Cleaner Food Systems 4 (2026) 100057

Contents lists available at ScienceDirect

Cleaner Food Systems

journal homepage: www.sciencedirect.com/journal/cleaner-food-systems

Qualitative exploration of community composting business models in the United States

Jessica M. Oehman, Callie W. Babbitt *

Golisano Institute for Sustainability, Rochester Institute of Technology, Rochester, NY, USA

ARTICLE INFO

Keywords:
Food waste
Community composting
Residential organics collection
Local resource recovery
Semi-structured interview
Grounded theory

ABSTRACT

Wasted food is a global sustainability challenge with major economic, environmental, and social impacts. In the U.S., most wasted food is generated by households and ultimately landfilled. Consumer uptake of waste diversion strategies, such as residential composting, remains low due to factors such as cost, inconvenience, lack of knowledge, and perceptions that handling food waste is unpleasant. In response, community composting services are emerging and growing across the U.S. as a convenient option for curbside collection, transportation, and composting of household food waste. This study explores the motivations, operations, challenges, and opportunities underlying the community composting business model to better understand the role and contribution such a service can play in the food waste management ecosystem. Qualitative data were collected using semi-structured interviews with owners, founders, and employees of fee-based community composting firms and analyzed using grounded theory. One key finding is that community composting firms all share a similar overarching business model, but specific aspects of their operations are differentiated by local markets, customer inputs, and economic context. These firms are typically founded with strong environmental and societal objectives and provide multiple benefits, including filling a gap in regions lacking food waste alternatives, recovering organic resources for use in local food systems, and educating consumers and raising awareness about composting more broadly. However, community composters often struggle to maintain economic viability, particularly with high costs of labor, fuel, land, and infrastructure, underscoring the need for policy, economic, and consumer education interventions that can enable expansion of this business model.

1. Introduction

Food waste is a complex and growing sustainability challenge. In the U.S., almost 70 million tonnes of food are lost or wasted across the food supply chain annually, with over 40% of this waste originating from the residential sector (ReFED, 2016; U.S. EPA, 2018). Currently, about 80% of household food waste in the U.S. is landfilled, incinerated, or sent to wastewater treatment systems (U.S. EPA, 2023). The resultant sustainability impacts are significant: in the U.S. alone, wasted food management leads to the annual release of 1.5 million tonnes of methane, a potent greenhouse gas (Ringland et al., 2024), and represents the discard of food supply chain resources equivalent to about US $200 billion per year (Gunders, 2017).

In response to this growing challenge, research has sought to understand causes of household food waste generation and evaluate options for its prevention. Past work shows that household food waste is influenced by a complex array of factors, including religious beliefs (Abdelradi, 2018), desire to be a good provider (Barone et al., 2019; Graham-Rowe et al., 2014a), attitudes toward consumerism and material possessions (Diaz-Ruiz et al., 2018), concerns over health risks (Barone et al., 2019), and preferences based on food appearance (de Hooge et al., 2017). Thus, much academic literature has focused on behavioral strategies to prevent wasted food, including meal planning (von Kameke and Fischer, 2018), messaging on cost savings (van der Werf et al., 2021), smart packaging (Butler, 2012), and adjusting plate size (Richardson et al., 2021).

In parallel, an upswing in firms seeking to capitalize on the economic dimensions of the food waste challenge has led to new products and service offerings that would reduce or manage wasted food, such as platforms and applications that facilitate food rescue, redistribution, and sharing (Choi et al., 2019; Food Recovery Network, 2021; Reynolds et al., 2015). Specific to households, new apps are being launched to inventory household food items by expiration date (Cane and Parra, 2020; Farr-Wharton et al., 2014) or create recipes using on-hand

* Corresponding author. 190 Lomb Memorial Drive, Rochester, NY, 14623. USA.
E-mail address: cwbgis@rit.edu (C.W. Babbitt).

https://doi.org/10.1016/j.clfs.2026.100057
Received 5 December 2025; Received in revised form 14 July 2026; Accepted 15 July 2026
Available online 15 July 2026
3050-8355/© 2026 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).

ingredients or leftovers (Schanes et al., 2018). Some business models aim to create value from the sale of "ugly" food, which is not up to consumer aesthetic standards, or to repurpose excess food as a resource (Ciccullo et al., 2022).

However, despite these efforts, some wasted food will still be generated, including excess due to consumer sentiments that waste is necessary to reduce foodborne illnesses and make meals taste fresh (Qi and Roe, 2016) and the inevitable occurrence of spoiled or inedible materials (Jaglo et al., 2021). As a result, there is also a clear need to concurrently develop solutions that can recover residual household food waste and divert it from reaching landfills. To this end, resource recovery of household food waste through composting offers a way to mitigate emissions from disposal (Farhidi et al., 2022), return nutrients to the soil (Ayilara et al., 2020; US EPA.,2018; U.S. EPA, 2026), and support the circular economy (Adhikari et al., 2010; Bekchanov and Mirzabaev, 2018; Farhidi et al., 2022; Tamasiga et al., 2022; Usmani et al., 2021).

Despite potential benefits of composting, less than 5% of household food waste in the U.S. is managed through this pathway (U.S. EPA, 2023). Barriers to broader composting uptake include perceived lack of time (Wu et al., 2019), space (Purcell and Magette, 2011), and knowledge about composting (Taylor and Todd, 1995). Further, many individuals find the act of separating, handling, and collecting food waste for composting to be "gross" (Ames and Cook, 2020) or believe that it will lead to messiness, smell, or pests in the household (Pickering et al., 2020). Thus, it is not surprising that consumers indicate they would be more likely to participate in composting if they had access to residential organic waste services that collected food scraps and handled the composting process for them (Oehman et al., 2022), reducing some of the nuisance factors typically associated with home composting options.

One such approach is the emerging model of 'community composting,' in which municipalities, firms, and community groups offer curbside collection and composting of residential food scraps and other organic waste (Yepsen, 2015). Community composting is a broad term that refers to decentralized systems where organic wastes are collected and processed near the point of their generation, the resulting compost is used in local applications, and community members have involvement in and/or accrue benefits from landfill diversion and composting activities (Clark, 2015; Hoover et al., 2025). The smaller, decentralized, and community-focused nature of such programs can reduce food waste transport costs and impacts (Bruni et al., 2020), increase engagement of community members (De Boni et al., 2022), increase access to compost resources (Baisey et al., 2025), and facilitate the cultivation of ecological ethics of care (Morrow and Davies, 2022).

Community composting options have been growing rapidly in the U.S. and globally (Bong et al., 2017; Bruni et al., 2020; Rice et al., 2025; Xue et al., 2025). In 2023, Biocycle identified 400 municipalities offering residential organic waste collection in the U.S., over half of which provide curbside collection, a 47% increase from just two years prior (Goldstein et al., 2023). Not included in this estimate are those communities served by independent organizations contracting directly with households for food waste collection, often in regions where such municipal programs are not available (Pollans et al., 2017; Yepsen, 2015). Academic research has only recently begun to study community composting services as a mechanism to encourage consumer participation in composting and minimize food waste landfilling. Most of this research has focused on collection and recycling services offered by municipalities (Parizeau et al., 2015; Pinkerton, 2021; Pollans et al., 2017) or independent programs that are supported with external funding, typically from government entities (Morrow and Davies, 2022; Xue et al., 2025), or that are organized via collaborative resource sharing initiatives (Herrero and Moragues-Faus, 2025; Turner et al., 2025).

In contrast, this study is focused specifically on fee-based community composting firms. By focusing on firms, this research aims to make three contributions to knowledge: First, firms, sustainable entrepreneurs, and innovative business models are critical components of the circular economy (Bocken et al., 2014; Planing, 2015; Velenturf and Jopson, 2019; Vermunt et al., 2019). Existing research has investigated external influencing factors, internal motivations, and barriers and opportunities to resource recovery models (Vermunt et al., 2019) in construction (Shooshtarian et al., 2022), textiles and clothing (Todeschini et al., 2017) and electronics industries (Kissling et al., 2013), but these factors have not yet been established for community composting firms to our knowledge. As a result, less is known about the motivations for launching the service, factors that influence their service models, or barriers or enablers to their operations. Sustainable business models value social and environmental outcomes (Bocken et al., 2014; Boons and Lüdeke-Freund, 2013), and sustainable entrepreneurs may prioritize these over economic outcomes (Bocken et al., 2014; Millette, 2019) but it is unknown what the goals of community composting firms are and how these influence their operation.

The second contribution focuses on the intersection between this business model and consumer perceptions and behaviors. Community composting firms require consumers to pay a fee above and beyond routine solid waste collection costs and then to source-separate food waste to be collected, both of which are unusual in the U.S. It is unclear the extent to which consumers will accept this added time and cost. Consumers express positive sentiment towards food waste diversion, but lack knowledge about separating food waste (Ghani et al., 2013; Li et al., 2021; Pickering et al., 2020) and composting (Edgerton et al., 2009) or view these activities to be difficult and unpleasant (Oehman et al., 2022). The community composting model may make it easier for individuals to participate by expanding infrastructure (Babbitt et al., 2021; Oehman et al., 2022) and aligning with consumer habits (Bernstad, 2014; Ghani et al., 2013). However, it is likely that such initiatives would have to provide significant education to engage and attract consumers and to ensure that households generate a "clean" stream of food waste (Hoornweg and Bhada-Tata, 2012) that is free from contaminants that might hinder composting.

The final contribution to knowledge stems from the fact that community composting primarily operates with a unique, "hyperlocal" infrastructure model, meaning that its services are typically limited to a small, specific geographic area. For example, a recent census of U.S. community composting firms found that the majority serve fewer than 1000 households; almost half serve 100 households or less (Spector et al., 2026). At such a small scale, these firms may face a much higher degree of the operating challenges that have been documented for larger, centralized industrial or municipal compost facilities, which include difficulty navigating regulations, working within municipal solid waste management infrastructure (Pai et al., 2019), a lack of available land and space for composting (Platt, 2015), capacity, growth, and equipment use limits (Armington et al., 2020; Arribas et al., 2010) and high up-front investments and operating costs to collect and segregate material (Vermunt et al., 2019). The creation and growth of firms operating in this sector in the last ten years (Pinkerton, 2021) clearly shows that there is a perceived niche that may be profitable to fill, but it is unclear what long term infrastructure needs would enable such organizations to play a role in circular economy solutions for wasted food.

To address these knowledge gaps, this paper applies qualitative data collection and analysis to analyze community composting business models through the lens of perspectives and experiences of these firms' founders and operators (Salvioni and Almici, 2020). The research assesses four main aspects of the community composting business model: 1) the initial motivations for launching the firms, 2) the design and implementation of their service models, 3) how these firms attract and engage with consumers, and 4) their perspectives on evolution, growth, and future potential in the food waste recovery sector. A better understanding of these factors can be used to evaluate sustainability outcomes of this business model and identify ways to facilitate further growth and participation in food waste solutions available to residential consumers.

