

Research Proposal: An investigation into enhancing recycling rates and behaviours in student accommodation.

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1. Introduction

Effective waste management is a critical aspect of environmental sustainability, and as the global population continues to grow, the need for efficient waste disposal and recycling becomes even more pronounced (Cleverdon et al., 2017). One specific area where improvements are often necessary is in student accommodation. With a demographic that is often transient and environmentally conscious, student residences present an opportunity to instigate positive changes in recycling behaviours (Dixon and Parker, 2021). This research proposal aims to investigate waste generation patterns, recycling behaviours, and the existing waste management infrastructure in student accommodation. The primary focus is to identify factors influencing recycling behaviours and to propose improvements to enhance recycling rates among students.

1.1 Background

Student accommodations often face challenges in waste management. The recycling infrastructure is frequently insufficient, leading to increased waste generation without proper disposal methods (Suez, 2020). Despite the growing environmental awareness among students, there is a need for targeted initiatives to encourage and improve recycling behaviours. During the 2021-2022 academic period, Swansea had 29,720 students across three higher education institutions: UWTSD Swansea University and Gower College (Swansea Council, 2023). It has lots of different accommodation types

including on-campus halls, private sector halls and private rented accommodation. This study seeks to address these issues by examining the current state of waste management in the private sector student accommodation halls, understanding student opinions, and implementing a recycling encouragement initiative.

1.2 Literature Review

In recent years, the environment has gained attention as a significant concern in the UK, with a notable surge in individuals acknowledging it as one of the top three issues (Smith, 2021). This heightened environmental consciousness coincides with the recognition of university students as pivotal contributors to the creation of a sustainable society, given their formative years for pro-environmental behaviours (SUEZ, 2020). Higher education is identified as a critical opportunity to instil improved environmental practices, making the development of strategies to promote sustainable behaviours among students a key determinant of future impact (Cleverdon et al., 2017).

As of the academic year 2021-2022, a substantial student population, approximately 347,680 in university-managed properties and over 201,000 in private-sector halls underscores the significance of addressing sustainability within this demographic (Statista, 2023). Recognising the potential impact of these students on the future, the importance of implementing strategies aimed at fostering sustainable behaviours becomes increasingly pivotal (Cleverdon et al., 2017).

Recycling emerges as a crucial element in fostering sustainability, yet existing research on student recycling reveals notable gaps. Previous studies, such as Dixon and Parker (2021), indicate that much of the research is outdated, neglects halls of residence, and frequently originates outside the UK. This highlights the need for current and context-specific research to inform targeted interventions and policies in the realm of student recycling.

The value-action gap among students poses a significant challenge, where 91% express concern for climate change but exhibit limited action due to perceived inconvenience and a lack of knowledge (SUEZ, 2020). Accurate assessment of recycling behaviours is further complicated by the misclassification of items and ambiguity surrounding the definition of "regular" recycling practices.

The influence of peer behaviour on established recycling habits among students is a noteworthy aspect explored by Chaplin and Wyton (2014). The perception of futility in individual efforts, if not reciprocated by peers, adds a layer of complexity to understanding and motivating sustainable behaviours among this demographic.

While education plays a crucial role in increasing knowledge, a comprehensive approach is deemed necessary. Chaplin and Wyton (2014) advocate for a multi-faceted strategy, including information campaigns, incentives, and administrative actions, as education alone may not suffice in altering recycling behaviours among students. Factors influencing recycling motivation include the ease of the recycling process, as highlighted by SUEZ (2020), where 25% of students report recycling only when convenient. Facilities' availability, adequateness, and proximity also play crucial roles in shaping recycling habits.

However, judging the convenience of waste collections is challenging due to their heterogeneity. Dixon and Parker (2021) emphasize the diversity in interpretations, ranging from the ease of walking to waste facilities to the act of sorting waste into different categories, further highlighting the need for context-specific insights in developing effective sustainability initiatives on university campuses.

Legislation and policy play a crucial role in shaping and influencing recycling practices, particularly. The Environment Bill 2020 introduced plans to transition the UK towards a more circular economy,

emphasizing waste reduction measures and sustainable practices. Within Wales, specific legislation, such as the Well-being of Future Generations (Wales) Act 2015, places a strong emphasis on sustainable development and environmental considerations. Moreover, the Welsh Government's Towards Zero Waste strategy outlines ambitious targets for recycling rates and waste reduction (Welsh Assembly Government, 2010). Understanding the intricacies of Welsh legislation, including regulations specific to recycling and waste management, is paramount in assessing the policy impact on student accommodation in Swansea. This legal framework not only provides a foundation for designing effective interventions but also underscores the importance of aligning strategies with broader sustainability goals set forth by the Welsh Government.

