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Role of Organizational Culture in Leading Sustainable Change in Higher Education

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Introduction

Education is a crucial context to any society, which should undergo continuous adaptation with rapid world changes. The presence of effective leaders is the cornerstone for the success of these continuous changes in education, as effective leaders have to know when, how and why to do it. Furthermore, they should have the ability to provide confidence and support to the students, as well as the staff members. One of the main characteristics of a leader is to be aware of the future possibilities and prepare different scenarios to face them, taking into consideration the points of strength, weakness and the limitations a leader may face (Sadeghi et al, 2012). Leaders in organizations (especially higher education institutions) should initiate and implement changes that help the institutions adapt to futuristic goals.

To implement changes in education, it is important to review the different organizational cultures to have the capability of setting the framework of the change to be done. Successful and enduring organizations should have a leader who implements a culture that creates and sustains a conductive work environment that allows long-lasting quality improvement (Jones & Harris, 2014). Leaders play a fundamental role in setting the tone for sustainability efforts within an organization. If leaders are committed to sustainability, they often help influence their teams to embrace environmentally responsible practices and strive to make sustainability a core part of the business strategy. It is important that leaders establish sustainability goals aligned with the organization's mission and vision.

Several studies have highlighted the importance of organizational culture in promoting sustainability practices in higher education institutions. Lozano et al. (2015) found that organizational cultures play a pivotal role in the achievement of sustainability goals in higher education. They emphasized how organizational culture that values sustainability can foster the concept of collaborative duty among staff and students and promote sustainable habits and behavior.

However, despite the importance and the growing attention of organizational culture in promoting sustainability practices, there is lack of empirical research on this topic in the context of Egyptian universities (Jusuf et al., 2020). Many Egyptian universities ranked higher scores in Universitas Indonesia (UI) green metric without showing the organizational efforts to pave the road for sustainability. Thus, this research aims to investigate the role of organizational culture in promoting sustainability practices at organizations. The research findings are significant for policymakers, non-governmental organizations, and other stakeholders interested in advancing sustainable practices in educational organizations. The research will contribute to enhancing the existing literature on sustainability practices in the field of education, while also offering suggestions and recommendations for promoting sustainable development at the institutional level. This research holds significance for educational organizations seeking to advance sustainability. It demonstrates that organizational culture significantly influences such practices, with values like communication, innovation, motivation, involvement, and empowerment proving critical. When sustainability is ingrained in an organization's core values and norms, greater accomplishments are

realized. This indicates that higher education must transform fundamental assumptions and behaviors institution-wide to foster an integrative culture prioritizing sustainability.

Literature Review

Sustainability refers to the capacity to endure over an extended period. Sustainability has been a debatable topic in scholarly articles (Jusuf et al., 2020). According to Fok et al. (2023), sustainability refers to fulfilling the needs and demands of the generation without compromising the ability of future generations to meet their own needs. This concept allows a bond between the growth of the economy, preservation of the environment, and advancement of technology. Sustainability also entails adapting to change while maintaining system identity. The challenge in sustainability lies in the implementation of it including the society, the economy, and the environment (Fok et al., 2023).

UNESCO (2024) defines education for sustainable development as integrating key issues like climate change, biodiversity, and poverty reduction into teaching, alongside methods that inspire learners to change behavior and act for sustainable development. Informal education, practiced through traditional community knowledge transfer, contrasts with the increasing academic challenge of cultivating sustainable management and professional practices. Education's profound impact on individual capability extends to macro-level benefits such as productivity and quality of life. Educating leaders and students in sustainable development aims to equip them with skills to promote sustainable outcomes in their respective domains. Embedding competency-based models in higher education curricula transforms students from passive receivers to proactive leaders, fostering knowledge, new capabilities, and skills evaluated against global standards. This approach aims to prepare future generations to compete effectively on both national and global levels (Alu, 2022; El sherbiny, 2022).

