
Sustainable Development Planning Aimed at Higher Education Institutions

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Abstract

This concept paper aims to discuss sustainable development planning desired by the third mission of higher education institutions. The educational establishment aims to contribute research results to society by seeing the potential of the study's results to develop ideas and innovation. The findings of past studies show that some universities still need collaboration to achieve the third Goal after teaching and research, as well as the university's strategic plan based on the 17 Sustainable Development Goals (SDG). The writing of this concept paper also has implications for the Ministry of Higher Education (KPT) in fully achieving the fourth Goal in the 17 SDGs, which is the quality of education that allows students to access education without a poverty gap. In addition, realizing quality programs for students so that graduates' marketability increases after they finish their studies. In conclusion, increasing the improvement of institutional development requires a sustainable strategic plan that can provide a change in the education system.

Keywords : *Development planning; Education system; Higher education institutes; Sustainability; Sustainable development goals; The third mission*

I. INTRODUCTION

The general definition of sustainability is maintaining and developing exemplary achievements or performance. Sustainability is considered one of the main pillars of economic development, and growth strategies represent a new challenge to succeed. Therefore, organizations including universities, have begun to pay attention to new concepts [1]. Sustainable development in higher education focuses on the goal of establishing higher education to be more sustainable after contributing to solving problems for the outside community. Universities are essential players in achieving a sustainable future. They are expected to foster proactive groups with a solid and clear vision that may leave an unforgettable impact on society[2].

The 17 Sustainable Development Goals (SDGs) were introduced during the United Nations (UN) General Assembly in 2015 with the goal of achieving them by 2030. They are enshrined in the United Nations resolution known as the 2030 Agenda. Sustainable development goals, otherwise known as Global Goals, aim to create a better and more sustainable future plan for everyone. Among the 17 Sustainable Development Goals' main focuses on education is ensuring inclusive and equitable quality education and promoting lifelong

learning opportunities for all. According to Abdul Razak et al. [3], universities as social agencies have a strong relationship with achieving Sustainable Development Goals (SDGs) for society.

Higher education institutions are an important part of the solution to the problem of how to build a better society. They play this role by educating and training future business leaders, managers, and entrepreneurs, as well as by instilling a sense of responsibility for the future in younger generations [4]. The campus of a university can be thought of as a living lab [5], a place where new ideas can be tried out and new standards for education, organisational structure, operations, and infrastructure that are based on sustainable development can be set.

In general, the vision and mission statements at each university are different. The primary missions of higher education institutions are teaching and research. Then the study is being studied for the third goal, which is linked to various sources. The third mission statement strongly references the development of critical knowledge. The third goal is defined as an effort to connect university activities with the socioeconomic environment [6]. In addition to teaching and research, higher education institutions position themselves as agents of social change. In this regard, they have added a new purpose to their agenda known as the "third

mission." They have begun to support creative processes and development in culture, society, politics, and economics [7].

II. LITERATURE REVIEW

Education is vital for economic, social, and environmental growth. It is the way to achieve a knowledge-based society and sustainability in the long term. Therefore, universities are essential in achieving sustainable development and moving students towards a more sustainable future [8]. In addition, the university can positively impact culture, social, economy, and environment by playing an important role in the community where it operates [9][10].

The achievement of the Sustainable Development Goals established by the United Nations in higher education is still not given full attention as a planning document to the objectives when the study by Nardo et al. [11] found that compliance analysis in university strategic plans with the 17 Sustainable Development Goals of the UN 2030 Agenda is still low. On the other hand, the University of Bologna published its first Sustainable Development Goals (SDG) mapping report in 2018 to gain a better understanding of the implementation of the Sustainable Development Goals (SDGs) in teaching, research and its third mission offering [12].

According to Jonker and Meehan [13], the mission statement describes the organisation's purpose. It acts as a road map for programs and activities while the vision statement provides a path to the future state desired by the organization. An institution uses a mission statement to show that they have an open nature and accept all of society's expectations. As a result, they can increase the organization's survival ability [14][15]. While in German universities, a study by Berghaeuser and Hoelscher [16] found that empirical analysis shows that university mission statements in Germany are dominated by economic-related issues even though their university laws ask for a broader consideration of third mission activities.