2. Methods

Exploratory qualitative research methods were used to understand the business models, operations, motivations, challenges, and enablers facing community composting firms in the U.S. Qualitative research explores the what, how, or why (Creswell, 2013) by capturing the perceptions of knowledgeable stakeholders. Semi-structured interviews are well-suited to collect this information because they create a comfortable, confidential environment for participants and are an effective method to collect qualitative, open-ended data and explore participant thoughts, feelings, and beliefs about a particular topic (Harvey, 2011). Data collected from these interviews were transcribed, coded, and analyzed using a constructivist grounded theory approach, as described in the following sections.

2.1. Participant selection and recruitment

The geographic area of focus for this study is the United States. The scope of this study is limited to for-profit, non-profit, and employee owned (co-op) firms that contract directly with customers for fee-based curbside food waste collection and composting. This scope did not include municipalities that offer free residential food waste pickup or large, "traditional" waste management companies who might also offer residential organics collection along with trash hauling. To create a sample pool of potential interviewees, a list of community composting organizations was generated from the databases published on public websites of two organizations: Compost Now (CompostNow, 2021) and the Institute for Local Self Reliance (ILSR, 2022). These two websites yielded a total list of 154 unique organizations, which served as the preliminary sample pool from which participants were recruited.

For each organization listed on these websites, their webpage was reviewed to collect the following descriptive information if available: (1) active/inactive status, (2) email address to contact (or if the website only had a contact form to fill out), (3) if residential curbside pickup was offered, (4) the year the firm was formed, (5) the state(s) in which the firm operated, (6) the estimated scale of operation (number of households served, single or multi-state sites), and (7) if food waste was collected and transported using bicycle vs. vehicle. This set of information was used to loosely classify firms by region, age, size, and scale. Based on this review, five entities were removed from the list because they only offered commercial, rather than residential, food waste services.

From this list, a theoretical sampling approach was used to identify firms to invite for interviews that would represent the variety of business models and operational modalities observed when developing the sample pool, as described above, to ensure that recruited firms included those: (1) offering curbside pickup of household food waste, (2) operating in different regions in the United States, (3) having been in operation for different lengths of time, (4) operating at different size and scale (in terms of coverage area and households served), and (5) collecting food waste with vehicles or only on bicycles, a feature unique to this service as compared to traditional waste management. Over the course of recruitment and data collection, it became clear that the location where firms operated had an influence on the challenges they faced, so additional organizations were added to this list if they were from states or regions not yet represented in the sample (US Census Bureau, 2023), provided they met the other criteria noted above.

Individuals representing each selected firm were contacted via email or through contact forms on their websites. If no response was received, one follow-up email was sent, but no further recruitment attempts were made after two email requests. A total of 66 firms were contacted and 24 participants were interviewed, representing a 36% response rate of those contacted and about 15% of the original sample pool. This sample size was consistent with other related qualitative research studies (Ciccullo et al., 2021; Graham-Rowe et al., 2014b; Hull et al., 2021; Shooshtarian et al., 2022). A summary of the respondents and some of their key operational characteristics is provided in Table 1.

2.2. Interview protocol and procedure

A semi-structured interview protocol was developed to collect information about the firm from the perspective of a knowledgeable stakeholder (Castillo-Montoya, 2016). In this type of protocol, interview questions serve as a guide to elicit discussion of specific topics but are open-ended to allow for related topics to naturally arise over the course of the interview. The interview began with a brief overview of the research purpose and an opportunity for the participant to describe their role with the composting firm. The remainder of the interview was structured around four main topics: 1) how the firm started and the challenges and motivations at inception; 2) how the firm currently operates and the ways in which challenges and operations have changed over time; 3) how the firm interacts with and responds to their consumers, particularly around issues like setting prices, the service model, and educating consumers; and 4) their broader views on the firm's future and the role of community composters in food waste solutions.

Prior to beginning the research, the interview protocol, sampling methods, recruitment materials, informed consent, and data protection methods were reviewed and approved by the RIT Institutional Review Board (approved under project title "Investigating Decision-Making for Organic Resource Economies"). Before scheduling the interview, participants were sent information about the interview process, the minimal risks to participate, the requirements for participation (over 18 years of age), and the planned mechanisms to protect their privacy and anonymity, and then were asked to provide informed consent. The full interview protocol and informed consent process are provided in the Supplemental Information (SI) file.

Interviews ranged between 30 and 75 min in length and were performed via Zoom or telephone, depending on the participant's preference. For interviews performed over Zoom, a university-approved institutional license was used to comply with privacy standards. Auto transcripts were downloaded for local storage with restricted access. For telephone interviews, the Rev Recorder™ app was used to record the interviews, which, for consistency, were then played through Zoom to generate a transcript. In all cases, transcripts were manually reviewed against the audio recording and edited to ensure accuracy. Each transcript was labeled with a participant code and edited to remove identifying information to maintain anonymity of the interviewee.

In accordance with theoretical sampling, data collection was paused after six completed interviews for an initial analysis to ensure the semi-

Table 1
Characteristics of the interview respondents and the firms they represent. Values reflect the total number of interviewed subjects within each category (n = 24 total respondents).

Respondent and firm attributes	Number of respondents
U.S. region of operation	
South	7
West	3
Midwest	4
Northeast	10
Food waste hauling method	
Bicycle	3
Truck	21
Respondent role in firm	
Founder	16
Employee	8
Duration of time in operation	
0 to 4 years	7
5 to 9 years	13
10+ years	4
Number of households served	
1 to 499	13
500 to 999	5
1000+	6

structured protocol was sufficient for capturing desired information, and evaluate the participant sample and emerging codes, categories, and themes. After this initial assessment, a question was added to the interview protocol to directly probe how the firms adapt to consumer feedback. A total of 24 interviews were conducted, at which point recruitment was stopped, as it was determined that theoretical saturation was achieved, i.e., the interviews and coding were no longer producing new themes and insights (Given, 2012).

2.3. Data analysis

A constructivist grounded theory procedure was used as an emergent bottom-up data analysis process in which the final overarching themes that describe the data are constructed from the data itself, not from a preconceived hypothesis (Glaser and Strauss, 1967). This multi-step process is used to categorize and compile the data multiple times to form larger themes and relationships from which conclusions are drawn about the community composting business model and operations. In this way the researcher is actively involved in constructing meaning from the underlying data (Charmaz, 2006). All data analyses were performed using NVivo™ software (QSR International Pty Ltd, 2020).

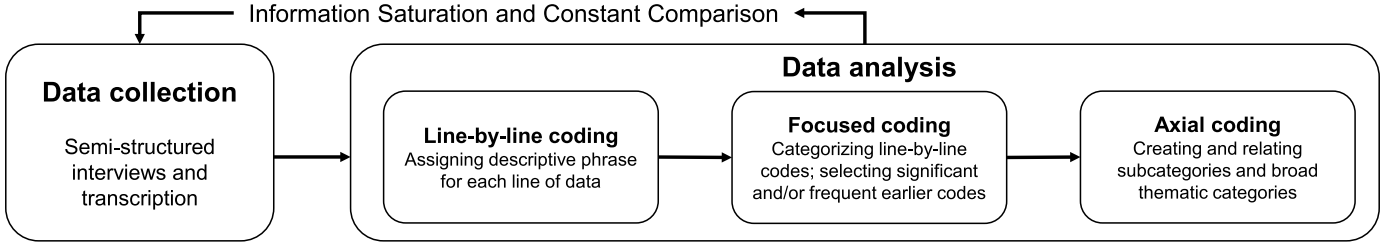
Coding is the data analysis activity defined as "organizing participant responses under common conceptual themes" (Hull et al., 2021). The process began with initial line-by-line coding, assigning a descriptive phrase to each line of the transcript. Next, this large amount of information was reduced through focused coding, whereby "the most significant and/or frequent earlier codes" were selected and categorized into subcategories that make the most analytic sense (Charmaz, 2006). During this stage, we applied the constant comparison method to compare codes from different transcripts to each other and adapt them as needed. In this way, codes must earn their way into the overarching themes. In the third step, theoretical coding, the categories and subcategories were related to each other to form the final overarching themes that describe the data collectively. An example of these steps is provided in Fig. 1, which shows how larger themes emerge from a portion of a transcript through the application of the grounded theory analysis.

3. Results and discussion

Results presented here summarize key themes determined from coding a total of 24 interviews conducted with representatives of fee-based community composting firms operating throughout the U.S. A detailed list of anonymized participants is provided in Appendix 1 and includes key features of the organizations they represent as well as a participant ID that is used in the results section to attribute quotes to specific respondents. These respondents included firm founders and employees who had major responsibilities, such as overseeing daily company-wide operations, managing customer service, and scheduling compost collection. The respondents represented firms operating in all major regions of the U.S with varied operational models, including size and scale of their operation, time in operation, and ways of collecting, transporting, and processing household food waste. While grounded theory does not aim to yield a statistically representative or generalizable sample, the respondents did, to the extent discernible, mirror the broader characteristics observed in the original sample list.

3.1. Objectives and motivations for firm creation

The first key finding is that community composting firms are being launched with a wide array of motivations, by entrepreneurs with varying backgrounds and distinct views on how their firm contributes to food waste solutions and the circular economy. Because most of these firms had a very small staff size, the founder's values and norms held a disproportionately high degree of influence over the firm's mission, objectives, and operation. In most cases, founders described identity-driven motivations linked with environmental stewardship, social betterment, and an ethics of care, consistent with past work on circular business models and local resource sharing initiatives (Borrero and Yousafzai, 2025; Herrero and Moragues-Faus, 2025; Pla-Julián and Guevara, 2019). Specific objectives were described relative to avoiding waste ("I hate to throw stuff away," P14; "there is such a need for organics recycling," P5), supporting local agriculture ("I wanted to help people grow flowers and food," P13; "so we can enhance our soil for growing food and to improve our gardens and urban trees and parks", P11); and providing broader community benefits ("an opportunity to



Sample interview transcription	Sample line-by-line coding	Sample focused coding	Sample axial coding
"I would love if [my company] got bought out. I would be the happiest person in the world. If [my company] got bought out and I got a bunch of money, it'd be great; and I could go spend time with my [family]. I don't want to do this forever. That would be great. But in the meantime, who's going to do it? [Larger companies] can't do it all. They're not interested in coming to [our area of operation], so right now, [my company] is going to do that. So, if I wasn't here, no one would be here. And you'd have several hundred pounds of food scraps going in the waste stream every week for no reason.	Future outcome Positive sentiment for future outcome Financial motivation for future outcome Personal benefit motivation for future outcome Gap in current waste management sector Filling in the gap Large corps not interested Gap exists for residential food waste collection Preventing food waste from landfill	Willingness to be bought out Filling gap in current waste sector Preventing food waste from landfill	Subcategory: Motivations for operating → Category: Mission

Fig. 1. An overview of the grounded theory approach using theoretical sampling in conjunction with constant comparison to analyze the interview transcript data. Data collection proceeded until information saturation was achieved.

create green jobs for young people in the neighborhood," P16).

