

# Governance in Higher Education: Models, Institutional Transformations and Management Challenges

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**ABSTRACT:** The governance of higher education institutions is the process of organizing and regulating institutional power in order to guide decision-making, policies, and resource allocation in a complex and diverse context. Confronted with mounting pressures from external sources, including internationalization and demands for greater transparency, academic institutions find themselves compelled to recalibrate their internal structures and redefine their mission. The present research employs the PRISMA 2020 methodology in order to systematically review the extant literature on governance models, recent transformations, and challenges in management, participation, and sustainability. Tensions have been identified between hierarchical and participatory approaches, which reflect the variety of contexts and the need for flexible responses. Transformations driven by social, political and technological factors require updated mechanisms that integrate strategic leadership and effective participation, in addition to considering the well-being of academic staff. The concept of governance is understood as an evolving system that articulates local and global levels, combines public and institutional policies, and applies ethical values to design resilient and inclusive models that facilitate innovation and position higher education as a driver of just and sustainable societies. The findings reveal the predominance of hybrid governance models and highlight governance fragmentation as the most pressing challenge for achieving quality and sustainability in higher education.

**Keywords:** University governance; governance models; institutional transformations; educational management; academic sustainability.

## I. INTRODUCTION

The governance of higher education is defined as the set of structures, processes, norms, and actors that regulate decision-making, policy design, and the distribution of resources in university institutions. It encompasses the structuring of institutional power, the equilibrium between hierarchical and participatory levels, and the coordination between academic, financial, and administrative management, in accordance with

the principles of autonomy, accountability, and institutional responsibility [1]. In recent decades, universities have experienced significant changes driven by global factors such as internationalization, competition for funding, demands for transparency, and increased public oversight of their performance. Recent studies emphasize that governance and leadership are central in fostering institutional change and sustainability. Bohlens [2] shows that the articulation of collegial, corporate, and hybrid models, combined with distributed or transformational leadership, strengthens organizational capacity and transparency, enabling higher education to face regulatory and financial challenges.

In this context, governance assumes a strategic role, as it facilitates the analysis of institutional responses to these external pressures, adjustments to internal structures, and the redefinition of their functions. Furthermore, the introduction of results-based funding schemes, quality assurance systems, and evaluation mechanisms has modified traditional management practices, generating tensions between academic autonomy and state control [3, 4]. A range of governance models applicable to universities is currently under discussion. The promotion of hierarchical structures oriented towards efficiency and centralized leadership is contrasted with the proposal of participatory models focused on deliberation, representation and cooperation. In this context, the study of governance in higher education is necessary to understand and guide its future evolution [5]. Recent decades have seen an increase in the analysis of governance in higher education. However, an analysis of the extant literature reveals a considerable degree of fragmentation. The extant literature on this topic has been addressed from theoretical, normative, or empirical perspectives, but in isolation. There is no clear connection between conceptual approaches, institutional models applied in universities, and observed management practices [6, 7]. This dispersion hinders the establishment of frameworks capable of elucidating the intricacies of the phenomenon and its evolution across diverse contexts.

Despite the identification of hierarchical, participatory and hybrid models, there is a weak relationship between theoretical typologies and their actual use in institutions. The majority of studies to date have focused on single cases or normative approaches. To date, no comparative or systematic analyses have been developed to explain how governance models affect institutional transformations or academic and administrative performance [8, 9]. This absence of affiliation has far-reaching ramifications. This phenomenon has been demonstrated to impede the formulation of coherent and contextually appropriate public policies. Furthermore, it has been demonstrated that the aforementioned practices promote ineffective management strategies that are in direct opposition to institutional principles. This predicament presents a multifaceted challenge for academic institutions in terms of decision-making, internal coordination, accountability, and adaptation to external environmental changes. In this regard, the objective of this research is to explore governance models in higher education, their recent transformations, and the challenges associated with institutional management, participation, and sustainability. In order to achieve this objective, a series of questions have been devised to guide the inquiry into the models, transformations, and challenges of governance in higher education.

- Which governance models have been most frequently applied in higher education, and what are their main characteristics?
- What factors have driven the transformation of university governance structures in recent decades?
- How do participation and decision-making mechanisms interact with governance models to shape institutional practices?
- What challenges do universities face in ensuring quality, transparency, and sustainability within their governance systems?
- What relationships exist between governance configurations and academic or administrative outcomes in higher education institutions?

This study provides an integrated perspective on university governance models, elucidating the conceptual dimensions, institutional transformations, and management challenges that underpin them. The value of the present study lies in its proposal of an analytical synthesis that contributes to the design of more coherent policies and the implementation of more inclusive, efficient, and sustainable governance practices.

## II. MATERIAL AND METHOD

The PRISMA 2020 methodology is a set of guidelines that aims to ensure transparency, rigor, and reproducibility in systematic reviews. This facilitates the identification, selection, and analysis of relevant studies [10]. This updated guide promotes clear and structured reporting, with a view to minimizing bias and improving the quality of the research process. In the domain of university governance, PRISMA 2020 provides a framework for the systematic identification and evaluation of scientific literature, thereby ensuring the incorporation of pertinent evidence on models, institutional transformations, and management challenges. This provides a comprehensive and reliable overview of the state of the art and grounds solid conclusions for academic and policy decision-making. Consequently, PRISMA 2020 provides an appropriate methodological framework for rigorously exploring the complexity of the phenomenon under investigation.

At the same time, the rapid incorporation of digital technologies into governance processes cannot be ignored. Filgueiras [11] stresses that artificial intelligence and big data are reshaping decision-making and accountability in education systems, introducing new risks but also offering opportunities for more equitable and evidence-based governance practices.

### 1. ELIGIBILITY CRITERIA

The inclusion criteria were designed to ensure the relevance and quality of the selected studies. The selection of publications considered in this study was limited to those written in English or Spanish and published in the recent past. The objective of this restriction was to identify publications that accurately reflected the current transformations occurring in the field of university governance. Empirical, theoretical, and normative research explicitly addressing aspects related to higher education governance, such as governance models, institutional processes, and management challenges, was included. The selection was constrained to documents with titles that clearly demonstrated their focus on higher education and governance, thus ensuring thematic specificity.

The exclusion process was conducted in three phases. In the first instance, documents containing indexing errors were eliminated; that is, those incorrectly classified in databases and unrelated to the subject matter. In the subsequent phase, studies lacking full-text access were excluded, thus precluding a comprehensive evaluation. In the third phase, a critical review was applied according to thematic and methodological criteria, excluding works that did not meet minimum standards of relevance, clarity, or rigor. This procedure enabled the refinement of the sample, thereby ensuring that the selected documents provided reliable, relevant, and up-to-date evidence on models, transformations, and challenges in university management.

