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Reframing higher education sustainability through dynamic environmental, foresight strategy, and value creation program: Voices from educational experts

ENNY NOEGRAHENI HINDARWATI[1*], AGUS RAHAYU[2], VANESSA GAFFAR[3], AND LILI ADI WIBOWO[4]

Abstract

This study aims to develop a performance framework for higher education institutions in developing countries that is aligned with the Sustainable Development Goals (SDGs) agenda. A qualitative approach using an in-depth interview model was employed to identify the main dimensions from the perspectives of purposively selected educational management experts. The research was conducted over 61 days, with core activities consisting of in-depth interviews via the Zoom Meeting platform, and thematic analysis was adopted. The findings indicate that a performance design for higher education institutions in developing countries that is consistent with the SDGs agenda must, at a minimum, exhibit three key dimensions: a dynamic environment, a foresight strategy, and a value-creation program. All three must be firmly anchored in the Tridharma of Indonesian higher education. These results are highly valuable, as they offer a conceptual contribution by integrating the discourse on education for sustainability, higher education governance, and the SDGs framework into a comprehensive, contextually grounded performance model for the provision of higher education in developing countries.

Keywords

Dynamic environmental, foresight strategy, higher education performance, higher education sustainability, value creation program

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[1]Universitas Pendidikan Indonesia, Bandung, Indonesia, Corresponding author: enny_noegraheni@upi.edu
[2,3,4] Universitas Pendidikan Indonesia, Bandung, Indonesia

Introduction

Higher education performance is one of the main pillars in developing human resources capable of competing in an increasingly competitive and dynamic labor market. In the era of a knowledge-based economy, universities are required not only to produce graduates with strong academic competencies but also to cultivate adaptive, innovative, and complex problem-solving abilities that characterize the contemporary world of work (Tjahjadi et al., 2019). In this context, university performance can no longer be understood narrowly as administrative achievements or accreditation status alone, but rather as the institution's capacity to manage resources, develop intellectual capital, and translate strategy into high-quality education, research, and community service that are relevant to developmental needs (Tjahjadi et al., 2019).

Nevertheless, various indicators suggest that universities in Indonesia, in general, are still far from optimal. Studies on organizational performance in higher education indicate that only a small number of institutions reach global rankings, while the majority lag in research productivity, publication quality, and the strengthening of managerial capacity and performance governance (Dimyati & Hermanu, 2023; Tjahjadi et al., 2019). From the research perspective, evaluations of research efficiency in Indonesian universities show that the scientific output produced is not yet commensurate with the resources and incentives allocated, leaving a gap between performance-based funding policies and universities' actual ability to convert inputs into high-quality publications and innovations (Dimyati & Hermanu, 2023). This situation reinforces the view that university performance in Indonesia has not yet fully responded to global demands and societal expectations for improving higher education quality.

Teaching quality faces similar challenges. In many universities, teaching practice is still struggling to transform from traditional modes to genuinely student-centered, collaborative, and grounded in real-world problem-solving (Elfindri et al., 2015; Gaus & Hall, 2016). This creates a gap between graduate competencies and labor market needs, particularly in critical thinking, creativity, communication skills, and technological and sustainability literacy (Elfindri et al., 2015; Nasution et al., 2020). At the same time, in the domain of scientific publications, the pressure to increase quantity is often not accompanied by adequate strengthening of methodological capacity and a robust research culture so that the quality and scientific impact of research outputs remain far below the potential that could reasonably be expected from universities in growing developing countries (Dimyati & Hermanu, 2023; Yang et al., 2023).

Concurrently, the international scholarly community has long warned that development relying on the exploitation of natural resources cannot be sustained in the long term. Scientific projections indicate that pressures on environmental carrying capacity and natural resource limitations will increase significantly over the next few decades, necessitating a paradigm shift towards more sustainable development models (Lyn Chan & Muthuveloo, 2021; Yang et al., 2023). As centers of knowledge production, universities are on the front line in responding to this shift through curriculum transformation, reorientation of research agendas, and institutional governance that is more sensitive to sustainability issues (Nasution et al., 2020; Yang et al., 2023). Thus, university performance is measured not only in terms of academic

and economic achievements but also by its contribution to achieving sustainable development goals.