1.3 Objectives

The primary objectives of this research are as follows:

- Investigate waste generation patterns in private student accommodation.
- Analyse recycling behaviours among students.
- Identify factors influencing recycling behaviours.
- Assess the existing waste management infrastructure in student accommodation.
- Implement a recycling encouragement initiative.
- Evaluate the effectiveness of the initiative in improving recycling rates.

2. Methodology

Two private-sector student accommodation blocks will be studied to look at current recycling trends and behaviours and to identify the waste infrastructure and education provided. The two student accommodation blocks this study will look at are Seren (owned by CRM) and True Student (owned by Bricks Group).

2.1 Baseline Study

To achieve the objectives, a comprehensive baseline study will be conducted. A crucial component of the baseline study involves the administration of structured questionnaires and conducting interviews. These surveys will be designed to capture insights into various aspects, including current waste generation patterns, existing recycling behaviours, and the opinions of students concerning the efficacy of the waste management infrastructure. The questionnaires will collect quantitative data on the volume and types of waste generated, as well as qualitative information on attitudes, awareness levels, and perceived barriers to sustainable waste management practices. Questionnaires will be distributed using online forms for more convenient administration and submission. Interviews, on the other hand, will provide an in-depth understanding of individual perspectives, allowing for detailed insights into the factors influencing recycling behaviours.

A physical audit of the current waste bins and recycling facilities will be conducted as part of the baseline study. The audit will specifically focus on evaluating the available recycling infrastructure, including the types of bins present, their locations, and the adequacy of labelling and information.

2.1.1 Ethical Considerations:

Ensure voluntary participation in surveys and feedback mechanisms and protect participants' anonymity and confidentiality. Participants will be provided with clear information about the purpose of the research and that their participation is voluntary. The data will be handled securely to secure participants' anonymity and confidentiality.

2.2 Recycling Encouragement Initiative

Following the baseline study, a recycling encouragement initiative will be implemented. This initiative will include:

- Posters: Placing informative and motivational posters in strategic locations within the student accommodation to raise awareness about the importance of recycling. Identify high-traffic locations within student accommodations, including communal spaces, hallways, and near waste disposal points, for optimal visibility and impact.
- Social Media Campaign: Launching a social media campaign to engage students online, providing tips and information, and creating a sense of community responsibility towards recycling.
- Improve communication about recycling infrastructure.

2.3 Post-Initiative Study

After the implementation of the recycling encouragement initiative, a second round of surveys, interviews, and bin audits will be conducted. This phase aims to:

- Collect updated data on waste generation patterns and recycling behaviours.
- Assess the impact of the recycling encouragement initiative on student opinions and actions.
- Analyse any changes in the waste management infrastructure following the initiative.

3. Results

The results will be organised into two main categories:

3.1 Pre-Initiative Data

This section will include the findings from the initial baseline study, comprising of Interview and questionnaire responses on waste generation patterns and recycling behaviours and an assessment of the existing waste management infrastructure.

3.2 Post-Initiative Data

This section will present the results obtained after the implementation of the recycling encouragement initiative, including post-initiative interviews and questionnaire responses and an additional audit to show the changes.

3.3 Statistical Analysis

To analyze the impact of waste management and recycling initiatives, a comparison of the two datasets to identify any improvements in waste management and recycling rates is needed. Firstly, calculating the mean and standard deviation of recycling rates before and after the initiative to understand the central tendency and variability. This data will further be enhanced by doing a paired samples t-test to compare the means of recycling rates before and after the initiative. This helps determine if there is a statistically significant difference. Additionally, examine the correlation between awareness levels and recycling rate by using the Pearson or Spearman Correlation which can help identify relationships between variables that may influence recycling behaviours. This data can be visually represented in graphics, such as bar charts, line graphs, or pie charts to illustrate changes in recycling rates, distribution of waste types, or other relevant metrics.

4. Evaluation

The proposed research, aimed at enhancing recycling rates in private student accommodations, holds the potential for both immediate and long-term impact. The findings from this research can

guide the development of effective strategies to reduce waste generation in private student accommodations. The implementation of a well-informed recycling encouragement initiative has the potential to significantly increase recycling rates, contributing to a more sustainable environment and increasing student understanding of the environmental impact of their actions, fostering a culture of responsibility. Additionally, the identification of factors influencing recycling behaviours among students will provide insights for designing targeted interventions in similar settings.

