



Higher Education in Difficult Times: Its Mitigation on Empowerment, Meaningfulness, Agility and Sustainability

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Authors' contributions

This work was carried out in collaboration among all authors. Author AD designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors HJ and RJ managed the analyses of the study. Author FES managed the literature searches and expanded the main idea into details. All authors read and approved the final manuscript.

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Abstract

Background: Higher education faces a turbulent global transition—driven by participatory learning shifts, financial and geopolitical pressures, technological disruption, and mental health challenges—requiring adaptive, student-centered, and sustainable strategies for resilience.

Aims: to reveal the mitigation plan against difficult times that the higher institution face which consist of empowerment, meaningful, agility and sustainability.

Results: We conduct a deep literature analysis regarding the fact that nowadays, higher education is facing a multi-dimensional deprecatory age, internally and externally, e.g., declining enrollment, financial

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sustainability, severe affordability issues for students of urban institution, discrepancy in educational materials, rapid changing in regulation, and also gap between the requirements of the professional in the job market. Fortunately, those problem may also create a favorable or necessary environment for creating new institutions or expanding existing ones or even go international. This concept is heavily influenced by the interplay between wisdom, local context and global pressures using key concepts, consist of empowerment, meaningful, agility and sustainability. Empowerment shows collective responsibility among all of institution's stake holder, including alumniees. Meaningful reveals noble values of purposeful, righteous-driven culture. Agility implements flexible, adaptive strategies and management practices to respond swiftly to the dynamic and changing world while sustainability comprise the 'practical how to' for resilience and longevity of the institution's survivability and align it with the future of education. Limitation of Strategies designed to tackle difficulties in higher education often fall short due to complexity of structural, financial, and pedagogical limitations.

Conclusion: During difficult times, higher education also suffer from challenge. The struggle must dynamically incorporates all stake holder to concisely accomodate empowerment, meaningfulness, agility and sustainability into holistic higher education management—spanning operational, academic, and financial armamentarium—to tackle complex global challenges.

Keywords: *Adaptive; flexible; participatory learning; good university governance; education; sustainable development.*

1. Introduction

Higher education is a upper level of post-secondary education, typically at academic or vocational institutions like universities and colleges. It represents the third level of education (beyond secondary school) and focuses on advanced knowledge, specialization, and professional skills, including degrees like diplomas, bachelor's, master's, and doctorates. Its main noble purpose are to enhances human development, career prospects, increases earning potential, and provides specialized, in-depth knowledge in a certain field. Tertiary education generally culminates in the receipt of certificates, diplomas, or academic degrees (Mabotha & Ngcamu, 2026).

Globally, higher education is shifting toward participatory models (Salama & Hinton, 2023), transforming students into active co-creators of knowledge rather than passive recipients (Omland et al., 2025). Driven by the need for increased, equitable access (High Participation Systems) and skills for the modern workforce (Araki, 2023), participatory learning (e.g., flipped classrooms, PBL) actually has enhances engagement, e.g., in case of interprofessional older health education in Taiwan which can can effectively enhance students' competencies (Yang & Chen, 2025), but faces challanges such as large classes (Ng & Newpher, 2021) and resource limitations especially in the Science, Technology, Engineering and. Mathematics (Kundu et al., 2022).

Nowadays, higher education is facing a deprecatory age, which substantially marked by: (1) the astonishingly low involvement or shifting engagement of Gen Z (born 1997–2012) in traditional higher education participation which need specific and tailor made strategy to tackle (Kayyali, 2026), (2) financial stress in the form of underfunding (Murariu, et al., 2025) and sky rocketing tuition pressure which commonly faced by international students (Mathies, et al., 2025), declining public confidence in higher education (Gaughan, 2025), (3) rapid AI advancements which is fundamentally restructuring global higher education, transitioning from initial skepticism to widespread, albeit cautious, integration of generative AI (GenAI) into teaching, learning, research and innovation (Wong, et al., 2025), and (4) even silent mental health crisis among student of higher education (Suyuhan, et al., 2026). In addition, competition among typical higher education institution drives change in fast-paced, globally interconnected, and technology-dependent societies and higher education systems (Astratova, et al., 2021; Pinzón-Salazar et al., 2026).

