CHAPTER I
INTRODUCTION

1.1 General Description of Research Object

1.1.1 Telkom University

Figure 1.1 Telkom University logo

(Source: Telkom University, 2024)

Higher education is a research institution that aims to create an educated society that can contribute productively to fulfil the demands of modern society. in meeting the demanding needs of modern society. Universities are now required to utilise all available means to achieve competitive advantage. Telkom University is one of the institutions engaged in private higher education in Indonesia. As a university with superior accreditation. Telkom Education Foundation (YPT) is a foundation that carries the concept of time and cost efficiency, curriculum alignment, continuous guidance and mentoring, aiming to facilitate the education level of students at Telkom School, starting from the Early Childhood Education level to vocational education. Telkom Education Foundation (YPT) is spread throughout Indonesia, this is due to the merger of two foundations in the field of education initiated by PT Telekomunikasi Indonesia Tbk (PT Telkom) namely Yayasan Sandhykara Telkom (YSPT) and Telkom Education Foundation (YPT) in 2015.

The main campus of the Telkom Education Foundation is in Bandung, West Java, on Jalan Telekomunikasi - Terusan Buah Batu, in the Bandung Technoplex area. Telkom Education Foundation is also associated with Telkom University, which is a higher education institution associated with Telkom Education Foundation. Telkom Education Foundation has been organising educational institutions for more than 35 years. Starting from *Daycare*, *Play Group*, Kindergarten, primary, secondary, to higher education institutions. Alongside facilitating formal educational endeavours, they possess research institutions, training centres, and professional certification bodies in partnership with global entities. The Telkom Education Foundation offers a genuine laboratory for students to refine their skills across diverse disciplines by establishing companies that the institution manages proficiently.

Apart from its teaching and research responsibilities, UI has embraced the delivery of services to the society that seeks to transform it. The organisations with which the university is affiliated participate in community welfare and social service programs in the community. The community service activities at UI are aimed at promoting the culture of servant hood among the students and the staff apart from supporting the sustainability agenda. These approaches guarantee that all the graduates from the University of Illinois are one complete person ready to contribute to society.

YPT also has a research institution that is also a business incubation institution, *Bandung Techno Park,* which is a *role model for Techno Park* in Indonesia. *Good Corporate/University Governance* supported by *Quality Excellence* strategies , through various quality policies that refer to applicable regulations. In organising educational institutions, YPT's funding sources are supported by business units engaged in various fields. YPT has international education standards and forms people with superior character. YPT also organises higher education and training to build globally minded people.

1.1.2 Vision and Mission

a. Vision

To become a quality educational foundation with international standards, to form people with superior character, in building the nation's civilization.

b. Mission
    1) Organising international standard education.
    2) Developing a coaching system for the formation of human beings with superior character in building the nation's civilisation.
    3) Developing sources of funding, through the creation of opportunities, innovation, and creativity.

1.1 Research Background

The pressing need to tackle climate change, environmental deterioration, and unsustainable consumerism has positioned higher education institutions as leaders in sustainability. The United Nations' Sustainable Development Goals (SDGs), established in 2015, aim for significant advancements in sustainable production and consumption by 2030, with SDG 12 highlighting the necessity to "substantially reduce waste generation through prevention, reduction, recycling, and reuse" (United Nations, 2015). Indonesia, as a signatory, has integrated these objectives into its National Medium-Term Development Plan (RPJMN) 2020–2024, focusing on comprehensive waste management and the encouragement of environmentally responsible practices at both institutional and community levels.

Since the formulation of the SDGs, Indonesian private sector has also been supportive particularly when organisations acknowledge that sustainability is key in business continuity. There has been a rise in environmentally friendly policies especially among manufacturing firms and in the energy as well as farming sectors. Although the goals are quite general in nature, there are issues in their implementation because of existing gaps on infrastructure, awareness, and enforcement (Megawati & Pratama, 2024).