In general, a university is a place that contributes to solving problems in the local community and the function of its establishment has an impact on social development. According to Goldfarb [17], universities represent the location of intellectual deliberation without experiencing the influence of political and economic power, so they need to stimulate debate on social and economic issues by sharing their research products as a solution.

There are three studies with varying degrees of systematisation that are included in the SDGs literature that is found at universities. Garca-Feijoo et al. [18] advocated conducting a comprehensive evaluation of the Sustainable Development Goals' (SDGs) implementation with a special emphasis on business schools. Streich et al. [19], on the other hand, carried out a comprehensive evaluation of the previous research on SDGs as they pertain to engineering schools. A quantitative approach was taken by Murillo-Vargas et al. [20] in their proposal for a bibliometric study of 871 publications spanning the years 1998 to 2019. The papers questioned the incorporation of the SDGs in universities.

On the other hand, somehow, university students don't know much about SDGs because they've never been taught about the importance of sustainable development as one of them. This statement has a possibility based on a research study by Zamora-Polo et al. [21], in which the study involved a survey of 342 university students from three universities in Spain, with questions related to their knowledge, attitudes, and perceptions of the SDGs. The researcher found that although a majority of the students were aware of the SDGs, their knowledge and understanding of them were limited, and there were misconceptions about the goals.

Theory

This section explains the sustainable development theory introduced by Tyagi with Change Management Theory in 2001. Change management theory focuses on system change and emphasizes the role of change agents in managing change. The components of change presented by Tyagi include having full strength, knowing the problem to be changed, the problem-solving process, implementing the change and evaluating and monitoring the results. According to Tyagi, organizational development is a planned, systematic, organized and more collaborative effort where the principles of behavioral science and organizational theory are integrated and applied to improve the quality of corporate life which is reflected in the health and vitality of the organization.

The advantage of this theory is that change is systematically planned, from the planning stage to the evaluation and implementation stages. Based on the plan for the third mission, the author refers to this theory about the implementation of the third mission in institutions of higher learning where various past studies are referred to adjust the third mission after

learning and research are applied in the institution. The weakness of this theory is that it requires a parent body to change. If it does not exist, the plan will not change.

Tyagi's view is almost the same as that of the organizational experts mentioned before, except that Tyagi is more focused on the results of the results, which are the increase in the intensity of the internal communication of the organization, the increase in the efficiency and self-esteem of the group members and the recognition of the society that the organization is improving its performance.

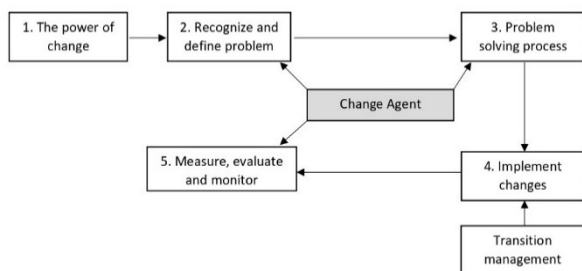


Figure 1 Theory of Change Management by Tyagi

Model

The idea of the entrepreneurial university [22] highlights the growth of the university's function by adding a third goal to the conventional teaching and research objectives: to contribute to economic development by transferring research findings from the laboratory to the financial system. The entrepreneurial university model is a complex phenomenon that includes different academic traditions such as decision-making levels, research values and sub-organizational cultures.

The entrepreneurial university model emphasises the institutionalization of technology transfer in the university, where it rearranges the organizational structure and chooses between maximizing the income obtained from research and promoting local development [23][24].

Many strategies through technology transfer are implemented to reflect one side of the evaluation of progress towards entrepreneurial universities. In reality, the evolution of the university's third mission objective can be studied through the methods and strategies implemented by the institution to stimulate and support the technology transfer procedure. Research and technology transfer according to Feller et al. [25], is a collection of interacting relationships that can integrate basic or disciplinary research, applied research, development, diffusion, adaptation and distribution by combining into an overall technology delivery

system is reflected in the health and vitality of the organization.

