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STRATEGIES FOR SUSTAINABLE DEVELOPMENT IN HIGHER EDUCATION INSTITUTIONS: LESSONS FROM THE GLOBAL NORTH AND GLOBAL SOUTH

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STRATEGIES FOR SUSTAINABLE DEVELOPMENT IN HIGHER EDUCATION INSTITUTIONS: LESSONS FROM THE GLOBAL NORTH AND GLOBAL SOUTH

1. Introduction

The current Ukraine-Russia, Iran-Israel war and the escalating global tensions among powers pose a significant challenge to Sustainable Development (SD), necessitating urgent and concerted responses from various social actors (Mbah & Wasum, 2022). As a pivotal player, the United Nations (UN) is instrumental in creating policies to address these crises and meet socio-environmental needs. Its role in fostering international cooperation is essential in pursuing SD (Žalėnienė & Pereira, 2021). In 2015, the UN launched the 2030 Agenda with 17 Sustainable Development Goals (SDGs) focused on poverty reduction, environmental protection, and peace (Žalėnienė & Pereira, 2021). The SDGs aim to balance economic growth with environmental sustainability, addressing interconnected socio-economic and equity issues (Shi et al., 2019). Despite critiques, the SDGs provide a collaborative framework for global sustainability efforts (Vandemoortele, 2017; Swain, 2018).

Debates highlight a significant divide between the Global North and Global South, shaped by economic disparities, historical contexts, and differing development priorities (Barkemeyer, 2013; Campello, 2017; Rambaldi, 2022). Linnér (2005) underscores persistent gaps in technology transfer and knowledge equity, while Yazdani (2013) points out that the Global North's environmental focus often neglects the economic and social challenges of the Global South. Fuso Nerini et al. (2024) highlight insufficient funding as a major challenge for Global South countries, particularly low- and middle-income nations, in achieving the SDGs. The authors add that weak domestic institutions and corruption hinder equity and debt finance flow.

These insights emphasize the need for a more inclusive SD approach that addresses the unique challenges and priorities of the Global South and underscores the importance of equity in SD. Kyle says tackling poverty, inequality, climate change, and other global challenges requires constant dedication to SD (Kyle, 2020; Leal Filho et al., 2023). These goals can only be advanced with the help of the diverse nations of the Global South, each grappling with their opportunities and obstacles (Owuondo, 2023). Education is essential for addressing SD and social advancement challenges in the Global South (Owuondo, 2023).

HEIs are vital in implementing the 2030 Agenda as key influencers aligned with the SDGs (Leal Filho et al., 2019; Menon & Suresh, 2022; Singh et al., 2024). They develop sustainable skills for students, create applied curricula, raise critical environmental awareness, implement sustainable campus operations, manage AI, and foster future leaders (Leal Filho et al., 2019; Puertas & Marti, 2019; Leal Filho et al., 2024; Singh et al., 2024; Saxena et al., 2024).

Despite HEIs' progress, fully addressing climate change contributions requires more interdisciplinary approaches (Ngcamu, 2023; Leal Filho et al., 2023). HEIs must integrate sustainable practices into their processes and strategies as knowledge agents to attract talented students, increase visibility, and secure funding (Calabrese et al., 2019; Serafini et al., 2022; Leal Filho et al., 2023).

However, challenges remain, including the need for strategic alignment across all HEI levels, and it is not without any pressure (Kapitulčinová et al., 2018; Moreno Pires et al., 2020; Serafini et al., 2022; Leal Filho et al., 2023). HEIs face pressures from reduced government funding and evolving educational landscapes (Lynch & Baines, 2004). To sustain competitive advantage, they can adopt resource-based strategies leveraging knowledge, reputation, and innovation (Lynch & Baines, 2004). Talent development through training and career advancement boosts sustainability, especially during crises like COVID-19 (Abiwu & Martins, 2022). Focusing on strategic sustainable planning and prioritizing student success is crucial for HEIs' sustainability and competitive edge (Dobson et al., 2010; Reese, 2016). Participating in

global sustainability rankings, like THE Impact Ranking, enhances transparency, assesses SDG contributions, promotes responsible management, and identifies areas for improvement (Caeiro et al., 2013; Veidemane, 2022; De la Poza et al., 2021; Puertas & Marti, 2019).

This study fills a significant research gap by examining the sustainable actions of HEIs, particularly focusing on organizational strategies and geographic diversity (Lauder et al., 2015; Aguinis & Glavas, 2012; Ojeyinka & Osinubi, 2022). We analyzed four HEIs and their strategies through sustainable theories, including creating sustainable value (CSV), the base of the pyramid (BoP), and regenerative strategies (Hart & Milstein, 2003; Prahalad & Stuart, 2002; Hahn & Tampe, 2021). The study aims to analyze HEIs' organizational strategies for SD in both the Global North and Global South, emphasizing their unique contributions and sustainable value strategies (Casado-Aranda et al., 2021; Uleanya, 2023). We examined the strategies of four top-performing HEIs—two from the Global North and two from the Global South—based on their performance in the Global Sustainable Ranking (THE).

Theoretically, this study explores and highlights the differences between HEIs in the Global North and Global South, emphasizing the need for tailored regional sustainability approaches. It voices the Global South's role in economic development and resource preservation within global policies shaped by the Global North and promotes inclusive solutions. Socially, it challenges the notion of the "best university" by aligning with SDGs and improving social indicators like poverty, gender inequality, hunger, and unemployment. Practically, it underscores incorporating sustainability into strategic development, offering insights into an underexplored research domain.