### 2. SOURCES OF INFORMATION

The Scopus and Web of Science databases were selected as the primary sources for the exhaustive search of scientific literature on higher education governance, given their broad coverage and multidisciplinary relevance. Scopus incorporates a substantial collection of academic journals, spanning over 25,000 titles across a wide range of disciplines including social sciences, education, administration and political science. This diversity enables the capture of a range of current research on governance models, institutional transformations, and university management challenges. Web of Science provides a meticulous and exclusive collection of high-impact publications, encompassing analogous disciplines and ensuring the inclusion of pertinent and frequently cited studies.

The two databases under consideration here cover a broad disciplinary and geographic spectrum, facilitating the identification of representative studies from different contexts and theoretical perspectives. Study [12] have demonstrated that there are significant disparities in coverage between the two databases, but their combination serves to minimize bias and ensure a more balanced and representative sampling of global scientific production. This complementarity serves to reinforce the validity of the systematic review, thereby enabling a more comprehensive analysis of university governance. Therefore, the selection of Scopus and Web of Science ensures broad, up-to-date, and rigorous access to reliable academic sources, which are essential for supporting a comprehensive study of models, transformations, and challenges in higher education management.

### 3. SEARCH STRATEGY

A series of bespoke search equations were developed for each database, derived from the inclusion criteria. In Scopus, the following formula was applied: TITLE ("higher education") AND TITLE ("governance" OR "university governance" OR "institutional governance"). This approach was adopted in order to ensure thematic relevance, with a focus on titles. In Web of Science, the search was adapted to TS= ("higher education") AND TS= ("governance" OR "university governance" OR "institutional governance"), employing the TS field, which encompasses titles, abstracts, and keywords, in accordance with the platform's syntax. The Boolean operators AND and OR were employed to combine terms and adjust the search scope. Furthermore, filters were implemented in order to restrict the results to publications in English and Spanish from a recent period. This strategy yielded relevant and targeted results, ensuring that the studies met the thematic and quality criteria required for the systematic review.

The decision to restrict the search to titles in Scopus and to titles, abstracts, and keywords in Web of Science was intentional. This approach prioritized thematic precision and reduced the risk of retrieving large volumes of tangential or irrelevant studies that mention governance only superficially within the body of the text. By focusing on explicit terms in the most visible sections of the publications, the strategy ensured that the final corpus was directly aligned with the research questions and objectives. While this restrictive approach may omit some potentially relevant works, it guaranteed a manageable and coherent dataset, thereby strengthening the internal validity and thematic consistency of the review. This limitation is acknowledged and opens an avenue for future research employing broader search strategies.

### 4. SELECTION PROCESS

The initial phase of the selection process entailed the elimination of duplicate records from both databases. A preliminary review of titles and abstracts was then conducted to exclude documents that did not meet the thematic and methodological criteria. Subsequent to this stage, the studies were subjected to a thorough review process, aimed at substantiating their relevance and evaluating their quality. The final selection was made by consensus among the reviewers, who resolved differences through discussion. This rigorous procedure ensured the inclusion of relevant, reliable, and appropriate studies to meet the objectives of the systematic review on higher education governance.

A considerable number of reports ( $n = 313$ ) could not be retrieved during the screening process. The primary reasons were restricted access to full texts in certain journals, conference proceedings without available complete manuscripts, and technical limitations in database indexing. These factors prevented comprehensive evaluation of those documents and justify their exclusion from the final sample, in line with the principles of transparency and reproducibility in systematic reviews.

As illustrated in Figure 1, the selection process of the study was conducted in accordance with the stages and steps recommended by the PRISMA 2020 declaration. The outline delineates the sequence of phases encompassing identification, deduplication, screening, full-text assessment, and inclusion. At each stage of the process, the number of records is indicated, and the reasons for exclusion are specified where applicable. The diagram employs a series of boxes connected by arrows, arranged in descending order, to facilitate comprehension of the systematic procedure applied in the review. This graphical representation offers a clear visualization of the rigor and transparency of the literature selection process on higher education governance.