Organizational Culture

Organizational culture can be defined as the acquired models of behavior within an organization. Organizational culture refers to the acquired patterns of behavior within an organization, wherein ideas are collectively recognized by staff and accepted without question. These ideas can be societal regulations that are enforced through regulations or societal standards (Assoratgoon &

Kantabutra, 2023). To enhance organizational culture in higher educational institutions, it is important to gain a comprehensive understanding of how organizational culture influences the success of an organization. The effective startup of an organization model or culture around sustainability will come back with advantages and merits for society, economy and environment (Deirmentzoglou et al., 2020). Many studies showed and emphasized that a positive organizational culture can enhance the institution and staff as well as the students. This can be affected by various factors such as teamwork, innovation, adaptability, and organizational values (Bammens, 2016; Choi et al, 2023).

Creating Change in Higher Education Institutions

Implementing change in higher education settings involves navigating complexities to foster positive transformations. It requires strategic planning, stakeholder engagement, and a deep understanding of institutional culture. Effective leadership plays a pivotal role in driving change initiatives, promoting innovation, and ensuring sustainable outcomes. Collaboration among faculty, administration, and students is essential to garner support and cultivate a shared vision for progress achievement. Moreover, leveraging technological advancements and educational research can enhance teaching methods and learning experiences (Adams, et al., 2018). Ultimately, creating change in higher education requires a balance of visionary leadership, collaborative efforts, and a commitment to continuous improvement.

Higher education institutions play a crucial role in advancing sustainable development within society. They are responsible for educating future leaders and raising public awareness about sustainability. Additionally, these institutions are pivotal stakeholders in driving the digitization of society by generating knowledge for new technologies and social innovation. To fulfill this responsibility, HEIs must integrate sustainable practices into their infrastructure, decision-making processes, and educational strategies. This holistic approach guides actions towards sustainability across the university system, encompassing education, research, campus operations, community outreach, and assessment. Providing a sustainable educational experience equips students with the skills to lead diverse organizations and promote the Sustainable Development Goals (SDGs) (Argento, et al, 2020). As centers of knowledge production and dissemination, HEIs are evolving thanks to digital and societal trends, which are expanding beyond physical campuses to encompass

various platforms and open-source browsers. For effective change, sustainability should be integrated into core, mandatory disciplines rather than peripheral ones. Strategies such as project-oriented learning, simulation games, problem-based learning, service learning, and case studies are recommended to promote sustainability development within HEIs (Tejedor et al., 2019).

For any change, there will always be resistance, maybe from different types of people who fear change, including pragmatists, traditionalists and observers. Also, change resistance may be due to lack of communication. This resistance, even if it is from small groups, may affect others leading to chaos. So, it is very crucial to communicate with everyone and explain reasons for change. Furthermore, leaders should always involve the stakeholders and the contributors in the change process. Change always triggers negative emotions due to the fear of the unknown and fear of risk, which if not well contained and changed into positive ones, will affect negatively the change process and the organization culture.

Jonasson (2016) argued that there are many reasons that hinder educational change. One of these reasons is lack of staff sufficient orientation and sound understanding in a way that impedes curriculum innovation and adequate implementation. During the change process, there is resistance and sometimes refusal for this change, which may negatively influence the process. For controlling this resistance, there should be motivation for the staff members. They should be aware of the reasons for change, and the strategic plan should be clear enough to understand the goals to be achieved. In addition, there should be enough resources that help with the implementation of this change. Furthermore, one of the most important factors is the creation of a suitable and healthy workplace environment for the staff members, and this includes the application of a reward system that is related to staff performance appraisal according to the organizational key performance indicators (KPI's). There should be continuous development and training programs for the organization members as to improve their performance quality and to be always up to date to the recent techniques and programs of education systems and curricula. This will make it easier to implement the recent trends among the students. The presence of coaches and mentors in the higher education organization ensures the sustainability of success, improves employees' professional and personal skills and encourages their engagement in the organizational culture (Rothwell et al., 2015).

Role of Leaders in Leading the Change in Higher Education

Achieving improvement requires change, giving the chance to learn and implement new ideas ~~as~~ to improve the outcome and results. The presence of a simplistic and innovative leader is very important to allow the change to take place. Besides, leaders should implement the needed strategy for change and possess the recipe for success. Having a vision is not the only key to success. They should share this vision with the managers and staff members. Additionally, they should share clear and motivating core values and goals. This entails clarifying for everyone the different strategic plans. Also, every member should be aware of his/ her role in this change process, delegating varied tasks to different members, to ensure members' sufficient involvement and participation in the change process. Also, putting everyone in his suitable place makes staff members feel motivated and passionate about this change. It is also crucial to encourage teamwork as well as innovative ideas. Continuous self-development of managers and staff members to improve their performance is very important. Furthermore, continuous assessment of the results should always be done through questionnaires to evaluate progress and overcome any weakness (Rothwell et al, 2015; Tejedor et al., 2019).