2. Integrating Strategies for Sustainable Development into HEIs

HEIs, recognized as vital knowledge centers and organizational entities, play pivotal roles in advancing sustainability through education, research, extension services, and management practices (Serafini et al., 2022). To thrive in today's dynamic landscape, HEIs must integrate sustainable practices deeply into their fundamental processes, strategies, and visions (Calabrese et al., 2019). This integration enhances academic excellence and aligns HEIs with global sustainability goals outlined in frameworks like the 2030 Agenda (Serafini et al., 2022; Mapar et al., 2022). However, achieving these objectives poses significant challenges, demanding strategic alignment across all organizational levels amidst financial constraints and evolving educational contexts (Kapitulčinová et al., 2018; Moreno Pires et al., 2020; Serafini et al., 2022).

Operating within complex economic environments, HEIs face pressures such as dwindling government funding and intensified competition in the educational sector (Lynch & Baines, 2004). They must navigate these challenges while ensuring financial sustainability amidst fluctuating funding, student enrollment variations, and escalating operational costs (Hudson, 2016). Private HEIs prioritize economic imperatives and market efficiency, contrasting with public institutions that uphold fiscal responsibility despite their non-profit status (Nelson, 2011; Yanting, 2013). Many HEIs diversify their revenue streams to remain competitive through initiatives like industry partnerships, online education platforms, and professional certifications (Zervina & Stukalina, 2018).

This approach reflects a broader trend where HEIs adopt strategies to foster SD actions, innovation, entrepreneurship, and economic growth (Tilbury, 2011; Puertas & Marti, 2019). Leveraging their knowledge, reputation, and innovative capacity, HEIs strategize to sustain competitive advantages and prioritize student success, enhancing their sustainability practices and resilience in an increasingly challenging educational landscape (Dobson et al., 2010; Reese, 2016). These institutions are pivotal in promoting environmental awareness, fostering social inclusivity, and ensuring economic viability, aligning with their educational missions (Puertas

& Marti, 2019; Nielsen et al., 2020). HEIs are expected to ethically pursue academic, environmental, social, and economic goals, integrating SD (Searcy, 2012; Laasch et al., 2020).

Environmentally, HEIs lead climate action through initiatives like eco-friendly contests and recycling programs (Kerr & Hart-Steffes, 2012). Socially, they advance diversity, equity, and community engagement, reducing environmental impacts (Jackson, 2016; Littledyke et al., 2013). Economically, HEIs promote sustainable financial practices and entrepreneurship (Laasch et al., 2020; Avrampou et al., 2019; Dahlmann et al., 2019), supporting sustainable economic development through collaborations (Leal Filho et al., 2019). Together, these actions highlight HEIs' integral role in advancing a sustainable society.

One way to demonstrate their actions toward SD is by participating in global sustainable rankings (De la Poza et al., 2021). Global education rankings traditionally emphasize academic and research reputation, often overlooking SD factors (De la Poza et al., 2021; Puertas & Marti, 2019). However, there is an increasing acknowledgment of the importance of SD in these evaluations (Lauder et al., 2015). Global sustainable rankings are becoming essential for assessing HEIs' contributions to environmental and social goals (Galleli et al., 2021).

The 2023 edition of Times Higher Education Impact Rankings (THE) is recognized for its global scope and transparent evaluation of HEI activities related to the SDGs (Atici et al., 2021; De la Poza et al., 2021). This critical ranking tool allows worldwide HEIs to assess and compare their SD actions, understand disparities, and strategize for competitive advantage (De la Poza et al., 2021; Atici et al., 2021; Veidemane, 2022). As global rankings shape strategic planning, HEIs are urged to integrate SDGs across their operations to attract eco-conscious talent students, increase institutional visibility (Salvioni et al., 2017; Leal Filho et al., 2023), and secure funding for more sustainable actions (Tretyakova, 2020; Hansen et al., 2021; Khan et al., 2022). These rankings guide policymakers in aligning education policies with SDGs while considering each country's unique characteristics (Findler, 2018; Laasch et al., 2020).

In pursuing SDGs and higher sustainability rankings, HEIs can adopt several strategic frameworks that align with global sustainability efforts. Hart and Milstein (2003) advocate for "Creating Sustainable Value," a framework that integrates economic, social, and environmental considerations into strategies for generating shareholder value sustainably. Their approach categorizes strategies into four quadrants: Pollution Prevention, focusing on internal efficiency and risk reduction; Product Stewardship, which enhances external reputation through responsible product management; Clean Technology, aimed at internal innovation and market repositioning; and Sustainability Vision, defining long-term growth by addressing unmet needs sustainably (Hart & Milstein, 2003).

Prahalad and Stuart (2002) introduce the "Base of the Pyramid" strategy, targeting the underserved Tier 4 market of four billion people living on less than $1,500 per year. This approach challenges businesses to innovate and create affordable, high-volume products and services that cater to this market segment's unique needs. Their strategy emphasizes creating buying power through microcredit and employment opportunities, shaping consumer aspirations through education and sustainable products, improving market access with efficient distribution systems, and adapting solutions to local conditions for cultural sensitivity and relevance (Prahalad & Stuart, 2002).

In "Strategies for Regenerative Business," Hahn and Tampe (2021) propose a paradigm shift from minimizing harm to ecosystems to enhancing their vitality. Their approach includes three main strategies: Restore, aimed at returning ecosystems to previous states with some regenerative aspects; Preserve, seeking a net zero impact on ecosystems through long-term stewardship; and Enhance, which aims for a net positive impact on Social-Ecological Systems (SES) by improving adaptive capacities and life-enhancing capabilities. This systems-centric approach challenges businesses to integrate ecological and social considerations into their core

strategies, emphasizing a symbiotic relationship with SES rather than merely minimizing negative impacts (Hahn & Tampe, 2021).

These strategies highlight the significant role HEIs can play in sustainability by incorporating innovative, responsible, and system-oriented approaches into their operations and strategic planning. While adopting these strategies can potentially enhance competitive positioning, foster innovation, and contribute positively to SDGs, many factors can influence these outcomes. The article suggests that, although strategic planning is essential, it is not the only path to success; various external and internal factors can impact the effectiveness of these sustainability efforts.