Recently, The US-Iran conflict has severely disrupted higher education, globally and especially in Iran, with over 30 universities and research centers, including top institutions like Sharif University of Technology, damaged by air strikes. Education has shifted online due to safety fears, and Iranian officials have declared US-affiliated institutions in the region "legitimate targets". The ongoing violence has severely disrupted the education of students, with reports of universities or higher education institution in conflict (Kayyali, 2024). Geopolitical Impact has spurred debate and protests on campuses, with potential for increased monitoring and silencing by the authority in regards of academic freedom (Monahan, 2025).

When conflicts erupt and boiling in the Middle East, Indonesia and other southeast Asian countries is often considered just as a faraway spectator. The geography seems far removed, the politics unrelated, and the immediate effects limited to headlines about oil prices. But that sense of distance can be misleading. For an economy like Indonesia's—so dynamically integrated into energy markets, global trade, and capital flows—the consequences of a global conflict are neither distant nor temporary (Lituhayu, et al., 2024). The collateral effect of global conflict arrive quietly, through increased in prices, supply chains, and investor sentiment (Sukardi, et al., 2024). The most visible impact, of course, is the liquid gold named oil. Indonesia remains a net importer of crude and refined fuels, and any sustained increase in global prices quickly translates into pressure on the state budget. The government faces a familiar dilemma: absorb the shock through subsidies or pass it on to consumers through higher prices. Either choice conveys costs—fiscal strain on one side, inflation and political sensitivity on the other. Yet focusing only on oil risks missing the more consequential, less visible effects already unfolding beneath the surface. Beside on going war, natural disasters also give subsequent unwanted impact to higher education delivery and especially student enrollment (Wang, 2024).

Furthermore, higher education is experiencing rapid regulatory and governmental shifts focusing on accreditation reform (Duarte & Vardasca, 2023), stricter diversity, equity, and inclusion (DEI) policy compliance as part of balance between rights and responsibility (Moser, et al., 2025), and financial sustainability, often driven by federal executive orders and shifting state priorities (Imomov, 2025). Changes include tighter oversight of for-profit models (Domnisoru & Schiopu, 2025), student loan reform which proved able to affect enrollment decision among already eligible Chilean students to enter higher education (Albagli & García-Echalar, 2025), and increased scrutiny of university autonomy to ensure quality (Hao, 2025) and public funding alignment (Mishra, 2025). Unfortunately, the dynamic of changing regulations actually can sharpen quality disparities in the era of competitive higher education delivery (Scott, 2021).

Higher education institutions must adapt to rapid change and then continuously to innovate (Schaap, et al., 2025), focusing on flexible learning (El Galad, et al., 2024), the student's mental health support (Gaiotto, et al., 2021), and dynamically establishing value to adapt and to survive (Ramaditya, et al., 2023) while on the other hand, educators face high turnover and burnout (Zhang, et al., 2022). Adaptation and flexibility processes and their outcomes in higher education at all relevant levels is necessary (Andrade & Alden-Rivers, 2019). Here, we reveal the mitigation plan which consist of empowerment, meaningful, agility and sustainability.

2. Specific Problems in Higher Education

Key challenges in higher education are evolving rapidly. Current challenges that higher education faces is aspiring to a logical educational layout in a society that is in indefinite change. Affected institution may become stagnang and powerless. These critical challenges centered on declining enrollment due to demographic shifts (Pavlov & Katsamakos, 2020), financial sustainability and severe affordability issues for students of urban institution (Sotomayor, et al., 2022). Unfortunately, discrepancy in educational materials between what the higher education institutions delivers and what is the requirements of the professional workforce in the job market is crystal clear (Dewi, 2022). Beside that, a growing AI issues regarding ethical dilemmas and their integration into student learning also a challenges in higher education (Muringa, 2025).

Declining Enrollment. Higher education enrollment, as reported by Nayga in the field of the agricultural and applied economics (Nayga, 2024) and also reported by Boyle et al., (2025) in the field of accounting, is falling due to a "demographic cliff" (DC). The demographic cliff refers to a forecasted, precipitous downturn in U.S. college-aged students starting around 2025–2026 (Beaver, 2023), driven by a significant drop in birth rates following the 2007–2008 Great Recession (Kearney, et al., 2022). High school graduate numbers are anticipated to fall by roughly 13% in the year 2041 (Lane, et al., 2024), threatening college enrollment stability and coercing smaller private institutions to contemplate mergers or in worse case scenario, closures (Robertson, et al., 2024). To compensate for reduced enrollment and declining tuition revenue economically, universities are raising tuition fees for remaining students, creating a cycle that risks higher costs, program cuts, or college closures (Maimouni, et al., 2023). This trend, accelerated by the pandemic, has created financial instability, causing closures, bond downgrades, and significant revenue losses (Kelchen, et al., 2025).