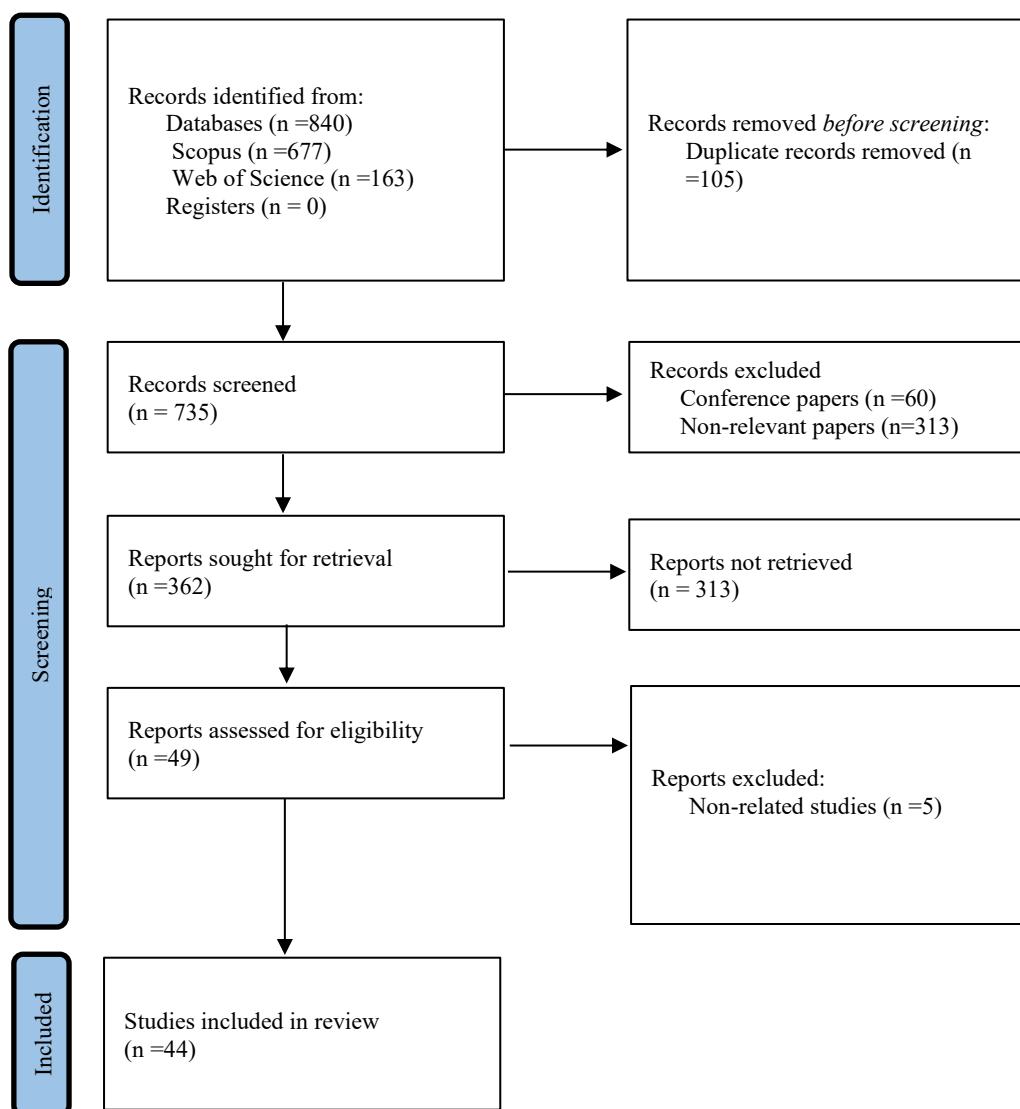


FIGURE 1. PRISMA flowchart. Prepared by the authors based on Scopus and Web of Science.

##### 5. DATA PROCESSING

For the purpose of data processing, Microsoft Excel was utilized as the primary instrument for the organization, coding and analysis of the information extracted from the selected studies. The platform enabled the systematization of relevant variables, thus facilitating the categorization and structured comparison of the data. Furthermore, the software was utilized in the preparation and management of the underlying information for the qualitative synthesis and quantitative analysis. The coding process was structured around the research questions, which served as the primary analytical categories. An initial coding framework was developed and piloted with a subset of studies to refine category definitions and ensure clarity. The process was carried out by multiple reviewers who independently coded the same sample of documents, after which discrepancies were discussed and resolved. Inter-coder reliability was verified through consensus-building, thereby enhancing the transparency and robustness of the qualitative synthesis. The system's versatility was instrumental in preserving the integrity and consistency of the data, as well as in the streamlining of the review

process. Furthermore, it ensured the efficient and orderly management of the evidence collected on higher education governance.

#### 6. RISK OF BIAS

The analysis identifies potential biases in the selection and evaluation of studies, including publication bias, language bias, and methodological bias. It also acknowledges the risks associated with the exclusive use of particular databases and specific search terms, which have the potential to restrict the diversity and representativeness of the evidence obtained. The presence of reporting biases has the capacity to influence the availability and quality of data reported in the selected studies. In order to mitigate the potential for such biases, a systematic and transparent procedure was applied. To mitigate potential publication bias, both high-impact journals and less prominent sources were included, avoiding reliance solely on frequently cited studies. Additionally, conference papers and non-peer-reviewed documents were excluded to ensure minimum quality standards. Regarding language bias, the review deliberately incorporated publications in both English and Spanish, which expanded coverage and reduced the overrepresentation of English-only literature. These measures, combined with systematic screening and consensus-based inclusion decisions, helped minimize distortions in the evidence base. This is reflected in Figure 1, which shows the flowchart according to PRISMA 2020. This methodological approach serves to enhance the validity and rigor of the review, notwithstanding the limitations that are intrinsic to the study's design and scope.

### III. RESULT

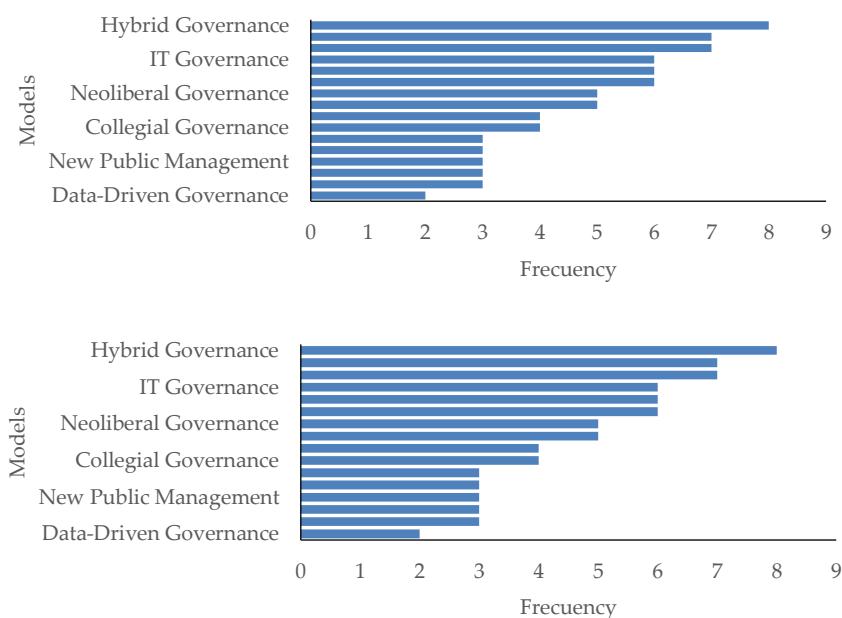
The results have been organized according to the questions that guided the study on higher education governance. Each subsection addresses a key aspect of governance models, institutional transformations, and management challenges, based on a detailed analysis of the reviewed literature. This configuration enables a lucid and methodical comprehension of the findings, facilitating the discernment of pertinent patterns and tendencies within the domain. In conclusion, Table 1 provides a synopsis of the studies that have been meticulously analyzed, thereby substantiating the conclusions that have been deduced.

**Table 1.** Studies included in the research. Prepared by the authors based on Scopus and Web of Science.

Title	Authors	Country
• Developing and enacting student governance and leadership training in higher education. A Practice Report	[13]	Australia
• Academic governance and leadership in Malaysia: examining the national higher education strategic initiatives	[14]	Malaysia
• Academic Leadership and Governance of Professional Autonomy in Swedish Higher Education	[15]	Sweden
• Advancing theory on knowledge governance in universities: a case study of a higher education merger	[16]	Denmark
• An evolution of performance data in higher education governance: a path towards a 'big data' era?	[17]	Netherlands
• Anticipatory governance in government: the case of Finnish higher education	[18]	Finland
• Assessment of sustainability governance in higher education institutions a systemic tool using a governance equalizer	[19]	Germany
• Conceptualizing Information Technology Governance Model for Higher Education: An Absorptive Capacity Approach	[20]	Malaysia
• Convergent or divergent Europeanization? An analysis of higher education governance reforms in France and Italy	[21]	Germany
• Coupling coordination between higher education and environmental governance: Evidence of western China	[22]	China