3. Method

Our research employed qualitative applied methods to study sustainable strategies in HEIs. Data from university websites was analyzed deductively, corroborating literature findings. We discussed our results in light of existing research (Merriam & Tisdell, 2015), enhancing our understanding of HEI strategies. This exploratory study aimed to expand on prior work (Creswell, 2011), utilizing the latest HEI documents available.

HEIs participating in the THE Impact Ranking were chosen based on their involvement with actions toward SD. Two top-ranking institutions were selected, characterized by their performance in the metrics analyzed. Another two institutions were selected based on the following criteria: a) Belonging to the Global South; b) Being from different regions than the other selected HEIs; c) Ranking position (best performance in the ranking, meeting criteria a and b; and d) publishing annual sustainability reports about their actions toward SD. The selection of units of analysis is intended to identify different ways of implementing strategies and to observe the characteristics of the global north and south (Rambaldi, 2022; Odeh, 2010; Uleanya, 2023).

3.1. Data Gathering

Data were collected from documents capable of contributing to the researcher's investigation and analysis (Severino, 2007). Documents that describe and make public the SD initiatives employed by the HEIs were used, including reports on sustainability-focused strategies and reports on the impact of the institution's operations. Table 1 details the secondary data analyzed, categorized by document type. It includes the originating HEI, title, year of publication, and number of pages analyzed. In total, over 200 pages from various HEI reports were examined.

Table 1 – Higher Education Institutions' documents/reports analyzed.

Higher Education Institution	Global Ranking Score	Country	World Development Economic Classification	Report Name	Pages
Western Sydney University	99,4	Australia	Global North	Unlocking Impact Sustainability Report 2022	28
University of Manchester	97,5	United Kingdom	Global North	The University of Manchester Sustainable Development Goals 2021/22 Report	44
Chulalongkorn University	94,8	Thailand	Global South	Chulalongkorn University Sustainability Report 2022	72
National Taiwan University	90,3	Taiwan (China)	Global South	NTU Social Responsibility and Sustainability Report	57

Source: Author's work (2024), based on Hahn & Tampe (2021), Prahalad & Stuart (2002), and Hart & Milstein (2003).

3.2. Data Analysis

We conducted a thematic data analysis (Guest, Macqueen, and Name, 2012). Through the analysis of the documents, it was possible to relate the information found to the studied strategies to determine how they are connected (Saldana & Omasta, 2016). We followed Miles, Saldana, and Omasta's (2016) key steps for data analysis: i) data condensation, ii) data display, and iii) conclusion drawing.

Initially, data were condensed, summarized, and coded, with documents integrated into ATLAS.ti version 23. We conducted two condensation cycles to develop deductive codes based on the literature review. Subsequently, the second phase was done by data organization, document coding, and creating code-document analyses, co-occurrence, and charts. The final stage involved data interpretation and synthesis, culminating in the study's conclusions. Visual graphic analyses were conducted using RStudio 4.4.0, utilizing networkD3, outlined in Grolemund and Wickham's (2018) work. Table 2 illustrates the HEIs' strategies and the performance aspects, based on theoretical background, that guide the creation of codes.

Table 2 – Organizational Strategies.

Theoretical Category	Organizational Strategy	Performance Aspect
Base of the Pyramid (BoP)	Creating Buying Power	Financial Inclusion
	Shape Aspirations	Consumer Education
	Improve Access	Distribution Efficiency
	Tailor Local Solutions	Local Adaptation
Regenerative Strategies	Restore	Ecosystem Yield
	Preserve	Ecological Boundaries
	Enhance	Adaptive Capacity
Creating Sustainable Value (CSV)	Pollution Prevention	Cost and Risk Reduction
	Product Stewardship	Reputation and Legitimacy
	Clean Technology	Innovation and Repositioning
	Sustainability Vision	Growth Path and Trajectory

Source: Author's work (2024), based on Hahn & Tampe (2021), Prahalad & Stuart (2002), and Hart & Milstein (2003).

4. Findings

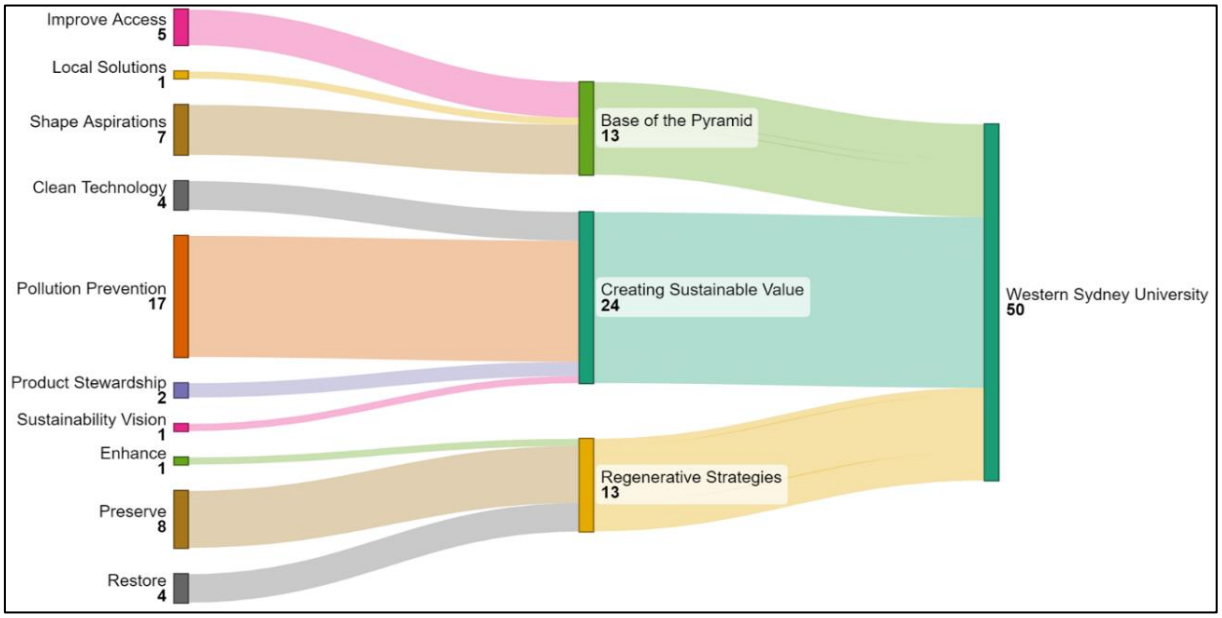
The HEIs studied strongly commit to sustainable development in their annual reports, focusing on research initiatives that address current and future societal needs. These actions promote sustainability awareness among their communities and students, aligning with their strategic development goals. Key sustainable development actions and strategies at each institution will be outlined and referenced within theoretical frameworks, and the number of codes by the strategy will be graphically synthesized to facilitate an exploratory report data analysis and alignment with theoretical perspectives.