Financial Sustainability: Higher education is facing a severe financial crisis driven by rising operating costs, high inflation, and static tuition fees, leading to potential closures, widespread course/programme cuts, and decreased student support (Imomov, 2025). Institutions are increasingly relying on just student fees and

frightening cost-cutting measures, such as staff redundancies and layoffs (Kranzow & Foote, 2025). These actions, often described as "death by a thousand cuts," have far-reaching impacts on staff, students, and the quality of education (Barkan, 2018).

Infrastructure Disregard: Abandoned infrastructure in higher education, particularly in public universities in developing regions, refers to retrogressing construction projects (Ogunode, et al., 2022) like appropriate lab and its utensils, lecture halls, libraries and its related books, and even dormitory (Ibrahim & Aslam, 2025). This abandonment causes overcrowding (Vakili, et al., 2024), hinders research productivity (Jama, 2024), and lowers students esteem, motivation and overall academic performance (Khalid & Farid, 2025). Furthermore, it reveals the ideological and political landscape of higher education which becoming more polarized, not less (Brown, 2024). A "hardening of partisan divides," revealed a decline in public trust, and increasing political pressures on colleges (McGill Peterson, 2020), often described as a "crisis of modern university" (López-Garay et al., 2025) and a "hyperpoliticization" (Magneess & Waugh, 2022).

Educational Quality: Educational quality mismatch in higher education occurs when student abilities do not align with institutional academic demands (Espinoza et al., 2025), orchestrating to undermatching (high-achievers in low-quality schools) (Ovink et al., 2018) or overmatching (lower-achievers in high-quality schools) (Blanden, et al., 2025). Mismatch creates significant issues, including lower earnings which marked as income inequality (Tang & Wang, 2021) and graduation rates for undermatched students (Gansemer-Topf et al., 2020), while overmatched students risk struggling, falling behind, or dropping out of competitive programs (Wyness & Murphy, 2020).

Affordability Issues: Higher education affordability is a critical crisis driven by tuition costs outpacing inflation (Pavlov & Katsamakos, 2023) by roughly 460% over the last 50 years, where public four-year university tuition has increased by 101% since 1996, causing significant drops in enrollment and rising student debt. Over 40 million Americans have "stopped out" without a degree, often due to financial barriers, with high costs disproportionately affecting underrepresented students. A study conducted by Kaufman & Phan (2025) investigates the effect of elevating tuition fees and the attending financial charges on college students through the administration of the Value of Higher Education Over Time Questionnaire, conducted with participants from multiple U.S. institutions. The result revealed 73% of participants consider tuition a notable root of stress, yet 86% mention that earning a bachelor's degree remains a beneficial siege.

Curriculum Issue: Curriculum problems in modern higher education rooted on misalignment with industry needs and (Selamat, et al., 2025), The gap between the reality of slow adaptation to technological advancements while on the other hand the expectation that Educational transformation is supposedly influenced by emerging technologies, which offer unique opportunities to redefine learning (Mena-Guacas, et al., 2025). Furthermore, present day curriculum frameworks repeatedly indicates a significant deficiency in personalized and skill-based learning, largely due to a continued reliance on traditional, one-size-fits-all, knowledge-oriented models (which basically priority on grades over mastery) that struggle to meet modern competency needs (Gunawardena, et al., 2024).

Key issues comprise bridging the gap between theoretical knowledge and professional competency (Fantinelli, et al., 2024), ensuring inclusivity for diverse learners (Khatreja et al., 2023), and overcoming resource limitations for implementing innovative, digital-first curricula (Zou, et al., 2025).

Lack of Appropriate Human Resource: The lack of appropriate human resources in higher education stems from difficulties in attracting, retaining, and upskilling talent (Mather & Bam, 2025, Towns, 2019), intense competition and hijacking or poaching for individuals (employees or staffs) with specialized skills (Barkhuizen, et al., 2020), to dramatize this 'illegal unethical annexation' even some called it "talent war" (Universities UK, 2007). The differences in pedagogical and social practice between institution of origin may influence the propensity to stay. While compounded by budget constraints and rapid digital transformation, institutions face shortages of qualified staff to meet modern technological demands and student needs, necessitating a shift toward strategic HR management to improve competitiveness, productivity, and professional development or so called re-focusing talent management (Schinnenburg & Böhmer, 2025).