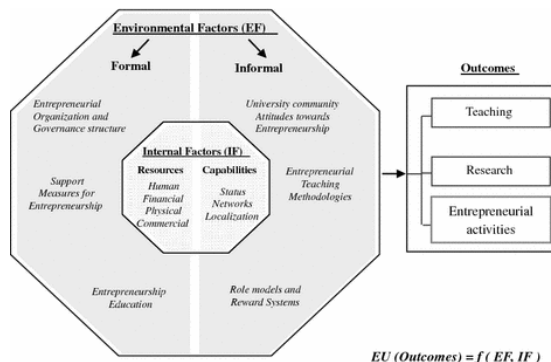


Figure 2 Entrepreneurial University Model by Eitzkowitz

III. RESULT AND DISCUSSION

Based on the two referenced articles, two types of sustainable development plans in Italian public universities are based on higher education mission statement planning and the 17 Sustainable Development Goals.

Based on Table 1, the mission statement planning findings found that 24 out of 98 universities declared they would continue with the three missions (teaching, research, and third mission). At the same time, 35 universities consider the third mission the most crucial function that needs to be implemented by every university in society. Overall, higher education in Italy has yet to focus much attention on expressing its sustainable strategy, where sustainability has become one of the fundamental pillars for economic development and progress despite the challenges. Still, it is also a necessity for the institution.

Table 1 The scope of Italian higher education institutions (Fantauzzi & Colasanti 2021)

| Institutions | Focus | Nature |
|--------------|---|---|
| 35 | Third mission | 1) Thirty state universities 2) Five non-state universities |
| 23 | Teaching, research, third mission | 1) Twenty state universities 2) Three non-state universities |
| 14 | Teaching, research | 1) Seven state universities 2) Seven non-state universities |
| 10 | Teaching | 1) Four state universities 2) Six non-state universities |
| 3 | Distance learning (online universities) | Non-state universities |
| 3 | Identity | 1) One state university 2) Two non-state universities |
| 2 | International vocation | Non-state universities |
| 1 | Teaching, research, third mission (gastronomic field) | Non-state university |
| 1 | Teaching, technology transfer | State university |

| | | |
|---|---|----------------------|
| 1 | Religious message | Non-state university |
| 1 | Teaching, research (sport field) | State university |
| 1 | International PhD students, social and economic development | State university |
| 1 | Health training, values pursued | Non-state university |

Based on Table 2, through content analysis using the main symbols of the 17 Sustainable Development Goals in Italian higher education, it was found that the universities in the sample integrate them more often into their strategic plans. Among the universities most thorough in their strategic goals are the University of Catania, the University of Parma, the University of Bologna and the University of Rome. The universities have stated that their university strategic plans have been set thus drawing up their strategic objectives using the 17 Sustainable Development Goals of the UN 2030 Agenda as a guideline.

Table 2 Content analysis results for individual categories (Nardo et al. 2021)

| SDGs | Category | No. of Key Symbols | Absolute Value of Observation from All | % |
|------|---|--------------------|--|--------|
| 1 | Poverty | 4 | 1 | 0.04% |
| 2 | Hunger | 11 | 20 | 0.85% |
| 3 | Health and well-being | 9 | 142 | 6.06% |
| 4 | Education | 18 | 991 | 42.28% |
| 5 | Gender equality | 4 | 55 | 2.35% |
| 6 | Water and sanitation | 4 | 9 | 0.38% |
| 7 | Energy | 5 | 42 | 1.795% |
| 8 | Work and economic growth | 9 | 562 | 23.98% |
| 9 | Industry, Innovation and Infrastructure | 6 | 96 | 4.10% |
| 10 | Inequalities | 6 | 85 | 3.63% |
| 11 | Cities and communities | 4 | 49 | 2.09% |
| 12 | Consumption and production | 3 | 43 | 1.83% |
| 13 | Climate | 4 | 19 | 0.81% |
| 14 | Life below water | 3 | 0 | 0.00% |
| 15 | Life on land | 5 | 100 | 4.27% |
| 16 | Peace, justice and institutions | 3 | 12 | 0.51% |
| 17 | Partnership | 5 | 118 | 5.03% |
| | TOTAL | 103 | 2344 | 100% |

I. The third mission statement

Through the findings of the study, it is stated that Italian universities have opened themselves to sustainability. However, they are still in the early stages of their journey towards sustainable growth. This point is supported by Capocchi et al. [26] statement that although Italian universities have made progress in raising sustainable awareness, they are still at an early stage. In addition, a study from Giuseppe and Tavoletti [27] states that 74% of

Italian universities are involved in the third mission compared to the first mission (teaching) and second mission (research), with 99% and 97% of cases, respectively. The third mission activity may consist of both global and local activities. Still, it also includes economic and social/cultural activities because it is a feature that can be seen as supporting and enabling institutional diversity in general [28].

