [8], which emphasizes transparency, accountability, responsible AI use, data security, and the preservation of professional responsibility.

The fourth requirement is meaningful human oversight. Human oversight should not mean that an administrator simply approves whatever the algorithm recommends. Meaningful oversight requires that decision-makers understand the purpose and limitations of the system, can interrogate its outputs, can identify possible errors, can request additional evidence, and can override recommendations when appropriate. This is particularly important for decisions concerning admissions,

scholarships, disciplinary measures, academic progression, staff evaluation, and other consequential matters. AI should provide additional analytical capacity without becoming a mechanism through which responsibility disappears. Jiménez-Luque et al. [4] provide a useful conceptual basis for this approach by emphasizing ethical and epistemic responsibility in AI-enabled higher education leadership.

The fifth requirement is transparency and accountability. Universities should be able to explain why a particular AI system is being used, what data it processes, what role it plays in a decision, and who is responsible for the final outcome. Students and employees should have appropriate mechanisms for questioning or correcting AI-supported decisions. Transparency is especially important when AI systems are developed or operated by external providers. Universities should not allow proprietary technology to become a black box through which institutional decisions are made without adequate institutional knowledge or control. OECD [1] emphasizes responsible procurement and common approaches to compliance as emerging components of national responses to GenAI adoption in higher education. This is particularly relevant for universities that increasingly depend on commercial AI platforms.

The sixth requirement is institutional AI literacy. AI literacy should extend beyond technical specialists because AI-supported management changes the responsibilities of administrators and academic leaders. Managers need to understand the difference between prediction and causation, the limitations of AI-generated information, the risks of bias, the importance of data quality, and the requirements of privacy and accountability. Staff who use AI systems need to know when human intervention is necessary and how to communicate AI-supported decisions to students and colleagues. UNESCO's guidance on AI and education emphasizes the importance of developing human capacity to understand and shape AI responsibly rather than treating AI simply as a technological service [2].

The seventh requirement is continuous evaluation. An AI system should not be considered successful simply because it has been implemented or because users report that it is convenient. Universities should evaluate whether the system improves accuracy, efficiency, service quality, equity, and institutional outcomes while also monitoring errors, unintended consequences, privacy incidents, and user dissatisfaction. OECD [1] identifies evidence collection and pilot evaluation as part of the emerging policy response to GenAI in higher education. Evaluation should therefore be built into the life cycle of AI systems rather than performed only after problems occur. This principle is especially important in Vietnam because institutional capacity is developing rapidly and universities will need mechanisms through which they can learn from early experiments before scaling AI systems nationally or institution-wide.

8. DISCUSSION

The global development of AI in higher education management suggests that universities are entering a transition from digital administration toward institutional intelligence. Digitalization made information more accessible, but AI makes it possible to analyze information continuously, identify patterns, generate predictions, and support decisions at a scale that would be difficult for human administrators to achieve alone. The distinction is important because institutional intelligence is not simply a more advanced form of information technology. It changes the relationship between organizational knowledge and institutional action. A university can increasingly observe its own operations in real time and anticipate potential problems before they become visible through conventional reporting. This creates opportunities for more proactive management, but it also means that algorithmic outputs can increasingly influence institutional priorities and individual outcomes.

The transition therefore has an epistemic dimension. Universities must decide what kinds of information count as legitimate evidence for management and how that evidence should be interpreted. AI tends to privilege information that can be represented in data, measured, classified, and modeled. Yet important dimensions of university life are not easily captured in quantitative systems. Academic culture, trust, intellectual development, professional judgment, student belonging, mentoring, and educational purpose are difficult to reduce to predictive indicators. The risk is that universities may gradually optimize what AI can measure rather than what education actually requires. The solution is not to reject data or AI but to place algorithmic evidence within a broader institutional framework of professional and ethical judgment.

This issue is particularly relevant to Vietnam because the regulatory framework is developing rapidly. Circular 49/2026/TT-BGDĐT provides a significant foundation by explicitly linking technology and AI to governance, data, analysis, forecasting, decision-making, transparency, accountability, and professional responsibility. The regulation [8] therefore provides an opportunity for Vietnamese universities to develop AI governance before technological adoption becomes too deeply fragmented. However, the existence of regulation does not guarantee effective implementation. Institutions still need reliable data, interoperable systems, trained personnel, governance structures, evaluation mechanisms, and financial resources. The empirical evidence from Kien and Chung [3] is important precisely because it demonstrates that system and data conditions are central determinants of AI readiness.

