Original Article

Guidelines and frameworks of governance for the adoption of generative artificial intelligence in higher education institutions: a scoping review

Diretrizes e *frameworks* de governança para a adoção da inteligência artificial generativa em instituições de ensino superior: uma revisão de escopo

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ABSTRACT

Purpose: This study examines academic production on guidelines and frameworks for the governance of generative artificial intelligence in higher education institutions.

Design/methodology: A scoping review was conducted utilizing the Web of Science database, analyzing publications from 2023 and 2024.

Findings: The results were organized into four thematic clusters: guidelines and frameworks, challenges in the adoption of generative artificial intelligence governance in higher education, stakeholder perceptions, and research gaps.

Research implications: The study provides insights and could serve as a reference for adopting generative artificial intelligence in other institutions.

Originality/value: This research contributes to the body of studies focused on the integration and governance of generative artificial intelligence in higher education institutions.

Keywords: Generative artificial intelligence; Higher education; Governance of generative artificial intelligence.

RESUMO

Propósito: Este estudo analisa a produção acadêmica sobre diretrizes e *frameworks* para a governança da Inteligência artificial generativa em instituições de ensino superior.

Design/metodologia: Foi realizada uma revisão de escopo por meio de pesquisas na base de dados Web of Science, considerando publicações dos anos 2023 e 2024.

Resultados: Os resultados foram agrupados em quatro clusters temáticos: diretrizes e *frameworks*, desafios para a adoção da governança da inteligência artificial generativa no ensino superior, percepções das partes interessadas e lacunas de pesquisa.

Implicações para pesquisa: O estudo pode oferecer insights e servir de referência para a adoção da inteligência artificial generativa em outras instituições.

Originalidade/valor: A pesquisa contribui com a agenda de estudos focados na integração e na governança da inteligência artificial generativa em instituições de ensino superior.

Palavras-chave: Inteligência artificial generativa; Educação superior; Governança da inteligência artificial generativa

1 INTRODUCTION

According to McCarthy (2004), artificial intelligence (AI) is the science that aims to understand human behavior and make decisions based on existing data. Alongside the continuous evolution of AI, technological advancements have led to Generative AI (Gen AI). Gen AI can produce new and realistic content in various formats, such as text, images, and programming code (Murphy, 2022).

These intrinsic features of Gen AI have resulted in its adoption across various sectors, including business (Schneider et al., 2024; Badmus et al., 2024), education (Qadir, 2023; Chan, 2023), and finance (Kroon et al., 2021; Mhlanga, 2020). In the domain of education, embracing Gen AI can enhance the learning process and improve pedagogical experiences (Grassini, 2023). Supporting this view, Kurtz et al., (2024) emphasize the potential for creating interactive and stimulating educational environments.

Despite the potential benefits of Gen AI, concerns have arisen regarding its adoption within existing educational models, including issues of academic integrity, privacy, and authenticity (Nartey, 2024). Consequently, higher education institutions (HEIs) face the challenge of integrating this technology while upholding pedagogical principles (Nartey, 2024).

Therefore, there is a need for guidelines to steer the use of Gen AI in universities. However, studies by Ogunleye et al. (2024) and Hofmann et al. (2024) highlight a significant gap in published guidelines for Gen AI applications in many universities.

In light of this, this article seeks to address the following research question: What are the existing guidelines and frameworks in the literature concerning Gen AI use in higher education?

The study's objective is to map the existing literature on guidelines and frameworks for Gen AI in HEIs. This research is crucial as it may support the development of strategies that ensure the responsible and ethical implementation of Gen AI within the university setting.

This article comprises this introduction followed by three sections. The first section elaborates on the research's methodological approach; the second presents the results, with an analysis of the articles grouped by codes and organized into four themes. Lastly, brief conclusions are presented.

2 METHODOLOGY

To understand Gen AI's corporate governance studies within higher education, an exploratory review was conducted. Arksey and O'Malley (2005) define an exploratory review as the process of identifying and evaluating studies within a specific area, topic, or research field. Such a review may have one or more of the following objectives:

a. to explore the extent, scope, and character of research activities;

b. to assess the value of conducting a comprehensive systematic review;

c. to compile and disseminate research findings;

d. to identify gaps in the scientific literature.

