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Leading Systemic Change for Sustainable Higher Education Futures

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ABSTRACT: Change is the only constant in life, so every organisation is interested in change. This article provides a coherent, theory-informed, integrated framework for leading the systemic change of higher education (HE) towards sustainable futures. Based on the Transformative Change Theory, Institutional Theory, and Systems Thinking, it synthesises how HE systems operate as adaptive complex networks and how resilient reform emerges from multi-level cross-actor processes. To offer practical insights for leaders and policymakers, this discussion navigates five intertwined dimensions: curriculum transformation (ESD and interdisciplinary learning), governance and leadership models, research/knowledge production for sustainability, campus operations/net-zero transitions, and community engagement with societal impact. The article details its three central propositions: HE is a learning system; the fundamental need for boundary-spanning governance/ distributed leadership to create intentional co-alignment between policy, practice and resource deployment, and between SUD goals; legitimacy/funding structure ecosystems co-evolve with reform, as drivers of systemic inertia and key enablers in re-orienting institutional purpose and ongoing iterative learning; and stakeholder co-production, co-design and cross-sector collaborations are necessary to transition scale-ready innovations emerging from pilot projects into systemic transformation outcomes. The analysis avoids prescriptive recommendations yet recognises tensions between central coherence and local autonomy, the long-term investment required, and the necessity for equity and inclusion. The article ends with some specific implications for policy, governance and practice, along with an evaluative framework to help track whether the change achieved through such mechanisms can be construed as durable over time.

KEYWORDS: Higher education, Resource constraint, Sustainable, Systemic change, Universities.

1.0 INTRODUCTION

The transformative potential of higher education institutions (HEIs) for global issues such as climate change, social inequity and technological disruption has led to them assuming responsibility roles. In this regard, universities are no longer considered only as sites of knowledge production but rather as agents of systemic change that can contribute to building sustainable futures (UNESCO, 2021). This change represents a recognition that incremental, situational reforms are inadequate; rather, transformational systemic changes are required to reorient higher education in line with sustainability imperatives and changing societal expectations (Sterling, 2011; Ogbolu, 2026).

Systemic change within higher education encompasses aligned changes across interdependent areas, including curriculum, governance, research and community engagement. These complexities are increasingly difficult to represent through the traditional linear models of change. So modern research focuses on a systems approach and a multi-level perspective, which underscore feedback loops, interdependencies of institutions and adaptive capacity as keys to transformation (Geels, 2002; Meadows, 2008). Recent studies have also highlighted the urgent need for adaptive governance and feedback-oriented institutional approaches to help universities adapt more dynamically to sustainability challenges (Flori et al., 2025). Leadership plays a pivotal role in this paradigm, not only as administrative governance, but also as a dynamic and relational practice that engages stakeholders and aligns institutions with sustainability outcomes (Wamsler et al., 2024; Nduji et al., 2023; Jafar et al., 2025).

Also, since sustainability is getting more important, higher education takes on another meaning. This goes beyond the economic and academic roles of universities (Wals & Blewitt, 2010), where they are now viewed as partners in creating societal resilience, ethical governance and environmental stewardship. Recent studies also indicate incorporating environmental, social and governance (ESG) principles in higher education systems, making sustainability an integral institutional mission rather than a peripheral issue (Basheer et al., 2024). Yet, the pathways to this transformation are uneven and context-specific, shaped by different governance structures, resource constraints, and cultural logics (Marginson, 2016).

In addition, the context of contemporary higher education is more globalised and stratified than in decades past, meaning that international rankings, policy diffusion and sustainability agendas can shape its institutional priorities and reform trajectories (Hazelkorn, 2015). This resonates with recent evidence that universities are extending their influence on sustainability leadership and beyond, through research, partnerships and community engagement, anchoring their transformative position in global sustainability transitions (Leal Filho et al., 2025). Concurrently, new

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research underscores the significance of leadership practices in institutionalising sustainability in organisational cultures and strategic choices while advocating context-sensitive-participatory approaches (Hua, 2025; Oyenuga, 2026).

This article makes an analytically strong argument for how systemic change can be directed in higher education against this backdrop. Building on systems thinking, institutional theory and sustainability transitions, it creates an integrative framework linking leadership, governance and sustainability practices. It advances both theoretical and policy debates on higher education's future by engaging with international experiences that are critically examined for transferability. It ultimately asserts that leading systemic change is a strategic necessity for universities, which are critical to the creation of sustainable and equitable global futures.

2.0 CONCEPTUAL FOUNDATIONS

2.1 Defining Systemic Change in Higher Education

Systemic change in higher education (HE) is defined as a big, multi-actor and multi-level change that restructures the organisation, governance, culture, practices and outputs of universities and their complementary higher education systems. Expanding the landscape beyond isolated programmatic tweaks and/or single-institution initiatives to generate lasting, transformational change at scale that gets HE on course with sustainable development goals, equity, quality learning and social impact (Whittaker & Montgomery,2022; Middlehurst,2013; Vargas et al., 2021; Uljens & Elo,2024).

Systemic change in higher education is a deliberate process of re-orienting governance, leadership, policy, pedagogy, research, operations and external partnerships at the system-level to effect meaningful advances in educational quality, equity, sustainability and social impact. It consists of distributed leadership and cross-institution/cross-sector multi-level collaboration (across a whole system) to transform roles, relationships and routines in all parts of the system, meaning the institutions, sectors and communities, so that the whole learning system learns together, scaling towards shared sustainability goals, reclamation into inclusive co-production at each geographic scale for resilient futures for higher education and society (Sun et al. 2023; Alberdi & Zubillaga, 2021; Gawande & Kumar, 2022).

2.2 Characteristics of Systemic Change

Drawing on a broad body of leadership, governance, and systems-change scholarship, systemic change in HE is characterised by (a) a holistic view of the education system as a complex, adaptive network; (b) intentional coordination across stakeholders and levels; (c) shifts in power, policy, and resource flows; and (d) embedded, sustainable changes in policy, practice, and culture that endure beyond specific initiatives (Fig. 1)

First, a holistic view of the education system as a complex, adaptive network. Systemic change considers HE as an interconnected web of microsystems (departments, programs, and research groups), mesosystems (institutions, consortia, and networks), and macrosystems (national policies or funding regimes and global governance). Behaviour change comes not from isolated interventions but rather from dynamics throughout and between these levels. This perspective captures nonlinearity, feedback loops and emergence by removing the finality behind nodes and instead suggesting that small shifts at one node could propagate and reconfigure practices elsewhere. It as well highlights the significance of partnerships cutting across disciplines, sectors and communities, to harmonise educational purposes with societal needs, for instance, attitudes that promote Sustainable Development Goals (SDGs) (Oyenuga & Apata, 2026) and climate resilience (Alberdi & Zubillaga, 2021; Evans et al., 2021; Azizi, 2022). According to scholars, learning-oriented capabilities at the level of systems, collective visions and willingness to share knowledge across units, and adaptive learning loops (Lūsēna-Ezera & Siliņa-Jasjukeviča, 2024; Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021) are key components for sustaining reform within the dynamic higher education landscape. This comprehensive perspective in practice translates to considering policy, governance, pedagogy, and research priorities as inseparable elements of an overall learning system rather than separable domains (Sun et al., 2023; Vargas et al., 2021).

