Ethical Issues in AI Policy for Academia: is it Enough for AI Effective Implementation?

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2025 15th International Conference on Advanced Computer Information Technologies (ACIT) | 979-8-3315-9544-9/25/$31.00 ©2025 IEEE | DOI: 10.1109/ACIT65614.2025.11185807

***Abstract*—This paper underscores the urgency of developing structured AI policies in academia that go beyond academic integrity concerns to encompass broader ethical, technological, and governance aspects. A holistic AI policy framework should incorporate curriculum integration, faculty and student readiness, research guidelines, ethical considerations, and industry-academia partnerships to ensure that AI-driven education aligns with workforce demands. Furthermore, effective collaboration with businesses, industries, and professional communities is essential to create AI policies that enhance innovation, maintain public trust, and prepare students for evolving career landscapes. By prioritizing stakeholder engagement, ethical AI deployment, and adaptive governance, academia can play a pivotal role in shaping AI policies that support sustainable development and responsible innovation across all sectors.**

Keywords—AI, policy, business, industry, professional community

I. Introduction

The incorporation of Artificial Intelligence (AI) is becoming crucial for both industry and academia as these sectors evolve, with AI, particularly Generative AI (GenAI), reshaping organizational functions, innovation, and stakeholder engagement. Businesses are increasingly utilizing AI to boost efficiency, streamline processes, and inform decision-making through data, while universities are also adopting AI to enhance learning outcomes, individualize education, and prepare students for a technologically driven workforce, highlighting AI's transformative power and necessitating a revision of established practices in both areas. GenAI distinguishes itself within the broader AI field due to its capacity to produce text, visuals, and other forms of content, setting it apart from AI-focused mainly on data analysis or automation. GenAI's potential to revolutionize content creation, research methods, and teaching approaches is a subject of growing discussion in academic settings, with attention centered on its novel applications alongside the ethical dilemmas and challenges it introduces, including issues like plagiarism and intellectual property rights. The utilization of GenAI for generating text and images prompts significant debate regarding its effects on creativity and originality in both academic and professional contexts. GenAI presents opportunities for increased efficiency through task automation and creative inspiration, but it also raises concerns about the authenticity of generated material and the possible decline in critical thinking abilities among students and professionals. Consequently, discussions surrounding GenAI encompass its benefits, such as greater productivity and accessibility, and its drawbacks, which include ethical considerations and the risk of dependence on automated systems.

II. AI Policy in Academia

The European Network for Academic Integrity (ENAI) has formulated recommendations for the ethical application of AI tools in education, addressing the related opportunities and challenges concerning academic and research integrity [1]. These recommendations underscore the importance of equipping stakeholders with the necessary skills and knowledge for ethical AI use and the development of suitable educational policies. Developed through a collaborative effort and intended as an evolving document, these recommendations aim to guide academics, researchers, and other educational stakeholders in navigating the shifting landscape of AI in education. The prompting guide [2] expands on a user-focused adaptation of the traditionally developer-oriented FATE (Fairness, Accountability, Transparency, Ethicality) framework. The white paper [3] investigates the future of AI in higher education, drawing on case studies and expert workshops. It introduces the CRAFT framework (culture, rules, access, familiarity, and trust) as vital for successful GenAI integration and proposes two central priorities: fostering collaboration among universities and positioning students as active participants in shaping AI-enhanced learning experiences. The study [4] examines how 40 universities across six global regions are incorporating GenAI, employing the Diffusion of Innovations Theory. It analyzes university policies and guidelines, with a focus on GenAI's attributes, communication channels, and designated roles, revealing a proactive stance that emphasizes academic integrity, improvements in teaching and learning, and equity. While universities are crafting ethical guidelines, authentic assessments, and training programs, gaps remain, notably in areas of data privacy and equitable access, highlighting the need for comprehensive policies, clear communication, and continuous evaluation. The article [5] introduces the AI Assessment Scale (AIAS), a practical instrument designed to guide the incorporation of GenAI into educational assessments. The AIAS assists educators in selecting appropriate GenAI usage levels based on learning outcomes, thereby promoting clarity and transparency for both students

and educators. It also advocates for a reframing of the GenAI conversation, stressing its capacity to enrich teaching and learning, rather than focusing solely on issues of academic dishonesty. The green paper [6] lays the groundwork for informed policy discussions, outlining actionable strategies to leverage GenAI's potential while safeguarding academic integrity and ensuring equitable learning opportunities. It also provides practical guidelines and mechanisms for ongoing improvement, encouraging educational institutions to take a leading role in the responsible integration of GenAI and to prepare students for an AI-driven future, where the quality of student learning and the value of academic credentials are preserved. Presently, discussions surrounding AI policies in education frequently focus too narrowly on academic integrity matters. While addressing the potential misuse of AI tools for cheating is essential, it is equally important to consider AI's broader ethical and pedagogical implications in education.

