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AI Managerialism in Higher Education: Algorithmic Governance, Shared Authority, and the Ethics of Institutional Control

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ABSTRACT

The rapid integration of artificial intelligence (AI) into higher education is transforming how universities are governed, managed, and held accountable. While existing scholarship has focused primarily on the pedagogical applications of AI and the ethical implications of algorithmic technologies, less attention has been devoted to how AI reshapes institutional governance and decision-making processes. Addressing this gap, this paper advances the concept of AI managerialism to explain the growing influence of algorithmic systems on university governance and organizational control. The study employs a critical narrative review and conceptual policy analysis, synthesizing scholarship on AI governance, managerialism, and higher education administration. It further examines three purposively selected cases representing key domains of algorithmic governance: the Ofqual algorithm controversy in the United Kingdom, Purdue University's Course Signals learning analytics system, and the University of Sydney's response to generative AI. Through cross-case thematic analysis, the study identifies recurring governance issues related to accountability, transparency, participation, and institutional autonomy. Findings suggest that AI-enabled systems can improve administrative efficiency, predictive capacity, and evidence-informed decision-making while simultaneously generating risks associated with opacity, surveillance, stakeholder exclusion, and the centralization of managerial authority. In response, the paper proposes an Ethical AI Governance Framework for Higher Education built on five principles: mission alignment, transparency and explainability, participatory governance, equity auditing, and bounded scope. Extending existing AI ethics frameworks, the model explicitly incorporates institutional mission, shared governance, and organizational accountability into AI oversight processes. The framework provides practical guidance for university leaders and policymakers seeking to balance technological innovation with academic values and democratic governance. The paper concludes that effective AI governance requires institutionally grounded arrangements that ensure AI supports, rather than undermines, the educational mission of higher education.

INTRODUCTION

Artificial intelligence (AI) is rapidly becoming part of university governance and administration. Across higher education institutions, AI-powered systems are increasingly used to support admissions decisions, identify students at risk of attrition, allocate resources, monitor institutional performance, and assist administrative decision-making. More recently, the emergence of generative AI tools such as ChatGPT has expanded the use of AI beyond predictive analytics to include communication, policy development, and academic support functions. As a result, AI is no longer confined to teaching and learning; it is increasingly influencing how universities are managed and governed.

The growing adoption of AI offers important benefits. Universities can use data-driven systems to improve administrative efficiency, enhance student support services, and make more informed decisions. However, the expansion of AI also raises significant concerns. Algorithmic systems may lack transparency, reproduce existing inequalities, and reduce opportunities for meaningful human judgment. In university settings, where decisions affect academic freedom, student opportunities,

and institutional priorities, these concerns are particularly important.

Although research on AI in higher education has expanded rapidly, much of the literature focuses on teaching, learning, and student outcomes. Comparatively less attention has been devoted to the governance implications of AI adoption and the ways in which algorithmic systems may reshape institutional authority and decision-making processes. Existing studies often examine specific technologies or applications rather than considering their broader implications for university governance.

To address this gap, this paper advances the concept of AI managerialism. The term refers to a form of governance in which algorithmic systems increasingly influence managerial decision-making and institutional control within higher education. Building on scholarship on new public management and academic capitalism, the concept provides a framework for examining how AI may alter relationships between administrative authority, professional judgment, and shared governance.

This article is a conceptual and critical policy analysis rather than an empirical investigation. Drawing on

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a critical narrative review of relevant literature and three illustrative institutional cases, it examines the opportunities and challenges associated with AI-enabled governance in higher education. The paper further proposes a framework for ethical AI governance based on the principles of mission alignment, transparency, participatory governance, equity auditing, and bounded scope.

The paper proceeds as follows. Section 2 develops the conceptual framework and reviews relevant literature. Section 3 outlines the methodological approach. Section 4 presents three illustrative cases of algorithmic governance. Section 5 discusses the opportunities and challenges associated with AI adoption in university management. Section 6 proposes a framework for ethical AI governance, and Section 7 concludes the paper.

LITERATURE REVIEW

From New Public Management to AI Managerialism

Contemporary developments in university governance are closely connected to broader transformations in public sector management. Beginning in the 1980s, the rise of New Public Management (NPM) introduced market-oriented principles into public institutions, emphasizing efficiency, accountability, performance measurement, and managerial control (Hood, 1991). Within higher education, these reforms encouraged universities to adopt administrative practices derived from the private sector, including strategic planning, performance indicators, benchmarking, and audit mechanisms (Deem, 1998).

The expansion of managerial practices also altered traditional governance arrangements. Universities increasingly operated within competitive environments shaped by rankings, funding pressures, and accountability requirements. As a result, managerial authority expanded while collegial forms of decision-making often became less influential. Scholars described this development as part of a broader process of academic capitalism in which institutional priorities became increasingly aligned with market logics and performance outcomes (Slaughter & Leslie, 1997).