To adapt to these emerging challenges, universities in Indonesia must undertake more fundamental changes, rather than merely engaging in administrative or ad hoc programmatic adjustments. This transformation requires a "revolution" in how institutional performance is conceptualized and managed so that higher education practices are genuinely oriented towards the Sustainable Development Goals (SDGs) agenda (Nasution et al., 2020; Yang et al., 2023). In practical terms, environmental, social, and governance (ESG) dimensions need to be integrated into institutional strategy, performance management systems, and university success indicators so that managerial decisions consider not only short-term efficiency but also long-term impacts on society and the environment (Lyn Chan & Muthuveloo, 2021; Tjahjadi et al., 2019).

Such a major revolution must start with a critical review of existing performance designs, particularly the criteria and dimensions used to assess institutional success in developing countries moving towards the SDGs. To date, many performance assessment systems remain dominated by conventional indicators, such as publication counts, research funding, and rankings, which do not fully capture universities' contributions to sustainability (Dimyati & Hermanu, 2023; Yang et al., 2023). Nevertheless, the literature on intellectual capital, performance management systems, and university governance indicates that well-designed performance systems play a strategic role in shaping organizational behavior and mobilizing resources towards desired goals (Gaus & Hall, 2016; Tjahjadi et al., 2019).

Even so, a review of the higher education and educational management literature shows that systematic efforts to formulate performance-design criteria for universities explicitly oriented toward the SDG agenda, especially in Indonesia and other developing countries, remain very limited. Most studies focus on the relationship between performance management systems and organizational performance in general, research efficiency, or intellectual capital management, without explicitly integrating sustainability dimensions as articulated in the SDGs as a primary framework (Dimyati & Hermanu, 2023; Tjahjadi et al., 2019; Yang et al., 2023). This gap emphasizes the need to develop a university performance design that is better aligned with the global sustainability mandate while remaining sensitive to the structural conditions, resource constraints, and institutional characteristics of developing countries.

Against this background, this study aims to develop a higher education performance framework for developing countries aligned with the SDGs. This focus is crucial, because a well-structured performance design can serve as a strategic instrument for university leaders to guide policy, allocate resources, and evaluate the extent to which institutions contribute to SDG targets, ranging from quality education, decent work and economic growth, and reduced inequalities to climate action (Lyn Chan & Muthuveloo, 2021; Nasution et al., 2020). In addition, contextually designed performance dimensions are expected to help universities in Indonesia and other developing countries escape the trap of purely administrative indicators and move towards performance measures that are more substantive and transformative, such as those that assess student learning outcomes, community engagement, and research impact (Gaus & Hall, 2016; Yang et al., 2023).

To achieve this objective, the study formulates the following research question (Aguinis et al., 2024): "What are the dimensions of a university performance design that is consistent

with the SDGs (Sustainable Development Goals), according to educational management experts?" This formulation reflects the belief that expert perspectives, grounded in an understanding of both higher education management dynamics and the sustainable development framework, are crucial for articulating performance dimensions that are not only normatively desirable but also realistic to implement in developing-country contexts characterized by resource constraints and diverse institutional pressures (Elfindri et al., 2015; Nasution et al., 2020). Accordingly, this study is expected to make a conceptual contribution to the development of an SDGs-oriented university performance framework while also offering practical guidance to policymakers and university leaders for designing and implementing more sustainable performance systems (Dimyati & Hermanu, 2023; Tjahjadi et al., 2019).

Methodology

Research design and sampling

A qualitative approach (Bingham & Witkowsky, 2021; Busetto et al., 2020) using an in-depth interview model (Bingham, 2023) was employed in this study because of its strong alignment with the research objective (Bauer & Gaskell, 2000; Bourgeault et al., 2010). Drawing on the in-depth interview model proposed by Bingham (2023), the research design was structured to elicit the key dimensions of a university performance framework aligned with the SDGs from the perspectives of purposively selected educational management experts. The purposive sampling criteria applied in this study (Palys, 2008) are presented in Table 1.