4.1. HEIs initiatives

Graphical visualization is crucial for illustrating HEIs' actions and strategies towards sustainable development, offering a comprehensive view of their initiatives. It aids in identifying patterns and outliers in complex datasets, essential for data analysis (Koschat, 1996; Yeager, 2007). Visual tools such as Sankey diagrams and heat maps effectively compare HEI strategies globally (Nuttbohm, 2009; Budihardjo, 2021). In Table 1, Sankey diagrams depict the flow and distribution of sustainable development actions, categorizing strategies for clarity. These tools not only elucidate institutional approaches but also engage stakeholders and facilitate a combined approach to implementation (Ramísio, 2019).

Western Sydney University leads in sustainable value creation, focusing on pollution prevention through its Decarbonization Innovation Hub. Partnering with Climate Active, they aim for carbon-neutral certification via renewable energy adoption, energy efficiency improvements, sustainable transport promotion, and waste reduction. They invest in carbon offset projects for conservation and renewable energy. Engaging Bottom of the Pyramid communities, initiatives like the Yarramundi Lecture celebrate Indigenous culture, shaping aspirations among Aboriginal and Torres Strait Islander communities. Regenerative efforts include monitoring the 117-hectare Biodiversity Stewardship site and integrating sustainability into student learning, visualized effectively in a Sankey diagram for clear resource distribution insight.

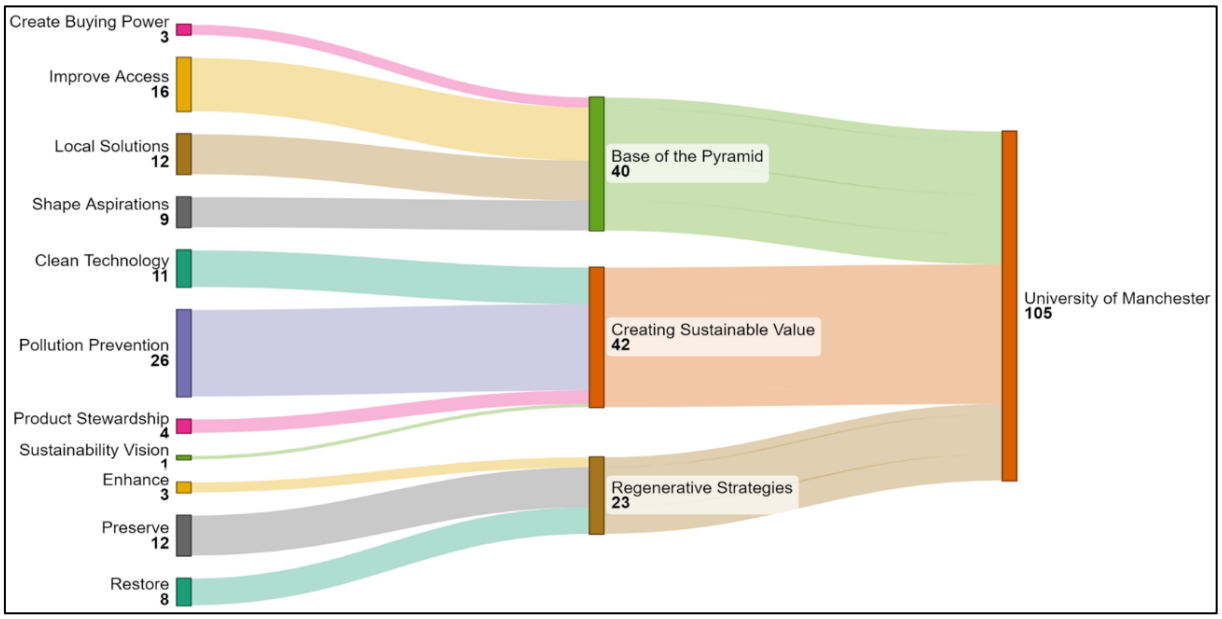
Figure 1: Sankey Diagram of Western Sydney University's Strategies



Source: Authors work (2024) based on Hahn & Tampe (2021), Prahalad & Stuart (2002) and Hart & Milstein (2003).

The University of Manchester's sustainable strategies are illustrated in Figure 2 using a Sankey diagram, showcasing the distribution of resources and efforts toward Creating Sustainable Value (CSV) and the Base of the Pyramid (BoP). Pollution prevention is key for CSV, with renewable energy backed by REGO (Renewable Energy Guarantees of Origin) certification ensuring that renewable generation matches electricity consumption. The Sustainable Resources Plan includes carbon reduction, energy efficiency, water conservation, sustainable travel, waste reduction, sustainable buildings, responsible purchasing, IT services, and catering. In the BoP category, improving access is highlighted by the Homeless Healthcare Society, which raises awareness of medical inequalities faced by the homeless, enhancing future healthcare provision. Manchester's Massive Online Open Courses (MOOCs) also address global issues like inadequate water and sanitation, providing solutions and supporting local and global sustainable development efforts.