The growing use of artificial intelligence represents a further stage in this evolution. While earlier managerial reforms relied on human administrators interpreting performance data, contemporary institutions increasingly employ algorithmic systems to generate recommendations, monitor activities, and support decision-making. This paper refers to this development as AI managerialism—a form of governance in which algorithmic systems play an increasingly influential role in shaping managerial decisions and institutional control. Three characteristics distinguish AI managerialism from earlier forms of management reform: the ability to operate at unprecedented scale, the opacity of algorithmic processes, and growing institutional dependence on external data infrastructures and technology vendors. These features raise new questions regarding accountability, transparency, and shared governance within higher education institutions.

Artificial Intelligence and University Governance

The application of AI in higher education has expanded significantly over the past decade. Universities increasingly use predictive analytics to identify students at risk of attrition, learning analytics to monitor engagement, automated systems for resource allocation and scheduling, and performance-management tools to evaluate institutional outcomes (Arnold & Pistilli, 2012; Zawacki-Richter *et al.*, 2019). More recently, generative AI technologies have broadened the scope of AI applications by supporting communication, information management, and administrative decision-support functions.

Much of the existing literature highlights the potential benefits of these technologies. AI systems can improve operational efficiency, support evidence-informed decision-making, and enhance the delivery of student services. In resource-constrained environments, these capabilities offer institutions new ways to manage increasing demands while maintaining organizational effectiveness (Holmes *et al.*, 2019).

However, the governance implications of AI extend beyond questions of technical performance. AI systems influence how information is collected, interpreted, and used in institutional decision-making. As digital infrastructures become embedded within university operations, they can shape organizational priorities and redistribute authority among administrators, faculty members, students, and external technology providers (Williamson, 2019). Furthermore, the increasing reliance on proprietary platforms may limit institutional oversight and reduce transparency regarding how important decisions are produced (Hartong, 2016; Pasquale, 2015). These developments suggest that AI should be understood not only as a technological innovation but also as a governance issue.

Ethical Perspectives on AI Governance

The expansion of AI within higher education has generated growing interest in the ethical governance of algorithmic systems. Across policy and academic discussions, several principles consistently emerge as essential requirements for responsible AI use, including transparency, fairness, accountability, human oversight, and respect for individual rights (European Commission, 2019; UNESCO, 2021).

Scholars have argued that ethical AI governance requires more than technical safeguards. Algorithmic systems are not neutral tools; they embody assumptions, priorities, and value judgments that influence institutional outcomes (Mittelstadt *et al.*, 2016). Consequently, effective governance requires mechanisms that allow affected stakeholders to understand, evaluate, and challenge AI-supported decisions when necessary. Floridi *et al.* (2018) similarly emphasize the importance of human-centered approaches that align technological innovation with broader social and ethical objectives.

For universities, these concerns are particularly significant because higher education institutions derive

their legitimacy not only from efficiency but also from commitments to academic freedom, equity, critical inquiry, and shared governance. The adoption of AI, raises fundamental questions about how institutions can benefit from technological innovation while preserving the values that define them as academic communities. It is within this context that the concept of AI managerialism provides a useful framework for examining the opportunities and challenges associated with algorithmic governance in higher education.

MATERIALS AND METHODS

This article adopts a conceptual and critical policy analysis approach to examine the governance implications of artificial intelligence in higher education. Rather than generating new empirical data, the study seeks to synthesize existing scholarship and policy discussions in order to develop the concept of AI managerialism and explore its relevance for contemporary university governance.

The study draws primarily on a critical narrative review of literature relating to higher education governance, artificial intelligence, digital administration, and educational policy. Critical narrative review is particularly appropriate when the objective is conceptual development rather than statistical aggregation of findings. Unlike systematic reviews that focus on exhaustive evidence collection and quantitative synthesis, critical narrative reviews emphasize interpretation, theoretical integration, and the identification of emerging patterns across diverse bodies of scholarship (Baumeister & Leary, 1997; MacLure, 2005). This approach allows the study to connect literature on new public management, algorithmic governance, AI ethics, and higher education policy within a unified analytical framework.

In addition to scholarly literature, the analysis draws on selected policy reports and institutional documents related to AI governance in higher education. Particular attention was given to sources published after 2022 in order to capture developments associated with the rapid expansion of generative AI technologies and large language models.

To ground the discussion in practical examples, three illustrative cases were selected using purposive sampling. The cases represent different dimensions of algorithmic governance in educational settings: the Ofqual algorithm controversy in the United Kingdom, Purdue University's Course Signals learning analytics system, and the University of Sydney's governance response to generative AI. These cases were chosen because they are widely discussed in academic and policy literature and collectively highlight issues of accountability, transparency, stakeholder participation, and institutional decision-making. The cases are used to illustrate broader governance dynamics rather than to provide the basis for causal claims.