Table 1. *The purposive sample criteria*

The Aspects of Participants	Inclusion Description	Exclusion Description
The Academic Qualification	Educational management	Non-education studies
Duration of Service as an Academic	15 years or more	Less than 15 years
Area of Expertise	Educational management; planning, leadership, policy, and evaluation of educational institution	Expertise in other areas
The homebase of their institution	Indonesian Higher education with "mandiri" categorized	Indonesian Higher education with another category
Scopus Publication	10 publications or more	Less than 10 publications
Book Publication	5 publications or more	Less than 5 publications
Involvement in Higher Education Planning	1 moment or more	Never

Initially, a search of profiles on Google Scholar and various scientific journal portals identified 17 prospective participants who were presumed to meet the criteria. Further validation, however, led to the exclusion of 8 candidates, resulting in a final sample of 9 participants, all drawn from three leading public universities in Indonesia that specialize in education. This number, according to Bingham (2023) and Dahal (2025), constitutes an

adequate sample size in qualitative research, given that sampling priorities do not focus on large numbers but on the fulfillment of purposive criteria determined by the researcher in line with the characteristics of the data needed to achieve the research objectives (Charli et al., 2022).

Instrument and data compilation

A semi-structured interview instrument was developed based on higher education performance indicators (Gaus & Hall, 2016; Varouchas et al., 2018) and educational indicators used in operationalizing the SDGs (Cai & Wolff, 2022; Žalėnienė & Pereira, 2021). The draft was then rigorously discussed among the researchers to ensure the instrument's reliability. Once everyone agreed on the final version, it was used as a starting point for the interviews, which were then followed by a series of probing questions. Each prominent response from participants was not merely collected passively; it was followed up with additional questions that delved further investigated their thinking.

Rather than being accepted simply because of their expertise, every opinion offered by participants was challenged to present a strong, relevant, evidential, or theoretical foundation. In this way, the data obtained was genuinely selective and robust, rather than unsupported theoretical discourse. This technique is consistent with the view of Busetto et al. (2020), who argue that, in qualitative research, even when data-collection instruments are present, the primary instrument is, in fact, the researcher. In this study, that role was actualized through selective engagement with the data via critical reflection, dialogue, and even debate. The in-depth interview process was conducted online via Zoom, with the researcher and participants taking turns until the data were deemed saturated and sufficient (Bingham, 2023).

Data analysis

The in-depth interview data were then analyzed using thematic analysis. Following the guidance provided by Ahmed et al. (2025), thematic analysis was carried out in six steps: 1) familiarization with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) writing the report. These stages were implemented with NVivo (Allsop et al., 2022; Edwards-Jones, 2014; Mortelmans, 2019; Pongsakorn, 2023), version 12.

In the first stage (familiarization with the data), the researchers immersed themselves in the raw materials, which comprised interview transcripts, technical guidance documents on school location policies, and observational records of the newly implemented school arrangements. They repeatedly reviewed these sources, producing initial notes and reflective memos to construct an early analytic grasp of the dataset.

In the second stage (Generating Initial Codes), the researcher systematically identified codes or core ideas across the entire dataset, with each code capturing a succinct summary of a specific data segment. At this point, NVivo software was introduced to facilitate and organize the analysis. In the third stage (Searching for Themes), the researcher grouped related codes into broader, higher-order themes and, through interpretive analysis, examined explicit and implicit connections between these themes and the research questions.

The procedure then progressed to the fourth stage (Reviewing Themes). Here, the themes were rigorously assessed for internal coherence and for consistency with the research

questions and with other themes. To refine overlaps and distinctions, the researchers revisited the original data to ensure that each theme accurately reflected the empirical evidence. As a result, several themes were merged, subdivided, or removed when they no longer demonstrated sufficient analytic relevance.