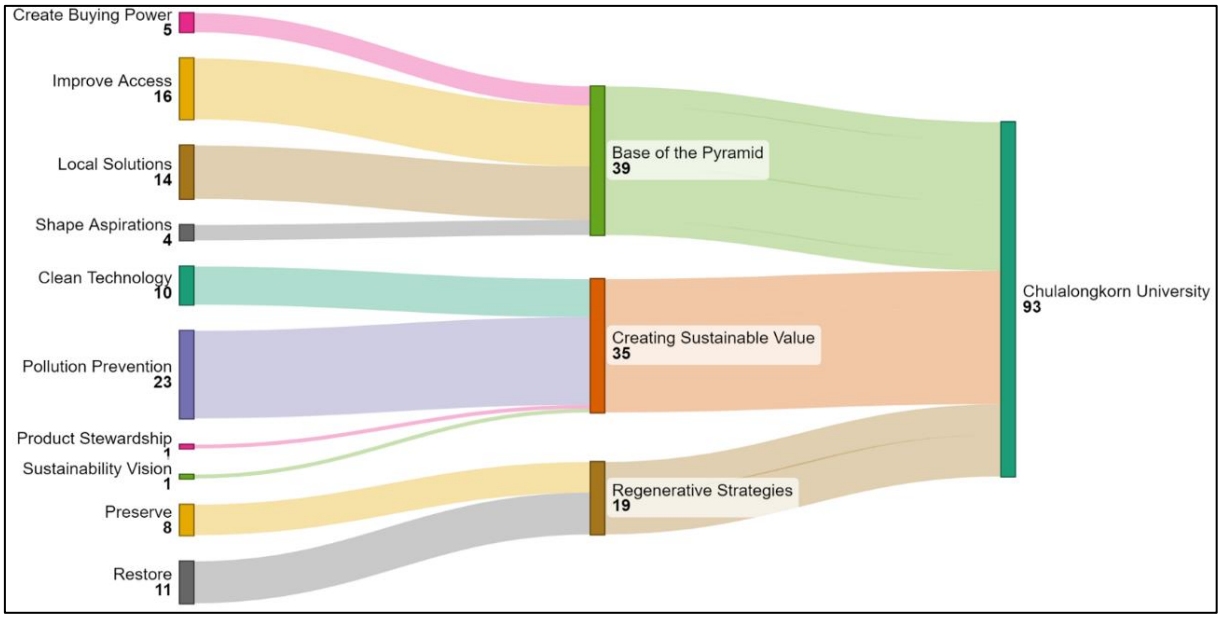
Figure 2: Sankey Diagram of University of Manchester's Strategies



Source: Authors work (2024) based on Hahn & Tampe (2021), Prahalad & Stuart (2002) and Hart & Milstein (2003).

Chulalongkorn University's strategies, focused on the Base of the Pyramid (BoP) and Creating Sustainable Value (CSV), are illustrated in Figure 3. The university excels in improving access and local solutions in the BoP category. The BCG (Bio-Circular-Green) Economy initiative supports sustainability by nurturing the environment, aiding local communities, fostering economic growth, and creating employment for graduates and residents. The "Enhancing the Capacity of Livestock Farmers" project, led by Assistant Professor Winai Kaewlamun, aims to alleviate poverty through sustainable agricultural practices in Nan Province.

Figure 3: Sankey Diagram of Chulalongkorn's Strategies

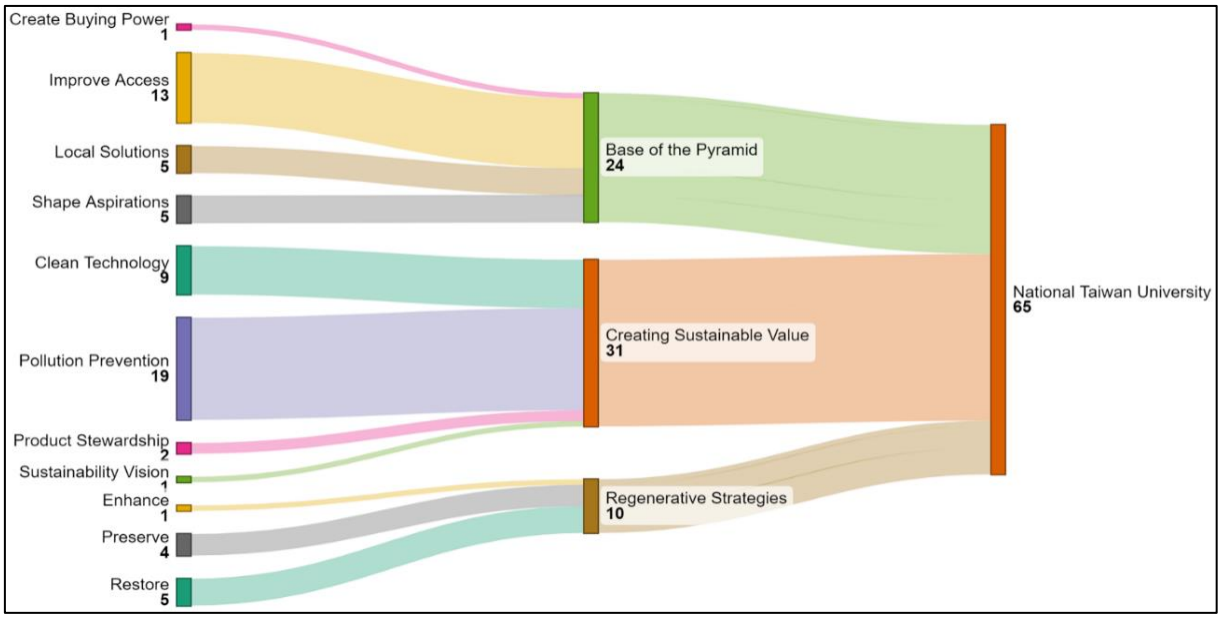


Source: Authors work (2024) based on Hahn & Tampe (2021), Prahalad & Stuart (2002) and Hart & Milstein (2003).