Thus, to carry out this review, the research design outlined in Table 1 was employed, as established by Kitchenham and Charters (2007).

Table 1 – The research study protocol employed

| Study protocol	
Title of the literature review	Scope Review: Guidelines and Governance Structures for the Adoption of Gen AI in HEIs
Research objectives	Identify guidelines and structures adopted in the use of generic AI in HEIs The specific objectives are: (i) to identify challenges for the implementation of generic AI governance in HEIs (ii) to identify stakeholders' perceptions of generic AI guidelines (iii) to identify gaps in research
Research questions	Primary question: What are the guidelines and frameworks in the existing literature related to the use of Gen AI in HEIs? Secondary Questions: SQ1 - What are the challenges related to implementing Gen AI governance? SS2 - How do different stakeholder groups (faculty, students, staff, researchers) perceive Gen AI guidelines? QS3 - What research gaps could generate future research?
Search strategy Search strings	For English databases: TS= (("generative AI" OR "GenAI" OR "artificial intelligence generative" OR "AI learning tools") AND ("higher education" OR universit* OR teaching OR learning OR "higher education policy" OR college* OR undergrad* OR graduate OR postgrad* OR "middle school*" OR "high school*" OR "adult education" OR "vocational education" OR "vocational course" OR "vocational training" OR "AI education" OR Tertiary OR "AI in Education")) AND TS=(("guiding principles in education" OR administration OR assessment OR guidelines OR framework OR transparency OR accountability OR integrity OR security OR responsibility OR "ethical issues" OR "AI ethics policy" OR "academic integrity" OR "AI ethics" OR "AI assessment" OR "AI integration" OR "responsible AI adoption" OR "Generative AI policy" OR "AI guidelines" OR "Generative AI guidelines" OR "AI guide" OR guide OR "guidance principles"))
Sources of information	Web of Science
Search date	10/15/2024 - 10/27/2024

Study protocol	
Study selection strategy Inclusion criteria (IC)	Period of analysis: 2023 to 2024 Unit of analysis: Research articles IC 01: Studies published in the last 2 years, as this is a new technology (AND) IC 02: Peer-reviewed studies that provide answers to research questions (AND)
Exclusion criteria (EC)	EC 01: The publication is not peer-reviewed or is not a full article (OR) EC 02: The full text of the article is not available (OR) EC 03: Studies that are not related to the research questions (OR) EC 04: Duplicate article
Validation strategy	Disagreements were resolved through analysis by other researchers.

Source: Prepared by the authors (2024), adapted from Kitchenham and Charters (2007)

After implementing the search strategy, thirty-six titles and abstracts were analyzed to identify and eliminate articles that did not meet the inclusion criteria for this review. Subsequently, fourteen articles were discarded because they were not directly aligned with the research focus of this study, and six were selected. Ultimately, a total of twenty articles were included as the final sample for the study. Figure 1 illustrates the study selection and exclusion process, detailing the number of records involved in each step.

Figure 1 – Flowchart depicting the review
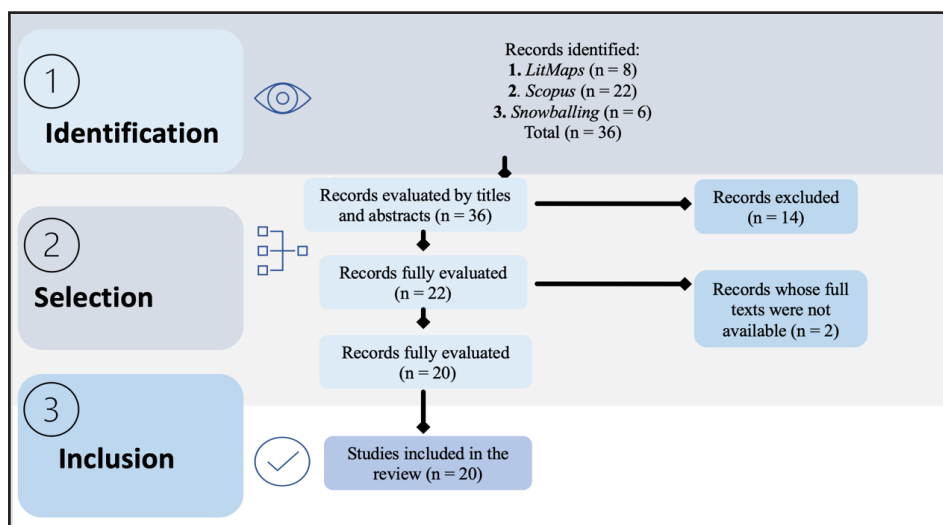
Source: Prepared by the authors (2025), adapted from Page (2021)