The garbage issue in the West Java region, home of Telkom University, persists as a significant burden. Bandung City generates roughly 1,500–1,600 tons of garbage daily, with over 60% derived from organic materials and 15–20% from plastics, predominantly from single-use products (DLHK Jawa Barat, 2023).

Indonesia is ranked among the leading global plastic pollutants, producing about 6.8 million tons of plastic garbage each year, with approximately 620,000 tons entering rivers and oceans annually (Jambeck et al., 2015; KLHK, 2022). University campuses, as densely populated centres of consumption, substantially impact these statistics. Research on Indonesian universities indicates that plastic bottles, cups, and food packaging are the three predominant forms of campus waste, with frequently neglected prospects for reuse (Budihardjo et al., 2021); (Chaerunnissa et al., 2020).

89	11	Telkom University Indonesia, Asia	8525	1075	1825	1425	900	1500	1800
92	12	Hasanuddin University Indonesia, Asia	8500	1400	1750	1050	900	1600	1800
98	13	Lampung University Indonesia, Asia	8475	1100	1825	1425	850	1475	1800
104	14	Institut Teknologi Sumatera Indonesia, Asia	8450	1350	1750	1200	850	1625	1675
105	15	Universitas Islam Indonesia Indonesia, Asia	8450	1100	1675	1350	950	1725	1650
115	16	Universitas Negeri Yogyakarta Indonesia, Asia	8400	1000	1925	1575	800	1475	1625

Figure 1.2 UI Green Metric University Rankings for Indonesian Universities

(Source: UI Green Metric, 2024)

Telkom University has significantly invested in sustainable infrastructure and policies to tackle these challenges. The campus allocates 87.59% of its 50-hectare area to open green space, maintains a 500 m² waste-sorting facility, and executes a Reduce–Reuse–Recycle (3R) program that features composting facilities (processing 700–1000 kg of organic waste daily), a waste bank, and water refill stations to promote the use of reusable tumblers (Telkom University Green Campus, 2024). These activities have enhanced Tel-U's sustainability standings—9th in Indonesia and 123rd worldwide in the 2020 UI GreenMetric ranking. Nonetheless, despite these initiatives, student engagement in reuse programs continues to be restricted. Littering beyond specified receptacles remains prevalent, and numerous students persist in utilizing disposable packaging. Research indicates that infrastructure alone is inadequate; the perceived utility of acts, along with

internalized environmental values, significantly influences the maintenance of pro-environmental behaviour (Chaerunnissa et al., 2020).

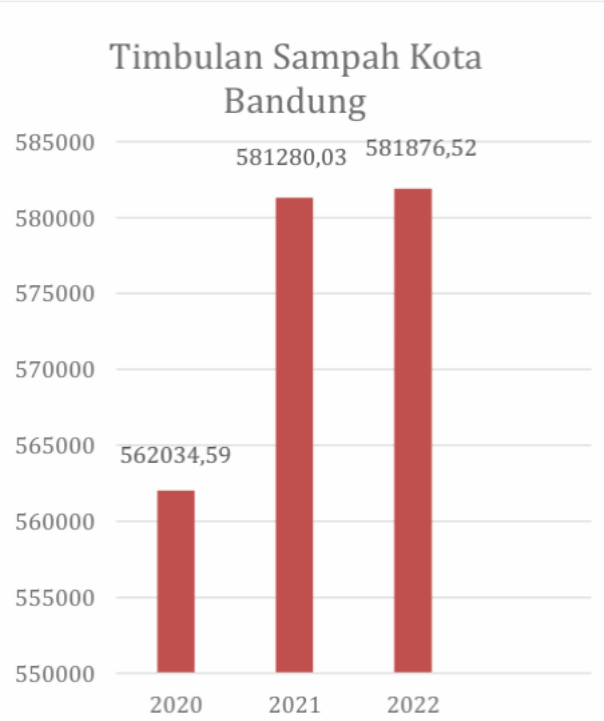

Figure 1.3 Bandung City Waste Generation

(Source: DLHK Jawa Barat, 2023)