Several limitations should be acknowledged. First, the study relies on interpretive analysis and is therefore subject to a degree of researcher judgment in the

selection and synthesis of literature. Second, as a critical narrative review, it does not employ the exhaustive search procedures associated with systematic review methodologies. Third, the paper does not include interviews, surveys, or other forms of empirical fieldwork. Consequently, its conclusions should be understood as conceptual and analytical rather than empirical or causal. Despite these limitations, the approach is appropriate for exploring an emerging area of inquiry and for developing a framework that may guide future empirical research on AI governance in higher education.

RESULTS AND DISCUSSION

The governance implications of AI become more visible when examined through concrete examples. Rather than providing exhaustive case studies, the cases discussed below illustrate recurring issues associated with algorithmic governance in educational settings. Together, they highlight concerns regarding accountability, transparency, stakeholder participation, and the changing relationship between technological systems and institutional decision-making.

The Ofqual Algorithm and Questions of Accountability

One of the most widely discussed examples of algorithmic governance in education emerged in the United Kingdom during the COVID-19 pandemic. In 2020, the Office of Qualifications and Examinations Regulation (Ofqual) introduced an algorithmic grading system to replace cancelled A-level examinations. The system sought to standardize teacher-assigned grades and maintain consistency across schools. However, the results generated widespread criticism when many students received grades significantly lower than expected.

Critics argued that the algorithm disproportionately disadvantaged students from public schools while benefiting students from historically higher-performing institutions. Beyond concerns about fairness, the controversy raised important questions regarding transparency and accountability. Students and families often struggled to understand how decisions had been produced and what mechanisms existed to challenge them. Although the case occurred outside higher education, it illustrates broader governance concerns that are equally relevant to universities, particularly when algorithmic systems influence high-stakes decisions affecting educational opportunities (O'Neil, 2016; Pasquale, 2015). The Ofqual controversy demonstrated that efficiency and consistency alone are insufficient if institutional stakeholders perceive decision-making processes as opaque or unjust.

Purdue University's Course Signals and Predictive Analytics

Purdue University's Course Signals system is frequently cited as one of the earliest large-scale applications of learning analytics in higher education. The platform used

predictive models to identify students who might be at risk of academic difficulties by combining information from course performance, grades, and other indicators. Students received alerts through a traffic-light system designed to encourage early intervention and academic support (Arnold & Pistilli, 2012).

The initiative demonstrated the potential of predictive analytics to improve student success by allowing institutions to identify challenges before they became severe. However, it also generated broader discussions regarding privacy, surveillance, and institutional monitoring. Critics questioned how risk classifications were constructed, which variables were considered important, and whether algorithmic predictions could inadvertently influence how students were perceived by advisors and faculty members (Ekowo & Palmer, 2016). The case illustrates a central tension in data-driven governance: the same technologies that enhance institutional responsiveness may also expand the scope of surveillance and increase dependence on automated forms of assessment.

Generative AI Governance as an Emerging Challenge

The rapid emergence of generative AI following the public release of ChatGPT in 2022 introduced a new set of governance challenges for higher education institutions. Universities around the world have developed policies addressing the use of generative AI in teaching, assessment, academic integrity, and administrative operations. Unlike earlier forms of AI that focused primarily on prediction and classification, generative AI systems can produce text, summaries, reports, and recommendations across a wide range of academic and administrative contexts.

The governance challenges associated with generative AI extend beyond technical questions of accuracy. Universities must determine how such tools should be used, who remains accountable for AI-assisted decisions, and how institutional policies can balance innovation with academic integrity and professional judgment. These debates have highlighted the importance of transparency, stakeholder participation, and human oversight in the governance of emerging technologies (Floridi *et al.*, 2018; UNESCO, 2021). As generative AI becomes increasingly integrated into university operations, questions of governance are likely to become as important as questions of technological capability.

Taken together, these examples illustrate the broader dynamics of algorithmic governance in education. Whether the objective is grading, student support, or institutional policy development, AI systems influence how decisions are produced, justified, and implemented. The cases suggest that the most significant challenges are not merely technical but organizational and ethical, involving accountability, transparency, equity, and the preservation of meaningful human participation in decision-making processes. These issues provide the foundation for the discussion that follows.

Opportunities and Challenges of AI in University Governance

AI integration in higher education governance presents a dual set of implications. On one hand, it offers tangible improvements in administrative efficiency and decision-support capacity. On the other, it introduces structural risks that affect transparency, accountability, and institutional autonomy.