The articles included in this study are listed in Table 2, along with their respective authors and years of publication.

Following the final selection of studies, a thematic synthesis was performed according to the method by Thomas and Harden (2008). This thematic synthesis involves three stages: first, conducting line-by-line coding of the results from the primary studies; second, organizing these free codes into related areas to construct descriptive themes; and third, developing analytical themes (Thomas & Harden, 2008).

The twenty articles were manually coded line-by-line, resulting in the generation of twenty-six codes. Table 3 presents these codes, their definitions, examples of anchors, and the corresponding references.

Table 2 – Exploratory literature review

Title	Author name and year of publication
1. AI Governance in Higher Education: Case Studies of Guidance at Big Ten Universities	Wu et al. (2024)
2. A comprehensive AI policy education framework for university teaching and learning	Chan (2023)
3. Guiding principles of generative AI for employability and learning in UK universities	Nartey (2024)
4. Fairness, Accountability, Transparency, and Ethics (FATE) in Artificial Intelligence (AI) and higher education: A systematic review	Memarian & Doleck (2023)
5. The impact of Generative AI (GenAI) on practices, policies, and research direction in education: a case of ChatGPT and Midjourney	Chiu (2023)
6. A Social Perspective on AI in the Higher Education System: A Semisystematic Literature Review	Alshahrani et al. (2024)
7. Strategic leadership for responsible artificial intelligence adoption in higher education	Tarisayi (2024)
8. Exploring the Potential of Generative Artificial Intelligence in Education: Applications, Challenges, and Future Research Directions	Hwang & Chen (2023)
9. From Guidelines to Governance: A Study of AI Policies in Education	Ghimire & Edwards (2024)

Title	Author name and year of publication
10. Integrating Generative AI in University Teaching and Learning: A Model for Balanced Guidelines	Cacho (2024)
11. Brave New Words: A Framework and Process for Developing Technology-Use Guidelines for Student Writing	August et al. (2024)
12. Generative AI tools and assessment: Guidelines of the world's top-ranking universities	Moorhouse et al. (2023)
13. AI-based Tools in Higher Education - A Comparative Analysis of University Guidelines	Hofmann et al. (2024)
14. An integrative decision-making framework to guide policies on regulating ChatGPT usage	Bukar et al. (2024)
15. AI and ethics: Investigating the first policy responses of higher education institutions to the challenge of generative AI	Dabis & Csáki (2024)
16. Communicating Clear Guidance: Advice for Generative AI Policy Development in Higher Education	Moore & Lookadoo (2024)
17. The Artificial Intelligence Assessment Scale (AIAS): A Framework for Ethical Integration of Generative AI in Educational Assessment	Perkins et al. (2024)
18. Generative Artificial Intelligence: Implications and Considerations for Higher Education Practice	Farrelly & Baker (2023)
19. Navigating the Ethical Challenges of Artificial Intelligence in Higher Education: An Analysis of Seven Global AI Ethics Policies	Slimi & Carballido (2023)
20. A critical review of GenAI policies in higher education assessment: a call to reconsider the "originality" of students' work	Luo (2024)

Source: Prepared by the authors (2025)