In the fifth stage (Defining and Naming Themes), the researcher sharpened the core meaning of each theme and articulated how each theme illuminated the research question, thereby clarifying the study's analytic focus. Each theme was then assigned a concise label and supported with precise descriptions to enhance conceptual clarity and transparency. Finally, in the sixth stage (Writing the Report), the researcher synthesized the analytic insights into a coherent, logically structured narrative. The report presented rich thematic descriptions, illustrative data extracts, and interpretive commentary, thereby addressing the research questions and positioning the findings within the broader scholarly literature.

Data compilation and analysis were not conducted as separate, sequential procedures but carried out in an integrated manner. In qualitative research, the researcher must ensure that the data obtained reach a level of saturation (Bingham, 2023; Bingham & Witkowsky, 2021), even though achieving this level requires repeated rounds of data compilation (Creswell & Creswell, 2018). Data compilation and analysis were conducted over 61 days, from September 1 to October 31, 2025.

Ethical consideration

Compliance with prevailing scientific ethical standards was strictly maintained throughout all stages of the research (Bredal et al., 2024). Participants were selected not only for meeting the purposive criteria outlined in Table 1 but also for providing informed consent to take part, ensuring that their involvement in data collection was entirely voluntary (Bredal et al., 2024; Busetto et al., 2020). Interviews were conducted solely according to schedules mutually agreed upon by the researchers and the participants.

To uphold the principle of anonymity, the real names of all participants were concealed and replaced with subject codes, such as "P1" for the first participant, "P2" for the second, and so on. In addition, ethical safeguards in this study included efforts to disguise the identities of the universities' participants used as examples when expressing their views, to avoid conferring disproportionate prestige on the institutions being modeled, and to prevent disparaging discourse toward other Indonesian universities that were repeatedly mentioned for comparative performance purposes.

Findings

The performance framework of higher education institutions in developing countries is increasingly required to align with the Sustainable Development Goals (SDGs), particularly to ensure that higher education contributes not only to academic achievements but also to concrete, sustainable social change. Based on the views of nine educational management experts from three leading education-oriented universities in Indonesia, SDG-relevant university performance should be formulated within a holistic, measurable, and responsive framework that addresses the specific challenges of developing countries.

The experts emphasize that this framework should at minimum comprise three key dimensions: 1) dynamic environment, 2) foresight strategy, and 3) value creation program,

which must all be firmly anchored in the Tridharma of Indonesian higher education, namely education and teaching, research and development, and service to society. Through these three dimensions, university performance is no longer conceived merely as compliance with administrative indicators but as a transformative process that connects the campus with the long-term needs of society and the world of work.

First dimension: Dynamic environmental

The first dimension, dynamic environment, highlights the ability of higher education institutions to read, respond to, and even anticipate strategic environmental changes with agility at local, national, and global levels. In the experts' view, universities in developing countries frequently confront rapidly shifting regulatory landscapes, technological disruptions, and socio-economic inequalities. Consequently, SDG-aligned university performance requires institutional mechanisms that are highly responsive to change and capable of continuously updating curricula, teaching methods, and partnership arrangements.

One expert stressed that such sensitivity is a prerequisite for ensuring that the Tridharma of higher education does not operate in a "vacuum" detached from social realities. He stated,

> "After considering the education indicators in the SDGs, I believe that university performance must clearly reflect the dynamic environmental dimension. Only by integrating this dimension into the university performance framework in the actualization of the Tridharma of higher education can the provision of higher education in Indonesia become more dynamically empowered" (Interview P3, 7 September 2025).

Another expert added that the dynamic nature of the environment must be reflected in concrete ways in how universities design their educational, teaching, research, development, and service-to-society processes. According to him, it is not sufficient for institutions to merely prepare a static five-year strategic plan; they must also establish ongoing renewal mechanisms based on stakeholder feedback, including students, alumni, industry, and communities, to ensure that their educational offerings remain relevant and responsive to the evolving needs of society. He stated,

> "In developing countries, the social context can change very rapidly. Therefore, university performance must demonstrate adaptive capacity, for example, through more frequent curriculum reviews, research topics that are responsive to current issues, and community service programs that are sensitive to social turbulence" (Interview P1, 3 September 2025).

