GLOBAL UNIVERSITIES' STRATEGIC POSITIONING FOR INTERNAL AND EXTERNAL SUSTAINABILITY

Mythili Kolluru *, Chinue Uecker **

* *Corresponding author*, College of Banking and Financial Studies, Muscat, Oman
Contact details: College of Banking and Financial Studies, P. O. Box 3122-Ruwi, Postal Code 112, Boushar Heights, Muscat, Oman
** Jack Welch Management Institute, Herndon, VA, USA

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Abstract

Higher education institutions have the vision and potential to lead the transition to one of the global challenges — sustainable development. Although successful research and case studies have been reported, an integrated framework that examines the strategic positioning of sustainability within higher education is lacking. The present study explores the sustainability approaches of 13 top 50 universities in Higher Education (HE) World University Rankings 2023. The authors developed the theoretical framework with strategic positioning (Porter, 1996), transition management (Stephens et al., 2008), diversity, people partnerships, and access to technology. The investigation involved qualitative analysis and a case study approach. The findings have the potential to enrich existing literature on strategic positioning for sustainability by drawing essential lessons from universities both individually and collectively.

Keywords: Sustainability, University, Higher Education, Strategic Positioning, Transition Management

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1. INTRODUCTION

Sustainable development is recognized as one of the biggest challenges of the 21st century. The concept of sustainability development was proposed after World War I and the creation of the United Nations (UN). The concept is based on three pillars: economic, social, and environmental. Sustainability refers to meeting current needs without hindering the ability of future generations to meet their own needs. We are living in a world characterized by global challenges that threaten the well-being of the planet on many levels. The main challenges are climate change, environmental degradation, potential threats from weapons of mass destruction, population explosion, continued global poverty, global health crisis, inequality, religion, and ethical conflicts. The global challenges are transnational, trans-institutional, complex, and interconnected requiring concentrated global efforts and cooperation from various stakeholders across nations to adequately address them.

Since the 19th century, higher education institutions have become relevant to the general population. Higher education institutions have played a multifaceted role in promoting sustainability and addressing societal challenges. Higher education institutions are essential for social and economic development by providing education and training opportunities to all ages and sections of society. Their role encompasses meeting economic, social, and environmental needs without compromising the ability of future generations to meet their own needs. Education for sustainable development has risen in scope and importance during the past decades. Even though the word "sustainability" has become a trendy buzzword,

the concept of sustainability itself has not made it to mainstream academia (Giesenbauer & Tegeler, 2020). Some higher educational learning institutions are beginning to recognize their vital role and unique position in society to advance the essential values of their respective communities. Higher education institutions have a decisive role in promoting sustainable development by integrating sustainability as a cross-cutting principle in teaching, research, operations, and knowledge transfer (Sterling, 2020). In addition to teaching and research, higher education institutions can provide platforms where co-creation and collaboration between experts and institutions from different scientific or societal backgrounds address the increasing complexity of real-life problems (Giesenbauer & Tegeler, 2020). In the 21st century, one of mankind's most alarming challenges is ensuring sustainable development that safeguards its long-term existence. Many studies have acknowledged that education is essential to attaining this objective (Sánchez-Carracedo et al., 2021; Figueiró & Raufflet, 2015). Consequently, the concept of education for sustainable development has come to the forefront.

Leaning more into sustainability requires higher education to assess critical issues, identify best practices, continue to create new knowledge, and determine the university's strategic positioning for higher education to foster momentum toward evolving through disruptive times. Sustainability through higher education can be derived from the UN General Assembly's 17 Sustainable Development Goals (SDGs). Education is fundamental to achieving the UN General Assembly's 17 SDGs. The SDGs propose to secure a sustainable, peaceful, prosperous and equitable life on earth for everyone now and in the future (Members of the Technical Advisory Group, 2015). Ozsen et al. (2023) explore how university managers strategically guide sustainable quality development within their institutions. It investigates the strategies adopted to construct a "sustainable quality management" university structure. The study also discusses strategies related to teaching, research, societal services, and internationalization practices. Disruptive times provide many opportunities for higher education and organizations to reassess current practices, enact change, and foster sustainability.

Sustainability and strategic positioning in universities is the topic of ongoing research and discussion. Numerous papers, research, and studies have contributed to this field, addressing various aspects, such as the determinants of sustainability and integration into educational institutions. The overarching research question for the identified literature gap in integrating sustainability principles within the higher education sector is:

RQ: How can higher education institutions strategically integrate sustainability principles to advance sustainable practices and create a competitive advantage while effectively addressing challenges and engaging stakeholders?

This question encompasses the need to investigate strategic positioning, evaluate stakeholder engagement, assess associated challenges, and develop recommendations and best practices, as outlined in the research objectives. The question seeks to understand the strategic integration of sustainability within the higher education sector and its potential impact on advancing sustainable practices while creating a competitive advantage for institutions.

Within this research, strategic positioning (Porter, 1996) and the transition management theory (Stephens et al., 2008) will be used to explore higher education structures, organizations, and sustainability initiatives. Strategic positioning refers to identifying and implementing a unique and sustainable position in the market that sets an organization apart from its competitors. Transition management theory (Loorbach, 2010) refers to governance practices and sustainable development. We believe a university's internal and external sustainability encompasses both of the above-mentioned. Five critical issues proposed by Stephens et al. (2008) and three vital issues developed by the authors for higher education are presented.

Table 1. Sustainability critical issues

Stephens et al.'s (2008) critical issues	*Research studies for 2023*
• Geographic sustainability challenges; • Financing structure and independence; • Institutional organization; • Democratic process; • Communication and interaction with society	• Diversity, equity, inclusion, and justice; • People and partnerships; • Access to technology

This research explores sustainability within higher education, emphasizing a green economy, sustainable futures, social transformation, and resilience. It outlines the three phases of building a sustainable culture in higher education — operational, organizational, and systems — and highlights collaborative efforts among diverse educational institutions and organizations to advance sustainability. Additionally, this research underscores higher education's role in creating knowledge and fostering transformative change, aligning with the SDGs. It delves into strategic positioning, emphasizing the unique features, attributes, and value propositions that distinguish institutions within the competitive landscape — particularly in teaching, research, community relations, and operations.

For a comprehensive understanding of the research gap and to address the framed research question, this paper is structured as follows. Section 1 is the introduction, which describes the research overview and significance. Section 2, the literature review, explores existing strategic positioning and sustainability literature, highlighting the gaps and areas of interest. Section 3, the methodology, analyzes the approach and the research framework used for the investigation. Section 4, the results, presents the investigation outcomes based on the chosen methodology and framework. Section 5, the discussion, analyzes the findings and their implications and discusses the connections to the existing literature and the research's significance. Finally, Section 6, the conclusion, summarizes the research's key findings, implications, and limitations and outlines potential areas for future studies.