• COVID-19 and Well-Being of Non-local Students: Implications for International Higher Education Governance	[23]	Australia
• Departing from hybridity: higher education development and university governance in postcolonial Hong Kong	[24]	United Kingdom
• Dynamic capabilities and governance: An empirical investigation of financial performance of the higher education sector	[25]	United States
• Evolution of Chilean higher education from a governance equalizer perspective; [Evolução da educação superior chilena desde a perspectiva do equalizador de governação]; [Evolución de la Educación Superior Chilena desde la Perspectiva del Ecuilizador de Gobernanza]	[26]	Chile
• From massification towards post-massification: Policy and governance of higher education in China	[27]	United Kingdom
• Governance and academic culture in higher education: under the influence of the ssci syndrome	[28]	China
• Governance and Well-being in Academia: Negative Consequences of Applying an Agency Theory Logic in Higher Education	[29]	United States
• Governance boards of trustees: quality of higher education and the outputs of scientific research	[30]	India
• Governance of agents in the recruitment of international students: a typology of contractual management approaches in higher education	[31]	United States
• Governance of higher education in Malaysia and Cambodia: running on a similar path?	[32]	Cambodia
• Governance of risks in South Africa's public higher education institutions (HEIs)	[33]	South Africa
• Governance structures, voluntary disclosures and public accountability: The case of UK higher education institutions	[34]	United Kingdom
• Higher Education Governance and Lecturer Performance: The Role of Leadership, Commitment, and Culture	[35]	Indonesia
• Higher education governance and policy in China: Managing decentralization and transnationalism	[36]	Hong Kong
• Higher education governance and policy: An introduction to multi-issue, multi-level and multi-actor dynamics	[37]	Belgium
• Higher education governance in France, Germany, and Italy: Change and variation in the impact of transnational soft governance	[38]	Germany
• How far has the state 'stepped back': an exploratory study of the changing governance of higher education in China (1978–2018)	[39]	United Kingdom
• Implementation of suitable information technology governance frameworks for Moroccan higher education institutions	[8]	Morocco
• Interdependencies of culture and functions of sustainability governance at higher education institutions	[40]	Germany
• Necessity for reforming Turkish higher education system and possibility of governance of state universities by the board of trustees	[41]	Turkey
• Non-financial reporting in non-profit organizations: the case of risk and governance disclosures in UK higher education institutions	[42]	United Kingdom
• Quality assurance of higher education governance and management: An exploration of the minimum imperative for the envisioned African common higher education space	[43]	Uganda
• Re-distribution and public governance the politics of higher education in Western Europe	[44]	Norway
• Reimagining Higher Education in the Post-COVID-19 Era: Chinese Students' Desires for Overseas Learning and Implications for University Governance	[45]	Hong Kong

- Scandinavian Higher Education Governance Pursuing Similar Goals Through Different Organizational Arrangements [46] Norway
- Social media, social capital, and knowledge sharing: impact and implications for the higher education governance [47] India
- State level higher education boards in the USA and reform suggestions for Turkey: Governance, quality assurance, and finance [48] Turkey
- The autonomy of higher education in Finland and Sweden: global management trends meet national political culture and governance models; [49] Sweden
- The Governance of Complaints in UK Higher Education: Critically Examining 'Remedies' for Staff Sexual Misconduct [50] United Kingdom
- The Role of IT Capabilities and IT Governance on Accountability and Performance of Higher Education Institutions During the COVID-19 Pandemic [51] Indonesia
- The UK higher education senior management survey: a stat activist response to managerialist governance [52] United Kingdom
- Underpinning excellence in higher education—an investigation into the leadership, governance and management behaviors of high-performing academic departments [53] United Kingdom
- Who is responsible for what? On the governance relationship between ministry and agencies in Austrian and Norwegian higher education [54] Norway
- Work-based higher education programmes in Germany and the US: Comparing multi-actor corporatist governance in higher education [55] Switzerland

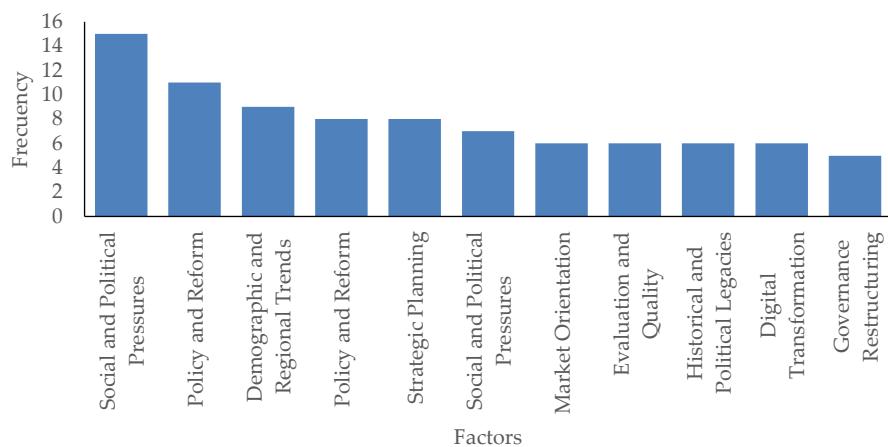


**FIGURE 2.** Predominant governance models. Prepared by the authors based on Scopus and Web of Science.

Figure 2 illustrates the frequency distribution of governance models documented in recent studies on higher education. The most frequently cited model is hybrid governance, followed by multilevel network governance and state-centered governance. The subsequent governance models in terms of frequency are those based on

information technology, accountability, and shared governance. In addition, models such as neoliberal governance, dynamic capability-based governance, managerial governance, and collegial governance are identified less frequently. The overarching model reflects a variety of institutional configurations and coordination mechanisms.

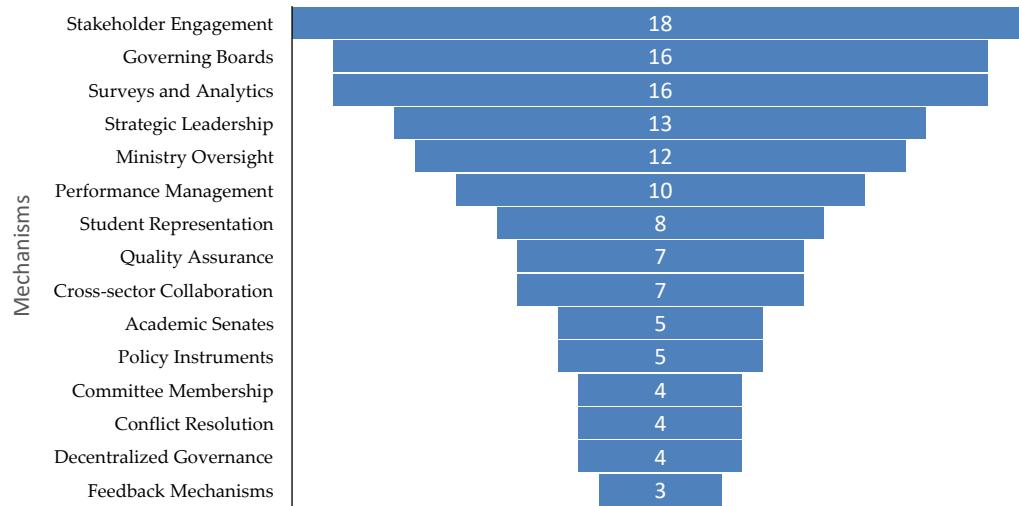
As illustrated in Figure 3, the distribution of factors affecting institutional transformation in higher education is presented. Social and political pressures are mentioned 15 times, followed by policy reforms with 11 mentions. The analysis revealed demographic and regional trends, strategic planning, and market orientations. A number of other factors have been taken into consideration, including assessment and quality, historical and political legacies, digital transformation, and governance restructuring. Concepts such as funding, internationalization, globalization, leadership, institutional complexity and academic culture appear less frequently, thus underscoring the heterogeneity of the elements present in these processes.



