Replacing Residential Recycling Bags with Personal Recycling Bins

Introduction:
Research was conducted on recycling habits and perceptions within residential dorms to explore the feasibility of replacing residential recycling bags with personal recycling bins. A survey with 167 participants revealed a general desire for increased accessibility towards recycling, with 131 residents claiming their recycling needs were only met to a limited extent and that they would recycle more if it was easier. Approximately half (81) of participants were unaware of the presence of recycling bags, and the vast majority (157) of participants indicated they would have used a recycling bin if they had been provided one. Overall, the results of the survey suggest a desire for recycling bins, which may hopefully replace recycling bags in the future should a feasible plan be developed.

Project Goals:
(1) To determine whether there was an unmet desire for more convenient recycling in residential dorms.
(2) To determine the feasibility of replacing residential recycling bags with individual recycling bins.

Research Findings:
In the preliminary research, a cost/benefit analysis was conducted to determine the practicality of replacing residential recycling bags with recycling bins. Costs were primarily limited to financial expenses and the management of recycling bins. Current recycling bags only cost $2, and recycling bins could potentially cost double. Additionally, recycling bins are not easily managed by residential services. They are both more difficult to distribute due to their bulkiness and costly to clean if they are to be reused by incoming residents the next year.

Online research suggested personal recycling bins could greatly increase recycling behavior. In one study, when a recycling bin was placed in the central area of an office, only 28% of paper was recycled. However, when individuals were given desktop recycling bins, 85% to 94% of paper was recycled. Follow-up assessments, conducted 1, 2, 3, and 7 months showed that 84% to 98% of paper was recycled. Similarly, another study found that recycling rates increased significantly in classrooms when the number of recycling bins increased. No significant increase in rates was found when the number of bins in common areas was increased.

These studies suggest it is the location and ease of usage that greatly determine recycling bin use. Communal recycling bins located outside individual dorm rooms are likely less effective than personal recycling bins.

Key Stakeholders Involved:
Penn Students
Director of Residential Services – John Eckman

Methodology:
To get a sense of recycling bag usage rates and the possibility of replacing the bags with bins, a meeting with Director of Residential Services, John Eckman, was scheduled. From the meeting, it was learned that Residential Services would be open to considering the swap if there was evidence of unmet recycling needs and if a feasible method to do so was developed.

The next step was to collect data on general residential recycling perceptions, current recycling bag usage, and attitudes towards recycling bins. This was accomplished with a survey. The survey was distributed at House events within residential buildings and in online Penn student groups.

**Results and Evaluation:**

The most recent data on recycling bag usage was collected a few years ago by having Residential Services check the number of bags seemingly in use during the annual winter break room inspections. Results suggested that approximately 50% of residents used recycling bags.

Results from the distributed survey suggest this figure may overestimate recycling bag usage. According to the survey of 167 participants, 27 participants indicated they felt their recycling needs were clearly unmet, while an additional 102 participants indicated that their needs were only partially met and that they would recycle more if it was made easier. Thus, 77% of participants desired more opportunities for recycling. When asked about recycling bags, 79 participants indicated they didn’t know about their existence, and 58 participants indicated they actually used the bags for recycling. Participant attitudes towards recycling bins were highly positive with 157 participants (94%) indicating they would have used a personal recycling bin if they had been provided one instead of a bag. 47 participants also indicated that they would have bought a recycling bin themselves from the McClelland convenience store located in the Quad.
Overall, the project proceeded fairly smoothly and seems promising. Although the project is only in its preliminary research stages, the collected data suggest that recycling bins may be a solution to unmet recycling needs. Though recycling bags are used to some extent, it appears that bins would be much more effective at promoting recycling behavior. Furthermore, with the openness of Residential Services, it may be very possible to introduce personal bins in the future.

Based on experiences with data collection, it seems like social media is a valuable space to gather survey responses. It provides easy access to a large group of students and requires minimal time and effort on behalf of the researcher. Personal meetings with key stakeholders also proved to be a more efficient form of communication than email.

**Recommendations for Future Projects:**

Potential future directions for this project include more extensive data collection and presentation of results to Residential Services. If Residential Services deems the data convincing, then a plan could be devised to replace recycling bags with bins. This would involve finding a cost effective alternative and a feasible way to distribute them. Since a fairly significant number of participants indicated that they would have been interested in purchasing a recycling bin from McClelland, the store manager could also be contacted about keeping recycling bins in stock.