2. LITERATURE REVIEW

2.1. Sustainability

Sustainability within higher education employs advocating for a green economy, sustainable futures, social transformation, and resilience (Weisser, 2017). To build a sustainable culture, higher education navigates forward by grouping its actions into three distinct phases (Adams et al., 2018): 1) operational, which focuses on compliance with legal requirements; 2) organizational, which models sustainable behaviors and actions; and 3) systems, which invoke sustainability within the mission and values of the organization. As higher education organizations move through these phases, what results is a collaborative effort between smaller specialized colleges, technical, community, and online colleges, other types of organizations, and cultures to advance sustainability internally and externally. These collaborative relationships can be depicted on stakeholder maps, visually representing the stakeholders and corresponding relationships (Kettunen, 2015). The stakeholder map supports leaders within higher education to identify the needs of various stakeholder groups and outline the impact of these groups on achieving the strategic objectives. As higher education creates knowledge collectively, individuals fuel and empower future generations to incorporate their skills, leading to transformative change in the world. Keeping the aim of the SDGs in mind, internal sustainability encompasses "securing a sustainable, peaceful, prosperous, and equitable life" within higher education. External sustainability involves "securing a sustainable, peaceful, prosperous, and equitable life" (Members of the Technical Advisory Group, 2015, p. 7) within the geographies served.

The research work of Garcia-Sanchez et al. (2020) examines how higher education institutions impact sustainable development. The study identified six impact areas where the direct and indirect effects of higher education institutions may occur. Findler et al. (2019) discuss the critical role of higher education institutions in fostering sustainability. Their work discusses how higher education institutions act as agents of change to influence behavior. De Oliveira et al. (2024) shed light on the current state of corporate sustainability research, challenges, innovations, and future possibilities. Lozano et al. (2015) analyzed peer-reviewed papers and how institutions embedded sustainable developments into their academic systems. The analysis highlighted strong linkages between the institution's commitment to sustainability and the implementation, charter, and initiatives. The work of Alonso-Almeida et al. (2015) discusses universities' critical role in developing a sustainable society. The study adopts a qualitative and quantitative approach to examine the worldwide diffusion of sustainability reporting among universities. The studies highlight the benefits of sustainability reporting, as results show that sustainable reporting was low in universities. Another study looks at sustainability in terms of teaching. Many teachers find it challenging to teach sustainability. This article examines teacher manuals and methods for integrating sustainability into the higher education curriculum and its evaluation (Ceulemans & De Prins, 2010).

2.2. University strategic positioning

Strategic positioning identifies, develops, and communicates unique features, attributes, and value propositions that distinguish an institution from its competitors and resonate with its constituents. Dombrowski et al. (2018) state that strategic positioning is a business strategy where an organization differentiates itself from its competitors by creating better customer value. Porter (1996) writes in one of his articles that strategic positioning means performing different activities from the rivals, or performing similar activities in different ways. The article also provides an overview of strategic positioning, its importance, and how it can lead to superior organizational performance.

In higher education, strategic positioning focuses on how a university or college distinguishes itself from others regarding its social and environmental sustainability practices in teaching, research, community relations, and operations. University strategic positioning refers to determining and describing a university's unique and differentiated characteristics that distinguish it from other institutions in the higher education landscape. The process involves a thorough analysis of the university's strengths, weaknesses, opportunities, and threats, as well as an understanding of the competitive environment and the needs and expectations of stakeholders. Stakeholders are essential for governance, where the relationship and positions of stakeholders might be internal and external to the university and inside and outside the university's governance structure.

Strategic positioning is a critical concept in strategic management, as a strategy of identifying and implementing a unique and sustainable position in the market that sets an organization apart from its competitors. This position is based on a combination of an organization's resources, capabilities, and external environment (Porter, 1980). In the context of universities, strategic positioning involves identifying and implementing a unique and sustainable position in the higher education market that sets the university apart from other universities. Thus, a competitive advantage is created by identifying and building on an institution's unique attributes and strengths and then communicating those attributes to resonate with key stakeholders (Baldwin & Hughes, 2009). Fumasoli et al. (2020) write a comprehensive understanding of the determinants of university strategic positioning. According to Lowry and Ownes (2001), developing a positioning strategy for universities is essential. Their article discusses valuable insights on a three-dimensional diagram showing key strategy development factors. Ramísio et al. (2019) discuss how sustainability values can be incorporated into higher education institutions. This study looks at implementing the University of Minho's sustainability visions from 2009 to 2017 from a holistic and inclusive perspective.

2.3. Transition management theory

The transition management theory is a strategic approach to managing sustainability transitions. The goal of transition management is to

institutionalize long-term governance into policy (Loorbach, 2010). It involves identifying and understanding the dynamics of change, developing transition pathways, and implementing strategies to facilitate growth. For a university, governance requires an institution to monitor and control, protect the university's interests, and achieve maximum value (Williamson, 1979). The framework recognizes that sustainability transitions are complex and require a multidisciplinary approach that involves stakeholders from various sectors. The transition management cycle supports governance activities through problem exploration, phased sustainability pathway development, piloting, monitoring, evaluation, and learning (Loorbach, 2010). Transition management entails a multi-level approach encompassing strategic, tactical, and operational activities. Adapted from it represents the approach, focus, and timeframe. The tactical level focuses on the structure of rules and regulations. The operational focus is on societal, technological, institutional, and behavioral practices, where innovation emerges from unique and specific needs.

The existing literature has focused on various aspects of sustainability in higher education, including developing sustainability strategies, implementing sustainability initiatives, and incorporating sustainability into higher education institutions. However, there is a need for research that examines explicitly how sustainability principles can be integrated into the strategic positioning of higher education institutions. This research explores how universities strategically position themselves to align with sustainability principles, create a competitive advantage, and effectively engage with stakeholders. By addressing this gap, future research can contribute to a more comprehensive understanding of the role of strategic positioning in advancing sustainability within higher education. The identified literature gap presents an opportunity for researchers to delve into the strategic integration of sustainability principles within the higher education sector, ultimately contributing to advancing sustainable practices and creating a competitive advantage for institutions.

The present research aims to address the research gap by proposing the following objectives: 1) investigate the university's strategic positioning; 2) evaluate stakeholder engagement in strategic positioning; 3) assess the challenges associated with strategic positioning for sustainability; 4) develop recommendations and best practices drawing from case study learnings.

This research aims to provide a holistic view of the challenges, opportunities, and best practices associated with strategic positioning for university sustainability. By investigating strategic positioning, evaluating stakeholder engagement, assessing challenges, and developing recommendations, this research can contribute to the advancement of sustainable practices and the creation of a competitive advantage for institutions. The findings will be valuable for higher education institutions, policymakers, and stakeholders seeking to advance sustainability within the higher education sector.