Table 3 – Line-by-line coding

Research question	Code	Definition	Anchor examples	Reference
Primary question	Adaptable guidelines	Refers to adaptability to guidelines in the face of rapid technological changes	"There is room for adaptation to rapid changes in technology and encouragement of experimentation by the academic community."	Wu et al. (2024); Ghimire & Edwards (2024); Cacho (2024); August et al. (2024); Dabis & Csáki (2024); Perkins et al. (2024); Luo (2024)
	Ethical guidelines	Need for well-defined ethical policies and guidelines	"Urgent need for clear ethical guidelines and governance structures."	Alshahrani et al. (2024); Hwang & Chen (2023); Ghimire & Edwards (2024); Cacho (2024); August et al. (2024); Moorhouse et al. (2023); Hofmann et al. (2024); Bukar et al. (2024); Moore & Lookadoo (2024); Perkins et al. (2024); Slimi & Carballido (2023); Luo (2024)
	AI Ecological education policy framework	Structure organized into three dimensions: Pedagogical, Governance, and Operational	"The study proposes an AI Ecological Education Policy Framework to address the multifaceted implications of integrating AI into university teaching and learning."	Chan (2023); Cacho (2024)
	Integrated model: risk, reward and resilience	A framework that combines risk assessment, reward recognition, and strengthening institutional resilience for the ethical use of Gen AI.	"The study presents an integrative model called Risk, Reward, Resilience, an approach that considers risk, reward, and resilience."	Bukar et al. (2024)
	Artificial intelligence assessment scale (AIAS)	Clear and progressive definition of the levels permitted for the use of Gen AI in academic assessments	"The AIAS consists of five progressive, clearly defined levels to guide the use of GenAI tools in assessment activities."	Perkins et al. (2024)

Research question	Code	Definition	Anchor examples	Reference
	Financial and human resources	Need for financial investment and specialized staff	"Technical and resource-related: significant need for financial investment, specialized staff, and technological infrastructure for sustainable implementation."	Nartey (2024); Tarisayi (2024)
	Rapid pace of technological development	Difficulty in keeping guidelines aligned with the rapid technological evolution of GenAI	"Need for constant review of educational policies to keep pace with technological advances."	Nartey (2024); Ghimire & Edwards (2024); Moorhouse et al. (2023); Dabis & Csáki (2024); Farrelly & Baker (2023)
	Technological infrastructure	Need for adequate technological infrastructure for AI adoption	"Requirements for robust technological infrastructure and adequate data governance."	Alshahrani et al. (2024); Tarisayi (2024); Cacho (2024)
Secondary question 1	Misuse and academic integrity	Concerns related to the inappropriate use of Gen AI technologies by students and its implications for academic ethics	"Ethical issues related to the inappropriate use of AI."	Cacho (2024);August et al. (2024); Moorhouse et al. (2023); Hofmann et al. (2024); Bukar et al. (2024); Moore & Lookadoo (2024); Perkins et al. 2024; Farrelly & Baker (2023)
	Compromise to learning	Risk of compromising authentic learning and critical thinking development.	Risk of compromising authentic learning and critical thinking development.	August et al. (2024)
	Concerns about data privacy and security	Uncertainties and concerns regarding the protection and transparency of data used by AI systems	Concerns about the privacy, security, and transparency of data used in AI systems	Chan (2023); Nartey (2024); Alshahrani et al. (2024); Tarisayi (2024); Ghimire & Edwards (2024); Hofmann et al. (2024); Bukar et al. (2024)
	Accuracy and reliability of Gen AI	Challenges in ensuring that AI-generated content is accurate, reliable, and transparent	"Uncertainties about the accuracy, reliability, and transparency of AI-generated content."	August et al. (2024); Hofmann et al. (2024); Bukar et al. (2024); Dabis & Csáki (2024)
	Legal issues	Challenges related to intellectual property and copyright on content generated by Gen AI	"Legal issues related to intellectual property and copyright."	Bukar et al. (2024)