Tel-U campus facilities include: green house, composting facilities that could process 700-1000 kg leaves per day, waste bank, incinerator, and hammer mill. In the campus site, there is also a research and recreation area as a home for around 2500 trees, complemented with fish pond and paddy field. Tel-U has a commitment to be a role model in realizing the SDGs in Indonesia, that is also in line with Tel-U's goal to always provide the best for Indonesia and the world. According to Times Higher Education (THE) Impact Rankings in 2021 Telkom University ranked 7th globally based on affordable and clean energy criteria, and ranked 18th globally based on clean water and sanitation criteria. To support the sustainability program, Tel-U develops on-grid solar photovoltaic system and initiates the electric vehicle usages such as e-bike, e-motorcycle, and e-car. (UI GreenMetric, 2024).

This behavioural discrepancy has been recorded in the scholarly literature. In a Scopus-indexed study published in Environmental Challenges, (Roy, 2023a)

investigated the impact of Green University Initiatives on undergraduates' intention to reuse, utilizing an expanded Theory of Planned Behaviour (TPB) paradigm that includes moral norms and environmental values. My research indicated that all categories of the Theory of Planned Behaviour—attitude, subjective norms, and perceived behavioural control—significantly forecasted reuse intention, with perceived behavioural control exerting the most substantial influence. Significantly, environmental values influenced the connection between moral standards and reuse intention, indicating that integrating institutional programs with students' own beliefs can enhance behavioural adoption. This conclusion explicitly underscores the applicability of the Theory of Planned Behaviour (TPB) within the context of Telkom University, where robust sustainability infrastructure is present, although behavioural adoption remains insufficient.

Despite universities having great efforts and reports on their UI Green Metric, it is known that the University students still don’t show the same efforts as how the campus envisions. The most common example to take is littering not on the designated bins. Littering still remains a significant challenge among university students in Indonesia, this of course reflects a gap between environmental awareness and their behaviour. Cross-sectional study showed that although Indonesian students have significantly higher environmental efficacy than their Japanese counterpart’s improper disposal of wastes is still evident in school environment (Syakura et al., 2020).

This contends that while students may possess an awareness of environmental conservation, the requisite behavioural change may necessitate additional techniques. A study indicated that student awareness significantly influences their solid waste output; enhancing understanding through education and courses on sustainable waste presents a substantial opportunity for achieving sustainability in waste management (Budihardjo et al., 2021). These studies advocate for the advancement of educational activities to facilitate genuine changes in individuals' behaviours.

In Bandung, where municipal waste management infrastructure is already strained and landfills such as Sarimukti are approaching capacity, enhancing

campus reuse practices is both an environmental necessity and a social duty. Should 50% of Telkom University's over 30,000 students consistently utilize reusable cups and bottles, the campus could potentially diminish single-use plastic waste by approximately 2–3 million items each year, resulting in substantial waste diversion and quantifiable reductions in greenhouse gas emissions associated with plastic production and disposal. This study examines the disparity between institutional sustainability initiatives and student behaviour, seeking to determine how Green University Initiatives—mediated by attitudes, norms, and perceived control, and moderated by environmental values—can effectively enhance reuse intention at Telkom University and potentially serve as a paradigm for other higher education institutions in Bandung and throughout Indonesia.

1.2 Problem Formulation

Despite Telkom University's notable accomplishments in sustainability—ranking 9th nationally in the UI GreenMetric 2020 and executing comprehensive Green University Initiatives (GUIs) including a 500 m² waste-sorting facility, composting units, and reusable water dispenser systems—student engagement in reuse practices remains minimal. The Bandung backdrop underscores the gravity of this issue: the city generates between 1,500–1,600 tons of waste daily, with 15–20% consisting of plastics (DLHK Jawa Barat, 2023), predominantly from single-use goods prevalent on university campuses. If even half of Telkom University's over 30,000 students consistently utilized reusable bottles and cups, the campus could avert over 2–3 million single-use items from entering the waste stream each year, so substantially alleviating the city's landfill burden and diminishing greenhouse gas emissions.