3. RESEARCH METHODOLOGY

3.1. Sample and data research

The researchers have taken the Times Higher Education World University Rankings 2023 data to investigate the university's strategic positioning. The authors chose this source for its rich data inclusion, analysis, and international perspective to assess diverse universities worldwide. The Times Higher Education World University rankings are evaluated based on the institution's core missions: teaching, research, knowledge transfer, and international outlook. Thirteen performance indicators were identified, grouped into five categories, and used to compare each institution. The performance indicator categories are Teaching (the learning environment), Research (volume, income, and reputation), Citations (research influence), International Outlook (staff, students, and research), and Industry Income (knowledge transfer).

The top 50 universities were evaluated to select 13 universities representative of 13 countries from North America, Europe, the United Kingdom (UK), the European Union, Asia, and the world's Oceanic regions. Universities across thirteen countries were chosen to establish a broader scope of study and investigate the university's strategic positioning across various geographies. If a country has more than one university listed in the top 50 world rankings, the university with the top ranking is selected for further investigation. For example, the UK has seven, Canada has three, and the USA has 23 universities, yet we chose the university with the top rank for each country.

Table 2. University sample selection

No.	*Country*	*University name*	*World rank*	*Total universities by country*
1	UK	Oxford University	1	7
2	USA	Harvard University	2	23
3	Switzerland	ETH Zurich	11	2
4	China	Tsinghua University	16	2
5	Canada	The University of Toronto	18	3
6	Singapore	National University of Singapore	19	2
7	Germany	Technical University of Munich	30	3
8	Hong Kong	The University of Hong Kong	31	2
9	Australia	The University of Melbourne	34	2
10	Japan	The University of Tokyo	39	1
11	Belgium	Katholieke Universiteit (KU) Leuven	42	1
12	France	Paris Sciences & Lettres (PSL) Research University	47	1
13	Sweden	Karolinska Institute	49	1
Total universities				50

Source: Developed by the authors in 2023.

3.2. Analysis tools and methods

The researchers have decided to adopt a qualitative approach that provides comprehensive insights. For the qualitative analysis, document analysis and a case study approach are implemented. During the document analysis, various sustainability reports, policies, and strategic plans of universities were studied to obtain valuable insights into practices, goals, and the challenges universities face in the strategic positioning for internal and external sustainability. The qualitative research is presented in 13 case studies. The case study approach was selected to provide an in-depth analysis. Each case study offers in-depth insights into practices and strategies for achieving internal and external sustainability. These research methods aim to present a nuanced understanding of sustainability within higher education, strategic positioning, and transition management.

3.3. Research theoretical framework

Strategic positioning for sustainability in higher education institutions has several key advantages. Firstly, it provides a competitive advantage by differentiating institutions and attracting environmentally conscious students, faculty, and staff. By integrating sustainability principles into teaching, research, community relations, and operations, institutions enhance their reputation, increase enrollment, and foster partnerships with like-minded organizations. Secondly, strategic positioning demonstrates responsiveness to stakeholder expectations. In an era of heightened awareness and concern for sustainability, stakeholders expect institutions to take a leadership role in addressing social and environmental challenges. Institutions enhance stakeholder satisfaction, trust, and support by aligning their strategic position with stakeholder expectations. Lastly, a solid strategic position in sustainability enables institutions to positively impact society and the environment. Through sustainability-focused teaching, institutions educate students on responsible practices and empower them to become empathetic global citizens. Research initiatives focused on sustainability generate knowledge and innovative solutions to pressing challenges. By adopting sustainable operations and engaging with local communities, institutions serve as role models and catalysts for positive change beyond the boundaries of their campuses.

Transition management in the context of social and environmental sustainability in higher education offers several significant benefits. Firstly, it enables institutions to adapt to changing social, environmental, and economic contexts. Institutions can proactively anticipate and respond to emerging sustainability challenges by actively managing the transition toward sustainability. This adaptability ensures their long-term viability and relevance in an ever-evolving landscape. Secondly, transition management helps mitigate risks associated with sustainability issues. By systematically identifying and addressing potential risks, institutions can reduce their exposure to regulatory compliance issues, reputational damage, resource scarcity, and stakeholder dissatisfaction. This risk mitigation approach enhances the institution's resilience and enables them to navigate complex sustainability challenges more effectively. Furthermore, transition management fosters a culture of organizational learning and innovation within higher education institutions. This facilitates the exchange of ideas, best practices, and lessons learned, enabling institutions to continuously improve their sustainability practices and explore innovative solutions. The emphasis on learning and innovation allows institutions to stay at the forefront of sustainability advancements and contribute to cutting-edge research and initiatives. Lastly, transition management ensures that sustainability efforts are not short-lived or superficial but deeply embedded within the institution's fabric. Institutions integrate sustainability into their core strategies, policies, and practices by effectively managing the transition. This integration goes beyond isolated initiatives and creates a systemic approach to sustainability, ensuring long-term commitment and impact. By embracing sustainable practices and values, higher education institutions can play a pivotal role in creating a more sustainable society for future generations.

Strategic positioning in higher education involves integrating sustainability principles into various aspects of the institution, including teaching, research, community relations, and operations. By integrating sustainability into teaching, institutions prepare students for a rapidly changing world by equipping them with the knowledge and skills to address complex social and environmental challenges. This fosters critical thinking, ethical decision-making, and a deep understanding of sustainability issues, empowering students to become responsible and informed citizens. In the realm of research, higher education institutions focused on sustainability contribute to knowledge creation and find innovative solutions to pressing sustainability challenges. This research enhances the institution's reputation, attracts funding opportunities, and fosters collaborations with external stakeholders such as industry partners, government agencies, and non-profit organizations. Institutions engage with the local community through community relations and address social and environmental issues. This engagement strengthens relationships with key stakeholders and allows institutions to promote social justice, contribute to local development, and address the needs and aspirations of the communities they serve.

Strategic positioning also extends to institutional operations, where sustainability principles are embedded (Desiana et al., 2022). By reducing carbon emissions, conserving resources, and promoting sustainable procurement practices, higher education institutions lead by example and inspire positive change within their operations and the broader community. These sustainable practices showcase the institution's commitment to responsible practices and create opportunities for knowledge sharing and collaboration with other organizations.