Research question	Code	Definition	Anchor examples	Reference
Secondary question 2	Demand for Gen AI literacy	Training to use Gen AI ethically and effectively	"Provide training on the ethical and effective use of GenAI."	Chan (2023); Nartey (2024); Chiu (2024); Tarisayi (2024); Cacho (2024); August et al. (2024); Memarian & Doleck (2023); Moorhouse et al. (2023); Hofmann et al. (2024); Farrelly & Baker (2023); Slimi & Carballido (2023); Perkins et al. (2024); Farrelly & Baker (2023)
	Adapting teaching and assessment methods	Review and adapt your teaching methods and assessment criteria in light of the adoption of Gen AI	"Reassessment of teaching and assessment methods."	Chan (2023); Nartey (2024); Chiu (2024); Moorhouse et al. (2023)
	Preparation for the job market	Importance of preparing for an AI-influenced market	"Preparing students for an AI-driven job market."	Chan (2023); Nartey (2024); Chiu (2024); Cacho (2024); August et al. (2024)
	Skill development	Developing skills such as critical thinking, creativity, and teamwork	"Developing students' generic skills (critical thinking, teamwork)."	Chan (2023); Chiu (2024); Nartey (2024)
	Interinstitutional collaboration	Collaborative efforts between HEIs to exchange knowledge and adopt best practices	"Collaboration between institutions to share knowledge and best practices on Gen AI integration."	Nartey (2024)
	Programming prompt	Development of a sequence of logical instructions	"It is suggested that researchers and educators abandon the 'search' mindset and use 'programming prompts' to work with Gen AI applications.	Hwang & Chen (2023)
	Personalized experiences	Valuing personalized learning	"AI enables personalized experiences, automated assessments, adaptive learning, and greater student engagement."	Alshahrani et al. (2024); Tarisayi (2024); Hwang & Chen (2023); Cacho (2024); August et al. (2024)
	Dehumanization of education and threat to jobs	Fear of reduced human interaction and empathy in education; fear of automation and job insecurity	"Resistance from professors and students due to concerns about the dehumanization of education and threats to jobs."	Slimi & Carballido (2023)
	Fear of technological dependence	Concern about the risk of excessive dependence on technology and the consequent decline in critical thinking and human interaction	"Concerns persist about excessive dependence on technology and the decline of critical thinking and human interaction."	Nartey (2024); Alshahrani et al. (2024); Cacho (2024)

Research question	Code	Definition	Anchor examples	Reference
Secondary question 3	Diverse geographic, cultural, and socioeconomic contexts	Need for additional studies that include universities from different regions and cultural contexts	"Conduct comparative policy studies at universities in different geographic or socioeconomic contexts"	Wu et al. (2024); Luo (2024); Moorhouse et al. (2023)
	University research context	Ethical dilemmas that generic AI tools may generate in university research	"Due to this limitation, related fields, such as university research, were excluded from the scope of the analysis. However, research-related activities are certainly ripe for scientific scrutiny, as indicated in this study."	Dabis & Csáki (2024)
	Gen AI-based educational models or frameworks	Models or frameworks for implementing Gen AI-based learning strategies, teaching plans, or research projects	"Models or frameworks can be a good reference to guide researchers or instructors in implementing Gen AI-based learning strategies, teaching plans, or research projects."	Hwang & Chen (2023)
	Empirical studies on the use of the AIAS	Need for empirical studies to validate the AIAS in different educational contexts	"As part of this effort, empirical studies on the use of AIAS in various educational settings can contribute."	Perkins et al. (2024)

Source: Prepared by the authors (2025)

Next, as outlined by Thomas and Harden (2008), new codes were created to capture the meaning of the initial code groups. This process resulted in nine descriptive themes (Table 4).

Lastly, the descriptive themes were grouped into four analytical themes. These analytical themes result from the descriptive synthesis and the formulation of specific questions established in advance (Thomas & Harden, 2008)**.** These new themes are discussed in the Results section.