AI Issues: AI in higher education faces significant ethical issues, among lecture (Chinoracky & Stalmasekova, 2025), students (Abubakar, 2025) and even academic staff (Mah, et al., 2025). Issues primarily regarding AI

over dependence which cause decay of critical thinking, academic integrity (Tian & Zhang, 2025), autonomy (Arif & Naeem, 2025) and equity (Kelley, et al., 2025). Key challenges include the widespread use of generative AI for cheating (Huang, et al., 2025), the loss of foundational learning skills including all the joy and effort of learning (Hasan, 2025) potential bias in automated assessments (Wingerter, et al., 2025) and data privacy risks (Ng, et al., 2025). Institutions are struggling to adapt and insert AI into pedagogy policy (Beale, 2025), with many complaining anxiety over the rapid, unregulated, and inequitable shift in how students research and complete assignments (Kadwa, 2025).

Situational Proneness: Eventhough certain conditions may affect institution in establishing higher education especially in the era of global crises (Ul Hassan, et al., 2025), e.g., war between US Vs Iran which can cause economy instability, but fortunately there is still hope even in polycrisis situation (Dolan, 2025). Situational proneness which refers to how specific, often circumstantial, factors—such as economic conditions, regulatory changes, or local market needs— actually may be a blessing in disguise. It may create a favorable or necessary environment for creating new institutions or expanding existing ones or even go international (Lambey, et al., 2024). This concept is heavily influenced by the interplay between wisdom, local context and global pressures.

3. Empowerment

Higher education is experiencing a profound crisis, leading many administrators, staff, and faculty to feel powerless in the face of rapid, overwhelming changes. This sense of helplessness stems deep like an iceberg which structurally prevent *civitas academica* to respond adequately to external threats. Many stake holders feel powerless to do much about the complex and fast-moving crisis the higher education is in. This is the main reason why *civitas academica* must take collective responsibility (Oleksiyenko, 2024) and from this perspective, empowerment is desperately needed.

Empowerment relates to the process of becoming stronger, more confident and gaining autonomy, self-determination, and control over one's life, decisions, and rights. It involves enabling individuals or groups to overcome powerlessness which commonly faced during difficult time, followed by the effort to recognize their own resources, and give respons on their own authority; condition which can also be applied in the context of involvement of vulnerable population such as patients (Schilling & Gerhardus, 2024). Difficulties in life are inevitable, natural and often required for personal growth, serving as catalysts for changing consciousness and fostering resilience, especially in productive age (Leitner, et al., 2025). Common hardships include sociocultural factors such as financial burden, relationship problems, illness, and managing the emotional weight of unpredictable events. Accepting that life involves unavoidable challenges can reduce mental resistance and make difficult times easier to navigate (Anasuri, 2016).

Empowerment during difficult times is not just a motivational concept, but a necessary multidimensional strategy (Shah & Goldin, 2025) for survival, resilience, and personal growth (Malta, 2023). It involves cultivating an internal sense of control, self-worth, and proactive action when external circumstances are chaotic or overwhelming and can be a difference factor for adaptability and positive behavior (Gerçek, M., & Özveren, 2024). True empowerment is an internal process, rooted in self-awareness, authenticity, and acceptance through the courage to heal and connect with one's true self (Klussman, et al., 2022). Rather than a gift bestowed by others or a performance of strength, it is an inherent power cultivated within, allowing individuals to take control of their lives and align with their authentic purpose.

Empowerment in higher education management involves collective responsibility regarding institutional focus on self autonomy, self control and self awareness. By delegating decision-making authority, fostering autonomy, and providing resources to staff and faculty member to enhance organizational resilience, innovation, and commitment are examples of empowerment breakdown. Key strategies include implementing good practice Management Model (Ahmad & Islam, 2024), promoting transparent and participatory governance (Lindauer, 2016) through bureaucracy efficiency and reduction (Terjesen, 2022) by way of streamlining the structure of bureaus, institutions, agencies and utilizing knowledge management to boost staff engagement (George & Massey, 2020).