**FIGURE 3.** Key factors in institutional transformation. Prepared by the authors based on Scopus and Web of Science.

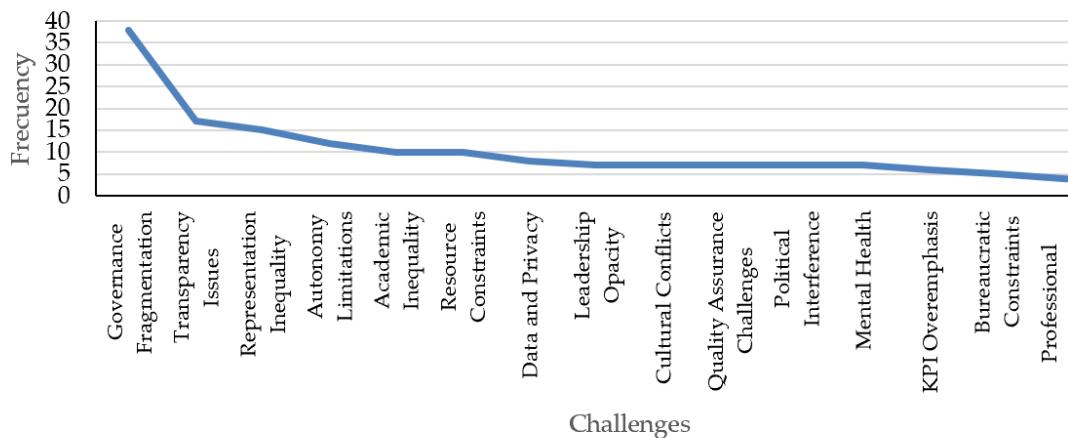
In line with these findings, governance has been recognized as a key driver in embedding sustainability into higher education institutions. Leal Filho [56] underline the critical role of governance in the implementation of the United Nations Sustainable Development Goals (SDGs), influencing both academic projects and institutional strategies.

As illustrated in Figure 4, the distribution of participation mechanisms in higher education governance is represented. Engagement with stakeholders is the most prevalent form of interaction, followed by university councils and surveys with analysis. The text also identifies strategic leadership and ministerial oversight as key elements. Findings indicate further mechanisms encompass performance management, student representation, quality assurance, and intersectoral collaboration. It appears that policy instruments, committee membership, conflict resolution, decentralized governance and feedback mechanisms are present to a lesser extent.



**FIGURE 4.** Participation mechanisms in governance. Prepared by the authors based on Scopus and Web of Science.

As illustrated in Figure 5, the distribution of the primary challenges pertaining to quality and sustainability in higher education governance is presented. The most prevalent challenge is governance fragmentation, followed by transparency issues and unequal representation. It is important to note that other relevant challenges exist, including limitations on autonomy, academic inequality, resource constraints, and data and privacy issues. The identified challenges encompass leadership opacity, cultural conflicts, difficulties in quality assurance, political interference, and mental health. Additional factors that have been identified include the overvaluation of KPIs, bureaucratic restrictions, erosion of professional autonomy, and role ambiguity.



**FIGURE 5.** Challenges in quality and sustainability. Prepared by the authors based on Scopus and Web of Science.

As illustrated in Figure 6, the frequency of findings has been organized by analytical categories on governance models and their effects on higher education. The majority of studies to date have focused on the national context and governance adaptation. The impact of leadership, alignment with sustainability, collaborative engagement, and risk management are then highlighted. The text also identifies mentions of institutional autonomy, cultural dynamics, data use, and risks associated with politics, albeit with less representation.



**FIGURE 6.** Predominant governance models. Prepared by the authors based on Scopus and Web of Science.

The predominance of hybrid governance models (Figure 2) can be explained by the convergence of competing institutional logics. Universities must simultaneously respond to efficiency demands imposed by state regulations and funding schemes while preserving participatory and collegial traditions rooted in academic culture. This dual pressure gives rise to hybrid arrangements that combine hierarchical and network-based mechanisms. In contexts of high accountability and performance measurement, managerial elements gain strength; however, they coexist with participatory councils and stakeholder engagement processes that legitimize decisions. This explains why hybridity, rather than purely managerial or collegial models, emerges as the most frequent configuration in higher education governance.

Likewise, the interaction between transformation factors (Figure 3) and governance challenges (Figure 5) demonstrates causal dynamics. For example, political reforms and social pressures often accelerate structural changes, but when combined with digitalization and market demands, they also generate fragmentation and transparency issues. Limited resources and uneven stakeholder representation exacerbate inequalities, while the emphasis on performance indicators contributes to role ambiguity and academic stress. In this sense, the challenges identified are not isolated outcomes but the product of interdependent forces: reforms reshape governance models, digitalization amplifies data-driven control, and market pressures erode professional autonomy. This systemic interaction highlights the need for adaptive governance strategies capable of balancing efficiency with inclusiveness and sustainability.

#### IV. DISCUSSION

This section presents a discussion of the findings on governance models, institutional transformations, and management challenges in higher education. Initially, the results are subjected to analysis and comparison with the findings of preceding studies, with a view to identifying the contributions of the existing literature. The subsequent proposal is of a conceptual framework based on the observed patterns. The theoretical, policy, and practical implications of the study are discussed. The ensuing discourse herein delineates the primary methodological and results-related limitations, concomitantly proposing prospective research trajectories

aimed at furthering the analytical profundity and augmenting the extant corpus of knowledge within the domain of higher education governance.

## 1. ANALYSIS OF RESULTS

As illustrated in Figure 2, a wide variety of governance models is evident in higher education, with a preponderance of hybrid, multi-level, and state-based schemes. These models integrate hierarchical structures and networks to address the diverse demands placed upon them. Approaches grounded in information technology and accountability are identified, in response to demands for transparency and efficiency. Shared governance functions as a counterweight to managerialism, while the presence of neoliberal and managerial models reflects the growing influence of market logics, modulated by dynamic local capacities. The findings underscore the intricacy and heterogeneity of the field, as articulated by [19, 21].