Table 4 – Descriptive themes

Descriptive themes	Definition	Codes
Guidelines	Recommendations and guidelines on how to operate	Ethical guidelines, adaptable guidelines, co-creation of guidelines
Structures	Educational strategies aimed at the adoption of Gen AI	Ecological Education Policy in AI Structure, Integrated Model: Risk, Reward, and Resilience, Artificial Intelligence Assessment Scale (AIAS)
Technical and financial challenges	Need for financial investments, specialized teams, and technological infrastructure	Financial and human resources, technological infrastructure, rapid pace of technological development
Concerns about ethics, security, and academic integrity	Ethical and regulatory implications related to the adoption of Gen AI	Misuse and academic integrity, commitment to learning, concerns about data privacy and security, accuracy and reliability of AI, legal issues
Need for preparation and development	Specific skills and knowledge for the adoption of Gen AI	Demand for AI literacy, adaptation of teaching and assessment methods, skills development, inter-institutional collaboration, "Programming Prompt"
Concerns and fears	Uncertainties and concerns related to Gen AI adoption	Fear of technological dependence, dehumanization of education, and threat to jobs
Benefits	Benefits related to the adoption of Gen AI	Preparation for the job market, personalized experiences
Different contexts	Research on how different contexts influence the adoption of Gen AI	Diverse geographic, cultural, and socioeconomic contexts, university research context
Use of structures	Use of structures and scales	Gen AI-based educational models or structures, and empirical studies on the use of the AIAS

Source: Prepared by the authors (2025)

3 RESULTS

3.1 Theme 1: guidelines and structures

This analytical theme encompasses guidelines and structures for adopting Gen AI as described in the articles analyzed. It consists of 12 codes grouped into two descriptive themes: Guidelines and Structures.

The theme "Guidelines" encompasses research into methods for implementing guidelines across various approaches. Regarding definition, guidelines are established as "non-mandatory recommendations, interpretations, administrative instructions, best practice guidelines, or frameworks within which to operate" (UW-Madison Library, 2022).

Initially, clear policies and guidelines are established with a focus on the ethical use of Gen AI in academic activities (Nartey, 2024; Memarian & Doleck, 2023; Tarisayi, 2024; Ghimire & Edwards, 2024; Cacho, 2024; Dabis & Csáki, 2024; Farrelly & Baker, 2023). Similarly, Cacho (2024) mentioned creating broad and adaptable guidelines applicable in different educational environments. Chan (2023) addressed the encouragement of a "balanced approach" in adopting Gen AI as a supplementary tool for enhancing learning. According to the author, the "balance" involves reconciling the benefits and challenges inherent in this technology. On the one hand, technology offers benefits such as increased efficiency and productivity. On the other hand, its limitations must be considered, including ethical issues and excessive dependence.

In addition to guidelines, frameworks were created to assist in implementing corporate governance for Gen AI. The framework, called the AI Ecological Education Policy Framework (Chan, 2023), was designed to address the dimensions involved in AI policies at universities, which are:

1.   Governance dimension (led by senior management): involves understanding and preventing academic misconduct, addressing data privacy and security, ensuring equity in access, and establishing attribution policies for Gen AI (Chan, 2023).

2. Operational dimension (led by faculty, students, and IT staff): focuses on monitoring the implementation of Gen AI and providing training and support (Chan, 2023).

3. Pedagogical dimension (led by professors): involves rethinking assessments, developing students' holistic competencies, preparing them for AI-driven workplaces, and encouraging balanced adoption of the technology (Chan, 2023).

Bukar et al. (2024) presented a framework for ethical decision-making. Named Risk, Reward, and Resilience, the framework aims to inform decisions related to adopting advanced AI in educational settings by highlighting associated advantages and challenges. According to the framework, risk is linked to negative internal and external factors, reward pertains to positive internal and external factors, and resilience encompasses the ability to respond to change (Bukar et al., 2024).

Furthermore, Perkins et al. (2024) proposed a framework called the AI Assessment Scale (AIAS). The AIAS allows educators to determine the appropriate level of AI use in assessments based on intended learning outcomes. The AIAS features a five-point scale that balances simplicity and clarity, facilitating the differentiated integration of Gen AI tools.