Methodology

This review paper employs qualitative research design. First, bibliometric analysis was used to collect data relates to sustainability in higher education from Scopus and Web of Science databases. Bibliometric analysis is one of the most frequently used content analysis methods, which is used to study and measure texts and information. The bibliometric approach proves to be a powerful tool in the evaluation of scientific production in different areas of knowledge, allowing the study of publications as well as bibliographic references (Haustein et al 2015). Bibliometrics is a methodological approach widely used to collect and analyze quantitative data concerning emerging or consolidated research topics.

The authors used multiple scholarly databases: Scopus and Web of Science to conduct a comprehensive search for literature containing work related to sustainability in HEI, over a period from 2000 until 2018. This period aligns perfectly with the "United Nations Decade of Education for Sustainable Development" from 2005 till 2014 and covers additional years due to the growing concern for sustainability in HEIs among the research community. Also, this study performed

website analysis to gather information concerning sustainability initiatives in university organizations. Then content analysis was conducted to analyze the content of the website. The website analysis was from fifteen universities, and each website was reviewed manually. This stage reviewed sustainability initiatives in university management and operations related to general policies, corporate mission statement, goals, research activities, positions available, and strategies. This technique was carried out by utilizing available public data including any additional accessible relevant documents attached to the university websites. The review was conducted by typing specific words (sustainability, environment, green practice, facilities management office) for each university website to find target themes and relevant sustainability information. The rationale for selecting and using these words was that studying the websites showed that these were the commonly used descriptors. These words were the important words under the theme of sustainability in higher education.

Results and Discussion

The bibliometric study initially analyzed 1,147 documents obtained through direct keyword search. These documents were then extracted out to 647 results based on "limit to" criteria for the keywords "sustainability," "higher education," "sustainable development," and "higher education institutions." The term "sustainable development" is often used as a synonym for sustainability. Hence, the keyword "sustainable development" was used in the search technique, along with other relevant keywords. After skimming through the abstracts, a total of 237 documents were categorized. After this, citation count and volume of publications were taken into consideration along with the keyword-based search technique. This reduced the documents selected further down to 54 publications that focus best on the tools, methods, and several assessment parameters closely relevant to sustainability in HEIs.

Secondly, the results obtained from the content analysis and web analysis were reviewed and categorized into 10 relevant themes.

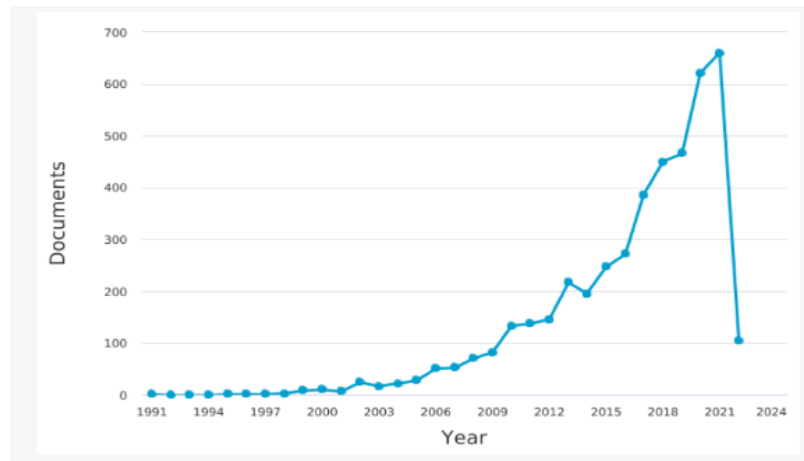Figure 1: Documents by year from Scopus and Web of Science Databases

Table 1: The initiatives taken by higher educational institutions for promoting sustainability