Developing a clear vision and strategy for sustainability is essential for higher education institutions seeking to achieve their sustainability goals. A well-defined vision and strategy provide

a roadmap that guides decision-making, resource allocation, and prioritization of sustainability initiatives. By setting clear objectives and outlining the steps needed to reach them, institutions can effectively navigate the complexities of sustainability and ensure a focused and coordinated approach — a strong vision and strategy foster alignment and coordination across different departments and stakeholders. Institutions promote inclusivity, collaboration, and shared responsibility by involving faculty, staff, students, local communities, and external partners in developing and implementing the sustainability vision and strategy. Engaging stakeholders to harness their diverse perspectives, ideas, and expertise, resulting in a more comprehensive and practical sustainability approach. It fosters a sense of ownership and commitment, strengthens relationships, and increases the likelihood of successful sustainability outcomes.

Transitioning to a sustainable institution requires building the necessary skills, knowledge, and capabilities among the faculty, staff, and students. Capacity-building initiatives empower individuals to drive sustainability efforts, innovate, and contribute to the institutional transition. Training programs, workshops, and sustainability-focused courses provide learning, skill development, and knowledge exchange opportunities. By enhancing the capacity of stakeholders, institutions cultivate a culture of sustainability and equip individuals with the tools needed to implement sustainability strategies effectively.

Monitoring and evaluation are critical components of sustainability initiatives in higher education. By systematically tracking progress, collecting relevant data, and measuring key performance indicators, institutions can assess the effectiveness of their sustainability efforts. Monitoring allows institutions to identify areas for improvement, make data-informed decisions, and adjust strategies accordingly. Evaluation provides insights into the outcomes and impacts of sustainability initiatives, allowing institutions to demonstrate accountability to stakeholders and drive continuous improvement. By adopting a rigorous monitoring and evaluation framework, institutions can ensure that their sustainability strategies are effective, adaptive, and aligned with their vision and goals.

4. RESEARCH RESULTS

4.1. Oxford University

Oxford University has reigned as one of the world's oldest and most prestigious universities for 800 years. Sustainability has become a vital issue today and has implications for organizations across all sectors, including universities. As one of the world's leading academic institutions, Oxford University recognizes its role in promoting sustainable practices and has developed a strategic positioning for sustainability.

Strategic positioning:

Oxford University has developed a strategic positioning for sustainability to reduce its environmental impact and increase its contribution to sustainability research and education. The University has committed to achieving net-zero carbon emissions by 2035 and has set a target of reducing greenhouse gas emissions by 7% annually. To achieve these goals, the university has implemented several sustainability initiatives, including installing solar panels, developing sustainable transport options, and implementing sustainable food practices.

The University has also established an Environmental Change Institute and the Oxford Martin School, which researches sustainability issues, including climate change, biodiversity loss, resource depletion, and interdisciplinary research on global challenges. Additionally, the University has integrated sustainability into its curriculum, ensuring that all students can learn about sustainable practices and their role in promoting sustainability.

Transition management framework:

Oxford University has adopted the transition management framework to achieve its sustainability goals. The University has established the Environmental Sustainability Steering Group, which is responsible for developing and implementing the University's sustainability strategy. The group brings together stakeholders from across the University, including academics, students, and staff, to ensure that various perspectives inform the strategy.

The transition management framework has effectively enabled the University to implement sustainable practices, for example, a sustainable procurement policy, which requires suppliers to demonstrate their commitment to sustainability. The University has also implemented a sustainable travel policy, encouraging staff and students to use public transport or sustainable modes of transportation, such as cycling or walking. The University has adopted the transition management framework to achieve its sustainability goals, recognizing that sustainability transitions require a multi-disciplinary approach.

Challenges:

Oxford University faces several challenges in its strategic positioning for sustainability. One of the critical challenges is the need to balance financial sustainability with environmental sustainability. According to a report by Oxford University's Environmental Sustainability team, the University's carbon emissions have decreased by 12% since 2010. However, the university's operations still account for a significant proportion of the city's carbon emissions. To achieve its sustainability goals, Oxford University needs to invest in green infrastructure and renewable energy, which can be expensive in the short term but provide long-term benefits.

Another challenge is the need to engage and motivate staff and students to adopt sustainable practices. Oxford University has implemented several initiatives to encourage sustainable behavior, such as the Green Impact Program and the Sustainability Showcase. However, changing behavior can be challenging. A study by Lee and Wook-sang (2014) found that individuals are more likely to engage in pro-environmental conduct when they feel a sense of autonomy, competence, and relatedness in their work or study environment. Therefore, the University needs to create a culture of sustainability that empowers and motivates individuals to act. Finally, there is a challenge in

ensuring that sustainability is integrated into all aspects of Oxford's operations, including teaching, research, and knowledge exchange.

4.2. Harvard University

Harvard University is a well-established and highly regarded American institution of higher education with a long-standing reputation for academic excellence.

Strategic positioning:

Harvard University's strategic positioning is shaped by its emphasis on research, innovation, and interdisciplinary collaboration and its commitment to diversity, equity, and inclusion. Harvard University's strategic plan outlines a vision to create knowledge, advance understanding, and impact society through transformative ideas and discoveries[1]. The university has identified key strategic priorities to achieve this vision, including strengthening its core academic programs, promoting innovation and entrepreneurship, and expanding its global reach.

Transition management framework:

Harvard University has also implemented a transition management framework to manage change effectively and achieve its strategic goals. The University's Office for Sustainability has developed a comprehensive sustainability plan with a transition management framework to guide its implementation. The transition management framework used at Harvard University includes several key elements, such as stakeholder engagement, communication and education, change management, monitoring and evaluation, and continual improvement. These elements are designed to help the university navigate complex sustainability challenges and implement effective solutions.

For example, Harvard University aims to reduce greenhouse gas emissions, improve energy efficiency, and promote sustainable transportation. The transition management framework has helped the university engage stakeholders across the campus community, communicate its sustainability goals and progress, implement changes to buildings and infrastructure, and monitor and evaluate its sustainability performance (Lozano et al., 2013). Overall, the association of strategic positioning and transition management framework at Harvard University reflects the institution's commitment to excellence, innovation, and sustainability.

Challenges:

Harvard University encountered several challenges in designing internal and external sustainability strategies. Harvard University is an extensive decentralized university with many different schools, departments, and units. The complexity created complications in the sustainability strategies coordination efforts and in developing a unified sustainability strategy. The University also had to balance its sustainability goals with competing priorities and limited resources. Sustainability initiatives require significant resources, funding, staff time, and technical expertise (Lozano et al., 2013). Harvard University also had to tackle resistance from various stakeholders. They had to convince and build support across the university community (Fetterman et al., 2015). Like all universities, Harvard University also must consider the regulatory framework. The framework includes federal, state, and local laws that impact sustainability initiatives. As Harvard University is large and complex, collecting data and information on sustainability initiatives and performance becomes challenging. Access to limited data created further complications in progress tracking and identifying areas of improvement.