Second, intentional coordination across stakeholders and levels. All the actors- university leadership, faculty, students, staff, external partners, and funders/policy actors- have to be of one mind regarding what outcomes they want. Systemic change requires intentional alignment of goals and incentives with resources and accountability across them all. Coordination is not just about synchronising top-down orders; it involves creating governance and organisational arrangements that facilitate unified action while enabling local flexibility. That is, literature suggests that as a precondition for sustainable reformation, distributed leadership and multi-actor collaboration (Harris, 2020; Haniff & Daya, 2023; Uljens & Elo, 2024) need to become a shared matter and belong at multiple levels rather than only with higher executives. Effective coordination also includes arrangements and processes that enable cross-sector, cross-level engagement, joint planning and decisions, as well as feedback mechanisms to track progress and adapt in response to learning/ evidence (Alava et al., 2023; Woods et al., 2020; Sun et al., 2023; Jameson, 2012; Azizi, 2022; Kurowski, 2020). In this sense, systemic change represents a purposeful transition from episodic project-based to sustained networked reform that is flexible with changing contextual circumstances while still maintaining strategic coherence (Sun et al., 2023; Jameson, 2012; Torres, 2023; Azizi, 2022).

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Fig.1: Characteristics of Systemic Change in Higher Education

Third, shifts in power, policy, and resource flows. The structural realignment of power, policy design and implementation processes, and the flow of resources, financial or human, is a key element of systemic change. This encompasses reconfiguring autonomy-accountability configurations, redesigning funding models that reward collaborative, longer-term sustainability outcomes and fine-tuning performance metrics so they focus on system-wide impact rather than narrow institutional wins (Alava et al., 2023; Woods et al., 2020; Harris, 2020; Middlehurst, 2013). Another consistent finding in the literature is that sustainable reform involves alteration of power relations at different levels, in terms of the quality and breadth of participation and identifying decision rights (who participates, who has decision rights, etc.), as well as generating professional capital throughout system actors (Whittaker & Montgomery, 2022; Uljens & Elo, 2024; Haniff & Daya, 2023). At the same time, controversies remain regarding the balance that should exist between centralised policy coherence and local autonomy, with research pointing to context-specific iterative approaches which respect local conditions while safeguarding a common sustainability agenda (Sharma, 2021; Uljens & Elo, 2024). This, among other implications across studies, is a suggestion towards the need to 'redesign resource flows (funding, human resources, data and infrastructure) in support of collaborative governance, learning ecosystems and sustainability-oriented outcomes' (Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021; Kurowski, 2020; Mutanga et al., 2024).

Fourth, embedded, sustainable changes in policy, practice, and culture that endure beyond specific initiatives. Systemic change aims to entrench reforms so that they are sustained through leadership changes and external shocks. That means institutionalising changes (Harris, 2020; Middlehurst, 2013) into strategic plans through governance reforms and reward structures so that new practices become the norm within the HE system (Jameson, 2012; Azizi, 2022), ingrained in organisational norms and routinised. Thematically, it relates to the concepts of a learning organisation, where collective knowledge generation, sharing and leadership development permeate the entire organisational fabric, keeping an ongoing momentum for reform towards sustainability (i.e., SDG alignment, Education for sustainable development in teacher education, climate-responsive governance) (Lūsēna-Ezera & Siliņa-Jasjukeviča, 2024; Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021). In addition, Harris (2020), Sun et al. (2023), Torres (2023) and Azizi (2022) espouse the need for evidence that is not only tangible but scales across dimensions to record those changes in governance, leadership, pedagogy, engagement with stakeholders and, over time, sustainability outcomes are meaningful rather than simply observers conflating isolated interventions as systems change.

3.0 THEORETICAL ANCHORS FOR LEADING SYSTEMIC CHANGE IN HIGHER EDUCATION

Systemic change in higher education can be most productively theorised through an integrative lens that draws on Transformative Change Theory, Institutional Theory, and Systems Thinking with complexity.

Transformative Change Theory provides a normative and processual basis for understanding how deep, diverse, sustainability- and equity-oriented transformative change occurs within a higher education system. The transformation entails disrupting entrenched practices, power relations, and value assumptions while nurturing new shared visions, capabilities, and networks that enable the reconfiguration of governance, pedagogy, and research to meet the demands of sustainability imperatives (Sun et al., 2023; Vargas et al., 2021). At the core of this orientation is the understanding that change is transformative only when it accumulates through cycles of problematization, reframing of objectives, collective learning and shipment deep into organisational layers and among social actors. On this basis, the theory of transformative change in HE provides such scaffolding for framing long-term trajectories across multiple generations which go beyond episodic or single initiatives but instead galvanise collective agency through faculty, students, administrators and external partners as well as policy actors (Uljens & Elo 2024; Alberdi & Zubillaga 2021).

Institutional Theory adds a complementary lens by emphasising the stability and reproduction of organisational structures, norms, routines, and rules that guide behaviour in higher education. This shifts the focus to how institutions understand and react to environmental pressures (coercive, normative and mimetic logics) and how legitimate arrangements (governance configurations, funding models, reward systems, accreditation standards) not only become stabilised but also become settings of strategic contestation. For example, institutional theory helps to explain why

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some reforms are more enduring than one-off programs and why others dissolve when political turnover occurs in leadership or policy (Alava et al., 2023; Woods et al., 2020). Technical and relational affordances are also significant in analysing different roles played by isomorphism, legitimacy, and professional capital to enable system-wide reform, but give space for purposeful strategic realignment of power resources and identities across levels & sectors. (Jameson 2012; Harris 2020; Haniff & Daya 2023)

The analytic toolkit offered by Systems Thinking and Complexity theory allows for an appreciation of HE as a complex adaptive system, where many different agents at multiple scales with nonlinear feedback loops interact. This lens foregrounds interdependencies between governance, pedagogy, research, operations, and external partnerships and emphasises that emergence, path dependence and nonlinearity yield effects beyond the anticipation of linear cause-and-effect logic (Sun et al., 2023; Vargas et al., 2021; Alberdi & Zubillaga, 2021). For example, systems thinking advocates for boundary-spanning collaboration, feedback-informed learning, and the design of resilient architectures capable of adapting to uncertainty while maintaining overarching aims (i.e., equitable access, quality learning and sustainability outcomes). It also explains why small, localised shifts can trigger wide-scale change when implemented in conjunction with a sound, systematic plan. To summarise, complexity considerations make clear how strategies to render HE reform durable can be deliberately guided without over-programming or eliminating local adaptability (Boocock, 2017; Torres, 2023; Azizi, 2022).

These theoretical anchors provide actionable implications for leading systemic change in HE. At the outset, we grounded Transformative Change Theory in leadership as a vehicle for collective sensemaking and coalition-building, with a focus on value alignment around sustainability, equity and resilience. This facilitates distributed leadership models where actors across a number of levels contribute to common goals and continual learning, rather than being dictated to by one change agent (Sun et al. 2023; Harris 2020; Haniff & Daya 2023; Lūsēna-Ezera & Siliņa-Jasjukeviča 2024). Second, Institutional Theory focuses attention on how governance architectures, funding flows, performance indicators and policy apparatuses are designed and reformed to reflect the legitimacy and stability needed for sustainability-related reforms (Alava et al., 2023; Woods et al., 2020; Jameson, 2012; Azizi, 2022), yet remain responsive to local context/local needs. Third, Systems Thinking promotes the construction of learning-enabled feedback loops, boundary-spanning collaborations and adaptive policies allowing for a cycle of reform trajectories that build on necessary iterations in response to emergent dynamics and new evidence. This safeguards against reforms being just an instrumental task; they become constitutive instead as learning-generated factors of the HE system and its organisational memory Vargas et al., 2021; Alberdi & Zubillaga, 2021; Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021).