Good practice management models in higher education are increasingly centered on Total Quality Management (TQM) which recognized as major innovation in management (Texeira-Quiros, et al., 2022), and then must followed with strategic planning (Khalilov, et al., 2024), digital transformation (Tiwari, 2024), and internal quality assurance systems (Nugraha, et al., 2023) to enhance efficiency, academic excellence, and student

experience. Key frameworks must focus on integrating effective state of the art technology into operations (Mekheimer, 2025), fostering a culture of continuous improvement including academic restructuring (Whelan, et al., 2024), and carefully balancing academic autonomy (Teshome, 2025) with administrative accountability (Pattaro, et al., 2022).

Pathway to empowerment can be started from transparent and participatory governance in higher education. It is a reform in how management re-establish and decentralizes decision-making (Chowdhury & Srivastava, 2025), ensuring stakeholders—especially lecturers, students and staff—are involved co-legally in order to improve legitimacy, accountability, quality and transparency (Lackner, 2024, Pattaro, et al., 2022). It fosters trust and ownership through open information sharing (Rodriguez et al., 2021), addressing demands for greater accountability (Kistaubayev, et al., 2025, Pattaro, et al., 2022). Key practices include inclusive, sustainable, and equity-focused decision-making structures (Veljić, et al., 2025). Internal consolidation in higher education serves as a foundational strategic planning for empowerment by streamlining resources or resource allocation, e.g., collaborative, optimization and efficiency (Liu, 2024), enhancing institutional quality by implementing good university governance (GUG) (Texeira-Quiros, et al., 2022) and improving the operational environment for both staff and students (George & Massey, 2020, Lindauer, 2016). It acts as a mechanism to transition from fragmented operations (Rajala, et al., 2021) to a cohesive, high-performing system (Grossman, et al., 2022).

Utilizing Knowledge Management (KM) in higher education management is a strategic approach to boosting staff and all of its stake holder engagement by fostering a culture of collaboration (Gautam, et al., 2025), reducing redundant work, and empowering employees as decision-makers (Veljić, et al., 2025, Evans, et al., 2024) after first enabled them to get easy access to information or data (Rodriguez et al., 2021). Effective KM—encompassing knowledge creation, storage, sharing, and application—directly impacts employee performance, job satisfaction, and innovative work behavior by enabling staff to work more effectively and feel valued (Gautam, et al., 2025; Grossman 2022). The establishment of Communities of Practice (CoPs) is by way of Creating informal groups of faculty and staff who share expertise and collaborate on research or certain administrative projects enhances connection and shared purpose (Miller, et al., 2018).

Furthermore externally, aligning the curriculum with industry or other user of its alumnus in higher education is also cornerstone of empowerment, shifting the focus from purely theoretical knowledge to the development of practical, market-relevant skills and professional confidence, e.g., through a project based learning integrating industry collaboration (Naseer, et al., 2025). This strategic integration and linkage ensures that education is responsive to the rapidly evolving demands of the workplace, ultimately fostering higher employability and social mobility for graduates (Gemed, et al., 2025).

4. Meaningfulness

Meaningfulness in higher education management involves fostering a purposeful, value-driven culture where leaders with humanistic leadership (Gotsis & Grmani, 2024) whose prioritize human connection, empathy, and employee engagement (human centric organizational cultures) over mere administrative efficiency. Meaningfulness links institutional goals with employee and student values and effort (Cnossen & Nikolova, 2024), boosting long-term engagement (Kaur & Mittal, 2020), participation (Haim-Litevsky, 2023), psychological well-being combined with mental health (Crego, et al., 2020), and a shared sense of positive affect (Shen, et al., 2022).

Meaningfulness in the broadest sense is about work significance as an overall evaluation of work as regards whether it is intrinsically valuable and worth doing (Martela & Pessi, 2018). Scholars have shown meaningfulness to be more important to employees than any other aspect of work, including pay and rewards (Hu & Hirsh, 2017), opportunities for promotion or working conditions, as it guides higher engagement, motivation, and job satisfaction (Kaur & Mittal, 2020). Studies indicate that workers would accept lower pay for more meaningful work (Hu & Hirsh, 2017), which also reduces absenteeism (Cnossen & Nikolova, 2024) and extends professional career lifespans (Veliz & Mainsbridge, 2025).