4.3. ETH Zurich

ETH Zurich is a public research university located in Zurich, Switzerland. ETH Zurich is one of the top universities in the world, particularly in science, engineering, and technology. It was founded in 1855 by the Swiss Confederation and has since become known for its cutting-edge research and innovation. ETH Zurich is also known for its vital research programs in renewable energy, quantum computing, artificial intelligence, and robotics.

Strategic positioning:

ETH Zurich is committed to sustainability and has prioritized it in its research and teaching activities. It has developed a range of initiatives to promote sustainable development locally and globally. ETH Zurich's strategic positioning for sustainability is multifaceted and includes research, education, and stakeholder engagement.

ETH Zurich is committed to advancing knowledge and finding solutions to global challenges related to sustainability. The University has established several interdisciplinary research platforms to facilitate research on sustainability issues. These projects bring together researchers from different fields to work on sustainability challenges such as climate change, energy, and resource efficiency. For example, the Future Cities Laboratory, a research platform established by ETH Zurich in collaboration with the Singaporean government, focuses on developing sustainable solutions for urban environments.

ETH Zurich offers a range of educational programs that incorporate sustainability themes and provide students with the knowledge and skills needed to address sustainability challenges. The University has several interdisciplinary master's programs, including Environmental Sciences and Sustainable Development, which provide students with a broad understanding of sustainability issues and equip them with the tools to work on sustainability solutions. ETH Zurich also offers a variety of sustainability-focused courses across many departments and faculties. ETH Zurich is committed to engaging with stakeholders to promote sustainability. The University collaborates with various organizations and institutions, including non-governmental organizations (NGOs), governments, and industry partners. For example, the University is a member of the European Institute of Innovation and Technology Climate-KIC, a consortium of organizations that promote climate innovation and entrepreneurship. ETH Zurich also established the ETH Sustainability Advisory Board, which comprises external experts and advises the university on sustainability issues.

Transition management framework:

One framework that ETH Zurich has used to guide its sustainability efforts is the transition management framework. The transition management

[1] https://www.harvard.edu/about/diversity-and-inclusion/

framework is an approach to sustainable development that focuses on facilitating transitions from unsustainable to sustainable systems by working collaboratively with stakeholders to identify and address barriers to change (Rotmans et al., 2001). ETH Zurich has applied the transition management framework in several research projects to promote sustainability, such as the Sustainable Urban Neighborhoods in Flanders project, which sought to identify the barriers to sustainable urban development and develop strategies for overcoming them (Schweizer-Ries, 2008).

In addition, ETH Zurich has developed many educational initiatives to promote sustainability, such as the master's program in Environmental Sciences, which provides students with the knowledge and skills needed to address environmental challenges using a multidisciplinary approach.

Challenges:

ETH Zurich faces several challenges in its strategic positioning for sustainability. Firstly, there may be tension between pursuing cutting-edge and sustainability research, as maintaining research excellence is crucial to the University's reputation and success. Secondly, more resources may help the University's ability to fully implement sustainability initiatives and programs. Thirdly, communicating the value of sustainability to stakeholders, such as students, faculty, and external partners, can be challenging, given the complexity of sustainability issues. Finally, the University must address internal sustainability issues, such as reducing its carbon footprint and promoting sustainable practices within the University community.

4.4. Tsinghua University

Tsinghua University is a research university located in Beijing, China. It was established in 1911 as a preparatory school for students planning to study in the USA. Today, it is one of the most prestigious universities in China and is widely regarded as one of the best universities in Asia and the world. Tsinghua University offers undergraduate, graduate, and doctoral degree programs in various fields, including science, engineering, humanities, law, economics, management, and medicine.

Strategic positioning:

Tsinghua University's strategic positioning for sustainability is built around the circular economy concept, emphasizing the importance of reducing waste and increasing resource efficiency. This approach is aligned with China's national development strategy, which has set ambitious targets for promoting sustainable development. Tsinghua University's sustainability strategy is also guided by its 2020 Sustainable Development Plan, which was developed in alignment with the UN SDGs and China's national development strategy. The plan sets clear targets for reducing the University's carbon emissions, promoting sustainable transportation, improving energy efficiency, and enhancing the campus environment.

Transition management framework:

Tsinghua University has developed a comprehensive management framework to achieve its sustainability goals, including various initiatives and programs. One key element of this framework is the Sustainability Committee, responsible for developing and implementing sustainability initiatives across the University. The University's president chairs the Sustainability Committee, which includes representatives from different departments and faculties. The Committee's responsibilities include:

- Developing sustainability policies and guidelines;
- Monitor and report on the University's sustainability performance;
- Promoting sustainable practices and behaviors among students and staff.

In addition to the Sustainability Committee, Tsinghua University has established several other sustainability programs and initiatives. For example, the Green Campus Initiative promotes sustainable practices and behaviors among students and staff. The Tsinghua University Institute of Energy, Environment, and Economy researches and develops policy recommendations on sustainability issues.

Challenges:

Tsinghua University has faced many challenges in strategically positioning itself for sustainability. One of the biggest challenges in implementing a transition management framework is key stakeholders' resistance to change. Many faculty members have shown opposition to new sustainability policies or practices. Implementing sustainability initiatives can require significant resources, challenging the University's budget constraints (Huang et al., 2019). The need for awareness of sustainability issues among students, faculty, and staff can make gaining support for sustainability initiatives challenging. Implementing sustainability initiatives requires coordination and collaboration across different departments and faculties, which sometimes becomes difficult. The lack of data or appropriate metrics makes monitoring and evaluating the effectiveness of sustainability initiatives problematic.

4.5. The University of Toronto

The University of Toronto is a public research university in Toronto, Ontario, Canada. It was founded in 1827 as King's College and is the oldest university in Ontario. It is known for its excellence in research and teaching and is consistently ranked as one of the top universities in Canada and the world. It offers various undergraduate, graduate, and professional science, engineering, humanities, social sciences, and business programs.

Strategic positioning:

The University of Toronto has demonstrated a solid commitment to sustainability by implementing a comprehensive sustainability strategy. The strategy includes a range of initiatives to reduce the University's environmental impact, promote sustainable practices, and foster a culture of sustainability across the campus. One of the critical elements of the University's sustainability strategy is its focus on reducing greenhouse gas emissions. The University has set a target of reducing emissions by 37% (below 1990 levels) by 2030 and has implemented various initiatives to achieve this goal. These initiatives include the installation of energy-efficient lighting and heating, ventilation, and air conditioning (HVAC)

systems, the promotion of sustainable transportation options, and the implementation of a green procurement policy.