4.0 THE DIMENSIONS OF SYSTEMIC CHANGE IN HIGHER EDUCATION

Building on the four defining characteristics of systemic change in higher education (HE) discussed previously, this section translates those ideas into a structured dimensions framework (Fig. 2) that can be used to analyse, design, and report on change efforts. The framework aligns with Transformative Change Theory, Institutional Theory, and Systems Thinking/Complexity, and it is organised around five interlocking domains: Curriculum Transformation; Governance and Leadership Models; Research and Knowledge Production for Sustainability; Campus Operations and Net-Zero Transitions; and Community Engagement and Societal Impact. Each dimension integrates theoretical anchors with practical implications, draws on cross-disciplinary evidence, and signals where tensions or contextual contingencies may arise.

4.1 Curriculum Transformation

Institutions that ensure sustainability, inter- and transdisciplinarity, and adaptive competencies become an integral part of the core purpose, and daily practice of teaching and learning employ systemic curriculum transformation (Apata & Oyedele, 2025). This needs reframing of curricular aims in the context of Equity, Sustainability, and social purpose (from a Transformative Change Theory perspective), as well as redesigning learning with an orientation towards developing the capability to solve complex problems by thinking in systems and leading across disciplines. Institutional Theory provides context for why faculty can not be expected to make lasting curricular change unless there are shifts in norms, accreditation expectations, reward structures for faculty and programmatic standards align with competencies needed for sustainability practices (Sun et al., 2023; Vargas et al., 2021; Uljens & Elo, 2024; Alberdi & Zubillaga, 2021; Alava et al., 2023; Jameson, 2012; Haniff & Daya, 2023). Systems Thinking is therefore a design method for mapping out programs and cross-program sequences, identifying feedback loops between prerequisites, capstones, field experiences and community partnerships (e.g., boundary-spanning experiences such as community-based projects, SDG-integrated modules that create pathways between practice-oriented learning opportunities at the classroom level to applied sustainability cases Siliņa-Jasjukeviča et al., 2023; Azizi, 2022; Aver et al., 2021; Polin et al., 2024; Spulber, 2022).

4.2 Governance and Leadership Models

Systemic HE change requires governance architectures and leadership that will allow for a response time that can galvanise widespread agency, cross-sector collaboration and sustainable reform. By way of contrast, from a Systems Thinking framing perspective, the aim in governance should be to balance stability with adaptive capacity and provide space for local experimentation within some national or sector-wide sustainability narrative. The broad concepts of legitimacy, formal and informal rules (Thin et al., 2016), and the systems by which power is distributed through boards, senior leadership, and academic governance bodies are key areas of focus in Institutional Theory; as noted above, these must change if reform efforts in terms of policy, funding regimes and accountability mechanisms are to be embedded more widely over time across multiple transitions in leadership (Alava et al., 2023; Haniff & Daya, 2023; Sharma, 2021). A normative frame from Transformative Change Theory: leadership is collective and transformational rather than singular & heroic, values-driven, to mediate conflict among stakeholders while nurturing and sustaining a common vision for sustainability and social impact (Sun et al., 2023; Uljens & Elo, 2024).

4.3 Research and Knowledge Production for Sustainability

Building sustainable knowledge production requires a reframing of research agendas, tools, and outputs to address systemic real-world sustainability problems and generate usable knowledge for diverse public audiences(Oyenuga, 2026). Systems Thinking emphasises co-production, boundary objects and learning loops that link the academic world to communities and policymakers (Vargas et al., 2021; Uljens & Elo, 2024; Alberdi & Zubillaga, 2021). The Transformative Change Theory highlights the need for research to disrupt prevailing assumptions of the status quo and embrace efforts that challenge norms and power relations. The concepts of legitimacy and resource flows (e.g. funding, prestige, reward

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structures) in Institutional Theory provide insight into how sustainability research goals need to align with these measures for institutional continuity beyond individual projects (Haniff & Daya, 2023; Evans et al., 2021; Aver et al., 2021).

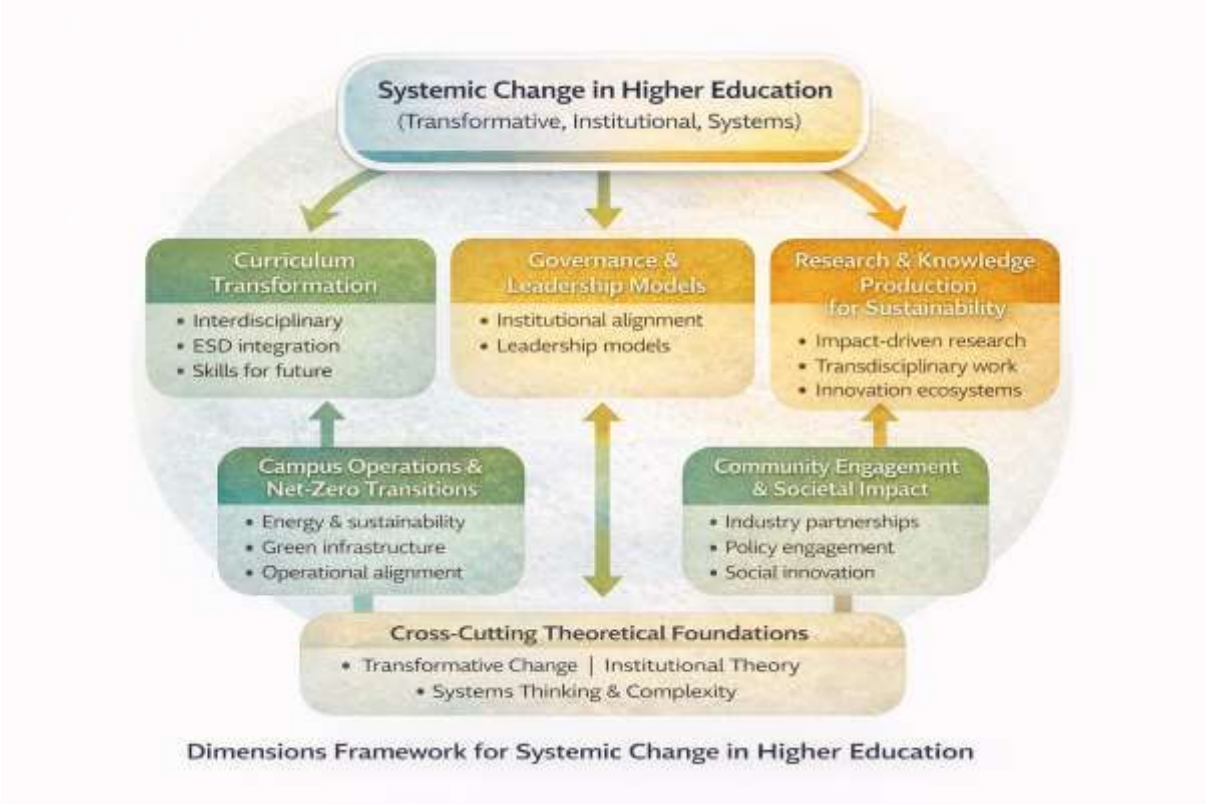


Fig.2: Dimensions Framework for Systemic Change in Higher Education

4.4 Campus Operations and Net-Zero Transitions

Net-zero and sustainability-oriented operations require systemic redesign of campus infrastructure, energy, procurement, and service delivery(Oyenuga et al., 2025). In Systems Thinking, campus operations are treated as a coupled subsystem with the academic core: provision and consumption decisions over energy, transport, waste, food and other campus services are linked to curriculum and research priorities. Transformative Change Theory emphasises the importance of integrating sustainability management into daily operations, embedding sustainability practices as routines to create a culture of sustainability. Institutional Theory suggests that governance, performance measurements and accountability structures serve to legitimise and thus perpetuate operational changes (Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021; Polin et al., 2024), such as the consistency of budgeting, procurement and facility management with sustainable objectives (Kılanç, 2012; Gedifew & Muluneh, 2020).