No	Theme	Sustainability initiative
1	Increasing Students' Awareness	Manchester Metropolitan University organizes sustainability-related events to join sustainability projects, which increase students' awareness of society. Cairo university provides students with practical tips for reducing environmental impact.
2	Research and Projects	Cairo university has focused on linking its teaching and research purposes to Egypt's 2030 vision and the UN sustainable goals. Nearly 60% of the number of the courses are dedicated to Sustainability. The 'Green Egypt' project initiated by Cairo university intends to plant one million fruit trees in four years.
3	Energy	In University of South Australia, various energy efficient projects are featured such as intelligent energy management systems, power factor correction and on-demand lighting. These have contributed to a 700,000-kWh saving per year. In Deakin University, a number of energy efficiency programs have been implemented across campus together with energy and emissions audits.
4	Water Efficiency	The University of Tasmania implemented the consumption of reused water by the installation of rainwater tanks. The "Water Conservation and Management" program was introduced by the University of Western Sydney to reduce water consumption and minimize the pollution of water.
5	Climate Change COP27	Egyptian universities held climate conference, and this came out with many recommendations to overcome climate change.

6	Waste	The existence of waste collection and categorizing it to plastic, cans or others helped universities in the recycling process.

Cairo University emphasized the role of organizations to adopt a zero-waste strategy for implementing waste management measures. The organizational role is critical not only to solid waste, but also to maintain sustainability and make it a routine. |
| 7 | Sustainable Transportation | Universities, such as the University of Malaya, are taking steps to promote sustainable transportation by offering bike sharing programs.

In some Egyptian universities, students are not allowed to enter the universities by car. Instead, they can walk on pedestrian pathways as it is safer and healthier and reduces CO_2 emissions. |
| 8 | Design Impact Transition (DIT) Platform | Rotterdam University in the Netherlands initiated a platform which creates a foundation for education, research, and engagement focusing on design, impact, and transition. The DIT platform's mission is threefold: to advance transdisciplinary methodologies and programs, to foster transformative academic ecosystems, and to support scholars in developing careers in design, impact, and transition.

The DIT platform envisions academia as a collaborative, experimental, and action oriented. It is a virtual space, structured with a core team of designers, facilitators, and leaders. This team works to transform research and education, requiring a diverse range of expertise and skills. The DIT platform also explores innovative academic career paths and team organization to support transformation. The DIT model highlights that transitioning universities involves overcoming institutional challenges related to career incentives, which often hinder collaboration, and entrepreneurship, affecting the progress of research and academic quality. |
| 9 | Community Engagement | University of New South Wales has developed a website— 'Teach Sustainability'—to support local schoolteachers in promoting sustainability to the younger generation. The University of Technology, Sydney organized a 'Sustainable Business Forum' in the form of consultation focusing on corporate social responsibility. |
| 10 | Training | Tanta university and Al-Azhar universities offer training to students and staff to raise sustainability awareness.

The University of Technology, Sydney has created the 'UTS Alumni Sustainability Network' to enhance awareness and interest among staff and students. The University of New South Wales has |

		introduced a sustainability support group, 'Enviro Collective', involving students conducting activities and campaigning for a greener world.

Conclusion

For change to be applied and fulfill the role of sustainability models, a strong organization culture needs to be established. Institutions and leaders can play a pivotal role in promoting sustainability thinking in several ways. This includes embedding sustainability principles into academic programs and courses across various disciplines. They can also implement sustainable practices within campus operations, such as improving energy efficiency and reducing waste. Encouraging research and innovation aims at addressing sustainability challenges, fostering community engagement on these issues, and demonstrating commitment through institutional policies and partnerships. The insights presented in this paper can offer valuable guidance to universities aiming to enhance their sustainability practices and foster sustainable mindsets among their students and faculty.

It is not only about the change, but also about who will implement this change with the education vision, overview, knowledge and possible future Ways and procedures for sustaining this change are essential as well. It is ~~also~~ not about having the vision for the change, but how to put it in the right strategic plan and apply it. Furthermore, leaders face many internal and external obstacles when implementing change. Further studies should be done about how to overcome the obstacles during the change procedure to achieve it and succeed in its sustainability.

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