In addition to its focus on greenhouse gas emissions, the University's sustainability strategy also includes initiatives to reduce waste, conserve water, and promote biodiversity. For example, the University has implemented a waste reduction program that includes composting and recycling and has implemented water conservation measures such as low-flow fixtures and rainwater harvesting. To ensure the ongoing success of its sustainability efforts, the university has also established a sustainability office to oversee and coordinate sustainability initiatives across the campus. The office is responsible for developing and implementing the University's sustainability strategy and tracking and reporting progress toward sustainability goals.

Transition management framework:

The University of Toronto has used a transition management framework to guide its efforts to promote sustainability across the campus. This framework provides a structured approach to identifying and addressing barriers to change and has been used to develop effective strategies for promoting sustainability (Gibson et al., 2005).

The transition management framework involves a series of steps that include: identifying the desired future state, assessing the current state, identifying barriers to change, developing strategies to overcome these barriers, and implementing and monitoring these strategies (Kemp et al., 2007). This approach is intended to facilitate a gradual, systemic transition toward a more sustainable future. The University has implemented various initiatives to promote sustainability awareness and engagement among students, staff, and faculty through the transition management framework. These initiatives include sustainability-focused courses and programs, sustainability events and workshops, and a sustainability communications campaign.

Challenges:

The University of Toronto has faced several challenges in implementing its sustainability strategy and transition management framework. One challenge has been balancing sustainability goals with other competing priorities, such as financial constraints and maintaining the University's progressive reputation and competitive position. Another challenge is more effective communication and collaboration with diverse groups, including students, staff, faculty, and external partners across the campus community (Gibson et al., 2005). A third challenge has been adapting to changing circumstances and emerging sustainability issues. Finally, the University has faced challenges related to data collection and reporting. Accurately tracking progress toward sustainability goals requires collecting and analyzing a range of data, which can be time-consuming and resource-intensive.

4.6. The National University Singapore

The National University of Singapore (NUS) is a leading research-intensive university in Singapore. It was founded in 1905 as the Straits Settlements and Federated Malay States Government Medical School and has since grown to become one of the top universities in Asia and the world.

Strategic positioning:

The NUS is committed to integrating sustainability into its core operations and decision-making processes. The University has recently implemented various initiatives to reduce its carbon footprint, enhance biodiversity, and promote sustainable practices across campus. One of the key strategic initiatives undertaken by the NUS is the development of a Sustainability Strategic Plan, which outlines the University's sustainability goals and priorities over the next five years. The plan focuses on three key areas: green operations, research and innovation, and education and outreach.

Regarding green operations, the NUS has implemented various measures to reduce its energy consumption and carbon emissions. For example, the university has invested in energy-efficient lighting and air conditioning systems and has installed solar panels on several buildings to generate renewable energy. In addition, the NUS has implemented a waste reduction program, which includes measures such as recycling and composting, and has reduced the use of single-use plastics across campus.

The NUS has also established several research and innovation initiatives to support sustainability. For example, the University's Energy Studies Institute researches renewable energy and energy efficiency, while the Lee Kuan Yew School of Public Policy focuses on sustainable urban development and environmental policy. The NUS has incorporated sustainability into its education and outreach programs. The University offers a range of courses on sustainability-related topics and has established a sustainability literacy program for all students. The NUS also promotes sustainability through its inclusive events and activities, such as the annual NUS Green Day.

Transition management framework:

The NUS has adopted a transition management framework to guide its sustainability efforts. The framework is based on three key stages: exploration, experimentation, and system building.

During the exploration stage, the NUS identifies potential sustainability initiatives and assesses their feasibility and impact. This stage involves engaging stakeholders across the University, including students, faculty, staff, and external partners, to gather input and build support for potential initiatives. The experimentation stage involves piloting and testing sustainability initiatives on a small scale. This stage allows the NUS to assess the effectiveness of different approaches and refine its strategies based on feedback and results. The system-building stage involves scaling up successful initiatives and embedding them into the University's core operations and practices. This stage involves ongoing monitoring and evaluation to ensure that sustainability efforts are integrated effectively, and that progress is being made toward sustainability goals.

By adopting a transition management framework, the NUS can approach sustainability as a complex, ongoing process that requires continuous engagement, experimentation, and adaptation. This approach ensures that sustainability efforts are

effective, sustainable, and able to contribute to the long-term resilience and success of the University.

Challenges:

While the NUS has made significant progress in implementing sustainability initiatives and adopting a transition management framework, the University has faced several challenges. One of the main challenges the NUS faces is the need to balance competing priorities, such as financial sustainability and social and environmental responsibility (National University of Singapore, 2017). This challenge is particularly acute for universities, which often face pressure to prioritize short-term financial goals over long-term sustainability objectives.

Another challenge the NUS faces is the need to engage stakeholders across the University and build support for sustainability initiatives. This challenge can be tricky in large and complex organizations, where different departments and stakeholders may have competing priorities and perspectives (Lozano et al., 2015). Finally, the NUS has faced challenges in implementing sustainability initiatives in a way that is effective and sustainable over the long term. This challenge can be tricky when scaling up successful initiatives, as it may require significant changes to the organization's core operations and practices (Rotmans et al., 2001). By prioritizing sustainability and engaging stakeholders across the university, the NUS is well-positioned to address these challenges and contribute to a more sustainable future.

4.7. Technical University of Munich

The Technical University of Munich is one of Germany's leading universities. It focuses on engineering, technology, physical, social, clinical, pre-clinical, health, life sciences, business and economics, computer science, education, and arts and humanities.

Strategic positioning:

The Technical University of Munich's commitment to sustainability is woven into its vision and mission. Technical University of Munich's vision is that as a leading entrepreneurial university, it is a site of global knowledge exchange, shaping the future with talent, excellence, and responsibility. Additionally, the mission of the Technical University of Munich is to inspire, promote, and develop talents in all their diversity to become responsible, broad-minded individuals and empower them to shape the progress of innovation for people, nature, and society with the highest scientific standards and technological expertise, with entrepreneurial courage and sensitivity to social and political issues, as well as a lifelong commitment to learning. From its core principles, the Technical University of Munich integrates sustainability through its educational excellence and reinforces transdisciplinary innovation.

Transition management framework:

The Technical University of Munich incorporates a tactical approach with its 2030 Agenda focused on innovation and societal change. Elements of the Technical University of Munich Agenda 2030 entail:

- Human focus;
- Governance;
- Lifelong learning;
- Teaching;
- Global networking;
- Munich's ecosystem.

These components propel the Technical University of Munich toward goal attainment, stemming from rules and regulations, which has adopted a transition management framework to guide its sustainability efforts. The framework is based on three key stages: exploration, experimentation, and system building.