4.5 Community Engagement and Societal Impact

HE cannot undergo systemic change in isolation from the communities it serves. Engaging with communities, industry, policymakers and civil society not only turns knowledge into impact; it also anchors reform in local needs and values. Stakeholder networks, coalitions and participatory governance are the critical mechanisms to achieve sustainability-oriented reforms; therefore, equity considerations must be embedded in every engagement process(Oyenuga & Jeresa, 2025). When viewed through a Systems Thinking lens, engagement serves as the mechanism for bridging the university/society boundary, aligning all outputs of the university with societal needs and mutually co-owned learning collaborations by multiple actors(Vargas et al., 2021; Sun et al., 2023; Uljens & Elo, 2024). This is how Transformative Change Theory conceptualises engagement, as a means through which knowledge might be democratised, power redistributed, and new imaginings of what higher education can contribute to society are grown. Formal collaborations, agreements and credit-bearing partnerships, since they become part of university governance systems and funding frameworks, help these engagement practices gain legitimacy by bringing with them the institutionalised expectations that come through such work (Alberdi & Zubillaga, 2021; Evans et al., 2021; Aver et al., 2021).

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Conceptual Framework



Fig. 3: Framework for Leading Systemic Change

Fig. 3 presents a multi-level, systems-based model of leading systemic change in sustainable higher education.
At the core, leadership functions as the integrative force, coordinating and aligning activities across the system. Surrounding this core are four interdependent pillars: transformational leadership and agency, institutional governance and alignment, curriculum and research transformation, and stakeholder engagement and societal integration. These pillars represent the primary domains through which change is enacted within higher education institutions.
The framework is structured across three interconnected levels:

a. The micro level (individual) focuses on mindsets, agency, and behavioural change.
b. The meso level (institutional) captures governance structures, organisational culture, and operational systems.
c. The macro level (societal/systemic) reflects broader policy environments, market pressures, and global sustainability agendas.

Dynamic arrows across the model illustrate feedback loops and continuous interactions between levels and pillars, emphasising that systemic change is iterative and adaptive rather than linear. Supporting mechanisms, including incentives, cultural normalisation, capability building, and networked collaboration, reinforce and sustain transformation processes.
At the top of the model, three implementation pathways- strategic embedding, operational integration, and transformational scaling- highlight how systemic change can be institutionalised and expanded over time.
Overall, the figure conceptualises systemic change as a coordinated, multi-level process driven by leadership and sustained through reinforcing mechanisms, offering a replicable yet context-sensitive framework for advancing sustainable higher education futures.

5.0 BARRIERS AND TENSIONS IN SYSTEMIC CHANGE: AN INTEGRATED ACCOUNT

Systemic change in higher education (HE) toward sustainability is routinely impeded by a constellation of intertwined barriers that operate across organisational layers, funding environments, and societal expectations. Conceptually, these barriers reflect the core dynamics highlighted by Transformative Change Theory (which emphasises disruption of entrenched norms and power relations), Institutional Theory (which foregrounds legitimacy, formal and informal rules, and isomorphic pressures), and Systems Thinking (which foregrounds feedback loops, networked governance, and emergent constraints).

5.1 Institutional inertia, path dependency, and cultural resistance.

The most powerful hurdle is the ingrained inertia that pervades university cultures, governance practices and established professional norms. Path dependency stems from familiar routines, reward structures, and credentialing practices that favour traditional disciplinary silos, usual research measures and (less than innovative) pedagogical methods. Transformative Change Theory warns that breaking these ingrained habits demands that feasible alternative visions, coalitions and capacity building reconnect incentives with targeted sustainable purpose. For example, the theory of Institutional Theory elucidates that legitimacy pressures (via coercive state/funder channels; normative professional norms and mimetic peer benchmarking)(Sun et al., 2023; Vargas et al., 2021; Alava et al., 2023; Woods et al., 2020) may reinforce conservative behaviour unless reforms achieve widespread buy-in and are institutionalized as formal governance and accreditation expectations(Jameson, 2012; Haniff & Daya, 2023).

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This barrier can take many forms depending on context, from the slow introduction of new sustainability competencies into curricula, reluctance to reshape reward systems for interdisciplinary collaboration, or fear that contingent governance structures will weaken traditional powers Woods et al., 2020; Jameson, 2012; Haniff & Daya, 2023). In reality, scholars have argued that inertia often continues even when leaders are invested in reform if structural structures (for example, committees, budgets and approval processes) do not shift away from being inflexible and hierarchical (Jameson, 2012; Haniff & Daya, 2023; Sharma, 2021; Kurowski, 2020). This is further complicated by a lack of common language or shared mental models on what makes a sustainable university that hinders collective sensemaking and coordinated action (Lomas & Bond, 2024; Robinson et al., 2023).

5.2 Resource constraints and funding model misalignments.

Across HE contexts, financial constraints, restricted or unstable funding, short-term project cycles, and misaligned incentive structures pose persistent barriers to systemic reform. Institutional Theory emphasises that funding models shape organisational priorities and legitimacy: if sustainability outcomes are not competitively rewarded within funding formulas and performance metrics, reform efforts drift or stall. Transformative Change Theory likewise highlights that resource reallocation and investment are necessary to underpin massive changes in governance, curricula, and operations; without long-horizon funding, pilots cannot scale to system-wide adoption (Alava et al., 2023; Woods et al., 2020; Jameson, 2012; Siliņa-Jasjukeviča et al., 2023; Azizi, 2022; Gedifew & Muluneh, 2020). Several studies note that even when institutions articulate ambitious decarbonization or SDG targets, the capital costs, maintenance budgets, and uncertain return on investment hinder comprehensive implementation (e.g., decarbonization projects, campus retrofits) (Clair & Chiang, 2016; Kodikara, n.d.; Kourgiozou et al., 2021; Goins et al., 2023). Moreover, market-like funding environments and competition for scarce resources can incentivise opportunistic or short-term actions over strategic, cross-institutional transformations that require shared funding arrangements and joint investments Veidemane et al., 2024; Kourgiozou et al., 2021; Abdelgaffar, 2021). When founders or governing bodies lack durable financing, reform efforts struggle to move beyond ad hoc or pilot phases Polin et al., 2024; Gedifew & Muluneh, 2020).

5.3 Conflicts between marketisation and sustainability rationales.

It is well known that market-driven higher education logics (competition, performance-based funding, consumer choice, branding) and sustainability aims (shared governance, public good, equitable access) are in tension with one another. Researchers have suggested that marketisation creates the conditions under which collegial governance can erode by incentivising institutions to seek access revenues or status indicators, strategic planning horizons may shrink, and equity objectives may be displaced (Jameson, 2012; Harris, 2020; Miller et al., 2022; Mutanga et al., 2024). Alternatively, other studies acknowledge that sustainability can occur alongside market-inspired reforms if these reforms succeed in remaking markets around new incentives that reward social impact, cross-boundary collaborations, and learning outcomes aligned with the SDGs (though not without deliberately reconfiguring funding mechanisms, accountability regimes, and governance norms to ensure that profit-maximisation does not supersede commitments on sustainability) (Woods et al., 2020; Haniff & Daya, 2023; Kurowski, 2020; Abdelgaffar, 2021). Tensions are likewise revealed in terms of policy design, where policies relying on centralised coercive implementation may incentivise rapid progress towards sustainability targets but also risk marginalising local stakeholders unless they are complemented by inclusive governance and meaningful participation in decision-making processes. The literature has also suggested that, instead of using blanket approaches, one ought to integrate market incentives into ethical and social objectives via multipartite governance structures, transparent decision processes, as well as performance indicators that embody extended value (beyond mere market performance) (Sharma, 2021; Sharp, 2002).