Many firms described their primary role as filling a gap in the current waste management system. In some cases, founders had previously lived in an area where curbside residential food waste collection was available and then moved to an area where it did not exist, prompting them to recreate the service offering they previously used. One founder of a well-established firm in a major northeastern city noted that traditional waste management companies "are not interested in coming to [city of operation] … so if I wasn't here … you'd have several hundred pounds of food scraps going in the waste stream every week for no reason" (P20). Many noted that they are meeting customer needs for waste management options that aren't otherwise available in their area, but are doing so in a way that engages residents as part of the food waste solution. One interviewee explained that "The people that want composting, and know about composting, or even learn about composting, and understand the importance of it have been so appreciative, so thankful, and so supportive of what we're trying to do here" (P24). This kind of interaction appeared to go beyond the simple provision of waste hauling, and suggested that even as a commodified service, this business model can help facilitate opportunities for individuals to participate in care for the community and local environment, echoing the assessment of community composting programs in New York City as platform for creating an ethics of care toward organic waste (Morrow and Davies, 2022).

Even though composting services are operationally focused on hauling and composting food waste, many respondents describe their main mission to be educating their community about composting. Several respondents explained that consumers in their area "just don't know what composting is" (P24) or "how capable they are at contributing to it" (P5). A key theme that emerged was that community composters often see their core role as being educational, or "at the forefront of education and behavior change" according to one firm who began operating more recently (P17). As a result, these firms often invest a significant amount of energy and resources into educating and engaging their community in the process and science of composting. One firm in a smaller southern market shared that "schools will ask us to come and do a unit on the composting process …. we also get a lot of interest from people wanting to come to our actual facilities and see the operation in person and see how [the] processing works" (P5). Carrying out this educational effort often creates a challenge to economic viability (discussed further in section 3.2, below) but is prioritized as a core firm value and motivation.

The other major motivation noted across firms interviewed was a goal to make broader contributions to their community through local organic resource recovery and redistribution via the compost they produce. One founder described their organization's mission as being to "create a closed loop … regenerative economy of waste management for organics" (P16) while another founder said that they believe "hyperlocal [business] models are the most sustainable models … because we're keeping resources local" (P6). Over 80% of the firms interviewed participate in some form of local compost "giveback," typically by providing a set amount of finished compost for free each year to their clients. Firms also sell compost locally for a small fee to offset costs or otherwise use the compost in local agricultural applications. The benefits to and positive responses from clients appear to feed back into the firm's motivation: "Probably the biggest reason to keep going, is the feedback has been so positive," (P20); clients are "extremely thrilled with the finished product," (P21). One founder of a smaller firm described the following encounter with a client, "My last stop, the guy shook my hand. He said, 'I've been composting with you for three years and it's a lifesaving event for me. I couldn't believe we were wasting all this stuff and now it has a purpose and I garden with the soil and get the food back in fruits and vegetables grown from the same stuff'" (P13).

While interview respondents all touched on issues related to economics and profitability, almost all described the underlying motivations for starting their firm not as traditional profit maximization, but rather in terms of broader social innovation and sustainability objectives related to "making a difference" for their community and local environment. These findings are consistent with the growing body of literature on circular economy business models, which suggests that firms and entrepreneurs in this domain often prioritize benefits to the environment and wider community on par with traditional monetary goals or as a complementary, "win-win" mechanism for value creation (Ariztia and Araneda, 2022; Borrero and Yousafzai, 2025; Cullen and De Angelis, 2021). However, community composting, by nature of its local focus, typically has a relatively small scale of operation. While a few firms interviewed collect food waste from thousands of households, including some with many local hubs of operation spread across multiple states, over half the firms in the interview sample served fewer than 500 households (Table 1). Past work on "grassroots" circular entrepreneurs suggests that because motivations are not solely tied to economic profit and growth, founders may not be as focused on scaling-up their operations (Henry et al., 2023).

3.2. Community composting firm operational models

The study's second major finding is that all community composting firms interviewed share a common operational model, but the specific ways in which this model is implemented vary widely based on local context. Respondents universally described a core model consisting of four main components: (1) education of and engagement with potential customers to encourage subscription to the service, (2) providing the customer with a clean and convenient way to collect and store food waste, (3) collecting food waste on a routine schedule within a service region and transporting it to a local composting site, and (4) processing the compost into finished product that can be returned to customers and used in the community (Fig. 2). While this broad structure was consistent across all respondents, the interview data also showed key points of variability in how this model is implemented in response to specific challenges and opportunities faced by each firm.

The most common ways in which the operationalization of the business model were found to vary are also shown in Fig. 2, mapped across each major service component. The firms first sign-up consumers to a recurring subscription, but this may be for weekly, bi-weekly, monthly, or even as-needed food waste collection. Firms might provide the consumer with a food waste collection container or compostable bags to store food waste prior to collection or they may require that the consumer provide their own collection container. When the food waste is collected from the residence, the firm might collect the bag, empty the collection container and leave it for the consumer to clean, or swap the filled container for a clean, empty one. Most organizations haul the collected material via light-duty or small commercial truck, but a small percentage use bicycles, typically in dense urban areas. Finally, some firms also operate the composting system that processes the collected food waste, while others partner with nearby firms who handle the organics processing. In many cases, the compost produced from collected food waste is offered back to participating consumers, often for free or at a discounted cost.

These points of variability in turn create distinct challenges and opportunities for composting firms as they seek to maintain economic viability and expand operations (Fig. 3). Each operational stage within the community composting business model was described by respondents as involving significant resources, whether in the form of direct financial expenditure or in the outlay of time, expertise, labor, and effort. Many of these costs represent points of tension between the firm's objectives and motivation for operating a compost service, the consumer's preferences and willingness to pay and participate, and the operational challenges inherent to collecting, hauling, and processing food waste. The following section explores these tensions as they occur across the four operational stages that correspond to the core business model, as shown in Fig. 3.

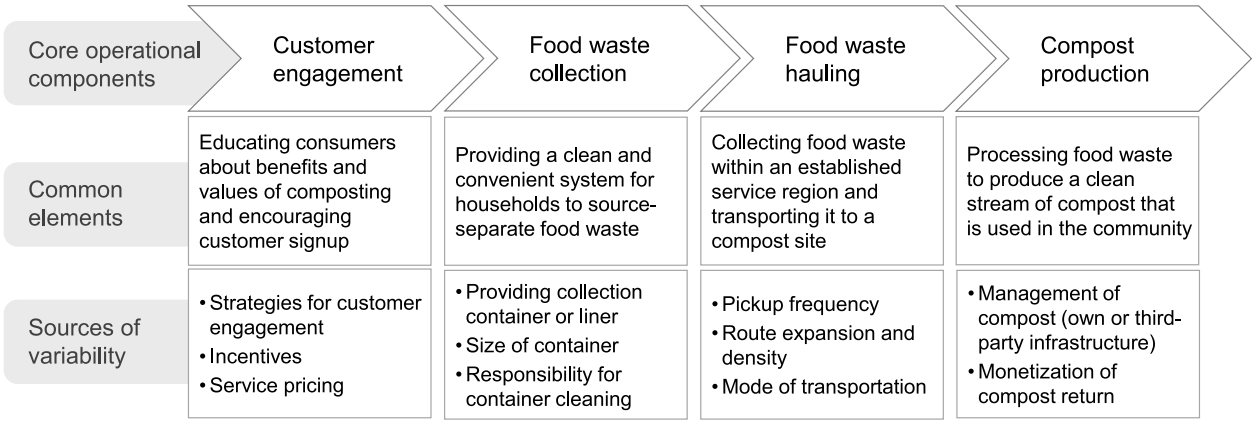


Fig. 2. Overview of the core community composting operational model and key points of commonality and variability in how firms implement this model based on local context.

3.2.1. Consumer engagement

One of the main challenges noted in operating a community composting service is consumer engagement, which respondents define to include community outreach to gain customers and educate consumers about composting food waste and its benefits. Respondents explained that individuals often don't know what composting is, what benefits it provides, that it is available in their area, or that they can contribute to it. Respondents emphasized that "people here just don't know what composting is" (P24). A larger, well-established firm emphasized that "there's been no public education campaign … no municipal push to have composting become normalized" (P1). In many municipalities, consumers pay a flat rate for residential waste disposal, meaning that subscribing to a composting service is an added cost with no direct savings for households. This need for consumer education reflects a point of tension between firm objectives and operational realities (Fig. 3).

As described above, a common reason for starting community composting services was to fill a gap in local waste management offerings. However, these situations also meant that consumers had no knowledge of or experience with food waste collection and needed more information about how or why they might participate. Therefore, the responsibility fell to the composting firm to provide education about the service offerings and a convincing message to gain customers. Firms invest significant effort in educating consumers about how composting works and why they may want to participate: "We do a lot of legwork when it comes to compost education, meaning, not only the science of composting and how it works, but why compost, why does that matter" (P16).

Yet despite the time involved with engagement efforts, firms also recognized the broader connection between education and their environmental and societal goals. A newly established firm in an urban southern region shared a sense of progress on this front: "through the community composting process, people learn a little bit, and then they also see it happen. I think that is key to changing the way that people want their food to be not only taken away but grown and given to them, but also how their state or their community or all of the above handle more environmental issues" (P17). Related literature suggests that education at the implementation stage can lead to positive organics separation behavior and sustainable waste management strategies (Ezebilo and Animasaun, 2011; Ladele et al., 2021) and to positive "spillover" effects by way of other sustainable behaviors (Ek and Miliute-Plepiene, 2018; Xu et al., 2018).

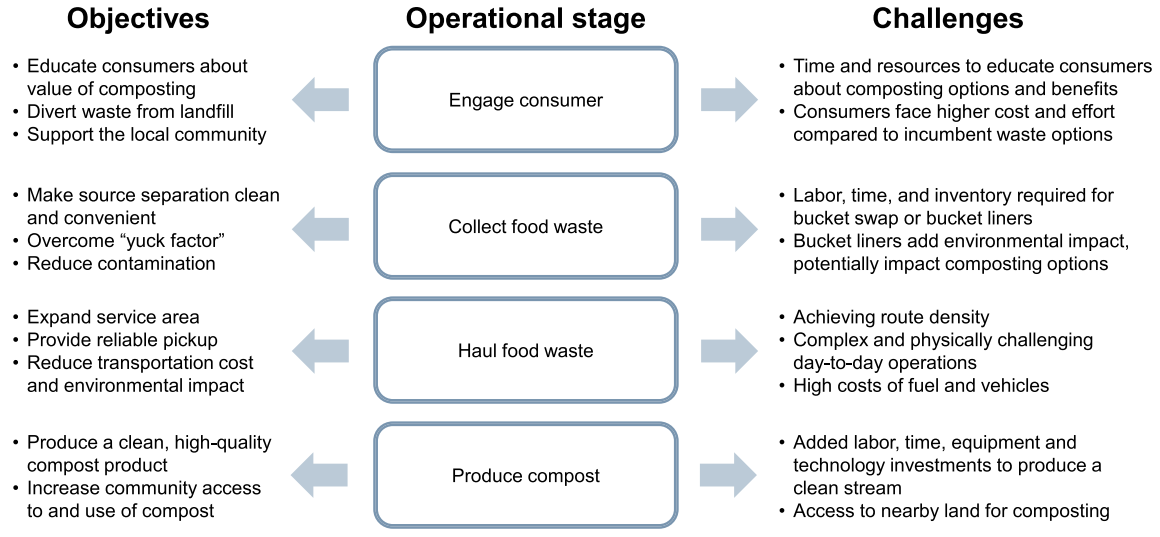


Fig. 3. Interactions between the firm's objectives and the costs and challenges presented at each major operational stage of community composting.