According to Ismail and Abdullah [29], there are different development objectives for public universities in Malaysia when implementing their respective organizational development plans. It shows that there needs to be a more consistent focus on development objectives among Malaysian public universities.

Disclosure about sustainable strategies still needs to be improved in higher education institutions because they still need awareness. This matter received attention from a study by Fantauzzi and Colasanti [30] in Italy, which found that two universities use their mission statements to clearly state their principles and purpose but need to pay more attention to communicating their sustainable strategy.

II. The goal of sustainable development

The results of the study found that several public universities in Italy practice the concept of sustainability in their document planning. The United States and Europe both have a variety of lengthy mission statements that show how institutions express their mission differently. In comparison, Asia, on the other hand, has a much smaller range and a lower median score, implying more typical behavior in that continent [31].

Malaysia's Sustainable Development Goals (SDGs) reached 59% in 2020. According to the Chief Statistician of Malaysia, Datuk Seri Dr. Mohd Uzir Mahidin, in the Berita Harian [32] reported that overall the country made significant progress towards the SDGs in 2020 with 49 indicators which is as much as 34% which shows encouraging results from the previous year.

Sustainability has been introduced in higher education but still produces division especially in the context of higher education in Italy where it requires broader integration throughout the institution [33].

IV. IMPLICATION

I. Policy

Through the Malaysian Education Development Plan (Higher Education) in the 10th Leap, which is the transformation of higher education delivery, Malaysia still needs to intensify the transformation

between public and local universities to achieve the Sustainable Development Goals. As a result, students are less exposed to the importance of overall Sustainable Development Goals, including the economic system and the environment. When students are not given early exposure, they do not have the determination to develop a sustainable university and drive higher goals. As an improvement, the syllabus on Sustainable Development Goals should be introduced in line with the sustainable development agenda by carrying out activities and projects on problem-solving at the university. This indirectly produces creative graduates who can solve problems and compete with leading universities.

II. Train

Institutions of higher education have offered various training and programs to students to foster a competitive attitude and provide opportunities for experience facing the Industrial Revolution 4.0. Among the programs launched by the Ministry of Higher Education is the Service Learning Malaysia University for Society program, or SULAM. The implementation of the SULAM program was established as an accurate and effective initiative to play an important role in realizing the aspirations of the Malaysian Ministry of Education, which is to highlight the function of universities in society and prepare students to become public scholars who are responsible for solving society's issues. This program can fuel the national economy due to industrial relations and contribute to the community, learning, and research. Although this program is at the higher education level, there are some issues after the graduates graduate. Specifically, the salary of the graduates has stayed the same in the past three decades. The government and KPT need to study and improve the reasons for the marketability of primary school graduates so that the economic situation becomes more encouraging.

III. Apply

As a result of achieving the 2030 Agenda and the Sustainable Development Goals, the values of loving the environment can be fostered. Among the successful programs by educational institutions is the Sustainable Schools Environmental Awards program. The purpose of establishing a sustainable school is to create a school environment that emphasizes the preservation and conservation of the environment, which can add value to the school in the five (5) components of a sustainable school, namely:

1. Management

2. Curriculum

3. Greening

4. Co-curriculum

5. Special elements

The involvement of the school community in the Sustainable School-Environmental Award activities can promote the appreciation, practice and culture of environmentally friendly characteristics in the school environment, home, local community, society and finally at the national level.

V. CONCLUSION

The 17 Sustainable Development Goals (SDGs) introduced by the United Nations provide an overview for all institutions to increase improvements to achieve the 2030 Agenda. The importance of the SDGs to students gives them exposure to sustainable development in universities, in addition to being able to change the landscape of the education system better than before. Universities are essential in implementing the Sustainable Development Goals (SDGs) because they educate future leaders about sustainability using new approaches.

In addition, the declaration of a mission statement by higher education institutions is fundamental to economic development and beneficial to outside communities in socio-economic development. Sustainability in development planning for improving institutional goals in higher education needs to be emphasized to achieve goals that align with the needs of students and lecturers. Therefore, the government's role as a determinant of policy formation considers every change in the goals of the education system and needs to be improved to give students space to collaborate to form quality education.

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