3.2 Theme 2: challenges for Gen AI implementation

This analytical theme addresses the technical, financial, and ethical challenges faced in implementing Gen AI governance by HEIs. It consists of eight codes grouped into two descriptive themes: Technical and Financial Challenges, and Concerns about Ethics, Safety, and Academic Integrity.

The theme "Technical and Financial Challenges" includes issues related to high infrastructure investments and ongoing costs generated by Gen AI (Cacho, 2024; Alshahrani et al., 2024).

For the theme "Concerns about Ethics, Safety, and Academic Integrity," August et al. (2024) raised concerns related to ethics, plagiarism, and violations of academic integrity in technology use. Additionally, the authors highlight that universities do not

maintain uniform positions on academic integrity and plagiarism concerning Gen AI, resulting in significant uncertainties.

Chan (2023) emphasized the importance of recognizing ethical challenges and suggested that students should be educated on ethical issues, such as distinguishing between plagiarism and inspiration, as well as understanding appropriate contexts for using Gen AI.

Moreover, these studies warn that Gen AI could compromise learning and hinder the development of critical thinking and problem-solving skills (Alshahrani et al., 2024). There is also concern about the generation of inaccurate information (August et al., 2024).

3.3 Theme 3: stakeholder perceptions

This analytical theme focuses on the perceptions of stakeholders—professors, students, staff, and researchers—regarding the guidelines and structures of Gen AI. It encompasses ten codes grouped into three descriptive themes: the Need for Preparation and Development, Educational Benefits, and Concerns and Fears.

In the theme of "Need for Preparation and Development," the current educational and professional landscape, where Gen AI is widely adopted, necessitates that professors develop literacy in Gen AI (Moorhouse et al., 2023). Alshahrani et al. (2024) posited that literacy in Gen AI is essential to harness its innovative potential and enhance the higher education experience for all involved parties.

Another significant issue is the need to adapt assessment methods. According to Chan (2023), professors recognize the necessity of developing new assessment methods. Thus, they propose strategies that emphasize students' understanding and critical thinking.

Similarly, Moorhouse et al. (2023) found that most universities provided guidance on assessment task design to their instructors. The documents acknowledged that

state-of-the-art AI tools required instructors to reassess their current assessment tasks and practices (Moorhouse et al., 2023).

Recommendations for redesigning assessment tasks include: (1) designing assessments that require creativity and critical thinking, as current Gen AI tools are thought to struggle with these skills; (2) incorporating contextual elements; (3) designing authentic assessments; and (4) offering alternative ways for students to demonstrate their knowledge beyond text (Moorhouse et al., 2023). Regarding students, the use of Gen AI can act as a "catalyst for professional growth" (Cacho, 2024). According to Cacho, technology can influence professional advancement and assist in both academic and future professional careers.

Nartey (2024) noted that the adoption of Gen AI in higher education has raised concerns about its impact on student employability. From this perspective, there are questions about how students can remain competitive in a job market increasingly characterized by technology's ability to perform tasks traditionally done by humans (Slimi & Carballido, 2023; Nartey, 2024).

Regarding the future of work, Chan (2023) emphasized the need to prepare students for jobs that integrate Gen AI. Chan argues that due to the adoption of Gen AI in various areas of the job market, universities should create curricula based on this demand to familiarize students with this technology and enable them to utilize it effectively. Additionally, Chiu (2024) called for the creation of foundational courses on AI literacy and critical thinking skills before using the technology.

As technology advances and the relevance of Gen AI in the labor market becomes more evident, developing particular skills is crucial (Nartey, 2024). In this context, the development of generic skills is paramount (Chiu, 2024).

According to Chiu (2024), generic skills are long-lasting skills that benefit students' future work and studies. The author notes a focus on developing students' generic skills, particularly digital literacy, critical thinking, and creativity. Therefore, HEIs need

to adapt their curricula to ensure students are well-prepared for a future where Gen AI plays a significant role in the workplace (Moorhouse et al., 2023).