3.2.2. Food waste collection

Because consumers report significant practical barriers to composting, like time, space, and a "yuck factor" when handling food waste (Ames and Cook, 2020; Oehman et al., 2022), most firms market their offerings as providing an easy, clean, and convenient way to manage food waste, but these activities may increase time, labor, and cost (Fig. 3). For example, firms often provide the customer with a clean bin or bucket to store separated food waste and then swap the filled container for a clean one each time they collect the food waste. An employee of one of the largest firms interviewed noted that "in order to be a successful business, people need to not think of compost as gross and dirty and so it was highly valuable for us to be able to do a full [bucket] swap" (P1). Out of the 24 interviews, 18 subjects reported that their organization provides some form of a cleanliness feature in their service model, through a bucket swap and/or by providing a removable liner that is collected with the food waste, leaving a clean bucket behind. Firms view this service as a way to lower the barrier to entry and convince people to try composting.

A small set of participants noted that their organization does not provide any such service to their customers, largely due to costs associated with labor and time required for cleaning ("It's up to the customer to clean it … I know there's the bucket swaps … it's hard … you don't make any money that way," P13) or the added expense of building up sufficient inventory of buckets or compostable bin liners ("it just would have been way too expensive to have two for every customer," P6). The founder of one of the smallest firms interviewed emphasized that "the swap is much more labor intensive" (P14), explaining their decision not to use this feature, with the founder of a larger firm who does offer bucket swaps noting "we have a whole staff dedicated to washing buckets" (P4). While firms find it cheaper to offer the customer a removable, compostable bag that can be co-processed with food waste, such bags may not be accepted by downstream composters, especially those producing certified organic compost. The seemingly small issue of a compost bucket represents a major tension for these firms in trying to align infrastructure and intervention with consumer needs (Bernstad, 2014; Geislar, 2017) but still maintaining long-term financial viability. Most firms designed their approach using customer feedback, but it was unclear what cleanliness features constitute a minimum acceptable service model from the consumer perspective.

3.2.3. Food waste hauling

A significant draw for consumers is that the community composting model typically provides food waste pickup directly from the residence. But driving collection routes and hauling food waste to composting facilities represents a major operational cost for these firms, even over a relatively small and geographically constrained service region (Fig. 3). Twenty interviewees reported that vehicle fuel is the main operational expense: "the biggest expense, by far, is travel, even before the price of gas got out of hand, it was travel and now it's that much more" (P14). The cost of pickup is exacerbated by the weight of food waste material being moved (Hall et al., 2022). Several respondents noted they have to limit customer expansion within a smaller than desired area to keep transport costs manageable. Route density (how close customers are located geographically to each other) was another major challenge for food waste hauling, as it has direct financial, consumer, and operational implications. The founder of a small firm in an urban area explained that "route density is the most important thing to any hauler or any delivery person; you want route density. Amazon, I think there's like 160 packages a day. I think our most dense route is 70 stops. So, the denser the route, the more profitable each stop is, [the] more profitable each stop is, the more I can pay my employees, [the] more capital I can have … so I would say route density is the thing I'm always looking at" (P2).

However, limiting customer expansion to increase route density came at the expense of stated goals to expand and increase awareness of and participation in composting. The founder of a newly started firm explained "I needed … to build density while also not leaving people on a three-year waitlist before I could actually come to them. So, it's been a balancing act throughout the life of the business … defining our service area, expanding it as aggressively as we can, without getting into a place where we're regretting it because we have people who are too spread out" (P10). Unlike conventional waste management services, community composters are often operating in markets where their service is not standard or required. Therefore, they must balance increased consumer participation with route efficiency (Armington and Chen, 2018) to maximize income while minimizing distance traveled and associated costs and vehicle emissions from transportation.

The other major hauling challenge identified was the physically difficult nature of the work involved. Food waste is wet and heavy, and operators find the job of handling and moving it to be difficult and messy. Day-to-day operations rely on significant manual labor for collection, hauling, and processing. A small number of composting firms haul food waste by bicycles to reduce their carbon footprint (Clark, 2015), but an employee said of this experience, "I can't believe people get up and do this like days in a row, because it can be really intense. So, I think that's something that we're navigating now is how can we make sure that we are sustaining ourselves … sustaining our physical health" (P16). Interviews also emphasized that the nature of the work leads to difficulty staffing the operation and employee turnover: "Staffing is the biggest challenge. The work is hard, it's tiring, and right now … there's three drivers plus one office-driver combo and they're all part-time; none of them want to be full time because it's too tiring. So that makes hiring hard, because people are usually looking for full time work" (P10). Another founder shared that "we do get turnover, aside from the few, the 1% that decides that yeah, they're passionate about what they're doing," (P5).

3.2.4. Food waste composting

At the final stage of converting food waste into compost, firms reported costs required to process collected materials into high-quality compost for local uses, as well as additional expenses associated with time and labor to ensure a clean feedstock stream, free of contaminants (Fig. 3). Contamination, which includes any material put into the collection container that is not accepted by the composting facility, was viewed to be manageable, although strategies used to prevent or remove contaminants added time and labor costs: "It's not a problem, but it takes a lot of work" (P8). For example, several firms inspect food waste at collection: "So if I find something I say something, 'hey this is unacceptable.' It's easy to find it because I've got eyes on every bucket I put on my truck" (P13). Others manually separate material prior to processing: "I try to [remove contamination at pickup] if I see it, but you don't see everything and so when we're screening at the end, is where we get it out" (P14).

Firms also invested further in customer reminders and education about acceptable materials, including one that noted using an app to send photos or feedback to clients when contamination was observed in a collection bucket. While there is a tension between attracting customers and adding more complexity to food waste separation, some respondents noted that consumers participating in this service are typically compliant with guidelines. A founder of a long-running firm said that "people who pay for this, they do not want to mess up. They're not forced to do it … They usually ask before they put in because they care about it. That model works very well" (P13). Some entities who operate under both fee-based and municipal systems noted that the converse is true when composting is offered to consumers for free.

"There's a balance there with free service, because the town is paying for it. So, then participation still occurs but the varying attention to it can change, so you end up with dirtier material" (P12).

While firms noted a goal to make "the best possible soil free of contaminants" (P8), the interviews did not explore whether additional testing or regulation of compost products was occurring, although this is a growing area of interest in the industry. One respondent shared that their facility was monitored by state agencies to verify low levels of contamination. Recent research has established that plastic contaminants are routinely observed in food waste collected for compost (Park et al., 2026) and persist in compost products (Groβ et al., 2024) or break down into microplastics (Accinelli et al., 2020; Zhang et al., 2025). The downstream use of compost could therefore be a source for microplastic releases to ecosystems (Porterfield et al., 2023; Vithanage et al., 2021). Industry reports show that composting firms are beginning to levy surcharges or fines on heavily contaminated food waste (BioCycle, 2025; Coker, 2017) to encourage separation by the generator and help offset costs of managing contamination. In parallel, some regions have begun to set quality standards and contamination limits for the use of compost and other organic amendments (Cesaro et al., 2015; Friege and Eger, 2021; Yesiller et al., 2011). These issues are likely to magnify the challenge firms experience in trying to keep operating costs low while still meeting their objectives of recovering organic resources and returning high quality compost to the community.

3.3. Service pricing and economic viability

Given the costs and consumer engagement challenges noted above, one of the most difficult decisions made by composting firms was setting a price for their service that would ensure economic viability while staying true to core community and environmental values. Of those firms interviewed who had available information about service rates, the customer price for weekly curbside pickup ranged from approximately US $20-50 per month (Fig. 4). One founder explained "most people [are] getting into it of course, to help the environment, maybe to make a little money, but it is not profitable" (P8). While only one firm explicitly said they were not yet breaking even, most respondents shared concerns about pricing and profitability. The main issue in this regard was setting a price that consumers were willing to pay but that still covered costs. The founder of a newly-launched business noted "our pricing, I think, is actually reasonable to maybe a bit too low because the margin is quite tight" (P10). External factors such as inflation, economic downturn, and rising fuel prices play a key role in operational costs and can shift over time, leading to variable economic outcomes. The founder of a smaller firm explained that "fuel prices have really made a dip in our profit, and so we did raise everybody's [prices] a little bit … but it's hard to raise very much at one time" (P18) and another agreed: "we had to raise our price in February. You know I'm not expecting to make a huge amount of money on this, but I can't lose money doing it" (P14).

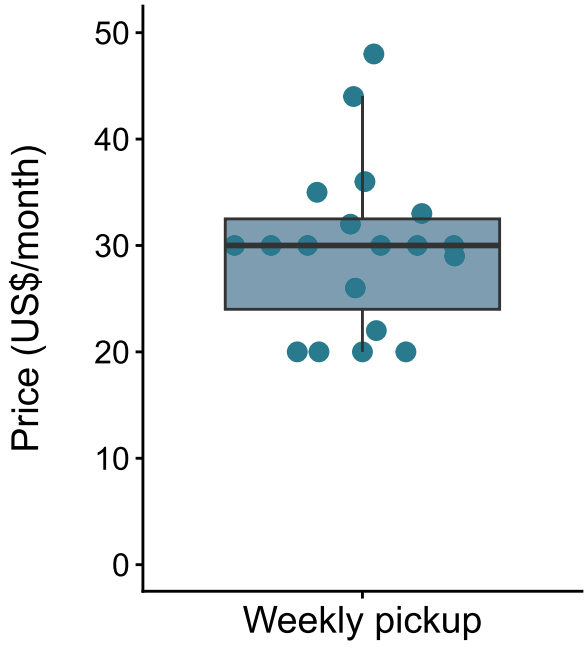


Fig. 4. Range of compost collection prices (US$ per month) among interviewed subjects who offered a set rate for weekly pickup (n = 19). Subjects not included here (n = 5) either offer variable rates based on location or different frequencies of curbside pickup.

However, raising service prices to cover operational costs also creates the risk that consumers will be unwilling to pay for these services, a sentiment underscored by over half of respondents. "The big issue that we're seeing the push back is in the cost, [the amount we charge per month] for an average family, it can be a little bit pricey, you know. Unfortunately, that's the cost that we have to go with" (P22). Some potential clients aren't willing to pay anything for food waste collection: "There are also people who have laughed at me when I told them that they have to pay for us to take their food scraps away. And there have been people who have done it in a rude way. They're like, why do you have to do that? I already paid for trash" (P1). Some consumers feel that because the services generate compost, their costs should be reduced. One employee shared that "[people] know that we're making a product so they're like shouldn't you pay me for taking this? And so that's the misconception" (P5). Another founder elaborated: "when people think that you're collecting food waste, immediately they're thinking that you're creating this product, that you've got to be reselling back, so they almost have this feeling that, well aren't you making profit on this?" (P7).