5.4 Equity, inclusion, and justice challenges.

Equity and inclusion become not only a central goal but also an ongoing obstacle in systemic change. Systemic change creates clear winners and losers, defined by structural inequities, longstanding disparities in access to basic goods and services, representation of marginalised groups in power and leadership roles, as well as varied capacity to co-create systems reform. Justice-centred goals take centre stage in Transformative Change Theory, which necessitates the distribution of power among owners and stakeholders (students, staff, community partners) and providing co-creation opportunities.

According to institutional theory, legitimacy and normative pressures may impede the adoption of inclusive governance practices; without inclusive policies and accountable mechanisms, reforms might reproduce or obscure unequal power relations (Meyer et al. 2013). Systems Thinking emphasises that inequality is more than a moral failing; it is an organisational impediment: discriminatory cultures, compositionally non-representative bodies making decisions and unequal access to learning environments restrict flourishing learning ecosystems and widen the gaps in their spread across all population groups. Especially in the context of (curriculum) reform, knowledge production and campus services, empirical work across contexts shows inclusion gaps often emerge when equity is deprioritised in planning or when the voice of one or more stakeholders - especially users- is tokenistic rather than substantive" (Sun et al., 2023; Boocock, 2017; Lūsēna-Ezera & Siliņa-Jasjukeviča, 2024; Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021; Shostak et al., 2023).

Where inclusion has been foregrounded, reforms tend to be more durable, as diverse perspectives improve boundary-spanning approaches and legitimacy, but even there, persistent barriers, such as underrepresentation in governance or limited access to funding, continue to challenge full, equitable implementation (Haniff & Daya, 2023; Siliņa-Jasjukeviča et al., 2023; Polin et al., 2024; Veidemane et al., 2024; Caro-Barek & Støckert, 2024).

6.0 IMPLICATION

6.1 Policy and Managerial Implications for Global Higher Education Futures

The four systemic changes in higher education (HE) dimensions that can lead to greater transformation, and their specific managerial implications, are: curriculum that drives systematic knowledge production for sustainability; governance and leadership models; research and knowledge production for sustainability; net-zero transitions; community engagement.

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Recommendations for university leaders and governance structures

First, build an inclusive, multi-stakeholder strategy and vision around sustainability that is created together among various campus constituencies [students/faculty/professional staff] as well as external partners. While Transformative Change Theory focuses on dislocating change that builds legitimacy through coalition-building and leadership by values, institutional theory stresses the need for legitimacy through alignment with accreditation and funding expectations to sustain reforms across transitions in leadership. Those practices are complemented by Systems Thinking, which reinforces the need for boundary-spanning governance between curricular reform, research agendas, campus operations and community engagement to form a cohesive whole. Overall, then, these lenses combine to recommend that university leaders create deliberately integrated governance bodies (an SDG/ESD steering committee, for example) with specific mandates, shared decision rights and multi-year timeframes to avoid the re-creation of silos or ad-hoc initiatives (Sun et al., 2023; Vargas et al., 2021).

Second, design and implement resilient financing models and incentive structures that promote sustainable financial flows. There are well-documented persistent mismatches between short-term funding cycles and long-horizon sustainability goals, a collective learning challenge that is resistant to scaling and institutionalised reform. Key concepts from the literature: Institutional Theory explains how funding regimes can shape norms and legitimacy, and Transformative Change Theory argues that deliberate investment is required to transition from pilot projects into transformative systemic change. Thus, leaders should seek out mechanisms for multi-year cross-institutional funds, joint appointments and incentives that encourage working across departments and with external partners, as well as explicitly incorporate sustainability metrics into performance assessments (Alava et al., 2023; Woods et al., 2020; Jameson, 2012; Siliņa-Jasjukeviča et al., 2023; Azizi, 2022; Gedifew & Muluneh, 2020).

Finally, design leadership development that distributes change agency to all levels and sectors. At least across governance studies, a primary lesson from many years of research is that distributed leadership, across senior leaders, deans, program directors, faculty members, student leaders, and external partners, provides adaptive capacity and sustains reform and systems-thinking perspectives, which are further reinforced, showing that boundary-spanning leadership not only accelerates learning but scales innovation. Investing in leadership pipelines, professional development in change management, and communities of practice focused around sustainability leadership across the campus, or with collaborators external to the institution (Harris, 2020; Haniff & Daya, 2023; Lūsēna-Ezera & Siliņa-Jasjukeviča, 2024; Kurowski, 2020; Polin et al., 2024).

Fourth, institutionalise mechanisms to hold individuals and systems accountable, measure and learn from system-level progress (not just narrow outputs). We suggest longitudinal, multi-level evaluation designs to assess governance reform, leadership practice, curricular change, research impact, operational decarbonization and community outcomes. Incorporate qualitative and quantitative indicators that measure learning, collaborative networks and societal impact with the bread-and-butter metrics. The distinction between systemic change and project-level artefacts helps to sort the two apart where that distinction is possible (Harris, 2020; Azizi, 2022; Shostak et al., 2023), and this approach respects complexity-informed evaluation.

Cross-sector collaboration strategies

Fifth, building boundary-crossing partnerships between HE and industry, government, civil society and communities. Systems Thinking, in particular, gives recognition to boundary objects, co-production and shared knowledge platforms as important components for the translation of research into practice and coupling education with society. Per Institutional Theory, partnerships strengthen legitimacy and access to resources; according to Transformative Change Theory, collaborative approaches are critical for co-producing new social norms and capabilities. These strategies include joint research centres, co-designed curricula with external partners, shared labs and facilities, and governance arrangements that give partners a say in strategy and evaluation. They should also guarantee equitable involvement and joint advantages to prevent re-centring power dynamics and maintain trust between all actors (Vargas et al., 2021; Siliņa-Jasjukeviča et al., 2023; Aver et al., 2021; Adhikari & Shrestha, 2022).

Institutionalise Education for Sustainable Development (ESD) and sustainability literacy throughout the university ecosystem, not as peripherals but as core competencies underpinning curricula, research, and professional practice. Weiss et al.(2021) recognise patterns of curriculum change and highlight shared responsibility, open communication, and collaboration across the campus as foundations for lasting ESD institutionalisation; notably, SLO approaches are also identified in the literature for embedding sustainability knowledge and practices among departments and programs (Melles, 2019; Popowska & Sady, 2023; Levesque & Wake, 2021). Governance can ideally mirror this by implementing accreditation standards and degree outcomes to reward sustainability competencies, and fulfilling appropriate staff development while promoting interdisciplinary and cross-sector collaboration (Weiss et al., 2021; Cebrián, 2019; Popowska & Sady, 2023; Melles, 2019).

Seventh, build a resilient, adaptive political system that can respond to global shocks (e.g. climate risks, pandemics) and slow structural change (e.g., market forces). Reforms will be better sustained if systems of governance are nimble, cross boundaries and learn quickly. Routinised anticipatory governance, cross–ministerial planning, performance monitoring and real-time intervention are recommended by the Centre-of-Government and resilience literature, lessons that can be expressed in university operations through intercampus incident response teams (Mugano, 2022), strategic foresight workshops (Kaseke, 2022), or adaptive budgeting processes.

6.2 Implications for policy and practice in diverse contexts

Policy design with knowledge of context and SD and SDG integrations. In many contexts, this translates into a call for nuanced policy coherence and local adaptability. People-lodging policy frameworks via decentralised mandates united with (inclusive, participatory) design create legitimacy and relevance; policy experimentation at the regional or national level results in opportunities to learn what works at scale. The comparative literature on governance and leadership in higher education clearly illustrates that countries take vastly different routes, from more centralised, policy-led reforms to more decentralised, boundary-spanning governance, but each country can benefit from dedicated implementation roadmaps, stakeholder engagement, and alignment of funding with sustainability objectives (Middlehurst, 2013; Woods et al., 2020; Jameson, 2012; Siliņa-Jasjukeviča et al., 2023; Azizi, 2022).