Challenges:

The Technical University of Munich has faced minimal challenges in strategically positioning itself for sustainability measures. One of the main challenges in implementing a transition management framework is access. While the cost of attending university is not a barrier, the academic and professional requirements might pose a barrier for potential applicants. Implementing sustainability initiatives focused on access requires coordination and collaboration with smaller colleges. Establishing programs to address access while measuring program key performance indicators will serve as a model for other universities tackling these challenges.

4.8. The University of Hong Kong

The University of Hong Kong was founded in 1911, it is recognized for its teaching, research, and innovation.

Strategic positioning:

The University of Hong Kong established a 2016–2025 vision, with the framework encompassing three pillars. The three pillars were teaching and learning, research, and knowledge exchange. Within each pillar lies the focus on internationalization, innovation, interdisciplinary, and impact.

Transition management framework:

Sustainability is woven into the tapestry of the University from its staff and students. The University of Hong Kong strives to provide an environment that attracts, retains, and rewards talent. Additionally, the university aspires to be the gateway of knowledge and scholarship for Hong Kong and the rest of the world. The University of Hong Kong seeks to use its infrastructure and technology investments more efficiently to address the digital needs of its staff and students.

Challenges:

The University of Hong Kong seeks to address human resources, financials, infrastructure, and technology challenges. For human resources, professional and administrative services will be enhanced to ensure that employee benefits are competitive, inclusive of rewards, and promote development. To ensure a solid financial foundation, the University of Hong Kong will embed a robust approach to budget setting, monitor the efficiency across faculties, and redeploy outdated programs to use its resources more efficiently.

4.9. The University of Melbourne

The University of Melbourne is one of the largest comprehensive public research universities in Australia which was established in 1853. The University of Melbourne is the second-oldest in Australia.

Strategic positioning:

Developed in partnership with staff, students, alumni, and key stakeholders, Advancing Melbourne covers five key focus areas: place, community, education, discovery, and global. The University of Melbourne is the University of Melbourne's strategic approach to sustainability, benefiting society, and transforming education and research. Elements of being seen as change agents with a global mindset, strategic partnerships, societal influence, research, and valuing diversity and inclusion are woven into the sustainability framework.

Transition management framework:

The University's sustainability framework governs sustainability at the University of Melbourne. The sustainability framework integrates leadership's action on sustainability across all areas of the University, aligns with the strategic priorities of Advancing Melbourne, and governs decision-making and planning. The sustainability plan is structured around three domains: action, knowledge, and operations.

Challenges:

While the foundation was established by identifying Fellows and sustainability-related curricula and programs, better integration, application of learning, and knowledge sharing remain. Fellows will be leveraged to enhance programs and curriculum. Sustainability teams will integrate efforts into campus-wide events to promote awareness. A bottom-up community of practice approach will support knowledge sharing and foster a whole university mindset.

4.10. The University of Tokyo

The University of Tokyo was established in 1877 and grew into a large research university through mergers with several schools and institutions.

Strategic positioning:

Within its charter, the University of Tokyo believes in self-governance benefiting society through the development of knowledge. Fair opportunities and representation among faculty, schools, and affiliated institutes provide the platform for self-governance, with each entity being responsible for the management of the university, the development of education and research, and reshaping the university to meet the needs of the current environment.

Transition management framework:

For the University of Tokyo, the self-governance policy relies on fair evaluation and stewardship of those selected. Succession planning and other personnel matters are discussed, decided upon, and undertaken within the organization. Specific initiatives relative to green transformation, diversity, and inclusion are also apparent, with complete action plans and explanations to encourage change, collaboration with local communities and businesses, fairness, and diversity.

Challenges:

Within the UTokyo Compass, the President of the University of Tokyo provided guiding principles, including creating dialogue, diversity, inclusion, and a university welcoming to everyone. These guiding principles were in response to the current climate within the institution. They sought to gather ideas to create a better, more inclusive campus and workplace for all.

4.11. Katholieke Universiteit (KU) Leuven

Katholieke Universiteit (KU) Leuven, a global university in Belgium, was founded in 1425. KU Leuven offers various programs supported by research within its university and hospitals.

Strategic positioning:

KU Leuven formulated a strategic plan for a sustainable society rooted in four projects and two themes, highlighting its aspiration for further development as an ambitious, internationally oriented, and research-intensive university. The sustainability project focuses on choosing sustainable management and a commitment to SDGs in research and education.

Transition management framework:

Within its charter for inclusion, KU Leuven identified structural inequalities and promoted inclusive practices focusing on research, instruction, and service in the community. The objective is to facilitate the equivalent development of all[2] by removing structural barriers in learning and its organization.

Challenges:

The emphasis on inclusion, partnerships with other universities, and lifelong learning enables KU Leuven to allocate resources, energy, and funding. Lifelong learning requires further development incorporating interdisciplinary cross-pollination and future programming. Focusing on inclusion and lifelong learning ensures that KU Leuven is recognized as a critical thought leader, current, and a provider of high-quality continuing education and training for all professionals seeking retraining and professional development. Additionally, partnering with other universities to launch programs online expands educational access and availability for students and adult learners.

4.12. Paris Sciences & Lettres (PSL) Research University

In 2010, Paris Sciences & Lettres (PSL) Research University was created according to the impetus of Parisian Grandes Ecoles and national research centers.

Strategic positioning:

The PSL Research University comprises 11 schools providing training, education, and learning. The PSL Research University champions research, academic thought, and freedom, enabling disruptive thinking, innovation, and significant contributions to current problems and challenges. However, this strategic positioning is built upon The PSL Research University's ability to maintain strong partnerships and contribute to society.

Transition management framework:

Several bodies govern the PSL Research University: the Board of Directors, the Directorate, the Executive Committee, the Academic Senate, and the Strategic Steering Committee Council. Sustainability is woven into the PSL Research University academic undergraduate and graduate programs.

Challenges:

Due to the limited information available, the sustainability challenges at the PSL Research University stem from applicant awareness, desire to enter the field, and related work interests.

[2] https://www.kuleuven.be/english/impact/

4.13. Karolinska Institute

Karolinska Institute is a medical university in Sweden that accounts for the largest share of academic medical research conducted in Sweden and offers medical and health sciences education.

Strategic positioning:

Karolinska Institute's Strategy 20230 includes three themes: groundbreaking, engaged, and global university. Societal development anchors the three themes to ensure the university is recognized for its pioneering research engages with the community and considers the UN Agenda 2030 and its 17 SDGs.

Transition management framework:

Karolinska Institute's vision includes sustainable goals for advancing knowledge about life and striving for better health (Karolinska Institutet, n.d.). Through research, education, and collaboration, Karolinska Institute's plan for sustainability also encompasses people, the environment, and social responsibility.