As a result, firms turned to alternate revenue streams to enhance viability or buffer against fluctuations in residential participation. All but one of the respondents reported taking on contracts to collect and compost food waste from commercial clients, including restaurants, schools, or businesses. Respondents cited financial benefits to having a broader client base: "we have the higher profitability and also consistency and commitment from commercial customers" (P19). Many firms also created other revenue sources like selling the finished compost, selling zero-waste lifestyle products, or contracting to manage zero-waste and food waste diversion efforts for events (e.g., concerts, festivals, sporting events). While the general sentiment from interviewees was that it was difficult to achieve economic viability, the majority find success and continue operating; more than half the firms interviewed had been in operation for five or more years (Table 1). However, some firms in this sector have closed, for reasons that include the desire to pursue other ventures as well as financial costs and time commitments (Smith, 2021).

3.4. External barriers and enablers

Many of the challenges discussed above are unsurprising for firms operating at a small, local scale, due to high proportional costs of operation relative to the amount of material processed. While scaling up to the size and reach of conventional waste management companies seems like a promising solution, the majority of firms reported significant external barriers that limit future expansion potential for the community composting sector. To take on more consumers, these firms require supportive policy and adequate space and technological processing capacity to increase materials collected. The founder of the largest firm represented in our sample said "If we're going to keep growing like this, capacity in the state is a challenge to manage food waste. There's just not that many places to bring food waste" (P23). Almost half of all interviewees mentioned regulatory and permitting barriers and/or infrastructure limitations as factors impacting household food waste processing capacity, as discussed further below.

One major theme arising from interviews was that firms face policy barriers that stem from the mismatch between the unique nature of the service offering and rigid local regulatory frameworks. For example, firms had to obtain additional permits beyond what is required for waste hauling due to the high moisture content of food waste materials. Others experienced confusion or pushback from municipal decision makers because organic waste management "doesn't exist in their coding" (P9). In many cases these issues led to significant delays in permitting and start-up, with one founder who launched their business over 10 years ago explaining "I had to do the permitting in place with the [state regulating body], it took a year and half. Yeah 70 pages of permit, several of us working on it, a lawyer pro bono. I understand [their] reasons. There are no other … permits [nearby] so it's rare; everyone learning along the way" (P13). A founder of a more recently-launched firm shared a similar story of time and effort required for regulators to understand their new business model: "So [the city regulators] came back and they wanted to review everything, and now they want to create an ordinance. How long is that ordinance going to take? Nine months. Yes, so I am trying to put together a 50-page document where I'm explaining how different we are [from conventional waste management]" (P8).

This "mismatch" between policy and decentralized system operation has been documented previously for other small-scale food system actors, including urban gardens operated as CSAs (Patel and MacRae, 2012), organic waste facilities (Ai and Zheng, 2019; Angouria-Tsorochidou et al., 2021), and urban hydroponic food production (Kaminski and Babbitt, 2024). In these cases, like that of the community composting firms, local decision makers did not understand the technology or process being used, land use planning or permitting regulations pre-date and cannot adapt to the decentralized system model, and competing uses of land and space limit available sites for operation. These barriers mirror those documented in a recent review of challenges facing European food sharing initiatives, which included community composting among other activities (Herrero and Moragues-Faus, 2025). One emerging strategy to address this policy barrier in the U.S. is the development of resources and templates of model municipal zoning ordinance that cities can easily use when permitting and approving community composting operations (Hoover et al., 2025).

A parallel theme emerging from the interviews was that even if firms gained approval to grow and expand, there was often insufficient land and infrastructure. Because these firms operate at a smaller, decentralized scale, they prioritize operating sites close to residential areas to avoid transportation costs and environmental impacts. However, composting requires a significant land area, and respondents noted that such sites often have higher land and utility costs or are simply not available, a common challenge for decentralized food waste management (Bruni et al., 2020; Pai et al., 2019). Some respondents framed these issues as barriers to growth, e.g., "I do not do marketing… I have very limited land capacity, so I know that if I promote this on a major basis I run into trouble. So, I can only grow so far" (P11). Others also noted the tension between competing goals to divert food from landfills while also meeting community needs. An employee from a firm operating in a large urban areas said "We want to be diverting as much organic material from landfills and incinerators as we can, but we're really limited … because public space is really hard to come by and a green space that is welcoming of thousands of pounds of organic waste is also a rare find" (P16). A few firms considered alternate food waste valorization technologies, such as anaerobic digesters, as a means to overcome infrastructure limitations, but ultimately decided not to pursue these options, citing price, reliability, and product use as their main concerns. Because of the desire to generate compost that can be sold or used in the local community, firms are locked into the land and infrastructure that comes with this technology pathway.

4. Interpretation and implications

This study investigates the motivations and challenges of community composting business models using semi-structured interviews and grounded theory analysis. Findings are not meant to be generalized to every firm's experience and may be influenced by characteristics of the interviewer (Charmaz, 2006) and participants' desires to present themselves in a positive light (Tseelon, 1992). This study focused on fee-based residential community composting firms in the U.S. and did not directly investigate related challenges facing municipal offerings, although connections to relevant literature are discussed below. As a result, there was less representation in regions of the United States where organic curbside recycling is typically municipally managed, particularly in the state of California (Harrison et al., 2024). These are areas where composting firms exist, but they primarily contract with cities to provide the service to citizens, rather than contracting directly with consumers. There is clearly a need for further research to extend the analysis to explore related challenges facing government-managed programs and composting offerings for commercial food waste generators.

One of the overarching findings from this study was that fee-based community composting business models are strongly influenced by a complex array of interactions between internal operational decisions and external influences, most notably consumer engagement and feedback and local situational factors (Fig. 5). For example, consumer knowledge and preferences were key inputs that shape service offerings toward cleanliness and convenience (Lozano Lazo and Gasparatos, 2022; Oehman et al., 2022), which tend to increase labor, fuel, and operating costs. On the other hand, customer price sensitivities toward waste management (Gellynck et al., 2011) constrain companies in setting service prices that will cover their costs. While these composting firms are typically founded by individuals with strong social and environmental motivations, staying in operation requires economic viability. The quest to achieve the "win-win" of profitability and social good in turn creates tensions between service expansion and growth to include new revenue streams and broader regional coverage and the intended local focus of these firms (Fig. 5). Program expansion could result in greater food waste diversion from landfills and the attendant resource and greenhouse gas benefits (Bong et al., 2017; Saqib and Sadef, 2025), but these benefits could be diluted if organic resources are transported, processed, used, and dispersed beyond the local community.

A resulting question motivated by this research is how consumers value specific aspects of community compost service offerings, such as convenience, cleanliness, or environmental benefits, and how that translates into willingness-to-pay for participation. A key tension is that consumers may be more likely to adopt sustainable alternatives that are familiar and do not require significantly more effort (Tunn et al., 2019), which in the case of composting, implies making the process of food waste source separation and collection as similar to traditional waste management as possible. But, conversely, consumers may be less likely to adopt and pay for composting or may require economic incentives or compensation to ensure their participation (Marcello et al., 2021), particularly if they perceive the service offering to be conceptually similar to conventional trash pickup, and do not perceive a direct individual benefit or value (Couto et al., 2016).

This dichotomy is particularly likely in regions where resource recovery and organic waste management options are not the norm, putting the onus of composting education and awareness back on the firm, thus

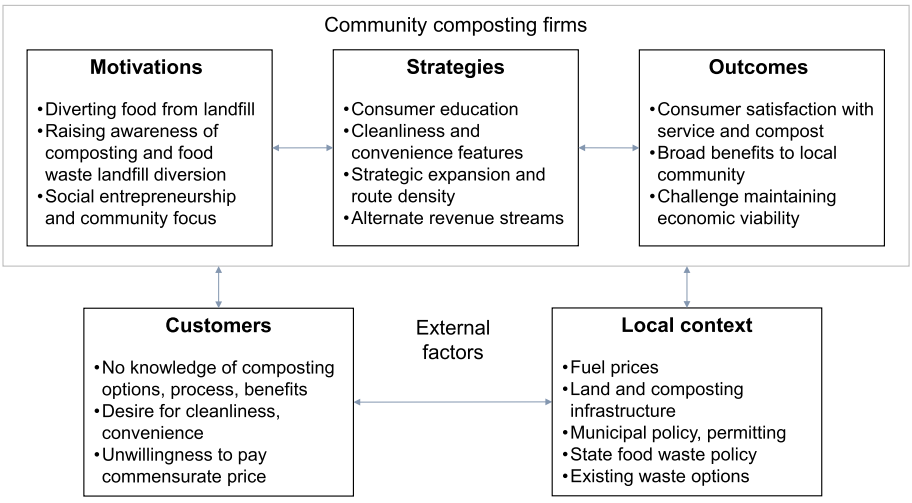


Fig. 5. Overview of interactions across themes related to internal community composting firm objectives and strategies, influences of external factors, and resulting outcomes.

adding to their costs of operation (Fig. 5). There is also a speculated risk that by offering composting and communicating its benefits to consumers, individuals may inadvertently waste more food (Qi and Roe, 2017), possibly because the act of composting is inspired by a desire to "discard well" (Turner et al., 2025) or serves to alleviate the guilt felt when discarding food (Oehman et al., 2022). Mitigating this risk implies that community composting firms should also be educating consumers about reducing food waste generation from the start, which could lead to increased sustainability benefits that align with the firm's motivations, but doesn't directly translate to measurable economic outcomes (Fig. 5). An open question arising from this research is whether community composting firms will have the greatest impact through food waste landfill diversion as a direct outcome of their operation, or through catalyzing broader understanding of food waste challenges and potential solutions through education and community engagement.

The ultimate success and sustainability of community composting is also strongly influenced by broader external factors, particularly related to waste infrastructure and policy, that may influence both consumer adoption and firm operation (Fig. 5). For example, if a municipality were to leverage solid waste payment structures, such as pay-as-you-throw (PAYT), or weight-based pricing for solid household waste, consumers may see greater value in reducing, source-separating, and recycling waste materials (Gautier and Salem, 2023; Hong and Adams, 1999, p. 199; van der Werf et al., 2020). Implementing PAYT schemes has been associated with reductions in food waste sent to landfills (van der Werf et al., 2020) and enhancement of infrastructure services. For example, Sacramento, California increased solid waste disposal costs for residents and then used these funds to cover the cost of new organic waste collection services (Sacramento, 2022). Community composting firms are likely to benefit from enhanced local policy, particularly related to zoning and siting compost facilities, and state and local policies that ban organic waste landfilling or mandate the use of landfill alternatives (Ryen and Babbitt, 2022).

5. Conclusion

Resource recovery of household food waste via composting supports the circular economy and broader sustainability goals of diverting food waste from landfills. Community composting firms provide a service and infrastructure to collect residential food waste and recover the value it contains. However, these firms rely on consumers understanding the service offering, being willing to pay for an added waste management option, and then participating in source separation of household food waste. Using qualitative analysis of interviews with firm founders and operators, this paper establishes the core business model common to community composting firms and analyzes the costs and consumer barriers that span operations. Results underscore that composting firms are often formed with environmental- and community-focused motivations, but face challenging economic realities associated with the physically difficult and expensive nature of compost collection, hauling, and processing. This study highlighted the tension these firms experience: between striving to educate consumers and meet their needs for convenience and cleanliness, while still maintaining economic viability.