In the CSV category, pollution prevention is addressed through innovative 3D printing with the rPETG filament project, repurposing PETG plastic into 3D filaments, promoting a circular economy. Additionally, Chulalongkorn University focuses on clean technology by transitioning to zero-carbon energy systems. Collaborating with the Metropolitan Electricity Authority (MEA), the university is installing solar photovoltaic (PV) systems on 65 buildings, with 14 already operational, expected to meet 25% of the university's electricity needs upon completion, significantly reducing its carbon footprint and advancing sustainable energy practices.

National Taiwan University (NTU) exemplifies Creating Sustainable Value (CSV) strategies, as depicted in Figure 4. NTU prioritizes pollution prevention, aiming for carbon neutrality by 2048 while developing a smart, sustainable campus with energy conservation and nearly zero-emission buildings. In 2022, NTU conducted 12 energy conservation workshops to enhance building management and electricity consumption practices among faculty, students, and staff. NTU plans to install solar PV systems on campus and optimize energy use by identifying energy-intensive equipment and establishing an energy use index (EUI). NTU contributes to Taiwan's energy transition by researching and developing technologies to reduce the national electricity carbon emission factor. At the Malaysia Technology Expo 2022, NTU's delegation earned multiple awards, including a gold medal for Dr. Hsien-Yeh Chen's project on a capsule-sized water purification device using biocompatible materials. This innovative technology promises to enhance industrial water quality and recycling rates, underscoring NTU's commitment to sustainability and supporting Taiwan's broader energy goals.

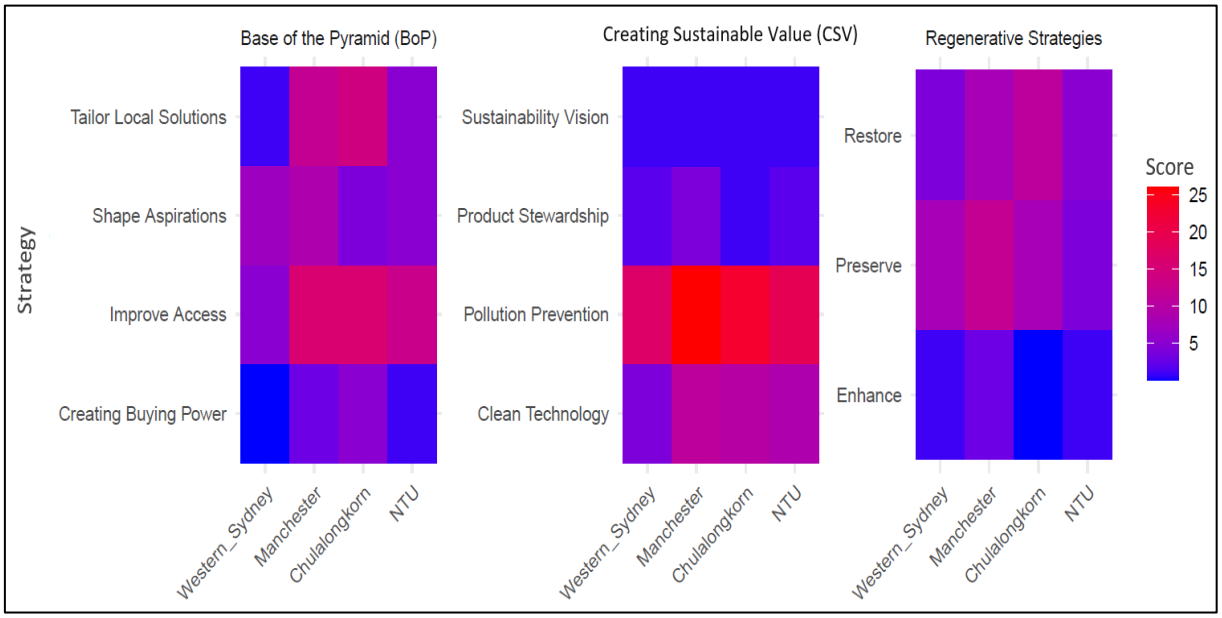
Figure 4: Sankey Diagram of National Taiwan University's Strategies



Source: Authors work (2024) based on Hahn & Tampe (2021), Prahalad & Stuart (2002) and Hart & Milstein (2003).

Analyzing the organizational strategies of HEIs, as shown in Figure 5, reveals strong development in Creating Sustainable Value (CSV), Base of the Pyramid (BoP), and Regenerative Strategies. Pollution prevention is the most significant strategy, demonstrating a robust commitment to reducing environmental impact and fostering sustainability. In CSV, Manchester (26) and Chulalongkorn (23) lead in pollution prevention, followed by NTU (19) and Western Sydney (17).

Figure 5: Heat Map Diagram of HEI's Strategies



Source: Authors work (2024) based on Hahn & Tampe (2021), Prahalad & Stuart (2002) and Hart & Milstein (2003).

Clean technology is also significant, with Manchester, Chulalongkorn, and NTU showing notable engagement. In the BoP category, improving access and tailoring local solutions are key, with Manchester and Chulalongkorn focusing heavily on improving access (16). Regenerative strategies show a balanced approach, with Chulalongkorn excelling in restoring (11) and Manchester preserving (12). These strategies reflect a comprehensive, multi-faceted approach to sustainability and social responsibility among HEIs.