Meaningfulness in higher education management is a critical, yet often overlooked, strategic benefit during hard times, e.g., financial crises, pandemic disruptions, or societal instability (Kero, et al., 2023). It acts as a primary driver of employee engagement (Kaur & Mittal, 2020) because its capability to be the silent but effective buffer against job or study burnout (Li, et al., 2025, Lei, et al., 2023) and decline in or even loss of motivation

(Kuchava & Buchashvili, 2016), organizational resilience (Fouché, et al., 2017), and resource retention (Mather & Bam, 2025, Barkhuizen, et al., 2020, Towns, 2019), fostering a sense of purpose that enables faculty and staff to navigate, rather than merely endure, intense challenges or in a more simpler word “finding meaning in challenges as the key to resilience” (Price, 2023).

In previous hard times, history noted that organizations often fail by adopting a "doing to" mentality—forcing changes deliberately vault on susceptible staff. But on the other hand, meaningful management involves collaboration (Araki, 2023), enabling people to participate in decisions and rebuilding efforts, which increases trust (Lewicka, 2022), psychological ownership (Dahleez, et al., 2021) and commitment (Dahleez, et al., 2021, Kaur & Mittal, 2020). The shift from paternalistic or bureaucratic management or imposing actions to a collaborative, co-production model, which increases meaningfulness by boosting autonomy (Hao, 2025), competence, and relatedness (Martela & Riekk, 2018). Fostering a Culture of "Doing to" (“transactional”) to "Doing With" (“co-production”) is central to achieve the best meaningfulness.

Higher institution top leader and its management should acknowledge and appreciate the effort and resilience required to operate during crises (Hill-Berry & Burris-Melville, 2025), not just the final output or efficiency metrics. In alignment with noble human (personal) values, students and employees increasingly choose institutions that reflect their own beliefs (Lewis, 2023). Management must ensure and carefully internalize that the institutional mission resonates with personal or internal (Dwitasari, et al., 2025) and social responsibilities, e.g., in the context of resilience, sustainability, social justice (Guoba, et al., 2024).

5. Agility

Agility in higher education involves implementing flexible, adaptive strategies and management practices to respond swiftly to changing student needs, technological advances, educational dynamic and labor market shifts (Kwasek, et al., 2024). It requires adopting an "agile mindset and daily best practice" across all member of the institution (Masood, et al., 2018), encouraging continuous improvement (Dhir et al., 2024) et al., and using iterative processes to improve educational delivery, curricula innovation, and institutional resilience (Flori, et al., 2025).

Agility in higher education management is essential during "hard times"—such as financial crises, pandemics, natural disasters, or rapid technological shifts—because it enables institutions to move from reactive, panic-driven decision-making to proactive, resilient, and student-centered, strategic action. Agile management allows universities to adapt to changing student needs, labor market shifts, and unforeseen disruptions by fostering a flexible, fast-paced environment where decision-making is streamlined, and resources are reallocated in real-time. Agile leadership in organisational management is increasingly recognised as an essential factor for the success of educational institutions (Barrett-Maitland et al., 2025), particularly in the context of rapid changes in educational demands, such as the dynamic higher educational landscape. Higher education institutions use variations of agile methods to improve their strategic planning, educational delivery and decision-making (Bacallado & Infante-Fernández, 2025, Chaushi & Chaushi, 2025, Bohler, et al., 2024).

If agile approaches were taken appropriately, universities may be able to respond faster to new and sudden challenges and also improve how they plan for the future (Koutsikouri, et al., 2020). Unfortunately, many universities follow rigid, long-term strategies, which can make it difficult to adapt to new technologies, policies, and student needs.

6. Sustainability

Sustainability is no longer a "nice-to-have" initiative in higher education; it is a critical strategy and ‘practical how to’ for resilience and longevity, especially during difficult times such as financial crises, health pandemics, natural disasters or societal upheavals (Abo-Khalil, 2024). Integrating sustainability into university management and all of its stake holder (Yassim, et al., 2025) —spanning operational, academic, and financial domains (Dwitasari, et al., 2025, Imomov, 2025, Abo-Khalil, 2024)—enables institutions to reduce costs, enhance reputation or ranking or prestige, and foster a proactive culture that prepares students to tackle complex global challenges (Burmman, et al., 2021). Using sustainable campus operations and practices, higher education institutions can reduce the unwanted and adjust appropriately their environmental effect and encourage

sustainable behavior among students, employees, and the general public (Oliveira & Proença, 2025; Abo-Khalil, 2024).