Broader expansion of community composting would fill a niche in the food waste management ecosystem, particularly in regions where no other residential organic waste collection options are available. However, achieving this potential in practice is limited both by consumer cost-sensitivity and by regional systems and policies historically optimized for large, centralized municipal solid waste management. Findings suggest that some of these barriers may be overcome by expanding the available food waste treatment infrastructure, reshaping municipal waste policy, and providing economic incentives for landfill alternatives like composting. These findings can be used by municipal, business, policy, research, and civil society stakeholders to support sustainable expansion of composting as a circular economy solution for food waste management and resource recovery.

CRediT authorship contribution statement

Jessica M. Oehman: Conceptualization, Formal analysis, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Callie W. Babbitt:** Conceptualization, Funding acquisition, Visualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Callie Babbitt reports financial support was provided by National Science Foundation. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

This material is based upon work supported by the National Science Foundation under Awards 1639391 and 2115405. Any opinions,

findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation. The authors gratefully acknowledge and thank Carli Flynn and Alexa Kaminski for assistance with study design and interviews.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.clfs.2026.100057.

Appendix 1
Detailed Participant Information

ID	Firm type	Households served	Respondent role	Years of operation	Region	Pickup offered	Dropoff offered	Bucket swap	Bucket liner	Compost return	Commercial clients
1	For Profit	1000+	Employee	5-9	Midwest	Y	Y	Y	ND	N	Y
2	For Profit	500-999	Founder	0-4	West	Y	N	Y	N	Y	Y
3	For Profit	1000+	Employee	5-9	Midwest	Y	Y	Y	N	Y	Y
4	For Profit	500-999	Employee	5-9	Northeast	Y	Y	Y	N	Y	Y
5	For Profit	1-499	Employee	5-9	South	Y	Y	Y	N	Y	Y
6	Co-op	1-499	Founder	5-9	Northeast	Y	N	N	Y	Y	Y
7	For Profit	1-499	Founder	0-4	Northeast	Y	Y	N	Y	ND	Y
8	For Profit	1-499	Founder	5-9	Midwest	Y	N	N	Y	Y	Y
9	Non-profit	1-499	Founder	5-9	West	Y	Y	N	N	Y	Y
10	For Profit	500-999	Founder	0-4	West	Y	Y	Y	ND	Y	Y
11	For Profit	500-999	Founder	5-9	Northeast	Y	Y	N	N	Y	Y
12	For Profit	500-999	Founder	5-9	Northeast	Y	N	Y	N	Y	Y
13	For Profit	1-499	Founder	10+	Northeast	Y	N	N	N	Y	Y
14	For Profit	1-499	Founder	0-4	Northeast	Y	N	Y	N	Y	Y
15	For Profit	1-499	Founder	0-4	South	Y	Y	Y	Y	Y	Y
16	For Profit	1-499	Employee	5-9	Northeast	Y	Y	N	ND	Y	Y
17	For Profit	500-999	Employee	0-4	South	Y	Y	Y	N	Y	Y
18	For Profit	1-499	Founder	5-9	South	Y	Y	Y	N	Y	Y
19	For Profit	1000+	Employee	5-9	Midwest	Y	ND	N	N	ND	Y
20	For Profit	1000+	Founder	10+	Northeast	Y	N	Y	ND	Y	Y
21	For Profit	1000+	Employee	10+	South	Y	N	N	Y	Y	Y
22	For Profit	1-499	Founder	5-9	South	Y	ND	Y	ND	Y	N
23	For Profit	1000+	Founder	10+	Northeast	Y	N	N	ND	Y	Y
24	For profit	1-499	Founder	0-4	South	Y	Y	Y	Y	N	Y

Y: Yes, N: No, ND: No data available.

Data availability

The data that has been used is confidential.

References

Abdelradi, F., 2018. Food waste behaviour at the household level: a conceptual framework. Waste Manag. 71, 485–493. https://doi.org/10.1016/j.wasman.2017.10.001.

Accinelli, C., Abbas, H.K., Bruno, V., Nissen, L., Vicari, A., Bellaloui, N., Little, N.S., Thomas Shier, W., 2020. Persistence in soil of microplastic films from ultra-thin compostable plastic bags and implications on soil *Aspergillus flavus* population. Waste Manag. 113, 312–318. https://doi.org/10.1016/j.wasman.2020.06.011.

Adhikari, B.K., Trémier, A., Martinez, J., Barrington, S., 2010. Home and community composting for on-site treatment of urban organic waste: perspective for Europe and Canada. Waste Manage. Res. 28 (11), 1039–1053. https://doi.org/10.1177/0734242X10373801.

Ai, N., Zheng, J., 2019. Community-based food waste modeling and planning framework for urban regions. J. Agric. Food Sys. Community Dev. 9 (1), 39–58. https://doi.org/10.5304/jafscd.2019.091.009.

Ames, E., Cook, N.T., 2020. Food becoming compost: encountering and negotiating disgust in household sustainability. Aust. Geogr. 51 (32), 325–339. https://doi.org/10.1080/00049182.2020.1786944.