5. Discussion

The strategies employed by HEIs demonstrate notable similarities to those used by organizations, particularly those actions toward SD and social responsibility. HEIs adopt comprehensive strategies to create sustainable value (CSV), engage with the pyramid's base (BoP), and implement regenerative strategies. This approach highlights a convergence in strategic thinking between educational institutions and corporate entities, emphasizing a shared recognition of the importance of actions toward SD and societal impact (Hart & Milstein, 2003; Prahalad & Stuart, 2002; Hahn & Tampe, 2021).

There is a clear correlation between an institution's ranking in THE Global Ranking and the integration of sustainability initiatives into its organizational strategies. For instance, institutions like Manchester, consistently high in THE rankings, demonstrate significant efforts in pollution prevention and improve access. This suggests that higher-ranked universities may have more resources and visibility, enabling them to effectively undertake and communicate broader initiatives. This finding aligns with De la Poza et al. (2021) and Puertas and Marti (2019), who note that higher-ranking institutions are more likely to be recognized for their extensive sustainability efforts. These initiatives enhance their reputation and move them towards developing into a "good sustainable university." Such status attracts socially responsible stakeholders, aligns with global sustainability challenges and SDG goals, and meets stakeholder expectations for a more sustainable global society, as defended by Laasch et al. (2020).

Strategically positioning itself as a "good sustainable university" attracts eco-conscious high-level students, who play a key role in shaping future decision-makers (Tretyakova, 2020),

secures sustainable funding and investment opportunities (Khan et al., 2022), and enhances its public image as a responsible agent toward SD (Salvioni et al., 2017). Taking real action, developing strategies toward SD, participating in global sustainability rankings, and consolidating these performances into sustainable reports are essential. This approach aligns with Findler (2018), who highlights that the main objectives of sustainability assessment and reporting are to assess HEIs' sustainability, communicate it to stakeholders, benchmark against other organizations, analyze how the organization affects and is affected by stakeholders, and improve sustainability actions over time. These actions bolster the institution's sustainable actions and fortify its strategic positioning.

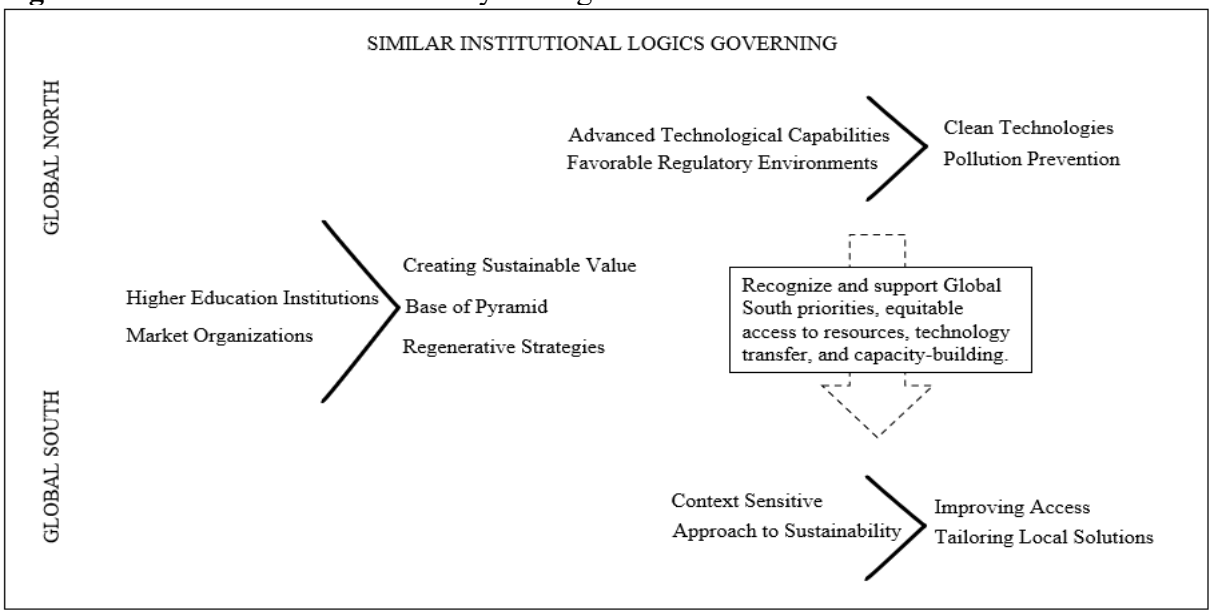
Pollution prevention emerges as a predominant strategy across all HEIs, indicating a widespread acknowledgment of the need to mitigate environmental impact. This strategy's prominence suggests that HEIs view pollution prevention as a foundational element of their sustainability efforts, providing a direct and measurable way to contribute to environmental health (Hart & Milstein, 2003). Such strategies align with Hahn and Tampe's (2021) call for a shift toward regenerative business strategies beyond minimizing harm. The initiatives communicated by these HEIs appear to target both operations and campus greening. For instance, NTU's efforts in pollution prevention include campus-wide energy conservation workshops, while their clean technology strategies involve installing solar PV systems. Similarly, Manchester's focus on sustainable resources and pollution prevention highlights operational changes and campus-wide environmental improvements. This dual focus ensures that the actions toward SD are embedded in the institution's functional and physical aspects (Lozano et al., 2015).

The strategic organizational positioning of HEIs evidenced that the current focus is on Creating Sustainable Value (Hart & Milstein, 2003) and the Base of the Pyramid (Prahalad & Stuart, 2002), demonstrating the great opportunities for Regenerative Strategies (Hahn & Tampe, 2021). In the global context of HEIs, comparing those from the Global North and South reveals stark differences in sustainability strategies. HEIs in the Global North, exemplified by institutions like Manchester and Western Sydney, prioritize pollution prevention and clean technology, leveraging their advanced technological capabilities and regulatory environments. Conversely, HEIs in the Global South, such as Chulalongkorn and NTU, emphasize strategies like improving access and tailoring local solutions for community needs, reflecting a context-sensitive approach to sustainability (Barkemeyer, 2013; Campello, 2017).

