



Artificial Intelligence Applications in University Autonomy: A Case of Selected Vietnamese Universities

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ABSTRACT: In the digital age, with the remarkable development of artificial intelligence (AI), AI has been applied in many fields. The education sector also needs to be focused on; universities should apply AI to university autonomy. In this article, we present the current situation and solutions, the benefits of applying AI to university autonomy: (i) From the school side; (ii) From the lecturer side. The study emphasises that applying AI to university autonomy will help manage university activities more effectively, accurately and sustainably.

KEYWORDS: AI applications; university initiative; university finance; university governance.

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Introduction

Artificial Intelligence (AI) refers to human-developed systems that enable machines to perform intelligent or computational tasks beyond human capabilities. University autonomy refers to the capacity of higher education institutions to make independent decisions in governance, finance, academics, and personnel management within established legal frameworks. As higher education advances through digital transformation, applying AI in university autonomy presents both challenges and opportunities, enhancing flexibility, governance efficiency, and academic quality. The current global economic and management context is strongly influenced by digital transformation, economic and political uncertainty, and environmental change. According to the OECD (2025), global economic growth is projected to decline to approximately 2.9% by 2026 due to fluctuations in trade and investment policies. This situation requires universities – as centres of knowledge – to adapt rapidly and apply new technologies, particularly AI, to strengthen their management, planning, and decision-making capacities in an ever-changing environment.

Research Methodology

During the research phase, most authors adopted qualitative research methods. The collected data helps determine the validity of conclusions and guides future studies. Therefore, this paper evaluates the comprehensive quality of AI applications in university autonomy by employing principles of synthesis and comparative analysis.

Current Status of University Autonomy in Vietnam

University Autonomy

On December 14, 2024, more than 400 representatives from over 150 higher education institutions nationwide participated in the national conference titled “Innovating University Governance Based on Autonomy Linked to Quality Assurance.” The conference highlighted major factors affecting university autonomy in Vietnam, such as faculty quality, student satisfaction, digital transformation, competency frameworks, quality assurance, and university-industry collaboration. Since 2019, autonomy reforms in Vietnamese universities have driven innovation, but they have also revealed challenges in management, regulation, and coordination. Clarifying the roles of university councils and ensuring equality between public and private institutions remains essential. Globally, autonomy models are increasingly linked to digital transformation. OECD and UNESCO emphasise the use of big data and AI to enhance transparency, efficiency, and sustainability. Universities such as those in Helsinki and Singapore have applied AI in human resource planning, budgeting, and learner analytics to enhance governance flexibility and institutional self-reliance.

Challenges in Governance Autonomy: Lack of management capacity, power conflicts, and insufficient supervisory mechanisms.

Challenges in Organisational and Personnel Autonomy: Shortages of qualified personnel, resistance to change, and a lack of transparency and fairness in recruitment.

Challenges in Financial Autonomy: Some universities, particularly public ones, struggle to balance expenses and revenue, facing instability in financial resources.

Challenges in Academic Autonomy: Difficulties in improving training programs, governance, and scientific research due to limited resources and inadequate support mechanisms.

Challenges in Brand and Communication Autonomy: As of 2023, social media and internet users in Vietnam reached approximately 77 million, accounting for 79.1% of the population.

This situation presents both opportunities and challenges: negative news can spread quickly, demanding effective crisis communication. Public perception also remains a barrier, as parents and students tend to favour long-established universities, making it more challenging for new autonomous institutions to establish trust and build their reputation.

Solutions for Applying Artificial Intelligence in University Autonomy

Governance Autonomy

AI-supported tools, such as Virtual Reality (VR), can enhance university management, improve the student and faculty experiences, and streamline administrative processes.

VR enables virtual workshops and meetings, reducing costs while increasing interactivity. Integrated with AI, it can visualise student data in 3D, enabling administrators to track performance and make informed decisions.

According to McKinsey (2025), AI applications in administration can reduce strategic decision-making time by 25% through automated data analysis, enabling universities to forecast enrollment, finances, and research trends more accurately.

Organisational and Human Resource Autonomy

AI supports universities in recruitment, appointment, and faculty development aligned with institutional needs and competency standards. Data-driven analytics can forecast staffing demands using trends in recruitment, turnover, and workload, ensuring precise human resource planning. AI-based performance tools automatically assess staff productivity and faculty outcomes, identify competency gaps, and suggest suitable training programs.

Financial Autonomy

According to David (2020), artificial intelligence is highly beneficial in helping institutional managers design budgets and allocate resources more efficiently. Supporting this view, Pawar et al. (2023) argue that advanced algorithms can analyse historical financial data and accurately predict future trends, enabling real-time adjustments to changing market conditions. Based on these findings, research

concludes that AI-assisted financial tools enhance the quality of financial service delivery in universities. When AI is implemented in financial automation, auditing, and budgeting, it improves documentation accuracy and optimises resource allocation to support high-quality educational services.

Recommendations include:

- (i) University administrators should adopt AI to automate major expenditures and revenues, enhancing accuracy and transparency in financial transactions.
- (ii) Governments should implement AI-supported auditing tools in universities to ensure precise financial reporting and cost reduction.
- (iii) Administrators should train staff to use AI tools for sustainable budgeting effectively.

Financial and budget management: VR-based software can simulate budget flows, operational expenses, and investment projects in 3D charts, enabling leadership teams to analyse data and make informed financial decisions.

Academic Autonomy

AI chatbots serve as intelligent assistants that support teachers in instruction, grading, and tracking student performance, acting as virtual tutors that complement real educators. For example, ELSA Speak applies AI tutoring to enhance English pronunciation. Modern e-learning platforms are increasingly integrating AI and IoT to create intelligent systems for online teaching, assessment, and communication among schools, students, and parents. AI-based game learning personalises education through adaptive, interactive games tailored to each learner's goals and abilities, promoting faster and more engaging learning.

Developing a Quality Training System

AI can help overcome overcrowded classrooms and limited practice by personalising learning through E-learning platforms such as Coursera and Khan Academy, which adapt content to learners' levels and include virtual labs for simulation. AI also analyses labour market trends to update curricula, aligning programs with real-world job demands. It supports faculty through automated grading, learning analytics, and personalised training, helping to improve teaching efficiency. According to the World Economic Forum (2024), 44% of the global workforce's skills will change within five years due to AI and automation, emphasising the need for universities to integrate digital literacy, data management, and AI ethics into their curricula.

Conclusion

To integrate AI effectively in university autonomy, institutions must invest in technology and staff training, supported by public or private funding. Clear policies are essential to ensure AI enhances education without compromising its humanistic values. AI streamlines operations, improves accuracy,

and optimises resources while helping faculty enhance teaching quality and students access innovative learning tools. When applied strategically, it strengthens the overall quality and competitiveness of higher education.

Amidst globalisation and digital transformation, AI serves as a strategic driver for Vietnamese universities in their pursuit of international integration. Following OECD, UNESCO, and World Bank frameworks, investment in digital infrastructure and AI-skilled faculty will determine the competitiveness of Vietnam's higher education by 2030.

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