Sustainability in higher education management involves integrating environmental, social, culture, values and economic considerations into governance, operations, and curricula to create lasting, positive impact. Key strategies include adopting Environmental, social and governance (ESG) reporting, which become a growing trend among top universities of the world (Mo & Wang, 2023), reducing carbon footprints as sustainability driven energy management (Hebala, et al., 2025), implementing green infrastructure (Shange, et al., 2025, Evans, et al., 2015), and aligning institutional strategies with UN SDGs (Göçöğlu, 2025, Abo-Khalil, 2024). This approach often transforms universities into "living labs" (Evans, et al., 2015).

Core Components of Sustainable Higher Education Management consist of operational Curriculum Integration which embedding sustainability into all disciplines to teach students and staff about responsibility and effort (Gamage, et al., 2022, Leal Filho, et al., 2019). Ethical Governance must always be conducted by way of aligning decision-making with global frameworks, such as the UN Sustainable Development Goals (SDGs), particularly in a volatile global landscape, necessitates that decision-making aligns with international humanitarian law, ethical standards of academic freedom, and responsibilities toward the safety of students and staff (Eichberg & Charles, 2024). As demonstrated by the intensifying 2026 conflict between the US, Israel, and Iran, and the subsequent targeting of universities in the Middle East, academic institutions are no longer distant from geopolitical conflicts, but rather key players in local, regional and global stability.

In the context of Indonesia, based on reports in March and April 2026, the Indonesian government, under President Prabowo Subianto, has developed energy-saving measures due to rising oil prices caused by the Middle East conflict (Iran-US/Israel war). Indonesia plans hybrid schooling and weekly Work From Home (WHF) to cut fuel use as oil prices surge, with rollout implemented for April 2026. While the government initially discussed implementing hybrid learning (blended online/in-person) to reduce energy consumption, this plan was subsequently feared to cause learning loss.

In fact, in such tough challenges, opportunities are available for higher education providers who are capable of sustainability (Rosak-Szyrocka & Knop, 2024). Higher education sustainability, often termed Education for Sustainable Development (ESD), is increasingly recognized as a key approach to preventing learning loss by transforming educational environments to be more resilient, engaging, and relevant (Harjatanaya, et al., 2025). This involves integrating sustainability into core curricula, operations, and community engagement, including technological applied for the delivery of education, rather than treating it as an extracurricular topic (Menon & Suresh, 2020). By transforming from passive lectures, sustainability education uses many kind of approach, such as simulation-based learning (SBL) (Jaffar, et al., 2025), problem based learning (Chien & Chien, 2025), project-based learning (Espino-Díaz et al., 2025), and gamification or field studies (Kramar & Knez, 2025), which enhance student engagement, critical thinking, and long-term knowledge retention.

Higher education sustainability must also applied to technology in the delivery of education, focuses on leveraging digital tools to create durable, accessible, and environmentally responsible learning environments (Marian, et al., 2025). Technology enables educational continuity, especially in crises, while transitioning from traditional paper-based methods to efficient and integrated digital-first approaches (Wang, et al., 2024). Sustainable education in this context often involves "Education 5.0," smart campuses (Chinchorkar & Jadhav, 2024) and leveraging AI to enhance learning quality while reducing carbon footprints.

Limitation of this review is that the inability to cover all aspect of difficulties. Strategies designed to tackle difficulties in higher education often fall short due to very complex situation and the condition of structural, financial, and pedagogical limitations. These limitations can be categorized into institutional/strategic issues and learner-focused strategy issues.

7. Conclusion

During difficult times, higher education delivery is severely challenged by internal and external problems. Institutions struggle to maintain educational quality while transitioning to new age learning, ensuring equitable access for all students, and adapting to rapid technological advancements like AI. Integrating empowerment, meaningfulness, agility and sustainability into holistic higher education management—spanning operational,

academic, and financial domains—warming up the engine while consolidating ourselves so we can come back stronger and more resilient in an era full of disruption. It enables institutions to reduce costs, enhance reputation, and foster a proactive culture that prepares students and all *civitas academica* to tackle complex global challenges.

Disclaimer (Artificial Intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

Competing Interests

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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