Despite these HEIs' efforts, global progress towards SDGs remains insufficient. Fuso Nerini et al. (2024) highlight that no country is on track to achieve all 17 SDGs by 2030, with only 20% of targets progressing as planned. They suggest extending the deadline to 2050 and implementing financial and governance reforms to meet these goals. Given the growing global instability and the disparity in priorities and capabilities between the Global North and South, there is a pressing need for increased representation and empowerment of HEIs, particularly those from the Global South.

HEIs in the Global South face historical inequalities, limited resources, and heightened environmental vulnerabilities exacerbated by climate change (Ngcamu, 2023; Leal Filho et al., 2023). Disproportionately affected by global policies shaped by the Global North, these institutions, such as Chulalongkorn and NTU, focus on improving access and local solutions, reflecting context-sensitive sustainability approaches. To address this imbalance, Global North countries and institutions must recognize and support the Global South's priorities as equal partners in global sustainability agendas (Ngcamu, 2023; Fuso Nerini et al., 2024). Equitable access to resources, technology transfer, and capacity-building initiatives are essential for empowering Global South communities and HEIs. Genuine collaboration and mutual respect can foster inclusive SDGs, addressing interconnected challenges worldwide (Fuso Nerini et al., 2024).

Figure 6: Framework of Sustainability Strategies in HEIs from Global North and Global South



Source: Author's work (2024).

The framework illustrates the interconnected and similar institutional logic governing sustainable strategies within HEIs and market organizations. It highlights that Global North HEIs, benefiting from advanced technology and regulatory environments, focus on clean technologies and pollution prevention. Conversely, Global South HEIs prioritize context-sensitive approaches, improving access, and tailoring local solutions. Both regions aim to create sustainable value through strategies involving the Base of the Pyramid (BoP) and regenerative approaches. The framework underscores the importance of recognizing and supporting Global South priorities by ensuring equitable access to resources, facilitating technology transfer, and building capacity. This approach promotes tailored regional sustainability strategies while fostering genuine collaboration and mutual respect for inclusive SDGs.

Regarding theoretical contributions, the observed differences between Global North and South HEIs offer insights into how geographical and socio-economic contexts influence strategic priorities. This understanding can inform the development of context-sensitive sustainability frameworks that account for varying local challenges and opportunities. The findings contribute to the broader discourse on global sustainability practices, highlighting the need for tailored approaches that reflect regional realities (Odeh, 2010; Yazdani, 2013). Additionally, bringing a voice to the Global South – in a scenario in which the global economic and environmental policies are predominantly shaped by the Global North, in discussions about SD is relevant due to its significant role in economic development and the preservation of natural resources (Barkemeyer, 2013; Campello, 2017). This perspective ensures that the unique challenges and contributions of the Global South are acknowledged and integrated into global sustainability strategies, promoting more inclusive and effective solutions.

Concerning social contributions, the study challenges the traditional conception of "best university" regarding SD, considering the economic reality of institutions and aligning with the SDGs. It highlights the positive correlation between the SDGs and improving social indicators such as poverty, gender inequality, hunger, and unemployment in global rankings.

From a practical standpoint, this study serves as a roadmap for HEIs aiming to bolster their sustainability initiatives. Institutions can use these findings to prioritize their actions toward SD, focusing on prevalent strategies such as pollution prevention and clean technology. The success of top-ranked HEIs in implementing diverse strategies sets a benchmark for other

institutions striving to enhance their sustainability efforts and gain greater recognition. As Galleli et al. (2021) underscore, HEIs must understand that sustainable rankings go beyond academic performance, encompassing environmental and social actions aligned with global sustainability standards to achieve such recognition.

Furthermore, the focus on operations and campus greening highlights the significance of an exploratory approach to SD. HEIs can benefit from incorporating sustainable practices into their administrative operations and physical infrastructure, ensuring a broad impact. The practical instances shared by institutions like NTU and Manchester offer tangible insights into realizing this integration (Lozano et al., 2015).

6. Final remarks

This study employed exploratory research methods to investigate the sustainable strategies used by HEIs, focusing on activities that contribute to SD. We explored HEI's sustainable strategies, listing practices and assessing their alignment with relevant theories. We promoted discussions on actions toward SD within HEIs, classifications, and SD initiatives. We viewed HEIs as organizations and examined their operations through Base of the Pyramid (BoP) strategies, Creating Sustainable Value (CSV) strategies, and regenerative strategies. Our method involved an exploratory secondary data analysis of four HEIs: two from the Global North and two from the Global South, all ranked in the Times Higher Education Impact Ranking (THE). By examining these strategies and practices, we sought insights into how HEIs contribute to SD and manage their impact on the environment and society.

In conclusion, despite HEIs, particularly in education, they employ a diverse array of sustainability strategies that closely align with those of businesses, demonstrating a shared commitment to environmental and social responsibility. Higher-ranked institutions tend to showcase broader initiatives, reflecting their greater resources and visibility. The strategies adopted by HEIs vary between the Global North and South, influenced by local challenges and contexts, with a strong focus on operational improvements and campus greening. Pollution prevention emerges as a predominant strategy, highlighting its critical role in sustainability efforts. These findings offer valuable theoretical, social, and practical insights, highlighting the limitations and opportunities for further research.

The study's reliance on publicly available data and documented initiatives may not capture the full scope of HEI sustainability efforts, with some initiatives, particularly those in early stages or lacking formal documentation, potentially underrepresented. Additionally, the analysis focuses on a select number of institutions, which may limit the generalizability of the findings. Moreover, while insightful, the comparison between Global North and South HEIs does not account for all nuanced differences within these broad categories. Each institution operates within a unique context influenced by national policies, cultural factors, and available resources, significantly shaping its sustainability strategies. Future research could expand the scope to include a more diverse range of institutions and in-depth case studies for a more comprehensive understanding.

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