From an operational perspective, AI systems can streamline routine administrative tasks such as scheduling, reporting, resource allocation, and student support services. These efficiencies are particularly valuable in contexts where universities face increasing financial pressure and growing demand for services. AI-enabled analytics can also enhance institutional responsiveness by identifying patterns in student performance and enabling earlier interventions for at-risk students. In this sense, AI contributes to more data-informed governance and can extend institutional capacity beyond traditional human limits (Holmes *et al.*, 2019).

However, these benefits are not neutral in their institutional consequences. The adoption of AI systems often redistributes decision-making authority away from faculty and professional staff toward administrative units and external technology providers. As decision-making becomes increasingly mediated by algorithmic systems, the interpretive role of academic professionals may be reduced to validating or implementing machine-generated outputs. This shift raises concerns about the erosion of collegial governance and the weakening of shared decision-making structures that traditionally define universities.

A further challenge lies in the opacity of algorithmic systems. Many AI tools used in higher education are developed by private vendors, limiting institutional visibility into how decisions are generated. This lack of transparency complicates accountability, particularly when algorithmic outputs influence consequential decisions related to student progression, faculty evaluation, or resource distribution (Pasquale, 2015). In such contexts, responsibility for outcomes becomes diffused across technical systems, administrative actors, and external providers.

Equity considerations also remain central. AI systems are trained on historical data, which may embed existing institutional biases. Without careful design and ongoing auditing, these systems risk reproducing or amplifying inequalities in access, assessment, and opportunity. Therefore, while AI offers significant governance advantages, these must be understood alongside the structural risks they introduce into institutional decision-making environments.

Ethical Framework for AI Governance in Higher Education

Given the opportunities and risks associated with AI adoption, universities require structured governance frameworks that ensure alignment between technological

systems and institutional values. This section proposes five interrelated principles for ethical AI governance in higher education.

The first principle is mission alignment. AI systems should be evaluated based on their compatibility with the core educational mission of the institution, including commitments to academic freedom, equity, and student development. Technological adoption should not be driven solely by efficiency gains but by its contribution to educational purpose.

The second principle is transparency and explainability. Stakeholders affected by AI-assisted decisions must have access to understandable explanations of how those decisions are produced. This includes disclosure when AI systems are used and clear communication of their role in institutional processes.

The third principle is participatory governance. Faculty, students, and staff should be meaningfully involved in decisions regarding AI adoption and oversight. This ensures that governance reflects shared institutional values rather than purely administrative or technical priorities.

The fourth principle is equity auditing. Universities should implement regular assessments of AI systems to identify potential discriminatory impacts across demographic groups. These audits should not be internal-only procedures but subject to external or independent review where possible (UNESCO, 2021).

The fifth principle is bounded scope. AI systems should not be permitted to fully automate high-stakes decisions affecting academic progression, employment, or student status. Human judgment must remain central in decisions where contextual interpretation and ethical responsibility are essential.

Together, these principles provide a governance architecture that balances innovation with institutional responsibility. Rather than rejecting AI, this framework seeks to define conditions under which AI can be integrated into higher education in a way that supports rather than undermines academic governance traditions.

CONCLUSION

This paper has developed the concept of AI managerialism as an analytical framework for understanding how artificial intelligence is reshaping governance structures in higher education. By extending earlier theories of new public management and academic capitalism, AI managerialism highlights the growing role of algorithmic systems in mediating institutional decision-making processes. The analysis has shown that AI adoption in universities is not merely a technical development but a governance transformation. Through predictive analytics, learning analytics, and generative AI systems, decision-making processes are increasingly data-driven, automated, and externally mediated. While these systems offer significant benefits in terms of efficiency and responsiveness, they also raise fundamental concerns regarding transparency, accountability, equity, and shared governance. The

illustrative cases discussed in this paper demonstrate that these dynamics are not hypothetical but already embedded in institutional practice. Whether through algorithmic grading systems, predictive student monitoring, or emerging generative AI applications, universities are increasingly navigating the tension between technological capability and institutional legitimacy. The paper has also proposed a normative framework for ethical AI governance built around mission alignment, transparency, participatory governance, equity auditing, and bounded scope. This framework is intended to support institutions in managing AI adoption in ways that preserve core academic values while engaging constructively with technological change. Future research should further examine how AI governance frameworks operate across different institutional contexts, particularly in regions where digital infrastructure, regulatory capacity, and institutional autonomy vary significantly. Longitudinal studies will be especially important for assessing how AI influences academic culture, decision-making authority, and equity outcomes over time. Ultimately, the governance of AI in higher education is not only about technology adoption but about the future of institutional self-determination. Universities must ensure that algorithmic systems remain tools that support academic communities, rather than mechanisms that silently restructure them.

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