Concerning teams, Nartey (2024) emphasized promoting collaborative efforts for sharing knowledge and best practices about Gen AI in teaching and learning among HEIs. Hwang and Chen (2023) recommended that researchers and educators move beyond the "search" mindset and adopt "programming prompts" when working with Gen AI. Programming prompts refer to the ability to guide Gen AI applications to complete tasks through a sequence of logical instructions. Consequently, developing skills in "programming prompts" will enhance teaching and learning quality.

On the topic of "Educational Benefits," Hwang and Chen (2023) highlighted Gen AI's potential to provide diverse learning modes, particularly in creative learning tasks that explore creativity and the ability to produce works of art, solve problems, or complete projects with technological assistance.

Moreover, Cacho (2024) emphasized that Gen AI can facilitate educational processes and assist professors', thus contributing to the teaching process. In his study, Cacho cites an example of a professor who reported using the tool and noted advantages such as "checking my grammar and sometimes serving as my advisor" (Cacho, 2024).

Regarding "Concerns and Fears," Nartey (2024) warned that over-reliance on Gen AI can impair students' cognitive development and hinder their creative skills. Similarly, Cacho (2024) pointed out "cognitive and ethical implications," such as laziness, authentic learning, and integrity, cautioning against a dependency that could diminish students' critical thinking and problem-solving skills.

In their study, Chan (2023) highlighted concerns among students and professors regarding students leveraging AI technologies to gain advantages in their assignments. There are also concerns about over-reliance on AI technologies, limited social interaction, and potential obstacles to developing generic skills (Chan, 2023).

3.4 Theme 4: research gaps

This analytical theme addresses the research gaps identified in the reviewed literature. It encompasses four codes grouped into two descriptive themes: Different Contexts and Use of Structures.

The theme "Different Contexts" emphasizes the need for conducting similar studies in HEIs with cultural and socioeconomic characteristics that differ from those previously studied (Luo, 2024; Moorhouse et al., 2023). This focus is particularly pertinent for HEIs situated in non-English-speaking countries and the Global South (Wu et al., 2024). Additionally, Dabis and Csáki (2024) recommend investigating the adoption of Gen AI in university research.

The theme "Use of Structures" suggests the implementation of educational structures based on Gen AI as a research topic. According to Hwang and Chen (2023), structures can act as a strategic resource to assist researchers and educators in applying learning strategies, developing teaching plans, or conducting research projects that incorporate this technology. In this context, Perkins et al. (2024) suggested empirical research on the AIAS.

4 FINAL CONSIDERATIONS

The objective of this study was to conduct an exploratory review of corporate governance guidelines and frameworks used in higher education institutions for adopting Gen AI. In total, 20 studies directly related to the scope of this research were identified. These studies were organized into codes and divided into four main themes.

The research classified under the analytical theme "Guidelines and Structures" underscores the significance of establishing recommendations and administrative guidelines for Gen AI adoption. Some studies presented methodological frameworks suggesting dimensions for governing and implementing Gen AI in higher education.

The analytical theme "Challenges for the Implementation of Gen AI Governance" delves into the technical, financial, and ethical challenges associated with implementing Gen AI. This research highlights the challenges related to academic integrity, plagiarism, and the role of these tools in skill development and critical thinking.

The third theme, "Stakeholder Perceptions," compiles research capturing the perspectives of educators, students, staff, and researchers. These studies focus on ensuring adequate literacy for Gen AI use, developing new teaching assessment methodologies, and examining the impact of Gen AI on employability. Lastly, the theme "Research Gaps" presents the research gaps identified by the authors, emphasizing the significance of studying Gen AI adoption across diverse social and economic contexts and applying relevant structures.

In conclusion, this study contributes to the systematization of Gen AI topics in higher education. By providing preliminary insights, future research could either deepen the analyses presented here or broaden the investigation's scope to include other public or private institutions.

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2. Development of hypotheses or research questions (empirical studies)	√	√	√
3. Development of theoretical propositions (theoretical work)	√	√	√
4. Theoretical foundation / Literature review	√	√	√
5. Definition of methodological procedures	√	√	√
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Data will be available upon request