A third expert highlighted the governance dimension, arguing that environmental dynamics should be institutionalized within the performance governance system rather than relying solely on individual leadership.

> "Dynamic environment is not merely about the sensitivity of leaders but about how the performance system encourages faculties and study

> programs to continually scan changes and adjust Tridharma priorities in a timely manner" (Interview P6, 25 September 2025).

Taken together, these views underscore that university performance must "live" with change rather than merely adjust to it reactively.

Second dimension: Foresight strategy

The second dimension identified is Foresight strategy, which concerns the capacity of higher education institutions to develop a systematically informed long-term outlook and to integrate this outlook into Tridharma planning. The experts emphasize that the SDGs are, by nature, a long-term agenda that requires the ability to anticipate future consequences and opportunities, so a university performance framework cannot be confined to the attainment of annual targets alone. In the view of one expert, foresight is not merely a forecasting exercise but a collective process that involves multiple stakeholders in envisioning a desired future and formulating the strategic steps needed to realize it. He explained,

> "When we talk about the SDGs, university performance must have a long-time horizon. Foresight strategy means that universities can map out future scenarios and then link them to curriculum design, research priorities, and community engagement programs that are relevant to the needs of future generations" (Interview P4, 10 September 2025).

Another expert underlined that the Foresight strategy must be clearly reflected in education and teaching performance, for example, through the development of future skills such as systemic thinking, sustainability literacy, and cross-disciplinary collaborative abilities. According to him,

> "Universities in developing countries must not focus only on securing today's accreditation; they need to prepare graduates who are ready to face the challenges of the next 10–20 years. This means that performance indicators must assess the extent to which the Tridharma is directed towards addressing future challenges, not merely the immediate demands of the labor market" (Interview P2, 5 September 2025).

A third expert added that, in the realm of research and development, foresight encourages the selection of research themes that are not only popular but also strategic for long-term social and ecological transformation. He stated,

> "SDG-aligned research performance is not only about the number of publications but also about the extent to which research trajectories anticipate future problems such as climate crises, digital inequality, and the quality of democracy. This is where foresight strategy becomes a vital spirit within the university performance framework" (Interview P7, 28 September 2025).

Thus, the Foresight strategy dimension binds Tridharma performance to a long-term orientation that is consistent with the global SDGs agenda.

Third dimension: Value creation program

The third dimension, the Value Creation Program, underscores the importance of university performance that demonstrably generates value for both internal and external stakeholders. The value in question is not only economic but also social, cultural, and ecological, in line with the SDGs' commitment to "leave no one behind" in development. The experts observe that university performance has too often been measured by predominantly inward-looking indicators, such as the number of graduates, publications, or accreditation status. In the proposed new framework, performance must instead reflect the extent to which the Tridharma produces tangible impacts for society, the world of work, and surrounding ecosystems. One expert noted,

> "A value creation program means that universities are able to demonstrate what added value is produced through their education, research, and community engagement activities. For example, how study programs help improve the welfare of local communities, strengthen environmental literacy, or support innovation-based MSMEs" (Interview P5, 18 September 2025).

Another expert emphasized that the value-creation program dimension requires more participatory, impact-oriented performance measurement. In his words,

> "If universities wish to be aligned with the SDGs, their performance metrics cannot stop at administrative outputs. There must be indicators that capture the quality of collaboration with communities, the behavioral changes that occur, and the sustainability of programs once formal projects have ended" (Interview P8, 5 October 2025).