As illustrated in Figure 3, a multitude of factors exert influence on the process of institutional transformation in higher education. Primarily, social and political pressures are given consideration, followed by political reforms and demographic trends. Findings indicate a range of factors are identified, including strategic planning, market orientations, assessment, quality, historical legacies, and digital transformation. Factors that are less frequent include financing, internationalization, and academic culture, thus highlighting the multidimensional complexity of the process. These results are consistent with research describing the transition to hybrid governance models and highlight the need for structural reforms, as indicated by [26, 41].

As illustrated in Figure 4, participatory mechanisms in higher education governance appear to prioritize engagement with key stakeholders, university councils, and the utilization of surveys and analyses. Strategic leadership and ministerial oversight are essential components of this process. Findings indicate further mechanisms encompass performance management, student representation, quality assurance, and cross-sector collaboration. The utilization of policy instruments, committees, conflict resolution mechanisms and decentralized governance structures is comparatively infrequent. The results of this study reflect governance structures characterized by centralization and strategic control, linked to neoliberal tendencies and anticipatory practices that influence long-term decisions and reforms [18, 32].

As illustrated in Figure 5, governance fragmentation is identified as the primary challenge to quality and sustainability in higher education, with issues of transparency and inequality in representation ranking second. The limitations in autonomy, academic inequality, resource constraints, and concerns about data and privacy are identified. The challenges experienced by the organization include leadership opacity, cultural conflicts, quality assurance difficulties, political interference, and mental health. It is also evident that there are overvalued KPIs, bureaucracy, erosion of professional autonomy, and role ambiguity. These challenges necessitate comprehensive approaches to optimize student engagement and data management in governance [13, 17].

As demonstrated in Figure 6, the governance of higher education is contingent on the national context and the institutional adaptive capacity. The categories of leadership, sustainability, collaborative engagement, and risk management are identified as relevant. Institutional autonomy, cultural dynamics, data use, and political risks are less frequently documented. The findings of this study indicate that governance models must integrate contextual and adaptive factors to optimize their functioning, in addition to considering the well-being of academic staff, which is affected by potential mismatches in internal management practices [22, 29].

## 2. COMPARISON OF RESULTS WITH OTHER STUDIES

The research identifies patterns linked to governance models, institutional transformations, participation mechanisms, and challenges in quality and sustainability. A comparison of these results with recent studies reveals both similarities and differences, thus enabling the findings to be situated within the international academic context. The influence of the national context and institutional adaptive capacity coincides with the suggestions made by [57], who highlights the need for structural reforms and institutional strengthening in the face of digital transformation in local governments.

The findings of this study align closely with Abo-Khan et al. [58] who demonstrate how efficiency-oriented reforms and performance indicators reshape academic identities, often generating tensions between professional autonomy and managerial expectations. Similarly, Barus et al. [59] emphasize the importance of

student engagement and the establishment of ethical frameworks in governance processes, which resonates with the present results highlighting participation mechanisms and the need for transparent decision-making. Together, these studies corroborate the centrality of participatory practices and the risks of overemphasizing managerial logics in higher education governance.

In light of these comparisons, Abo-khan et al. [58] and Barus et al. [59] provide the most directly relevant parallels for situating the present findings, reinforcing the interpretation of governance as a contested space between efficiency and participation. While Wang [60] offers an interesting perspective on adaptive strategies in e-governance at the local government level, its focus diverges from the higher education domain and therefore serves only as a secondary point of contrast. By prioritizing comparisons with studies that address governance models and participatory mechanisms more explicitly, the discussion ensures greater theoretical coherence and strengthens the contribution of the proposed framework.

With regard to the mechanisms of participation, there is a convergence of opinion with [61], who place great emphasis on the importance of student engagement and the presence of clear ethical frameworks in the governance of AI. Despite the heterogeneity of the topics addressed, both studies underscore the necessity for participatory and transparent practices in institutional design, particularly in the context of emerging technologies. The challenges related to leadership opacity and role ambiguity are associated with the analysis by [62], who caution that algorithmic administration in universities can exacerbate problems of power, lack of accountability, and digital bureaucratization.

The digitalization challenge resonates with global evidence on barriers to transformation. Gkrimpizi, Peresters, and Magnisalis [63] classify obstacles to digital transformation in higher education into environmental, strategic, organizational, technological, cultural, and people-related factors, which intersect with the governance fragmentation identified in this review.

This coincidence indicates that digital transformation in governance requires critical attention to institutional transparency and ethics. At the organizational level, the findings are related to Sheikh Jefrizal Bin Jamaluddin et al., who analyses the implementation of digital assessments from a change management perspective. The two studies under consideration both highlight leadership, institutional communication, and professional development as key factors for effective governance in innovation processes. The necessity to align governance models with the well-being of academic staff is further corroborated by [29].

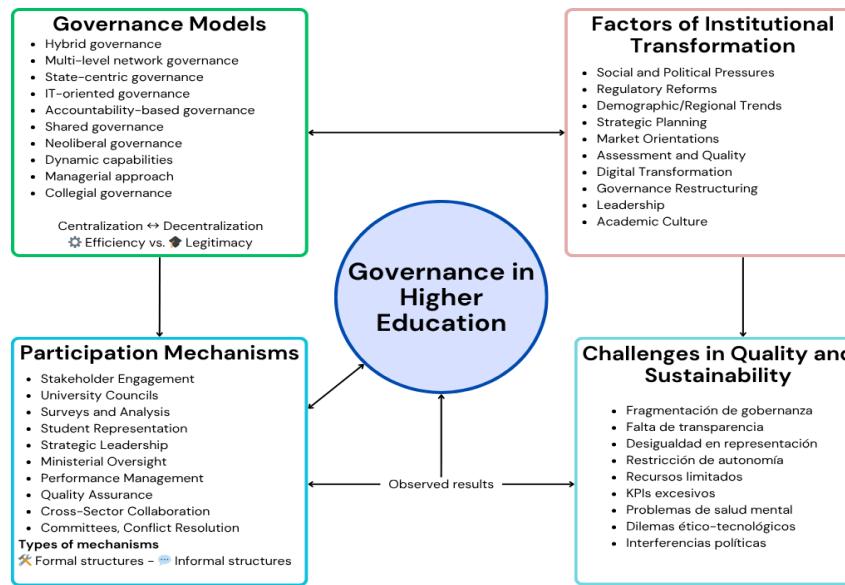
The findings of both studies indicate that performance-based approaches give rise to tensions that have a detrimental effect on staff motivation, particularly in instances of incongruence between organizational structures and professional roles. When considered as a whole, the findings are indicative of a dialogue with a broad literature covering digital governance and identity transformations. A comprehensive understanding of higher education governance is provided, considering structural and human factors in an interdependent, technology-mediated environment.