A change initiative with a modular design can achieve cross-context scalability. They should be explicitly replicable and adaptable, with lessons learned documented, checklists prepared for implementation, and metrics established for subsequent applicability. Finally, the literature also proposes phased rollouts, pilot-to-scale trajectories and continuous local-feedback loops to adjust the reform package to the institutional culture

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and available resource envelopes (Harris, 2020; Sharma, 2021; Polin et al., 2024; Gedifew & Muluneh, 2020). While scale is desirable, implementation fidelity and local relevance remain paramount.

International dialogue and knowledge sharing are critical for accelerating reform. By comparing experiences, HEIs can learn from international comparative studies about governance innovations applied to higher education institutions (HEIs), relevant curricular pathways and sustainability governance models. An international collaboration with the capacity to share tools, benchmarks and governance frameworks enabling rapid learning without compromising local constraints can. This could involve international consortia, degree programs delivered jointly with sustainability competencies, cross-border collaboration in research outputs and open-access pooled resources documenting best practices and indicators for systemic change (Alberdi & Zubillaga, 2021; Evans et al., 2021; Polin et al., 2024; Sylvestre et al., 2013; Menon & Suresh, 2020).

6.3 Implications for global higher education futures: comparative insights, scalability, and international collaboration

Cross-case insights show that there is no single blueprint for reform. The combinations of coercive, normative and mimetic pressures that shape the dynamics of Institutional Theory are different for each jurisdiction; policy coherence and local autonomy can be reconciled in ways that reflect historical trajectories, governance cultures and resource endowments. Transformative Change Theory shapes an aspirational vision paired with realistic roadmaps for coalition-building, capacity development, and intentional norm shifts; Systems Thinking provides the analytical lens to map interdependencies, feedbacks, and leverage points for scalable reform. And integrated, these diverse theories undergird an adaptive model for global HE futures wherein universities are less mass product factories delivering uniform curricula and more living laboratories for sustainability co-producing solutions with communities and partners. Reflecting this view, the literature highlights multi-level interventions that integrate synergistic dimensions of system-wide change, curriculum reform, governance redesign, research realignment and operational modernisation– but gives special attention to equity and inclusion as means towards just transitions, inclusive development across populations and regions (Sun et al., 2023; Vargas et al., 2021; Uljens & Elo, 2024; Alberdi & Zubillaga, 2021; Alava et al., 2023; Woods et al.,2019; Haniff & Daya, 2023; Levesque & Wake, 2021; Melles, 2019; Weiss et al. 2021).

Explicitly designing for transferability is critical to offer scalability and applicability across contexts. Modular packages for curriculum transformation, sustainability governance and campus operations that can be customised to fit local funding, regulatory regimes and stakeholder landscapes should be developed by institutions. Policy-practice interfaces should be equipped with mechanisms that incorporate feedback from local innovations, which are channelled into national or regional policy learning systems. Instead, international collaboration should be established as two-way learning partnerships (instead of knowledge extraction), which include joint programmes of research, mutual governance laboratories and co-developed indicators that are locally relevant but oriented towards common sustainability outcomes (Mutanga et al., 2024; Polin et al., 2024; Gedifew & Muluneh, 2020; Sylvestre et al., 2013; Moon et al., 2018).

International collaboration in thinking about global HE futures. International cooperation to accelerate reform by cross-pollinating governance models, curricula and sustainability practices. Yet, this needs to be paired with equity and capacity-building that encourages participation from less-resourced institutions and regions. The governance networks, sustainability transitions, and international comparisons literatures highlight the principles of joint action, common standards, and collaborative benchmarking (without overlooking fine-scale variation in institutional environments and national policy ecosystems). Successful international cooperation must balance joint recognition of local limitations, co-production of tools and indicators, as well as inclusive institutional arrangements that spread control evenly among partners (Jimu & Rennkamp, 2024; Ãvila et al., 2019; Edwards et al., 2017; Eichberg & Charles, 2024; Sylvestre et al., 2013).

CONCLUSION

At its best, systemic change in higher education for sustainable futures can be understood and enacted as a multi-level learning-centred reform embracing interdependencies between governance, curriculum, research and operations as well as community engagement within an ecosystem of complex adaptive universities. Deliberate reform, as defined in Transformative Change Theory (TC), Institutional Theory and Systems Thinking, is one that calls for boundary-spanning leadership, consistent but flexible governance and multi-year investments with incentives for cross- and interdisciplinary collaboration with potential for public good. Achievements are grounded in a sustainable core through Education for Sustainable Development or sustainability literacy, with opportunities for inclusive participation by stakeholders, and learning and feedback loops embedded systematically across all aspects. Some core design pillars to scale pilots into systems-level transformative approaches that are at once just, regenerative and aligned with global sustainability ambitions are context-sensitive sequencing, strong accountability frameworks, and cross-sector partnerships, both international and local. The key thing to take is that universities need to learn systems, designed for both shocks and opportunities, in which they still share common goals of good teaching, justice, and sustainability.

REFERENCES

1) Abdelgaffar, H. (2021). A review of responsible management education: practices, outcomes and challenges. The Journal of Management Development, 40(9/10), 613-638. https://doi.org/10.1108/jmd-03-2020-0087
2) Alberdi, G. & Zubillaga, M. (2021). The Promotion of Sustainable Diets in the Healthcare System and Implications for Health Professionals: A Scoping Review. Nutrients, 13(3), 747. https://doi.org/10.3390/nu13030747
3) Alava, J., Kola-Torvinen, P., & Risku, M. (2023). Educational Policy, Governance, and Leadership., 11-39. https://doi.org/10.1007/978-3-031-37604-7_2
4) Alberdi, G. & Zubillaga, M. (2021). The Promotion of Sustainable Diets in the Healthcare System and Implications for Health Professionals: A Scoping Review. Nutrients, 13(3), 747. https://doi.org/10.3390/nu13030747
5) Apata A.O & Oyedele M. O. (2025). Undergraduates' Application of ChatGPT in Academic Writing: Perceptions, Problems and Prospects. International Journal of Social Sciences and Management Review 8(3), 201-218 https://doi.org/10.37602/IJSSMR.2025.8312
6) Aver, B., Fošner, A., & Alfirević, N. (2021). Higher Education Challenges: Developing Skills to Address Contemporary Economic and Sustainability Issues. Sustainability, 13(22), 12567. https://doi.org/10.3390/su132212567