Angouria-Tsorochidou, E., Teigiserova, D.A., Thomsen, M., 2021. Limits to circular bioeconomy in the transition towards decentralized biowaste management systems. Resour. Conserv. Recycl. 164, 105207. https://doi.org/10.1016/j.resconrec.2020.105207.
Ariztia, T., Araneda, F., 2022. A "win-win formula:" environment and profit in circular economy narratives of value. Consum. Mark. Cult. 25 (2), 124–138. https://doi.org/10.1080/10253866.2021.2019025.
Armington, W.R., Babbitt, C.W., Chen, R.B., 2020. Variability in commercial and institutional food waste generation and implications for sustainable management systems. Resour. Conserv. Recycl. 155, 104622. https://doi.org/10.1016/j.resconrec.2019.104622.
Armington, W.R., Chen, R.B., 2018. Household food waste collection: building service networks through neighborhood expansion. Waste Manag. 77, 304–311. https://doi.org/10.1016/j.wasman.2018.04.012.
Arribas, C.A., Blazquez, C.A., Lamas, A., 2010. Urban solid waste collection system using mathematical modelling and tools of geographic information systems. Waste Manage. Res. 28 (4), 355–363. https://doi.org/10.1177/0734242X09353435.
Ayilara, M.S., Olanrewaju, O.S., Babalola, O.O., Odeyemi, O., 2020. Waste management through composting: challenges and potentials. Sustainability 12 (11). https://doi.org/10.3390/su12114456.
Babbitt, C.W., Babbitt, G.A., Oehman, J., 2021. Behavioral impacts on residential food provisioning, use, and waste during the COVID-19 pandemic. Sustain. Prod. Consum. 28, 315–325. https://doi.org/10.1016/j.spc.2021.04.012.
Baisey, T., Chhour, K., Cabrera, I., Sowerwine, J., 2025. Community-based compost distribution program's role in organic waste diversion and the circular food system. J. Agric. Food Sys. Community Dev. 14 (2), 115–144. https://doi.org/10.5304/jafscd.2025.142.011.
Barone, A.M., Grappi, S., Romani, S., 2019. "The road to food waste is paved with good intentions": when consumers' goals inhibit the minimization of household food waste. Resour. Conserv. Recycl. 149, 97–105. https://doi.org/10.1016/j.resconrec.2019.05.037.
Bekchanov, M., Mirzabaev, A., 2018. Circular economy of composting in Sri Lanka: opportunities and challenges for reducing waste related pollution and improving soil health. J. Clean. Prod. 202, 1107–1119. https://doi.org/10.1016/j.jclepro.2018.08.186.
Bernstad, A., 2014. Household food waste separation behavior and the importance of convenience. Waste Manag. 34 (7), 1317–1323. https://doi.org/10.1016/j.wasman.2014.03.013.
BioCycle, 2025. Composting facility contamination policy and fines. Biocycle. https://www.biocycle.net/composting-facility-contamination-policy-and-fines/.
Bocken, N.M.P., Short, S.W., Rana, P., Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. J. Clean. Prod. 65, 42–56. https://doi.org/10.1016/j.jclepro.2013.11.039.
Bong, Goh, R.K.Y., Lim, J.-S., Ho, W.S., Lee, C.-T., Hashim, H., Abu Mansor, N.N., Ho, C. S., Ramli, A.R., Takeshi, F., 2017. Towards low carbon society in Iskandar Malaysia: implementation and feasibility of community organic waste composting. Journal of Environmental Management, Waste Management with J. Environ. Manag. Waste Manag. Emphas. Munic. Waste Biowaste. Ind. Waste. 203, 679–687. https://doi.org/10.1016/j.jenvman.2016.05.033.
Boons, F., Lüdeke-Freund, F., 2013. Business models for sustainable innovation: State-of-the-art and steps towards a research agenda. J. Clean. Prod. 45, 9–19. https://doi.org/10.1016/j.jclepro.2012.07.007.
Borrero, J.D., Yousafzai, S., 2025. Spinning the circle: unravelling the "why?" behind social motivations in circular economy entrepreneurship. J. Enterprising Communities People Places Glob. Econ. https://doi.org/10.1108/JEC-01-2024-0003.
Bruni, C., Akyol, Ç., Cipolletta, G., Eusebi, A.L., Caniani, D., Masi, S., Colón, J., Fatone, F., 2020. Decentralized community composting: past, present and future aspects of Italy. Sustainability 12 (8), 3319. https://doi.org/10.3390/su12083319.
Butler, P., 2012. Smarter packaging for consumer food waste reduction. In: Emerging Food Packaging Technologies. Woodhead Publishing, pp. 409–434. https://doi.org/10.1533/9780857095664.4.409.
Cane, M., Parra, C., 2020. Digital platforms: mapping the territory of new technologies to fight food waste. Br. Food J. 122 (5), 1647–1669. https://doi.org/10.1108/BFJ-06-2019-0391.
Castillo-Montoya, M., 2016. Preparing for interview research: the interview protocol refinement framework. Qual. Rep. 21 (5), 811–831.
Cesaro, A., Belgiorno, V., Guida, M., 2015. Compost from organic solid waste: quality assessment and European regulations for its sustainable use. Resour. Conserv. Recycl. 94, 72–79. https://doi.org/10.1016/j.resconrec.2014.11.003.
Charmaz, K., 2006. Constructing Grounded Theory, A Practical Guide Through Qualitative Analysis. SAGE Publications.
Choi, T.M., Guo, S., Liu, N., Shi, X., 2019. Values of food leftover sharing platforms in the sharing economy. Int. J. Prod. Econ. 213 (December 2018), 23–31. https://doi.org/10.1016/j.ijpe.2019.03.005.
Ciccullo, F., Cagliano, R., Bartezzaghi, G., Perego, A., 2021. Implementing the circular economy paradigm in the agri-food supply chain: the role of food waste prevention technologies. Resour. Conserv. Recycl. 164, 105114. https://doi.org/10.1016/J.RESCONREC.2020.105114.
Ciccullo, F., Fabbri, M., Abdelkafi, N., Pero, M., 2022. Exploring the potential of business models for sustainability and big data for food waste reduction. J. Clean. Prod. 340, 130673. https://doi.org/10.1016/j.jclepro.2022.130673.
Clark, N., 2015. The business of community composting. Biocycle 56 (1), 32–38.
Coker, R.A., 2017. Regional Composter Confronts Contamination. BioCycle. https://www.biocycle.net/regional-composter-confronts-contamination/.
CompostNow, 2021. Compost Pickup Services. https://compostnow.org/compost-services/.
Couto, J. ao, Tiago, T., Gil, A., Tiago, F. avio, Faria, S., 2016. It's hard to be green: reverse green value chain. Environ. Res. 149, 302–313. https://doi.org/10.1016/j.envres.2016.05.006.
Creswell, J.W., 2013. Qualitative Inquiry and Research Design, Choosing Among Five Approaches, third ed. SAGE Publications.
Cullen, U.A., De Angelis, R., 2021. Circular entrepreneurship: a business model perspective. Resour. Conserv. Recycl. 168, 105300. https://doi.org/10.1016/j.resconrec.2020.105300.
De Boni, A., Melucci, F.M., Acciani, C., Roma, R., 2022. Community composting: a multidisciplinary evaluation of an inclusive, participative, and eco-friendly approach to biowaste management. Clean. Environ. Syst. 6, 100092. https://doi.org/10.1016/j.cesys.2022.100092.
de Hooge, I.E., Oostindjer, M., Aschemann-Witzel, J., Normann, A., Loose, S.M., Almli, V. L., 2017. This apple is too ugly for me!: consumer preferences for suboptimal food products in the supermarket and at home. Food Qual. Prefer. 56, 80–92. https://doi.org/10.1016/j.foodqual.2016.09.012.
Diaz-Ruiz, R., Costa-Font, M., Gil, J.M., 2018. Moving ahead from food-related behaviours: an alternative approach to understand household food waste generation. J. Clean. Prod. 172, 1140–1151. https://doi.org/10.1016/j.jclepro.2017.10.148.
Edgerton, E., McKechnie, J., Dunleavy, K., 2009. Behavioral determinants of household participation in a home composting scheme. Environ. Behav. 41 (2), 151–169. https://doi.org/10.1177/0013916507311900.
Ek, C., Miliute-Plepiene, J., 2018. Behavioral spillovers from food-waste collection in Swedish municipalities. J. Environ. Econ. Manag. 89, 168–186. https://doi.org/10.1016/j.jeem.2018.01.004.
Ezebilo, E.E., Animasaun, E.D., 2011. Households' perceptions of private sector municipal solid waste management services: a binary choice analysis. Int. J. Environ. Sci. Technol. 8 (4), 677–686. https://doi.org/10.1007/BF03326252.
Farhidi, F., Madani, K., Crichton, R., 2022. How the US economy and environment can both benefit from composting management. Environ. Health Insights 16, 11786302221128454. https://doi.org/10.1177/11786302221128454.
Farr-Wharton, G., Foth, M., Choi, J.H.J., 2014. Identifying factors that promote consumer behaviours causing expired domestic food waste. J. Consum. Behav. 13 (6), 393–402. https://doi.org/10.1002/cb.1488.
Food Recovery Network, 2021. https://www.foodrecoverynetwork.org/.
Friege, H., Eger, Y., 2021. Best practice for bio-waste collection as a prerequisite for high-quality compost. Waste Manag. Res.: J. Sustain. Circ. Econ. 40 (1). https://doi.org/10.1177/0734242X211033714.
Gautier, A., Salem, I., 2023. The impact of prices and pricing units on residual and organic waste: evidence from Wallonia, Belgium. Waste Manag. 155, 99–106. https://doi.org/10.1016/j.wasman.2022.10.027.
Geislar, S., 2017. The new norms of food waste at the curb: evidence-Based policy tools to address benefits and barriers. Waste Manag. 68, 571–580. https://doi.org/10.1016/j.wasman.2017.07.010.
Gellynck, X., Jacobsen, R., Verhelst, P., 2011. Identifying the key factors in increasing recycling and reducing residual household waste: a case study of the Flemish region of Belgium. J. Environ. Manag. 92 (10), 2683–2690. https://doi.org/10.1016/j.jenvman.2011.06.006.
Ghani, W.A.W.A.K., Rusli, I.F., Biak, D.R.A., Idris, A., 2013. An application of the theory of planned behaviour to study the influencing factors of participation in source separation of food waste. Waste Manag. 33 (5), 1276–1281. https://doi.org/10.1016/j.wasman.2012.09.019.
Given, L., 2012. The SAGE encyclopedia of qualitative research methods. In: The SAGE Encyclopedia of Qualitative Research Methods. SAGE Publications, Inc. https://doi.org/10.4135/9781412963909.
Glaser, B.G., Strauss, A.L., 1967. The Discovery of Grounded Theory. Aldine Publishing.
Goldstein, N., Luu, P., Motta, S., 2023. BioCycle nationwide survey: residential food waste collection access. In: The U.S. https://www.biocycle.net/residential-food-waste-collection-access-in-u-s/.
Graham-Rowe, E., Jessop, D.C., Sparks, P., 2014a. Identifying motivations and barriers to minimising household food waste. Resour. Conserv. Recycl. 84, 15–23. https://doi.org/10.1016/j.resconrec.2013.12.005.
Graham-Rowe, E., Jessop, D.C., Sparks, P., 2014b. Identifying motivations and barriers to minimising household food waste. Resour. Conserv. Recycl. 84, 15–23. https://doi.org/10.1016/j.resconrec.2013.12.005.
Groß, M., Mail, M., Wrigley, O., Debastiani, R., Scherer, T., Amelung, W., Braun, M., 2024. Plastic fruit stickers in industrial composting—surface and structural alterations revealed by electron microscopy and computed tomography. Environ. Sci. Technol. 58 (16), 7124–7132. https://doi.org/10.1021/acs.est.3c08734.
Gunders, D., 2017. Wasted: how America is losing up to 40 percent of its food from farm to fork to landfill. In: *NRDC Report*. National Resources Defense Council. https://www.nrdc.org/resources/wasted-how-america-losing-40-percent-its-food-farm-fork-landfill.
Hall, A.L., Potts, M.D., Silver, W.L., 2022. Near-term potential of organic waste management infrastructure for soil carbon sequestration in rangelands. Environ. Res. Infrastruct. Sustain. 2 (4), 045007. https://doi.org/10.1088/2634-4505/ac970f.
Harrison, B.P., McNeil, W.H., Dai, T., Campbell, J.E., Scown, C.D., 2024. Site suitability and air pollution impacts of composting infrastructure for California's organic waste diversion law. Environ. Sci. Technol. 58 (45), 19913–19924. https://doi.org/10.1021/acs.est.4c06371.
Harvey, W.S., 2011. Strategies for conducting elite interviews. Qual. Res. 11 (4), 431–441. https://doi.org/10.1177/1468794111404329.