### 3. PROPOSED CONCEPTUAL FRAMEWORK

As illustrated in Figure 7, the conceptual framework underpinning higher education governance is depicted as a dynamic and interdependent system. The model elucidates the prevailing approaches to governance, the factors driving institutional transformation, the mechanisms of participation, and the challenges linked to quality and sustainability. The present study establishes functional connections between the aforementioned elements and highlights their dependence on the national, institutional and cultural context. The model incorporates feedback loops that connect the model to observable outcomes, thereby facilitating an interpretation of governance as a structural, adaptive, and constantly evolving process.

Compared with existing analytical frameworks such as the Governance Equalizer proposed by Niedlich et al. (2020) [19], which primarily focuses on balancing discrete governance dimensions (such as, autonomy, transparency, participation, steering capacity), the framework presented in Figure 7 adopts a more integrative and dynamic perspective. Rather than treating governance components as isolated axes to be adjusted independently, our model emphasizes the systemic interdependence between governance models, transformation factors, participation mechanisms, and sustainability challenges. This approach highlights the feedback loops and contextual contingencies that shape governance outcomes, thereby capturing the fluidity and complexity of higher education governance in a way that static equalizer-type frameworks do not.

The unique contribution of the proposed framework lies in its ability to connect structural models with external drivers and institutional practices while situating these interactions within broader socio-political and cultural contexts. By integrating variables such as academic well-being, digital transformation, and sustainability elements often marginal in previous models the framework extends theoretical debates towards a more holistic and context-sensitive understanding of governance. This positions the model not merely as a synthesis of existing knowledge but as an innovative tool for explaining institutional adaptation and for guiding comparative research across diverse higher education systems.



**FIGURE 7.** Conceptual framework for governance in higher education. Prepared by the authors.

The conceptual framework illustrated in Figure 7 is structured around four key variables: governance models, institutional transformation factors, participation mechanisms, and quality and sustainability challenges. Governance models (managerial, participatory, hybrid, and adaptive) define the structural logics that regulate decision-making and coordination. These models are constantly influenced by transformation factors such as political reforms, social pressures, digitalization, and market demands, which act as external drivers of change. Participation mechanisms (stakeholder engagement, university councils, student representation, quality assurance instruments) mediate between governance models and institutional practices, ensuring that decision-making is both strategic and inclusive.

At the same time, challenges related to quality and sustainability (fragmentation, transparency, autonomy, and academic well-being) operate as contextual constraints that shape and are shaped by institutional responses. The arrows in the framework denote reciprocal and dynamic relationships: governance models condition participation mechanisms, which feed back into governance structures; transformation factors exert pressures on both governance and participation; and sustainability challenges emerge both as outcomes and as triggers of new reforms. The theoretical contribution of this framework lies in its integrative and systemic perspective. Unlike previous studies that examined these dimensions separately, the model highlights their interdependence, aligning with complex systems theory and multilevel governance approaches, and providing a foundation for comparative and empirical validation in diverse contexts.

#### 4. IMPLICATIONS

The findings of this research generate substantive implications for the theory, policy, and practice of governance in higher education. In principle, the results corroborate an integrative and contextualized

perspective of governance as a developing system. The system under discussion articulates a range of concepts, including organizational models, participation mechanisms, transformation factors and structural challenges. The existence of approaches such as managerial, participatory, hybrid, and adaptive models demonstrates the coexistence of multiple rationalities. This diversity is indicative of the competing pressures between efficiency and legitimacy, control and autonomy, and centralization and decentralization. These tensions necessitate the utilization of sophisticated theoretical frameworks that demonstrate environmental sensitivity.

The research extends the academic debate by incorporating an adaptive and contextual dimension. This approach is consistent with multilevel governance and complex systems theory. In order to comprehend the present situation, it is necessary to reconsider traditional categories of analysis, with a view to incorporating the interaction between changing structures, actors, and norms. It is also proposed that the following variables be included: academic staff well-being, organizational sustainability, and technological ethics. The expansion of these variables serves to extend the boundaries of the theory and enhance its applicability in contemporary contexts. At the policy level, the results provide input for the design and adjustment of regulatory frameworks and planning instruments.

The impact of the national context, regulatory reforms, digital agendas, and expanded missions demands flexible policies. It is imperative that these policies acknowledge the heterogeneity of institutions, eschew vertical and decontextualized models, and instead promote frameworks that facilitate local adaptation, the involvement of key stakeholders, and multilevel coordination. It is imperative to strike a balance between quality and institutional autonomy. Incentives should consider not only quantitative performance but also criteria of inclusion, innovation, and sustainability. In local contexts, especially in fragmented or transitioning systems, there is a suggestion to priorities collaborative governance strategies.

Sustainability perspectives also highlight important lessons. Hinduja et al. [64] demonstrate that governance practices in Pakistan still face coordination and communication gaps that hinder sustainability integration, while Abo-Khalil [58] provides international evidence that interdisciplinary approaches and faculty engagement are essential for achieving long-term sustainability in higher education. Likewise, Adhikari and Shrestha [65] show that knowledge management initiatives represent a promising pathway to support SDG 4.7 by bridging the knowledge-practice gap and strengthening stakeholder participation in higher education governance.

These strategies should strengthen institutional trust, enable deliberative mechanisms, and establish ethical frameworks for decision-making. In global contexts, the findings underscore the significance of incorporating cultural, technological, and social factors. This suggests the necessity of eschewing the mechanical transfer of models and instead fostering institutional learning between diverse systems. In practical terms, the results of the study guide institutional management towards integrated approaches that are environmentally sensitive and sustainable over time. The articulation of leadership, participation, and risk management constitutes a strategic axis for addressing current challenges.

Institutions are required to establish forums for deliberation, diversify avenues of participation, and fortify organizational capacities in response to volatile environments. In practical terms, forums for deliberation may include digital stakeholder panels that integrate faculty, students, and administrative staff in ongoing decision-making processes, or multifunctional committees tasked with aligning governance strategies across academic, financial, and technological domains. Such mechanisms facilitate continuous dialogue, enhance institutional trust, and provide structured spaces for addressing conflicts and negotiating reforms. This necessitates a thorough examination of organizational structures, a precise delineation of functions, and the integration of models that seamlessly amalgamate control with operational flexibility. In addition, the establishment of periodic evaluations of the governance model is recommended. These evaluations should consider both the achievement of strategic objectives and the impact on academic well-being, organizational quality, and fairness in decision-making. The integration of technologies must be accompanied by digital frameworks with principles of transparency, accountability, and ethics.