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7) Azizi, L. (2022). Which leadership processes encourage sustainable transitions within universities?. International Journal of Sustainability in Higher Education, 24(1), 46-68. https://doi.org/10.1108/ijshe-12-2021-0510
8) Basheer, N., Ahmed, V., Bahroun, Z., et al. (2024). Exploring sustainability assessment practices in higher education: A comprehensive review. *Sustainability*.
9) Boocock, A. (2017). Meeting the needs of local communities and businesses: From transactional to eco-leadership in the English further education sector. Educational Management Administration & Leadership, 47(3), 349-368. https://doi.org/10.1177/1741143217739364
10) Caro-Barek, V. and Støckert, R. (2024). Road works ahead: the journey of an innovative cross-campus hybrid learning space navigating higher education institutions' organizational setbacks. Frontiers in Education, 9. https://doi.org/10.3389/feduc.2024.1330804
11) Cebrián, G. (2019). University and the 2030 Agenda for Sustainable Development: processes and prospects. Universitas Tarraconensis Revista De Ciències De L Educació, 78-94. https://doi.org/10.17345/ute.2019.1.2629
12) Christine W., Gustav O., Jeroen J. & Liane S.(2024). Revolutionising sustainability leadership and education: addressing the human dimension to support flourishing, culture and system transformation, Climatic Change, Springer, vol. 177(1), pages 1-23, https://doi.org/10.1007/s10584-023-03636-8
13) Clair, M. & Chiang, L. (2016). Chapter 2. The University as a Living Laboratory for Climate Solutions. Collabra, 2(1). https://doi.org/10.1525/collabra.61
14) Edwards, M., Benn, S., & Starik, M. (2017). Business cases for sustainability-integrated management education.. https://doi.org/10.4337/9781785361241.00010
15) Eichberg, E. & Charles, A. (2024). The Role of the Civic University in Facilitating Inclusive and Transformative Pedagogical Approaches to the Sustainable Development Goals: A Systematic Literature Review. Sustainability, 16(7), 2752. https://doi.org/10.3390/su16072752
16) Evans, N., Inwood, H., Christie, B., & Ärlemalm–Hagsér, E. (2021). Comparing education for sustainable development in initial teacher education across four countries. International Journal of Sustainability in Higher Education, 22(6), 1351-1372. https://doi.org/10.1108/ijshe-07-2020-0254
17) Farinha, C., Caeiro, S., & Azeiteiro, U. (2020). Universities speak up regarding the implementation of sustainable development challenges. International Journal of Sustainability in Higher Education, 21(3), 465-506. https://doi.org/10.1108/ijshe-08-2019-0250
18) Filho, W. L., Eustachio, J. H. P. P., Ávila, L. V., Dinis, M. A. P., Hernandez-Diaz, P. M., Batista, K., Borsari, B., & Abubakar, I. R. (2025). Enhancing the contribution of higher education institutions to sustainable development research: A focus on post-2015 SDGs. Sustainable Development, 33(2), 1745–1757. https://doi.org/10.1002/sd.3184
19) Flori, M., Raulea, E.-C., & Raulea, C. (2025). Innovative leadership and sustainability in higher education management. *Cleaner and Responsible Consumption*. https://doi.org/10.1016/j.caeo.2025.100272
20) Gawande, A., & Kumar, A., (2022). Fostering Resilient Business Ecosystems and Economic Growth: Towards the Next Normal. Research and Publication Cell, Dr. D. Y. Patil B-School, Pune, India. DOI: https://doi.org/10.5281/zenodo.6773034
21) Gedifew, M. and Muluneh, G. (2020). Building a change adaptive university: A system of composite indicators to measure and facilitate pervasive changes. Higher Education Quarterly, 75(2), 227-246. https://doi.org/10.1111/hequ.12279
22) Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective. *Research Policy, 31*(8–9), 1257–1274.
23) Goins, M., Sluder, C., Madgett, M., Touton, L., & Stephenson, S. (2023). Oak Ridge National Laboratory FY 2023 Site Sustainability Plan with FY 2023 Performance Data.. https://doi.org/10.2172/2217700
24) Haniff, N. & Daya, P. (2023). Distributed leadership: A model for student leadership engagement. South African Journal of Higher Education. https://doi.org/10.20853/37-4-5078
25) Harris, A. (2020). Leading school and system improvement: Why context matters. European Journal of Education, 55(2), 143-145. https://doi.org/10.1111/ejed.12393
26) Hazelkorn, E. (2015). *Rankings and the reshaping of higher education* (2nd ed.). Palgrave Macmillan.
27) Hua, H. H., Le, T. T., Phuong, H. Y., & Pham, T. T. (2025). Sustainable leadership in higher education: a case study exploring the emergent strategies of four Vietnamese leaders' strategies. *Cogent Social Sciences*, *11*(1). https://doi.org/10.1080/23311886.2025.2516076
28) Jafar, S.H., Oyedele, O.M., Nawaah, D. & Bolanle, A.S. (2025). Exploring Leadership Challenges for Adoption of Digital Innovation and Sustainability, Singh, R., Corvello, V., Coniglio, I.M. and Khan, S. (Ed.) *Innovation Ecosystems and Sustainable Technologies* (*Emerald Studies in Sustainable Innovation Management*), Emerald Publishing Limited, Leeds, pp. 253-269. https://doi.org/10.1108/978-1-83662-368-720251012
29) Jameson, J. (2012). Leadership Values, Trust and Negative Capability: Managing the Uncertainties of Future English Higher Education. Higher Education Quarterly, 66(4), 391-414. https://doi.org/10.1111/j.1468-2273.2012.00533.x
30) Kaseke, N. (2022). Internationalisation and governance issues in higher education., 109-130. https://doi.org/10.4102/aosis.2022.bk297.06
31) Kılanç, B. (2012). Operationalization of Diversity in Turkish Higher Education System. Yuksekogretim Dergisi, 2(1), 38-51. https://doi.org/10.2399/yod.12.010
32) Kourgiozou, V., Commin, A., Dowson, M., Rovas, D., & Mumovic, D. (2021). Scalable pathways to net zero carbon in the UK higher education sector: A systematic review of smart energy systems in university campuses. Renewable and Sustainable Energy Reviews, 147, 111234. https://doi.org/10.1016/j.rser.2021.111234
33) Kurowski, A. (2020). The language of dissent – how school leaders adjust to policy change. Educational Role of Language Journal, 2020-1(3), 43-61. https://doi.org/10.36534/erlj.2020.01.04