III. AI Policy in Business, Industry and Professional Communities

The first and main aspect of AI policy in business concerns the need for ethical guidelines that govern AI deployment. The global landscape of AI ethics indicates an increasing effort among diverse stakeholders, including non-profit organizations and professional associations, to establish standards that promote responsible AI use. Authors [7] elucidate how the divergence in interests among stakeholders reflects the pressing need for ethical guidance in AI deployment, emphasizing the role of organizations such as the Association of Computing Machinery (ACM) in advocating for ethical frameworks and raising concerns regarding the private sector's commitment to these principles. Furthermore, consumer trust in AI depends significantly on the ethical considerations surrounding its deployment. Research by team [8] highlights how ethical concerns influence consumer behavior and perceptions of AI technologies, asserting the necessity of ethical considerations in AI deployment to build consumer trust and facilitate overall acceptance of AI technologies. Thus, businesses must prioritize ethical considerations in their AI strategies to ensure long-term success.

Establishing regulations that align with organizational strategies and ethical principles is essential at the governance level. Batool et al. provide a systematic overview of AI governance frameworks, underscoring the importance of regulations and procedures that ensure compliance with ethical standards. They note that initiatives like the European Union AI Act and guidelines from the OECD represent collective efforts to create a harmonized regulatory environment for AI [9]. The need for robust governance is particularly acute in sectors such as healthcare, where AI can directly influence patient care and outcomes. Studies by authors [10; 11] emphasize the ethical issues that arise in AI-enhanced medical decision support systems, advocating for clear accountability across healthcare institutions to balance technological advancements with patient welfare. These considerations support policies that foster ethical practices while addressing the unique risks introduced by AI technologies in sensitive domains like healthcare.

Another crucial aspect of AI policy is recognizing that ethical considerations are not monolithic but vary by context. Article [12] indicates that different AI applications present distinct levels and types of risks that necessitate customized approaches to governance. Their proposed frameworks emphasize a nuanced understanding of risk dimensions and contextualize ethical implications based on specific use cases. Such tailored approaches can mitigate potential harms and encourage innovative AI use in professional practice. Moreover, stakeholder engagement plays a pivotal role in shaping effective AI policies. Insights from [13] regarding stakeholder attitudes towards AI adoption in elderly care reveal the significant influence of perceived benefits and risks on stakeholder behavior. Authors advocate for engaging diverse groups, including professionals and the public, to ensure a comprehensive understanding of AI implications and foster community acceptance. Authors [14] argue for embedding ethics in the training of future AI developers and practitioners to prepare them for the ethical challenges arising from AI technologies. Incorporating ethics into educational programs creates a foundation of accountability among professionals responsible for deploying AI systems, equipping them with the knowledge necessary to navigate the evolving landscape of AI.

Overall, the trajectory of AI ethics in business and industry reflects a complex interplay of technological advancement and ethical responsibility. Emerging trends in data privacy, algorithmic transparency, and accountability must be continuously assessed and refined to align AI practices with societal values. As articulated by [15] a coherent ethical framework can guide the development and deployment of AI for a "Good AI Society", emphasizing collaboration among various stakeholders, including policymakers, professionals, and the public. This comprehensive dialogue will be crucial for shaping policies that harness advantages while mitigating its risks, setting the groundwork for the ethical integration of AI into business, industry, and professional domains.

