

# Case study: GreenCycle

## Taking a waste management tech product to market

### Company Overview:

GreenCycle is a venture capital seed-funded startup aiming to revolutionize waste management for urban municipalities and large-scale commercial clients. With \$3 million in seed funding, GreenCycle is in the early stages of developing a comprehensive digital platform that optimizes waste collection, sorting, and recycling processes using smart sensors and data analytics. By leveraging the Internet of Things (IoT) and AI-driven insights, GreenCycle helps cities and companies streamline their waste management, reduce costs, and improve environmental sustainability.

The company has developed a prototype of its platform and deployed it in a small-scale pilot within a partner city. The platform includes features like smart bin sensors to monitor fill levels, an AI-driven routing system for waste collection trucks, and a real-time dashboard for monitoring recycling rates. With the successful conclusion of the pilot, GreenCycle is now preparing to take its product to a larger market. However, they recognize that launching a B2B solution in the waste management sector involves navigating complex stakeholder environments, regulatory requirements, and industry-specific challenges.

### Background

The waste management industry faces multiple challenges, such as inefficiencies in collection routes, high operational costs, and inconsistent recycling rates. Urban municipalities and commercial clients are increasingly looking for solutions that help them manage waste more effectively while adhering to sustainability goals and government regulations.

Despite this demand, many organizations lack the tools to optimize their waste management processes. This gap presents an opportunity for GreenCycle to introduce an innovative, technology-driven platform. However, GreenCycle acknowledges that success in this market requires more than just a well-designed product; it demands a deep understanding of the diverse needs of stakeholders, their pain points, and the factors that influence their purchasing decisions.

### Challenges

GreenCycle has identified several key challenges that need to be addressed through design thinking research and strategic planning before scaling its product and securing additional funding:

1. **Diverse stakeholder needs:** waste management involves various stakeholders, including city officials, public works departments, waste collection companies, and environmental compliance officers. Each group has different priorities. For instance, city officials are concerned with cost efficiency and environmental impact, while waste collection companies focus on operational efficiency and compliance with regulations. GreenCycle must understand these differing needs to design features that provide value to each group.
2. **Adoption barriers:** introducing new technology in a traditional industry like waste management is challenging. Stakeholders often hesitate to adopt new systems due to concerns over integration with existing infrastructure, data security, and potential disruptions to current processes. Understanding these barriers is crucial for GreenCycle to create a strategy that eases the transition to a tech-based solution.

3. **Customisation and scalability:** urban municipalities and commercial clients have varying waste management requirements. For example, a densely populated city may need real-time monitoring and dynamic collection routing, while a commercial client like a shopping mall might require detailed waste sorting and recycling analytics. GreenCycle needs to identify which features can be standardized and which should be customizable to serve different client needs effectively.
4. **Compliance with regulations:** waste management is subject to strict environmental regulations, including waste sorting, recycling mandates, and carbon emissions reduction goals. GreenCycle must navigate these regulatory requirements to ensure that its platform not only meets client needs but also facilitates compliance. Understanding the regulatory landscape and its impact on stakeholders' decision-making is key to positioning the platform in the market.

## Research Goals

With its seed funding, GreenCycle has outlined several design thinking research goals to refine its product and market entry strategy. These insights will be critical for building a customer-centric platform and securing further investment:

1. **Identifying customer segments:** GreenCycle's primary research goal is to identify the most viable customer segments, such as small-to-medium cities, metropolitan areas, and large commercial clients (e.g., shopping malls, universities). This involves understanding their specific waste management challenges, operational workflows, and sustainability goals. By pinpointing the unique needs of these segments, GreenCycle can tailor its platform features and marketing strategy.
2. **Mapping the decision-making process:** in the B2B waste management market, purchasing decisions involve multiple stakeholders, including city council members, public works directors, waste collection company executives, and environmental compliance officers. GreenCycle needs to map out this decision-making process to identify key influencers, their pain points, and the criteria they use to evaluate new waste management technologies. This mapping will guide GreenCycle's marketing and sales efforts, ensuring targeted messaging and engagement at each decision stage.
3. **Understanding operational workflows:** GreenCycle seeks to gain a deeper understanding of its customers' operational workflows, including waste collection routes, sorting processes, and recycling activities. This requires conducting observational studies and interviews with waste management professionals to identify inefficiencies, workflow patterns, and user expectations. The insights gained will help GreenCycle design platform features that seamlessly integrate with existing processes, minimize disruption, and enhance overall efficiency.
4. **Testing platform usability:** a critical research goal is to test the usability of the GreenCycle platform. The company will conduct usability testing with a diverse group of stakeholders (e.g., waste collection drivers, city planners) to gather feedback on the user interface, data visualization tools, and dashboard functionalities. These insights will inform product refinements, ensuring that the platform is intuitive and meets the needs of both operational staff and decision-makers.
5. **Evaluating integration needs:** many waste management clients already use legacy systems for tracking, reporting, and compliance. GreenCycle's platform must integrate with these systems to facilitate data flow and enhance operational efficiency. Understanding the current technology landscape and identifying integration requirements will help prioritize platform development, ensuring a smooth adoption process for clients.

6. **Assessing willingness to pay:** pricing is a crucial factor in the waste management market, where budgets are often tight. GreenCycle will use surveys and interviews to explore potential customers' willingness to pay for different features and service tiers, such as real-time monitoring, predictive analytics, and dynamic routing optimization. This research will help GreenCycle establish a competitive and sustainable pricing model that aligns with customers' perceived value.

By addressing these research goals, GreenCycle aims to build a platform that not only solves operational challenges but also aligns with customers' sustainability goals and regulatory requirements. The design thinking approach will ensure that the platform is customer-centric, addressing the specific pain points of different stakeholders while facilitating seamless integration with existing workflows.