Henry, M., Hoogenstrijd, T., Kirchherr, J., 2023. Motivations and identities of "grassroots" circular entrepreneurs: an initial exploration. Bus. Strat. Environ. 32 (3), 1122–1141. https://doi.org/10.1002/bse.3097.
Herrero, A., Moragues-Faus, A., 2025. Food sharing governance in European cities: insights from a scoping review. Local Environ. 0 (0), 1–32. https://doi.org/10.1080/13549839.2025.2553534.
Hong, S., Adams, R.M., 1999. Household responses to price incentives for recycling: some further evidence. Land Econ. 75 (4), 505–514. https://doi.org/10.2307/3147062.
Hoornweg, D., Bhada-Tata, P., 2012. What a Waste-A Global Review of Solid Waste Management.
Hoover, D., Breggin, L., Sugarman, J., RaoShah, T., 2025. Model Municipal Zoning Ordinance on Community Composting. https://www.nrdc.org/resources/model-municipal-zoning-ordinance-community-composting-and-without-commentaries.
Hull, C.E., Millette, S., Williams, E., 2021. Challenges and opportunities in building circular-economy incubators: stakeholder perspectives in Trinidad and Tobago. J. Clean. Prod. 296, 126412. https://doi.org/10.1016/j.jclepro.2021.126412.
ILSR, 2022. Composting for community map. Institute for Local Self-Reliance. https://ilsr.org/composting/map/.
Jaglo, K., Kenny, S., Stephenson, J., 2021. *From Farm to Kitchen: the Environmental Impacts of U.S. Food Waste* (EPA 600-R21 171). U.S. Environmental Protection Agency.
Kaminski, A.G., Babbitt, C.W., 2024. Qualitative analysis of hydroponic container farm adoption, use, and benefits in the U.S. Environ. Res. Infrastruct. Sustain. 4 (4), 045001. https://doi.org/10.1088/2634-4505/ad797c.
Kissling, R., Coughlan, D., Fitzpatrick, C., Boeni, H., Luepschen, C., Andrew, S., Dickenson, J., 2013. Success factors and barriers in re-use of electrical and electronic equipment. Resour. Conserv. Recycl. 80, 21–31. https://doi.org/10.1016/j.resconrec.2013.07.009.
Ladele, O., Baxter, J., van der Werf, P., Gilliland, J.A., 2021. Familiarity breeds acceptance: predictors of residents' support for curbside food waste collection in a city with green bin and a city without. Waste Manag. 131, 258–267. https://doi.org/10.1016/j.wasman.2021.06.010.
Li, C., Wang, Y., Li, Y., Huang, Y., Harder, M.K., 2021. The incentives may not be the incentive: a field experiment in recycling of residential food waste. Resour. Conserv. Recycl. 168. https://doi.org/10.1016/j.resconrec.2020.105316.
Lozano Lazo, D.P., Gasparatos, A., 2022. Factors influencing household-level positive and negative solid waste management practices in rapidly urbanizing cities: insights from Santa Cruz de la Sierra, Bolivia. Environ. Res. Infrastruct. Sustain. 2 (1), 015002. https://doi.org/10.1088/2634-4505/ac44da.
Marcello, B., Di Gennaro, V., Ferrini, S., 2021. Let the citizens speak: an empirical economic analysis of domestic organic waste for community composting in Tuscany. J. Clean. Prod. 306, 127263. https://doi.org/10.1016/j.jclepro.2021.127263.
Millette, S., 2019. How to build upon sustainable entrepreneurial opportunities in how to build upon sustainable entrepreneurial opportunities in developing economies developing economies. https://scholarworks.rit.edu/theses.
Morrow, O., Davies, A., 2022. Creating careful circularities: community composting in New York City. Trans. Inst. Br. Geogr. 47 (2), 529–546. https://doi.org/10.1111/tran.12523.
Oehman, J.M., Babbitt, C.W., Flynn, C., 2022. What predicts and prevents source separation of household food waste? An application of the theory of planned behavior. Resour. Conserv. Recycl. 186, 106492. https://doi.org/10.1016/j.resconrec.2022.106492.
Pai, S., Ai, N., Zheng, J., 2019. Decentralized community composting feasibility analysis for residential food waste: a Chicago case study. Sustain. Cities Soc. 50 (March), 101683. https://doi.org/10.1016/j.scs.2019.101683.
Parizeau, K., von Massow, M., Martin, R., 2015. Household-level dynamics of food waste production and related beliefs, attitudes, and behaviours in Guelph, Ontario. Waste Manag. 35, 207–217. https://doi.org/10.1016/j.wasman.2014.09.019.
Park, J., Babbitt, C.W., Eddingsaas, N.C., Tyler, A.C., Trabold, T.A., 2026. Characterization of plastic contamination entering food waste management and implications for food system impacts. Environ. Res. Food Syst. 3 (3), 035010. https://doi.org/10.1088/2976-601x/ae7a76.
Patel, S., MacRae, R., 2012. Community supported agriculture in the City: the case of Toronto. J. Agric. Food Sys. Community Dev. 2 (4), 85–100. https://doi.org/10.5304/jafscd.2012.024.003.
Pickering, G.J., Pickering, H.M.G., Northcotte, A., Habermebl, C., 2020. Participation in residential organic waste diversion programs: motivators and optimizing educational messaging. Resour. Conserv. Recycl. 158 (May 2019), 104807. https://doi.org/10.1016/j.resconrec.2020.104807.
Pinkerton, D., 2021. Residential food scraps collection via subscription services. Biocycle. https://www.biocycle.net/residential-food-scraps-collection-via-subscription-services/.
Pla-Julián, I., Guevara, S., 2019. Is circular economy the key to transitioning towards sustainable development? Challenges from the perspective of care ethics. Futures 105, 67–77. https://doi.org/10.1016/j.futures.2018.09.001.
Planing, P., 2015. Business model innovation in a circular economy reasons for non-acceptance of circular business models. Open J. Business Model Innovation 11.
Platt, B., 2015. State of Composting in U. S. State of Composting in the U. S.
Pollans, L.B., Krones, J.S., Ben-Joseph, E., 2017. Patterns in municipal food scrap programming in mid-sized U.S. cities. Resour. Conserv. Recycl. 125, 308–314. https://doi.org/10.1016/j.resconrec.2017.07.001.
Porterfield, K.K., Hobson, S.A., Neher, D.A., Niles, M.T., Roy, E.D., 2023. Microplastics in composts, digestates, and food wastes: a review. J. Environ. Qual. 52 (2), 225–240. https://doi.org/10.1002/jeq2.20450.
Purcell, M., Magette, W.L., 2011. Targeted intervention strategies to optimise diversion of BMW in the Dublin, Ireland region. Waste Manag. 31 (9–10), 2180–2189. https://doi.org/10.1016/j.wasman.2011.05.008.
Qi, D., Roe, B.E., 2016. Household food waste: multivariate regression and principal components analyses of awareness and attitudes among U.S. consumers. PLoS One 11 (7), 1–19. https://doi.org/10.1371/journal.pone.0159250.
Qi, D., Roe, B.E., 2017. Foodservice composting crowds out consumer food waste reduction behavior in a dining experiment. Am. J. Agric. Econ. 99 (5), 1159–1171. https://doi.org/10.1093/ajae/aax050.
QSR International Pty Ltd, 2020. *NVivo* (version released in 2020). https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home.
ReFED, 2016. A roadmap to reduce U.S. food waste by 20 percent. J. Chem. Inf. Model. 53 (9), 1689–1699. https://doi.org/10.1017/CBO9781107415324.004.
Reynolds, C., Piantadosi, J., Boland, J., Reynolds, C.J., Piantadosi, J., Boland, J., 2015. Rescuing food from the organics waste stream to feed the food insecure: an economic and environmental assessment of Australian food rescue operations using environmentally extended waste input-output analysis. Sustainability 7 (4), 4707–4726. https://doi.org/10.3390/su7044707.
Rice, W.S., Chan, S.H.M., Pui, C., 2025. Building 'soil-darity': identifying personal priorities to facilitate greater participation in community composting initiatives to enhance urban resilience in Singapore. City Environ. Interact. 27, 100205. https://doi.org/10.1016/j.cacint.2025.100205.
Richardson, R., Prescott, M.P., Ellison, B., 2021. Impact of plate shape and size on individual food waste in a university dining hall. Resour. Conserv. Recycl. 168, 105293. https://doi.org/10.1016/j.resconrec.2020.105293.
Ringland, M., Gunders, D., Mannino, G., Gastiarena, M., 2024. The Methane Impact of Food Loss and Waste in the United States. ReFED.
Ryen, E.G., Babbitt, C.W., 2022. The role of US policy in advancing circular economy solutions for wasted food. J. Clean. Prod. 369, 133200. https://doi.org/10.1016/j.jclepro.2022.133200.
Sacramento, 2022. Council approves solid waste fee increase to pay for new food composting program, higher costs. https://engagesac.org/blog-civic-engagement/2022/1/25/council-approves-solid-waste-fee-increase-to-pay-for-new-food-waste-composting-program-higher-costs.
Salvioni, D., Almici, A., 2020. Circular economy and stakeholder engagement strategy. Symphonya. Emerg. Issues. Manag. (1), 26. https://doi.org/10.4468/2020.1.03salvioni.almici.
Saqib, Z., Sadef, Y., 2025. Sustainable waste management through commercial composting: challenges, opportunities, and future directions for circular economy. Eur. J. Sustain. Dev. Res. 9 (4). https://doi.org/10.29333/ejosdr/16579 em0319.
Schanes, K., Dobernig, K., Gözet, B., 2018. Food waste matters—A systematic review of household food waste practices and their policy implications. J. Clean. Prod. 182, 978–991. https://doi.org/10.1016/j.jclepro.2018.02.030.
Shooshtarian, S., Caldera, S., Maqsood, T., Ryley, T., Wong, P.S.P., Zaman, A., 2022. Analysis of factors influencing the creation and stimulation of the Australian market for recycled construction and demolition waste products. Sustain. Prod. Consum. 34, 163–176. https://doi.org/10.1016/j.spc.2022.09.005.
Smith, C., 2021. Haines compost hangs up their bucket: community project to close | KHNS radio | KHNS FM. https://khns.org/haines-compost-hangs-up-their-bucket-community-project-to-close.
Spector, J., Harden, D., Platt, B., 2026. 2024 Community Composter Mini-Census Results.
Tamasiga, P., Miri, T., Onyeaka, H., Hart, A., 2022. Food waste and circular economy: challenges and opportunities. Sustainability 14 (16), 9896. https://doi.org/10.3390/su14169896.
Taylor, S., Todd, P., 1995. An integrated model of waste management behavior: a test of household recycling and composting intentions. Environ. Behav. 27, 603–630.
Todeschini, B.V., Cortimiglia, M.N., Callegaro-de-Menezes, D., Ghezzi, A., 2017. Innovative and sustainable business models in the fashion industry: entrepreneurial drivers, opportunities, and challenges. Bus. Horiz. 60 (6), 759–770. https://doi.org/10.1016/j.bushor.2017.07.003.
Tseelon, E., 1992. Is the presented self sincere? Goffman, impression management, and the post-modern self. Theor. Cult. Soc. 9, 115–128.
Tunn, V.S.C., Bocken, N.M.P., van den Hende, E.A., Schoormans, J.P.L., 2019. Business models for sustainable consumption in the circular economy: an expert study. J. Clean. Prod. 212, 324–333. https://doi.org/10.1016/j.jclepro.2018.11.290.
Turner, B., Hill, A., Abramovic, J., 2025. Learning with compost: digging Down into food waste, urban soils and community. Local Environ. 30 (7), 841–855. https://doi.org/10.1080/13549839.2024.2380853.
US Census Bureau, 2023. Census regions and divisions of the United States. https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.
U.S. EPA, 2018. 2018 Wasted Food Report: Estimates of Generation and Management of Wasted Food in the United States in 2018.
U.S. EPA, 2023. 2019 Wasted Food Report: Estimates of Generation and Management of Wasted Food in the United States in 2019 (EPA 530-R-23-005).
U.S. EPA, 2026. Reducing the impact of wasted food by feeding the soil and composting. https://www.epa.gov/sustainable-management-food/reducing-impact-wasted-food-feeding-soil-and-composting.
Usmani, Z., Sharma, M., Awasthi, A.K., Sharma, G.D., Cysneiros, D., Nayak, S.C., Thakur, V.K., Naidu, R., Pandey, A., Gupta, V.K., 2021. Minimizing hazardous impact of food waste in a circular economy – advances in resource recovery through green strategies. J. Hazard Mater. 416, 126154. https://doi.org/10.1016/j.jhazmat.2021.126154.
van der Werf, P., Larsen, K., Seabrook, J.A., Gilliland, J., 2020. How neighbourhood food environments and a pay-as-you-throw (PAYT) waste program impact household food waste disposal in the City of Toronto. Sustainability 12 (17). https://doi.org/10.3390/su12177016. Article 17.

van der Werf, P., Seabrook, J.A., Gilliland, J.A., 2021. "Reduce food waste, save money": testing a novel intervention to reduce household food waste. Environ. Behav. 53 (2). https://doi.org/10.1177/0013916519875180.

Velenturf, A.P.M., Jopson, J.S., 2019. Making the business case for resource recovery. Sci. Total Environ. 648, 1031–1041. https://doi.org/10.1016/j.scitotenv.2018.08.224.

Vermunt, D.A., Negro, S.O., Verweij, P.A., Kuppens, D.V., Hekkert, M.P., 2019. Exploring barriers to implementing different circular business models. J. Clean. Prod. 222, 891–902. https://doi.org/10.1016/j.jclepro.2019.03.052.

Vithanage, M., Ramanayaka, S., Hasinthara, S., Navaratne, A., 2021. Compost as a carrier for microplastics and plastic-bound toxic metals into agroecosystems. Curr. Opin. Environ. Sci. Health 24, 100297. https://doi.org/10.1016/j.coesh.2021.100297.

von Kameke, C., Fischer, D., 2018. Preventing household food waste via nudging: an exploration of consumer perceptions. J. Clean. Prod. 184, 32–40. https://doi.org/10.1016/j.jclepro.2018.02.131.

Wu, W.N., Liu, L.Y., Brough, C., 2019. No time for composting: subjective time pressure as a barrier to citizen engagement in curbside composting. Waste Manag. 91, 99–107. https://doi.org/10.1016/j.wasman.2019.04.057.

Xu, L., Zhang, X., Ling, M., 2018. Spillover effects of household waste separation policy on electricity consumption: evidence from Hangzhou, China. Resour. Conserv. Recycl. 129, 219–231. https://doi.org/10.1016/j.resconrec.2017.10.028.

Xue, Y., Moreno, J.M., Li, C., Harder, M.K., 2025. Growing community-based composting programs in China: implementation and policy lessons from eight cases. Resour. Conserv. Recycl. 212, 107882. https://doi.org/10.1016/j.resconrec.2024.107882.

Yepsen, R., 2015. Residential food waste collection in the U.S. Biocycle 56 (1), 53–63.

Yesiller, N., Vigil, S., Hanson, J., 2011. Assessment of state composting regulations in the United States. In: 26th International Conference in Solid Waste Technology and Management Proceedings: Philadelphia, PA, pp. 1281–1291.

Zhang, J., Liu, J., Ding, W., Zhang, B., Zhao, M., Zou, G., Chen, Y., 2025. Composting treatment increases the risk of microplastics pollution in process and compost products. J. Hazard Mater. 486, 137084. https://doi.org/10.1016/j.jhazmat.2024.137084.