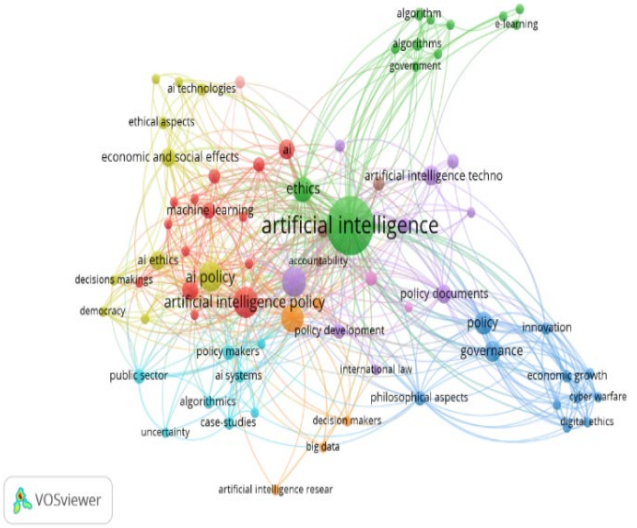
IV. AI Policies: Evolution

The evolution of AI policies from "2020–2022" (Fig. 1a) to "2023 – present time" (Fig. 1b) demonstrates a significant shift in focus, expanding from general AI governance and policy development to more specific areas such as generative AI, ethics, education, and industry applications. In both illustrations, AI remains the central theme, reflecting its continued dominance in policy discussions. However, while earlier policies (2020–2022) concentrated primarily on AI governance, ethics, and economic effects, recent policies (2023 – present) have incorporated new elements such as generative AI, ChatGPT, AI literacy, and academic integrity, showing an increased focus on education and research ethics.

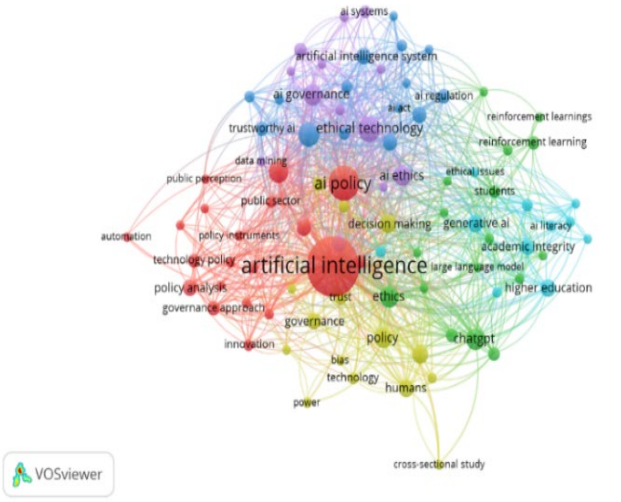
Ethical and social concerns have also gained prominence. While AI ethics, economic effects, and decision-making were already critical areas in earlier policies, the more recent phase expands on these by adding trustworthy AI, ethical technology, and bias in AI, indicating a deeper concern for responsible AI deployment. Additionally, AI's role in education has grown, with a notable shift from a policy-maker-centered approach to a more education-oriented discussion that includes academic integrity and AI literacy. This suggests that AI policies are increasingly addressing the ethical implications of AI use in schools, universities, and research institutions.

The role of business, industry, and innovation has also evolved. While the earlier visualization emphasized policy governance and government involvement, the newer structure integrates public perception, innovation, and reinforcement learning, demonstrating AI's expanding impact on industries and professional applications. Moreover, including generative

AI and large language models in the "2023 – present" policies, which were absent from the earlier phase, highlights a shift toward regulating emerging AI technologies and adapting policies to new advancements. Legal and regulatory aspects have also developed. The earlier visualization emphasized policy development, policy documents, and international law, reflecting a foundational phase of AI governance. In contrast, the later phase introduces AI regulation, the AI Act, and governance approaches, indicating a transition toward more structured and enforceable AI policies. This evolution shows that AI policy discussions are becoming more sophisticated, addressing not only governance and ethics but also industry applications, legal frameworks, and educational considerations.



a) 2020-2022



b) 2023

Fig. 1. Keyword map on the query "AI policy" (https://www.scopus.com/ accessed on April 2, 2025; analysis tool -VOSviewer, version 1.6.19, ©2009–2023 Nees Jan van Eck and Ludo Waltman)

The comparison of figures 1a and 1b illustrations highlights a shift from broad AI governance to a more detailed and structured approach that includes education, ethics, industry integration, and regulatory measures. The increasing emphasis on generative AI, academic integrity, and trustworthy AI reflects the rapid advancements in AI technologies and the necessity of policies that adapt to these changes.

V. Advanced Framework for AI Policy

The framework in Fig. 2 appears to be quite comprehensive, addressing technological, ethical, educational, and organizational aspects of AI integration in academic settings.