Challenges:

The challenges, which are articulated and focal areas for the organization, include the workplace, consumer confidence, and investments. Working conditions should be improved in the workplace, and career paths should be easily understood for students and staff. Consumer confidence is achieved through delivering high-quality services and adhering to ethical standards. Infrastructure investments must be considered to reduce waste and ensure efficient use of financial funding.

The findings report the strategic positioning for sustainability of thirteen universities as individual case studies, shedding light on the challenges faced in integrating and positioning sustainability strategically. This differs from existing research that focuses on individual university case studies and applying a transition management framework to understand the strategic positioning for sustainability. The addition to the existing body of literature lies in the in-depth analysis of the strategic positioning for sustainability within specific university contexts, providing valuable insights into the practical challenges and opportunities associated with this process. The cited research works contribute to the broader literature on university sustainability and strategic positioning. For example, Fumasoli et al. (2019) provide a reappraisal of the determinants of university strategic positioning, while Alonso-Almeida et al. (2015) discuss the diffusion of sustainability reporting in universities or the work of Loorbach (2010) discuss the goal of transition management to institutionalize long-term governance into the policy. These works offer valuable insights into the organizational and strategic aspects of sustainability in the higher education context. However, the specific focus on individual university case studies and applying a transition management framework to understand strategic positioning for sustainability represents a unique contribution to the existing literature. Adding individual case studies and using a transition management framework provides a nuanced understanding of the challenges and opportunities associated with integrating and strategically positioning sustainability in universities. This approach offers practical insights that can inform strategic decision-making and policy development within higher education institutions, thereby enriching the existing body of literature on this topic.

5. DISCUSSION

Embedded in sustainability initiatives strategically throughout the institution can be overwhelming to launch without support, resources, and organization. Therefore, careful consideration and obtaining lessons learned from other institutions are of value to accelerate transformational changes needed for institutions embarking on developing sustainability initiatives. The ecosystem created from the interaction among universities, smaller colleges, businesses, society, and the environment naturally forms to support learning, knowledge sharing, and progress. Table 3 represents the types of mitigating initiatives used and opportunities experienced by the top universities within the case study findings.

Table 3. Issues map

Issue category	*Mitigating initiatives*	*Opportunity*
Geographic sustainability challenges	Installation of solar panels, sustainable transport options, and sustainable food practices	Institutional barriers to access education, learning, and future employability
Financing structure and independence	Self-governance and autonomy	Limited investments in green infrastructure and renewable energy
Institutional organization	Building an institutional economy around reducing waste and increasing resource efficiency	Complexity created complications in coordination efforts and in developing a unified sustainability strategy
Democratic process	Developing sustainability policies and guidelines	Competing priorities and perspectives
Communication and interaction with society	Gateway for knowledge and scholarship	Communicating/underestimating the value of sustainability to internal and external stakeholders

Source: Developed by the authors in 2023.

While the selected universities provide robust information, there is also an opportunity to analyze specific activities underway by universities in emerging areas. As a result, the researchers also noted that the University of São Paulo and the University of Cape Town have begun customizing sustainability efforts within their institutions. Exploring these two universities might provide valuable insights into other emerging universities globally.

The University of São Paulo, founded in 1934, is a prominent Brazilian public university, free for students to attend, formed through the collaboration of existing schools such as the Faculdade de Direito do Largo de São Francisco (Law), the Polytechnic School (Engineering) and

the Escola Superior de Agricultura Luiz de Queiroz (Agriculture). In 2018, universities across Latin America, the Caribbean, Canada, and the United States gathered to discuss education, research, and innovation to combine perspectives and identify solutions necessary to confront the key challenges facing their communities and the world. From this discourse, the leaders described higher education's future as interdependent, reliant on partnerships, accountability, and institutions of knowledge co-creation.

The University of Cape Town, founded in 1829 and formally established in 1918 as a university, is South Africa's oldest university. Current efforts are underway at the University of Cape Town to address diversity, equity, access, programming and curriculum, and leadership. Within its Vision 2030, the University of Cape Town selected excellence, transformation, and sustainability as its three pillars. Excellence encompasses diversity, must be sustainable, and stretches across research, teaching and learning, the impact on communities, the university community and all its operations (University of Cape Town, n.d.). The transformation includes ensuring the university is inclusive and reflects South Africa's demographic by identifying the changes and culture needed to propel the university forward. The environmental sustainability strategy was developed in 2019. Since then, the formal university committee has led green campus initiatives, reporting progress to the University Building & Development Committee.

The practical lessons summarized below provide an opportunity to discuss the university's strategic position, transition management framework, and sustainability.

Each university has identified three to four unique pillars for strategic positioning. Though no two universities of the study have identical pillars, most of them are based on these broad themes: research, education, innovation, teaching, environmental impact, interdisciplinary collaboration, diversity and inclusion, circular economy, resource efficiency, the culture of sustainability, reduce carbon footprint, and enhance biodiversity. Universities have developed a comprehensive management framework for sustainability, including committees, programs, and initiatives. Universities have demonstrated a steadfast commitment to sustainability and incorporated it into their research, teaching, innovation, and stakeholder engagement activities. Most universities incorporate sustainability themes in their education program to prepare skills to tackle sustainability issues and challenges.

Balancing sustainability goals with other competing priorities is challenging due to organizational complexity — effective collaboration and communication with internal and external stakeholders. Operational challenges like data collection, analysis, reporting, and tracking programs slow down universities' progress in sustainability.

6. CONCLUSION

This research selected thirteen universities from the top 50 of the Times Higher Education Rankings, 2023. A qualitative approach of document analysis and case study was adopted to investigate the strategic positioning for sustainability. Thirteen individual case studies were reported with findings on university practices and challenges in strategic positioning for internal and external sustainability. The study also presents critical learnings from a comprehension analysis of all thirteen universities. The research demonstrates the nexus between strategic positioning for sustainability and transition management in higher education. Within this research, the authors defined and explored strategic positioning (Porter, 1996) and the transition management theory (Stephens et al., 2008). By focusing on internal and external sustainability for a university's strategic positioning, stakeholders can focus efforts to institutionalize long-term governance into policy, identify an institution's unique attributes and strengths, and communicate those attributes in a way that resonates with key stakeholders. The five critical issues proposed by Stephens et al. (2008) and three vital issues developed by the authors for higher education must be continuously assessed for needed changes. However, this study has some limitations. Firstly, sustainability has gained extensive focus, but higher education institutions have only recently demonstrated a keen interest in integrating sustainability. Hence, it is an emerging approach in higher education worldwide. Secondly, the research is two-dimensional; the study explores sustainability through the theories of strategic positioning (Porter,1996) and transition management (Stephens et al., 2008). Additional research could explore other established theories in strategic management. The study can also include more universities across further geographies to strengthen findings and share new insights.

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