The ongoing prevalence of littering, inadequate engagement in reuse initiatives, and sustained reliance on throwaway items underscore a disparity between the availability of infrastructure and the necessity for behavioural modification. Current studies (Chaerunnissa et al., 2020); (Budihardjo et al., 2021) indicate that mere availability of facilities is inadequate; behavioural intention is predominantly shaped by internal factors including perceived utility, attitudes, social norms, and environmental values. In a Scopus-indexed study, (Roy, 2023a) discovered that

green university initiative considerably affect psychological aspects, particularly perceived behavioural control, and that environmental values can enhance the relationship between moral norms and reuse behaviour among undergraduates.

These findings necessitate further investigation into the impact of Telkom University's GUIs on students' reuse intentions and the potential enhancement of this effect by environmental values. This research primarily examines the deficiency in empirical comprehension on how targeted campus sustainability activities might lead to widespread, consistent adoption of reuse practices in a high-waste urban environment such as Bandung.

1.3 Research Questions

Given these considerations, this research seeks to address the following questions:

1. Does Green University Initiative (GUI) have a positive and significant influence on the Attitude Towards Reuse (ATR) of undergraduates?
2. Does Green University Initiative (GUI) have a positive and significant influence on the Subjective Norm (SN) of undergraduates?
3. Does Green University Initiative (GUI) have a positive and significant influence on the Perceived Behavioral Control (PBC) of undergraduates?
4. Does Green University Initiative (GUI) have a positive and significant influence on the Moral Norm (MN) of undergraduates?
5. Does Attitude Towards Reuse (ATR) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?
6. Does Subjective Norm (SN) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?
7. Does Perceived Behavioral Control (PBC) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?
8. Does Moral Norm (MN) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?
9. Does Green University Initiative (GUI) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?
10. Does Environmental Value (EV) have a positive and significant influence on the Reuse Intentions (RI) of undergraduates?

11. Does Attitude Towards Reuse (ATR) become a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI)?
12. Does Subjective Norm (SN) become a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI)?
13. Does Perceived Behavioral Control (PBC) become a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI)?
14. Does Moral Norm (MN) become a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI)?
15. Does Environmental Value (EV) moderate Attitude Towards Reuse (ATR) to Reuse Intentions (RI)?
16. Does Environmental Value (EV) moderate Subjective Norm (SN) to Reuse Intentions (RI)?
17. Does Environmental Value (EV) moderate Perceived Behavioral Control (PBC) to Reuse Intentions (RI)?
18. Does Environmental Value (EV) moderate Moral Norm (MN) to Reuse Intentions (RI)?

1.4 Research Objectives

1. To know if Green University Initiative (GUI) has a positive and significant influence on the Attitude Towards Reuse (ATR) of undergraduates.
2. To know if Green University Initiative (GUI) has a positive and significant influence on the Subjective Norm (SN) of undergraduates.
3. To know if Green University Initiative (GUI) has a positive and significant influence on the Perceived Behavioral Control (PBC) of undergraduates.
4. To know if Green University Initiative (GUI) has a positive and significant influence on the Moral Norm (MN) of undergraduates.
5. To know if Attitude Towards Reuse (ATR) has a positive and significant influence on the Reuse Intentions (RI) of undergraduates.
6. To know if Subjective Norm (SN) has a positive and significant influence on the Reuse Intentions (RI) of undergraduates.
7. To know if Perceived Behavioral Control (PBC) has a positive and significant influence on the Reuse Intentions (RI) of undergraduates.