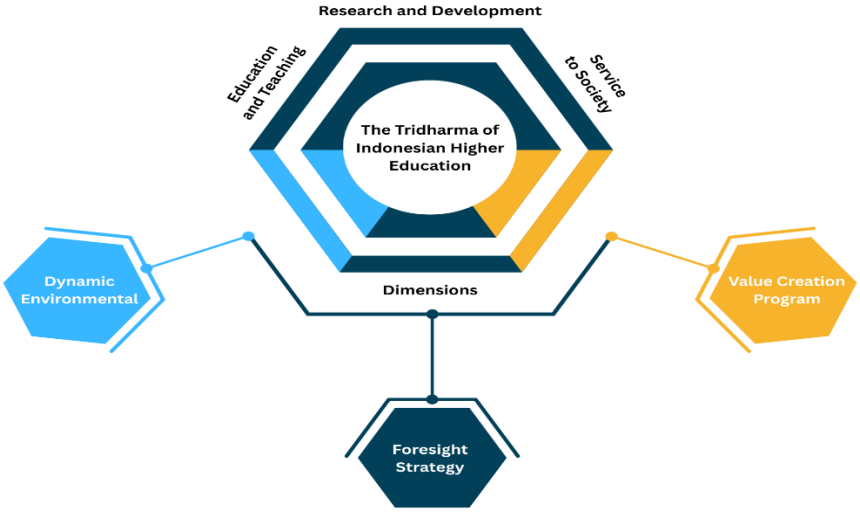
Meanwhile, an expert with extensive experience in developing service-to-society programs added that value-creation-oriented initiatives must be designed in an integrated manner with education and teaching, as well as research and development. He explained,

> "In practice, a value creation program will be strong when students, lecturers, and community partners move together. For instance, thesis topics and faculty research are directed at solving real problems in the field, and the results are then integrated into teaching modules and community empowerment programs. It is at this point that university performance truly demonstrates added value for the public" (Interview P9, 20 October 2025).

In this way, the value creation program bridges the classroom, the laboratory, and the community into a single, mutually reinforcing performance ecosystem. Ultimately, in their

entirety, the perspectives of the nine educational management experts affirm that a performance framework for universities in developing countries aligned with the SDGs cannot be constructed piecemeal. Look at Figure 1.

Figure 1. *Dimensions of the higher education performance frameworks in developing countries aligned with the SDGs*



The dynamic environmental dimension, foresight strategy, and value creation program must be understood as a single, mutually reinforcing whole rather than as three separate boxes. Accordingly, Figure 1 depicts these three dimensions as distinct yet interconnected elements, all resting on the foundation of the Tridharma of Indonesian higher education. A dynamic environment ensures that Tridharma remains sensitive and responsive to changing contexts. Foresight strategy provides a long-term orientation, ensuring performance does not merely chase annual targets but follows a path of sustainable transformation, which is essential for aligning educational outcomes with the evolving needs of society and the environment. Meanwhile, the Value Creation program guarantees that the entire Tridharma process genuinely generates tangible value for society and the environment. Within this framing, the performance framework for higher education institutions in developing countries can be transformed from a mere reporting system into a strategic instrument for realizing the aspirations of sustainable development as mandated in the SDGs.

Discussion

The findings of this study indicate that a performance framework for higher education institutions in developing countries that is aligned with the Sustainable Development Goals (SDGs) needs to rest on three core dimensions: dynamic environment, foresight strategy, and value creation program, all closely connected with education and teaching, research and development, and service to society. These three dimensions are not merely separate categories but, together, constitute an integrated performance-governance orientation that enables

universities to respond agilely to change, pursue long-term transformation pathways, and generate tangible value for society and the environment.

Dynamic environmental as the foundation of contextual sensitivity

In-depth interviews with nine educational management experts underscore that universities' performance in developing countries cannot be understood without accounting for complex environmental dynamics, including climate change, technological disruption, regulatory pressures, social inequality, and major shocks such as pandemics. The experts argue that an SDG-relevant performance framework must ensure that the Tridharma remains sensitive and responsive to these changes, for example, through more frequent curriculum renewal, the selection of contextually grounded research topics, and community engagement programs that address real problems faced by local communities. This view is consistent with the argument that education for sustainability must respond to a "drastically higher human impact on the physical Earth", rapid technological change, and rising global governance complexity (Žalėnienė & Pereira, 2021).