The implementation of these frameworks is intended to serve as a preventative measure against the emergence of algorithmic bureaucratization and the establishment of covert power asymmetries. The proposal of adaptive governance as a general guideline is therefore recommended. This approach is predicated on the institutional capacity to learn, anticipate, and reconfigure its practices according to changes in the environment.

It enables us to address the complexity of the university system through a logic of continuous transformation focused on academic sustainability, institutional innovation, and stakeholder co-responsibility. Collectively, these findings serve to expand the theoretical framework of higher education governance. Furthermore, they furnish pertinent instruments for formulating inclusive policies and efficacious, impartial, and robust management practices.

### 5. LIMITATIONS

The present study delineates the methodological, theoretical, and empirical limitations that must be considered in order to contextualize its results. At the methodological level, the analysis is based on a limited set of secondary sources, which can lead to biases due to the availability, selection, and focus of the included studies. Despite the implementation of systematic inclusion and categorization criteria, the aggregation of evidence within specific geographic or institutional contexts diminishes the extent of the comparative analysis. In principle, the integrative approach employed in this study enables the articulation of numerous dimensions of governance. However, it concomitantly engenders a heightened level of abstraction and imposes limitations on the exploration of specific dynamics. From an empirical perspective, the dearth of fieldwork and the absence of data produced directly by institutional actors prevents the findings from being compared with situated experiences. These limitations do not invalidate the study's contributions, but rather underscore the necessity for complementary research that incorporates a range of methods, local evidence, and empirical validation of the proposed framework. Acknowledgement of these limitations is conducive to a critical reading of the analysis and the opening up of avenues for future research in the domain of university governance.

An additional limitation of this study concerns the geographical distribution of the literature analyzed. The predominance of research produced in the Global North introduces a regional bias that may constrain the representativeness of the findings. Consequently, the synthesized results largely reflect governance patterns and challenges observed in Northern contexts, which may not fully capture the dynamics, constraints, and adaptive strategies present in the Global South. This limitation should be considered when interpreting the conclusions of the study, as it underscores the need for comparative analyses that incorporate more diverse institutional and regional perspectives.

Despite the significant contributions made by this article to the international literature on university governance, a notable limitation lies in the geographic coverage of the studies reviewed. The majority of the included studies stem from the Global North context, which limits the generalizability of the findings on a global scale. This lack of geographic representativeness may influence the interpretation of governance models, as institutional realities and challenges vary considerably across regions. Future research could expand this focus by incorporating studies from diverse geographic contexts, particularly from the Global South, to provide a more inclusive and balanced view of governance models in higher education.

### 6. LINES OF FUTURE RESEARCH

The results, implications, and limitations of the study are discussed, and future directions for further analysis of governance in higher education are identified. Firstly, there is a necessity for empirical studies that gather direct evidence from institutions. These studies should employ qualitative or mixed methodologies that capture actors' perceptions, practices, and tensions. This will allow the validation of the conceptual framework and understanding of the configuration of models in specific contexts. Moreover, comparative research is required that considers the diversity of regulatory, cultural, and institutional frameworks in different regions.

The preponderance of studies conducted in contexts located within the Global North imposes limitations on the extent to which findings can be extrapolated, thereby hindering the identification of patterns within systems characterized by divergent trajectories and challenges. The exploration of cases in Latin America, Africa, and Southeast Asia will facilitate a more comprehensive understanding of hybrid and adaptive forms in settings characterized by limited resources and regulatory tensions. An alternative research trajectory that merits exploration is the examination of the relationship between governance and digital transformation, with a particular focus on the utilization of artificial intelligence, management platforms and automation. The necessity for ethical frameworks and transparency in digital decisions gives rise to questions concerning the redistribution of power, institutional design, and accountability.

The undertaking of studies on the subject of algorithmic governance and its impact on academic work will allow for the capture of emerging transformations that have hitherto been the subject of only poor documentation. It is also recommended that the well-being of academic staff be investigated as a key dimension of institutional sustainability. This involves the analysis of how models affect working conditions, participation in strategic decisions, and organizational quality of life. The present study has the potential to engender a range of alternative indicators that can be used in conjunction with performance-based metrics, thereby facilitating a more comprehensive evaluation of the human impacts of reforms.

Finally, it is imperative to promote studies that articulate micro, meso, and macro levels, connecting organizational changes with the dynamics of the education system and public agendas. This articulation will help identify the structural conditions, regulatory frameworks, and global trends that shape university governance. The amalgamation of these research strands is poised to fortify the corpus of knowledge pertinent to the formulation of inclusive, adaptive, and sustainable policies.

## V.CONCLUSION

The governance of higher education can be defined as a dynamic field characterized by the coexistence and tension of diverse models and approaches that reflect institutional complexity and contextual heterogeneity. The interaction of social, political, technological, and cultural factors is driving continuous transformations that challenge traditional structures and demand flexible and adaptive responses. In this context, the incorporation of effective participation mechanisms and the promotion of strategic leadership are essential elements for addressing challenges related to fragmentation, transparency, and sustainability.

Digitalization processes and the adoption of disruptive technologies give rise to ethical and organizational dilemmas that require governance frameworks to be updated to ensure equity, accountability, and the protection of rights. The quality and sustainability of an institution are contingent not solely on quantitative indicators, but also on the well-being and quality of life of academic staff. This necessitates a re-evaluation of management practices from a holistic perspective.

The governance of universities must be conceptualized as a system that is in a constant state of evolution, articulating both local and global levels, integrating public policies with institutional dynamics, and taking into account ethical and sustainable values. This approach facilitates the conceptualization of inclusive and resilient models that are responsive to the intricacies of the contemporary environment, thereby fostering innovation and transformation that transcend conventional structures. Consequently, higher education is positioned as a pivotal domain for the cultivation of more equitable and participatory societies. Looking ahead, the future of higher education will depend critically on the adoption of governance models that are not only adaptive to changing environments but also firmly grounded in ethical principles, ensuring that innovation, accountability, and inclusiveness advance together in building resilient and equitable academic institutions.

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## Author Contributions

The contributions of the authors to this work are as follows: J. A. J. G., J. C. V. A., A. V-A., J. C. P-V., M. L. B-A., G. A. M. L., A. G., and J. V. conceptualized and designed the study. J. A. J. G., J. C. V. A., and M. L. B-A. performed data collection. A. V-A., G. A. M. L., and J. C. P-V. conducted the analysis. A. G. and J. V. contributed to writing the manuscript. All authors reviewed and approved the final version of the manuscript.

## Conflicts of Interest

The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

## Data Availability Statement

Data are available from the authors upon request.



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