8. To know if Moral Norm (MN) has a positive and significant influence on the Reuse Intentions (RI) of undergraduates.
9. To know if Green University Initiative (GUI) has a positive and significant influence on the Reuse Intentions (RI) of undergraduates.
10. To know if Environmental Value (EV) has positive and significant influence on the Reuse Intentions (RI) of undergraduates
11. To know if Attitude Towards Reuse (ATR) becomes a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI).
12. To know if Subjective Norm (SN) becomes a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI).
13. To know if Perceived Behavioral Control (PBC) becomes a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI).
14. To know if Moral Norm (MN) becomes a mediating variable from Green University Initiative (GUI) to Reuse Intentions (RI).
15. To know if Environmental Value (EV) moderates Attitude Towards Reuse (ATR) to Reuse Intentions (RI).
16. To know if Environmental Value (EV) moderates Subjective Norm (SN) to Reuse Intentions (RI).
17. To know if Environmental Value (EV) moderates Perceived Behavioral Control (PBC) to Reuse Intentions (RI).
18. To know if Environmental Value (EV) moderates Moral Norm (MN) to Reuse Intentions (RI).

1.5 Research Benefit

1.6.1 Practical Benefit

This thesis aims to evaluate the efficacy of Green University Initiatives (GUIs) and propose enhancements. Consequently, Telkom University becomes increasingly aligned with the principles of sustainability as outlined by the UI Green Metrics methodology. This linkage bolsters the commitment of these colleges to global sustainability standards and enhances their reputation as environmentally conscious institutions. This research identifies prevalent barriers to the implementation of sustainable practices and provides students with resources to

enhance their capacity for making environmentally responsible decisions. The findings promote a cleaner, healthier campus environment and nurture a culture of environmental responsibility that corresponds with the universities' sustainability efforts.

1.6.2 Theoretical Benefit

This research on sustainable strategies in higher education is very pertinent in the global context for various reasons. This research offers useful insights into environmental sustainability in educational institutions, particularly in Indonesia, by analysing the green supply chain practices and sustainability awareness at Telkom University. The results of this study may benefit other universities seeking to implement green supply chain practices and assess organizational sustainability through tools such as the UI Green Metrics.

This research addresses the identified shortcomings and advances sustainable development in educational institutions globally. Consequently, it offers the direction that policymakers, scholars, and sustainability professionals require to formulate or improve strategies for sustainable development inside their companies and, for the latter, in relation to the Sustainable Development Goals (SDGs).

1.6 Systematic of Mini-Thesis Writing

This section will provide a comprehensive outline of the anticipated structure of a mini thesis. The thesis will be organized systematically from chapter one to chapter five. Each chapter has been composed to enhance the overall coherence and depth of the research, with the structural description outlined as follows:

Chapter 1: Introduction

This chapter provides a background of the research, emphasizing the implementation of the Sustainable Development Goals in Indonesia, with a particular focus on Telkom University. It delineates the issue of insufficient implementation by university students in Indonesia. This chapter establishes the foundation for the findings in later chapters about the impact of the Green University Initiative on the reuse intentions of university students in Indonesia.

Chapter 2: Literature Review

This chapter discusses the conclusions of many studies on SGD and GUI. It elucidates the theories of Operational Management and their applications to the Green University Initiative. This chapter examines the employed framework and contrasts prior research relevant to this mini thesis topic.

Chapter 3: Research Methodology

This chapter examines the research approach, with the fundamental method being Quantitative Research Methodology. This chapter delineates the methodology employed for data collection in this mini thesis, as well as the rationale underpinning the research approach. The chapter additionally outlines the methodology for assessing the efficacy of the deployed solutions.

Chapter 4: Results and Discussion

This chapter encompasses a discourse on study findings, particularly focusing on data analysis. The results are subsequently provided to evaluate the research hypotheses and offer insights into the extent to which the Green University Initiative influences reuse intention, mediated by environmental value. Ultimately, the chapter examines the ramifications of these results in relation to findings from other analogous research in the existing literature.

Chapter 5: Conclusion and Recommendations

subsequently, this chapter examines the overarching suggestions pertaining to the study, as articulated in Chapter 4. It provides targeted recommendations for universities and students in Indonesia and elucidates how the findings may be utilized to improve environmental awareness and sustainability efforts within academic communities. The chapter examines the consequences of the current study and highlights any existing gaps or factors that may influence the outcomes. Ultimately, it delineates potential avenues for future study informed by the results acquired and the prospects for the advancement of the examined subject.