A similar convergence appears in findings that many higher education institutions (HEIs) are currently developing a wide range of sustainability initiatives, but these initiatives are often bottom-up and fragmented and therefore do not yet form a robust systemic approach, which limits their effectiveness in addressing broader sustainability challenges. Shawe et al. (2019) report that the number of green campuses and environmental programs frequently far exceeds the existence of formal strategies and policies, with a strong emphasis on on-campus activities and relatively limited outreach to society. These results reinforce the importance of the dynamic environmental dimension in the performance framework proposed in this study. Rather than simply accumulating projects, universities need to build a performance system that compels them to continually scan their environment, reassess Tridharma priorities, and channel institutional energy into responses that are both relevant and sustainable.

Foresight strategy and the long-term horizon of the SDGs

The second dimension, foresight strategy, emerges as a response to the limitations of short-term approaches that dominate many university practices. The experts emphasize that an SDG-aligned performance framework must be forward-looking, mapping future scenarios and linking them to the design of education, research, and community service. This perspective resonates strongly with a body of literature that frames the SDGs as a long-term horizon of transformation, in which education is considered a "key instrument" for equipping future generations with systemic, critical, and responsible competencies to drive transformational change (Žalėnienė & Pereira, 2021).

Several studies even show that without clear foresight, universities' sustainability commitments tend to stall at the level of declarations. Shawe et al. (2019) reveal that many HEIs have signed various global charters and declarations on sustainable development, yet implementation is often inconsistent and not supported by long-term performance planning, which can lead to missed opportunities for meaningful impact and accountability in achieving sustainability goals. Leal Filho et al. (2018) likewise highlight that strategic planning and the

development of sustainability plans linked to local community development can be powerful allies in overcoming implementation barriers. These findings strengthen the position of foresight strategy as a core dimension of the framework: universities in developing countries cannot afford to be merely adaptive; they must cultivate a long-range vision that connects SDG targets, national visions, and institutional priorities.

In developing-country contexts with ambitious development agendas, Abo-Khalil (2024) provides a highly relevant illustration. His study of sustainability integration in universities in the United Arab Emirates shows how national visions, such as the UAE Vision 2030 and various clean-energy plans, have pushed universities to align their strategies, curricula, and operational practices with the SDGs. This pattern echoes the needs identified by Indonesian experts: a foresight strategy enables universities to transform a performance framework from a simple reporting device into a "long-term compass" that guides the Tridharma toward sustainable transformation.

Value creation program and the impact of the Tridharma

The third dimension, the value creation program, explicitly articulates the requirement that university performance be assessed not only through administrative outputs such as the number of graduates, publications, or accreditation results, but also through the social, cultural, economic, and ecological value generated for stakeholders. In the experts' view, SDG-oriented performance must demonstrate how education and teaching shape graduates who are agents of change, how research and development produce knowledge that addresses public problems, and how service to society strengthens the capacity of local communities and social ecosystems. These insights align with literature that positions HEIs as "agents of change" responsible for building the awareness, knowledge, and skills needed for a sustainable future (Berchin et al., 2021).

Berchin et al. (2021) further show that education for sustainable development (ESD) can foster new, more ecological ways of thinking and acting, with academics as carriers and shapers of ecological culture and students as its implementers and replicators in society. In practice, Al-Rahmi et al. (2021) illustrate how mobile learning can serve as a concrete value-creation program when designed to enhance access, convenience, and the sustainability of learning in higher education. Their study underscores that the success of technology-based programs such as M-learning is strongly influenced by attitudes, perceived ease of use, and resource support, factors that, in the present framework, can be positioned as key, concrete indicators of a sustainable value-creation program.

The Covid-19 pandemic, as discussed by Crawford & Cifuentes-Faura (2022), also exposes the fragility of value-creation efforts when sustainability is not treated as a core priority. They observe a decline in sustainability-related publications in higher education between 2020 and 2021, suggesting that in times of crisis, sustainability initiatives are easily sidelined if they are not embedded in institutional performance frameworks and business models. In this context, the value creation program advanced in this study serves as a reminder that the Tridharma must continue to generate value for society even amid disruption; otherwise, commitments to the SDGs risk degenerating into mere rhetoric.