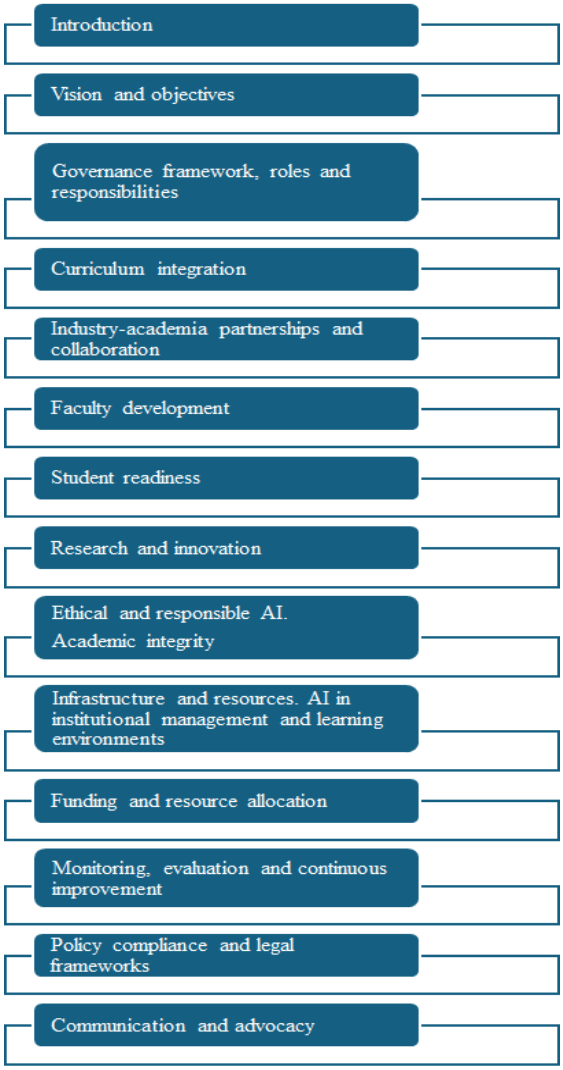


Fig. 2. Framework for AI policy

The framework takes a holistic approach, considering the implementation of AI technologies and the human factors, governance structures, and ethical considerations necessary for responsible and effective AI adoption in educational institutions. This framework presents multiple interconnected components that collectively guide AI integration, management, and governance within educational settings. The introduction establishes the foundation and context for AI in academia, while the vision and objectives outline the strategic direction. The governance framework defines organizational structures and decision-making processes with clear roles and responsibilities. Curriculum integration addresses how AI is incorporated into teaching and learning environments, complemented by industry-academia partnerships that foster valuable connections with external organizations. Faculty development ensures educators receive proper training to effectively teach AI concepts, while student readiness initiatives prepare learners with essential competencies.

Research and innovation guidelines establish parameters for AI-related knowledge creation, working alongside ethical considerations for responsible AI development. Academic integrity provisions maintain standards within this context, while infrastructure and resources support the technical requirements for AI implementation. Funding and resource allocation outlines financial planning, monitoring, and evaluation processes to assess effectiveness, and policy compliance ensures adherence to relevant legal frameworks.

VI. Conclusions

Educational institutions must develop comprehensive policy frameworks regarding AI to foster effective collaboration between academia and the business, industry, and professional sectors. These frameworks should extend beyond the immediate concerns of academic integrity to encompass broader ethical and pedagogical considerations. By doing so, universities can ensure that AI is implemented in a manner that not only supports and enhances teaching and learning but also aligns with the evolving needs of the workforce. This action entails addressing issues such as data privacy, the algorithms used in AI implementation, and the specific limitations and challenges that AI presents in various contexts. Moreover, these policies should be formulated through active engagement with business, industry, and professional community stakeholders. This collaboration will ensure that AI education and training are relevant to real-world applications and that graduates possess the skills and knowledge needed to thrive in AI-driven industries. It will also foster a shared understanding of AI implementation's ethical considerations and best practices, promoting responsible innovation and use. Developing robust and forward-thinking AI policies in academia is essential for creating a future where AI is utilized to its full potential across all sectors. Universities can play a pivotal role in shaping a future where AI benefits individuals and society by prioritizing ethical considerations, promoting collaboration, and preparing students for the challenges and opportunities of an AI-driven world.

Successful implementation of AI ethics policies in academia requires the direct application of advanced information technologies. One key example is the integration of Learning Management Systems (LMS) with AI monitoring tools that can track the use of generative AI in student submissions. Systems like Turnitin's AI-writing detection or Microsoft's Copilot plugins in educational platforms already serve as enforcement mechanisms for integrity policies. These tools use natural language processing and machine learning algorithms to identify AI-generated content, verify authorship, and ensure originality. Audit trails embedded in LMS platforms also allow educators and administrators to evaluate how AI tools were used during the learning process, making enforcement traceable and data-driven. Therefore, far from being separate domains, AI ethics policies and advanced computing infrastructures must co-evolve to ensure AI's responsible and verifiable integration in academic ecosystems.

Acknowledgment

This research was funded by the EU grant "Immersive Marketing in Education: Model Testing and Consumers' Behavior" under project No. 09I03-03-V04-00522/2024/VA.

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