However, due to financial constraints, the research may be limited in the number of participants and accommodation blocks included and may restrict the implementation of certain elements, such as advanced technological solutions or extensive promotional campaigns. This could impact the overall reach and effectiveness of the research and may impact the generalisability of the findings to a broader population. Additionally, the short duration of the study may limit the ability to assess the long-term sustainability of the recycling improvement initiative. Ideally, a more extended evaluation period would provide a more comprehensive understanding of the initiative's lasting impact.

5. Conclusion

In conclusion, this research aims to address the pressing issue of insufficient recycling infrastructure in student accommodation. By investigating waste generation patterns, recycling behaviours, and the existing waste management infrastructure, and by implementing a targeted recycling encouragement initiative, this study aspires to contribute valuable insights and propose practical solutions for improving recycling rates among students.

6. References

Chaplin, G. and Wyton, P. (2014). Student engagement with sustainability: understanding the value–action gap. *International Journal of Sustainability in Higher Education*, [online] 15(4), pp.404–417. doi:<https://doi.org/10.1108/ijshe-04-2012-0029>.

Cleverdon, L., Pole, S., Weston, R., Banga, S. and Tudor, T. (2017). The Engagement of Students in Higher Education Institutions with the Concepts of Sustainability: A Case Study of the University of Northampton, in England. *Resources*, [online] 6(1), p.3. doi:<https://doi.org/10.3390/resources6010003>.

Dixon, J. and Parker, J. (2021). Don't be a waster! Student perceptions of recycling strategies at an English University's halls of residence. *International Journal of Sustainability in Higher Education*, [online] 23(3). doi:<https://doi.org/10.1108/ijshe-10-2020-0383>.

Jennings, N. (2017). *Recycling in halls of residence at UK Universities – the good, the bad and the messy!* [online] NUS. Available at:

file:///C:/Users/cm alp/Downloads/20170725_good_and_bad_recycling_facilities_003.pdf
[Accessed 5 Feb. 2024].

Smith, M. (2021). *Concern for environment reaches record high in YouGov top issues tracker* | YouGov. [online] yougov.co.uk. Available at:
<https://yougov.co.uk/politics/articles/39281-concern-environment-reaches-record-high-yougov-top> [Accessed 1 Feb. 2024].

Statistica (2023). *Student numbers by accommodation UK 2020*. [online] Statista. Available at: <https://www.statista.com/statistics/1117816/number-of-students-united-kingdom-by-accommodation/> [Accessed 1 Feb. 2024].

SUEZ (2020). *Lifting the lid on students' behaviours and attitudes towards recycling and waste*. [online] Suez.co.uk. Available at: <https://www.suez.co.uk/en-gb/news/200928-lifting-the-lid-on-students-behaviours-and-attitudes-towards-recycling-and-waste> [Accessed 1 Feb. 2024].

Swansea Council (2023). *Students in Swansea: Summary of published data for 2021-22*. Swansea Council- Information, Research and GIS.

Turco, I., Green, A., Tara, P. and Gareau (2020). *Do Students Understand Recycling? Gauging Student Knowledge of and Attitudes towards Recycling to Improve Recycling Education at Boston College Environmental Studies Minor Senior Seminar*. [online] Available at: https://www.bc.edu/content/dam/bc1/schools/mcas/envstudies/PDFs/student-research/recycling-waste/Do_Students_Understand_Recycling%20_2020_PAPER.pdf [Accessed 5 Feb. 2024].

Well-being of Future Generations (Wales) Act 2015. Legislation.gov.uk. [online] Available at: <https://www.legislation.gov.uk/anaw/2015/2/contents> [Accessed 5 Jan. 2024].

Welsh Assembly Government (2010). *Towards Zero Waste One Wales: One Planet the Overarching Waste Strategy Document for Wales*. [online] Available at: <https://www.gov.wales/sites/default/files/publications/2019-05/towards-zero-waste-our-waste-strategy.pdf> [Accessed 13 Jan. 2024].

Wilcox, M. (2014). *A study of college student attitudes and behaviours related to recycling*. [online] Available at:

<https://scholarworks.uni.edu/cgi/viewcontent.cgi?article=1001&context=etd> [Accessed 5 Feb. 2024].