Advantages and contributions of the three-dimensional framework

Compared with the nine prior studies reviewed, the main strength of this study's findings lies in the effort to bring together three major strands that have typically been discussed only in partial and fragmented ways: sensitivity to a dynamic environment, long-term strategic orientation, and a focus on value creation. Leal Filho et al. (2018), Shawe et al. (2019), and Žalėnienė and Pereira (2021) stress the need to respond to global dynamics and to engage in strategic planning, but they do not translate these needs into a performance framework that explicitly binds all three dimensions to the Tridharma. Abo-Khalil (2024), Berchin et al. (2021), and Machado and Davim (2022) add important evidence on the roles of national strategies, educational innovation, and global research mapping, yet they still largely operate at the level of policy description or meta-analysis.

The framework developed in this study goes a step further by organizing the three dimensions into a performance structure that can serve as a foundation for designing indicators, evaluation instruments, and planning processes in universities in developing countries. A dynamic environment ensures that every element of the Tridharma must read context and adapt to changes in regulation, technology, and societal needs. Foresight strategy obliges universities to formulate an explicit performance horizon in relation to the SDGs and national agendas and to link this horizon to the selection of research themes, curriculum design, and partnership patterns. The value creation program, ultimately, shifts the performance focus from mere compliance with administrative standards to the measurement of tangible impact in the form of enhanced community capacities, behavioral change, and contributions to social justice and environmental sustainability.

Theoretically, this framework offers a conceptual contribution by integrating the discourses on education for sustainability, university governance, and the SDG architecture into a comprehensive, contextually grounded performance model for higher education provision in developing countries. In practice, it provides university leaders and managers in such contexts with a foundation for designing performance systems that not only help satisfy accreditation criteria or global ranking metrics but also channel institutional energy into programs that genuinely matter to society. In Indonesia, the explicit linkage to the Tridharma makes the framework readily translatable into internal policies. The framework facilitates the formulation of strategic plans, the structuring of research portfolios and roadmaps, and the design of community engagement programs that prioritize vulnerable groups. In this way, the results of this study have the potential to bridge the gap between diverse ideas scattered across international literature and the concrete needs of universities in developing countries to make the SDGs an integral part of their institutional performance frameworks.

Conclusion

In this study, the thinking of leading educational management experts in Indonesia was explored in depth. Through in-depth interviews, critical discussion, and debate, their insights were used to construct a performance framework for higher education institutions in developing countries, aligned with the SDGs agenda. The results show that a performance framework for universities in developing countries that is consistent with the SDGs needs to

rest on three main dimensions: dynamic environment, foresight strategy, and value creation program, all of which are closely connected with the tri dharma of Indonesian higher education, namely education and teaching, research and development, and service to society. These three dimensions are not merely separate categories; together, they form a unified performance-governance orientation that enables universities to respond agilely to change, pursue long-term transformation trajectories, and generate tangible value for society and the environment.

The principal strength of these findings lies in their effort to bring together three broad strands that have previously been discussed only in part across earlier relevant studies. Theoretically, the study offers a conceptual contribution by integrating the discourse on education for sustainability, higher education governance, and the SDGs framework into a comprehensive, contextually grounded performance model for the provision of higher education in developing countries. In practice, this framework provides a foundation for university leaders and managers in developing contexts to design performance systems that not only help them meet accreditation indicators or global ranking metrics but also channel institutional energy into programs that genuinely matter to society.

Finally, these findings should be incorporated into universities' strategic plans. This framework is especially relevant in Indonesia, given the direct linkage between the identified performance dimensions and the tridharma of Indonesian higher education, but it is also applicable more broadly to higher education institutions in other developing countries. Such articulation can inform multiple domains of university planning, both academic and non-academic. In addition, follow-up studies that empirically test this performance framework longitudinally are recommended.

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