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34) Levesque, V. & Wake, C. (2021). Organizational change for sustainability education: a case study of one university's efforts to create and implement institution-wide sustainability competencies. International Journal of Sustainability in Higher Education, 22(3), 497-515. https://doi.org/10.1108/ijshe-09-2019-0285
35) Lūsēna-Ezera, I. and Siliņa-Jasjukeviča, G. (2024). What is the implementation practice of schools as learning organisations from the perspective of local governments?. Acta Paedagogica Vilnensia, 51, 118-131. https://doi.org/10.15388/actpaed.2023.51.7
36) Lomas, D. & Bond, S. (2024). Responding to climate change in Aotearoa New Zealand: Universities, neoliberalism and narratives of change. New Zealand Geographer, 80(1), 30-43. https://doi.org/10.1111/nzg.12385
37) Lottu, O., Ehiaguina, V., Ayodeji, S., Ndiwe, T., & Izuka, U. (2023). GLOBAL REVIEW OF SOLAR POWER IN EDUCATION: INITIATIVES, CHALLENGES, AND BENEFITS. Engineering Science & Technology Journal, 4(4), 209-221. https://doi.org/10.51594/estj.v4i4.583
38) Marginson, S. (2016). The worldwide trend to high participation higher education. *Higher Education, 72*(4), 413–434.
39) Meadows, D. H. (2008). *Thinking in systems: A primer*. Chelsea Green Publishing.
40) Melles, G. (2019). Views on education for sustainable development (ESD) among lecturers in UK MSc taught courses. International Journal of Sustainability in Higher Education, 20(1), 115-138. https://doi.org/10.1108/ijshe-02-2018-0032
41) Menon, S. & Suresh, M. (2020). Synergizing education, research, campus operations, and community engagements towards sustainability in higher education: a literature review. International Journal of Sustainability in Higher Education, 21(5), 1015-1051. https://doi.org/10.1108/ijshe-03-2020-0089
42) Middlehurst, R. (2013). Changing Internal Governance: Are Leadership Roles and Management Structures in United Kingdom Universities Fit for the Future?. Higher Education Quarterly, 67(3), 275-294. https://doi.org/10.1111/hequ.12018
43) Miller, A., Reyes, J., Wyttenbach, M., & Ezeugwu, G. (2022). The limits of the "system of schools" approach: Superintendent perspectives on change efforts in U.S. Catholic school systems. Journal of Educational Change, 24(4), 943-970. https://doi.org/10.1007/s10833-022-09475-1
44) Moon, C., Walmsley, A., & Apostolopoulos, N. (2018). Governance implications of the UN higher education sustainability initiative. Corporate Governance, 18(4), 624-634. https://doi.org/10.1108/cg-01-2018-0020
45) Mugano, G. (2022). Accountability in higher education., 89-108. https://doi.org/10.4102/aosis.2022.bk297.05
46) Mutanga, S., Mantlana, B., Mudavanhu, S., Muthige, M., Skhosana, F., Lumsden, T., … & John, J. (2024). Implementation of water energy food-health nexus in a climate constrained world: a review for South Africa. Frontiers in Environmental Science, 12. https://doi.org/10.3389/fenvs.2024.1307972
47) Nduji R., Oyenuga M.O , Bazza M., & Oriaku C.(2023) Application of Transactional Leadership Style for Managers in Adopting the Organization's Cultural Intelligence: A Study of Coscharis Group of Companies, Nnewi, Nigeria ASRIC Journal on Social Sciences and Humanities Vol 4(1) (2023) 299-316 www.asric.africa
48) Ogbolu, G., Hague, S., Adelaja, A., Ohanagorom, M., Amala, M., & Adedeji, O. (2026). Sustainability in Higher Education: A Systematic Review and Conceptual Framework of Institutional Maturity (SHE-IMM). *Trends in Higher Education*, *5*(1), 26. https://doi.org/10.3390/higheredu5010026
49) Oyenuga, M.O., Jeresa, S. (2025). Adaptation and Resilience: Private, Public, and Individual Change Makers. In: Singh, R., Filho, W.L. (eds) Climate Neutrality Through Smart Eco-Innovation and Environmental Sustainability. Climate Change Management. Springer, Cham. https://doi.org/10.1007/978-3-031-83250-5_2
50) Oyenuga, M.O., Singh, R., Apata, S.B., Khan, S., Kumar, V. (2025). Strengthening Legal and Institutional Frameworks for Net Zero Economy. In: Smart Technologies for Climate Change and Net Zero Policies: Practical Approaches Towards Sustainability. Climate Change Management. Springer, Cham. https://doi.org/10.1007/978-3-031-92221-3_16
51) Oyenuga, M. O. & Apata, S. B. (2026). The Future of Sustainable Education in Higher Education. In A. Omotosho, S. Apata, & M. Akintolu (Eds.), *Interdisciplinary Perspectives on Transnational Education for Sustainable Development* (pp. 231-262). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-4357-0.ch008
52) Oyenuga, M. O. (2026). Case Studies: Sustainability in Higher Education in the Global South. In A. Omotosho, S. Apata, & M. Akintolu (Eds.), *Interdisciplinary Perspectives on Transnational Education for Sustainable Development* (pp. 119-156). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-4357-0.ch005
53) Oyenuga, M. O. (2026). Leadership 4.0: AI and the Reimagining of Higher Education Institutions. In D. Roache (Ed.), *Institutional Perspectives on AI Implementation in Higher Education* (pp. 339-372). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-2600-3673-0.ch012
54) Polin, K., Yiğitcanlar, T., Washington, T., & Limb, M. (2024). Unpacking Smart Campus Assessment: Developing a Framework via Narrative Literature Review. Sustainability, 16(6), 2494. https://doi.org/10.3390/su16062494
55) Popowska, M. and Sady, M. (2023). Universities' journey towards sustainability- systematic literature review. International Journal of Sustainability in Higher Education, 25(3), 596-615. https://doi.org/10.1108/ijshe-08-2022-0280
56) Robinson, J., Alhakim, A., Grace, X., Alam, M., Brando, F., Braune, M., … & Wiek, A. (2023). Odd couples: reconciling academic and operational cultures for whole-institution sustainability governance at universities. International Journal of Sustainability in Higher Education, 24(8), 1949-1969. https://doi.org/10.1108/ijshe-07-2022-0244
57) Sharma, R. (2021). Sustainable Political Leadership Based on System Thinking in Rural Development Practices of Nepal. Research Nepal Journal of Development Studies, 4(2), 93-105. https://doi.org/10.3126/rnjds.v4i2.42689
58) Sharp, L. (2002). Green campuses: the road from little victories to systemic transformation. International Journal of Sustainability in Higher Education, 3(2), 128-145. https://doi.org/10.1108/14676370210422357

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Corresponding Author: Michael Oyedele Oyenuga

59) Shostak, R., Alessandro, M., Diamond, P., Mosqueira, E., & Lafuente, M. (2023). The Center of Government, Revisited: A Decade of Global Reforms.. https://doi.org/10.18235/0004994
60) Siliņa-Jasjukeviča, G., Lastovska, A., Surikova, S., Kaulēns, O., Linde, I., & Lūsēna-Ezera, I. (2023). Education Policy Institutions' Comprehension of the School as a Learning Organisation Approach: A Case Study of Latvia. Education Sciences, 13(9), 907. https://doi.org/10.3390/educsci13090907
61) Spulber, D. (2022). Reflections on globalisation, leadership and pedagogy: Competence-based didactics and Objective based Training.. Geopolitical Social Security and Freedom Journal, 5(2), 63-77. https://doi.org/10.2478/gssfj-2022-0014
62) Sterling, S. (2011). Transformative learning and sustainability. *Learning and Teaching in Higher Education, 5*, 17–33.
63) Sun, Y., Cui, H., Han, Y., & Tong, X. (2023). Current Status and Implications of International Higher Education Governance Research., 706-712. https://doi.org/10.2991/978-94-6463-058-9_111
64) Sylvestre, P., Wright, T., & Sherren, K. (2013). Exploring Faculty Conceptualizations of Sustainability in Higher Education: Cultural Barriers to Organizational Change and Potential Resolutions. Journal of Education for Sustainable Development, 7(2), 223-244. https://doi.org/10.1177/0973408214526491
65) Torres, A. (2023). Causal Stories and Problem Definitions: How Policymakers and Superintendents Frame School Turnaround. Aera Open, 9. https://doi.org/10.1177/23328584231186425
66) Uljens, M. & Elo, J. (2024). Grounding Higher Education Leadership Research in Non-affirmative Education Theory., 1-44. https://doi.org/10.1007/978-3-031-55116-1_1
67) UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing.
68) Vargas, V., Paucar-Caceres, A., & Haley, D. (2021). The Role of Higher Education Stakeholder Networks for Sustainable Development: A Systems Perspective., 123-139. https://doi.org/10.1007/978-3-030-63399-8_9
69) Veidemane, A., Crăciun, D., & Meulen, B. (2024). Critical sustainability events and perceived roles of academic leaders at a leading university in sustainability: CIT case study.. https://doi.org/10.21203/rs.3.rs-4977416/v1
70) Wals, A. E. J., & Blewitt, J. (2010). Sustainability in higher education. *International Journal of Sustainability in Higher Education, 11*(2), 132–146.
71) Weiss, M., Barth, M., & Wehrden, H. (2021). The patterns of curriculum change processes that embed sustainability in higher education institutions. Sustainability Science, 16(5), 1579-1593. https://doi.org/10.1007/s11625-021-00984-1
72) Whittaker, J. & Montgomery, B. (2022). Advancing a cultural change agenda in higher education: issues and values related to reimagining academic leadership. Discover Sustainability, 3(1). https://doi.org/10.1007/s43621-022-00079-6
73) Woods, P., Jarvis, J., Roberts, A., & Culshaw, S. (2020). School Leadership Preparation and Development in England.. https://doi.org/10.1093/acrefore/9780190264093.013.720

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