International experience also suggests that AI adoption can progress faster than governance. Valentini's regional study of higher education institutions in Latin America and the Caribbean provides an important comparative perspective because it examines both AI adoption and institutional governance. The study maps how institutions are using AI while

examining the development of institutional policies and governance arrangements [6]. This comparative evidence supports the broader argument that technological adoption and institutional governance should be treated as closely related but analytically distinct dimensions of transformation. The challenge for universities is to ensure that governance mechanisms develop at least as quickly as technological capabilities.

The future university should therefore not be conceptualized as an institution managed by algorithms. A more appropriate model is the human-centred intelligent university, in which AI provides computational capacity while human communities retain responsibility for institutional purposes and decisions. AI can process information more rapidly than individuals, identify patterns that humans may overlook, and support continuous monitoring. Humans remain essential for interpreting context, defining values, negotiating competing objectives, understanding individual circumstances, and accepting responsibility for consequential decisions. This division of labor is not a temporary compromise while AI remains imperfect. It reflects a deeper principle: university governance involves normative judgments that cannot be reduced to computational optimization.

For Vietnam, this model also offers a way to reconcile technological modernization with university autonomy. AI can strengthen institutional autonomy by giving universities better information for strategic planning, resource allocation, student support, and quality improvement. At the same time, excessive dependence on external AI platforms can weaken autonomy by transferring control over data, infrastructure, and analytical capabilities to commercial providers. Responsible governance therefore requires universities to develop internal capacity even when they use external technologies. They need sufficient expertise to evaluate providers, audit systems, manage data, interpret outputs, and make independent institutional judgments. AI adoption should increase institutional capability rather than create technological dependency.

9. CONCLUSION

Artificial intelligence is becoming an increasingly important component of higher education management worldwide. Its applications extend beyond teaching and learning to admissions, student administration, student-support systems, predictive analytics, scheduling, financial management, human-resource management, quality assurance, institutional research, and strategic planning. The significance of these applications lies not simply in their ability to reduce administrative labor but in their capacity to change how universities collect information, identify problems, forecast future developments, and make decisions. AI can move higher education management from predominantly reactive and rule-based administration toward increasingly data-driven and predictive governance. However, the benefits of this transformation depend fundamentally on the quality of institutional data, the maturity of management information systems, the competencies of staff, and the governance arrangements surrounding AI.

The Vietnamese case demonstrates both the opportunities and the difficulties associated with this transition. The country is developing a stronger national framework for AI governance and digital transformation, while higher education policy is increasingly connecting technology with data, management, forecasting, and decision-making. UNESCO's assessment [7] indicates significant progress in national AI governance while also emphasizing the need for ethical and inclusive implementation. The empirical study by Kien and Chung [3] demonstrates that AI adoption in Vietnamese higher education is closely related to management information systems, data quality, and institutional AI readiness. Most importantly, Circular 49/2026/TT-BGDĐT [8] now provides a direct regulatory framework for technology and AI applications in higher education, including governance, management, data integration, analysis, forecasting, student services, transparency, accountability, and responsible AI.

The central challenge is therefore no longer whether universities should use AI but how they should govern its use. AI can provide substantial benefits when it automates repetitive work, supports administrators with better information, identifies potential problems earlier, and improves institutional planning. Yet these benefits can be undermined when AI systems operate on poor data, reproduce historical bias, obscure decision-making processes, weaken privacy, or encourage administrators to surrender professional judgment to algorithmic recommendations. Responsible AI adoption therefore requires strategic alignment, data governance, risk-based deployment, human oversight, transparency, accountability, institutional AI literacy, and continuous evaluation.

The future of AI in higher education management should consequently not be measured by the number of AI tools a university has adopted. A university should be considered technologically mature when it can use AI to improve institutional knowledge and decision-making while preserving human responsibility, educational values, academic integrity, and institutional autonomy. The objective should be the development of institutional intelligence rather than institutional automation. For Vietnam, the current regulatory and technological transition provides a valuable opportunity to establish this principle at an early stage. If universities can combine reliable data infrastructures, responsible AI governance, professional competence, and human-centred leadership, AI can become a powerful means of strengthening higher education management. If they adopt AI without these foundations, however, they may simply automate existing weaknesses and make institutional errors more difficult to detect. The decisive issue is therefore not whether AI can manage the university, but whether universities can develop the institutional capacity to manage AI responsibly.

Conflict of Interest

The author declares that there are no conflicts of interest relevant to the present review.

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Data availability

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