Food Waste Reduction Policies in Austria

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Abstract

This thesis investigates whether public awareness of grocery store food waste influences consumer behavior, specifically among young adults in Vienna. Using an online survey, the study examines the relationship between concern about food waste, self-reported household waste habits, and consumers' willingness to pay more or walk farther to support a grocery store that wastes less food. Four logistic regression models were used to explore this research question. While concern about food waste was high across the sample, behavioral intent did not increase linearly with concern. Participants reporting moderate concern for food waste were often more willing to act than those with very high or low concern. Household waste frequency showed weak and inconsistent effects, and income was positively and significantly associated with willingness to pay more. These results suggest that moral concern alone may not translate into behavioral change, particularly when structural or financial barriers are present. Policy implications are discussed in the context of Austria's existing requirement for retailers to report and publicize food waste quarterly.

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Chapter 1: Introduction and Background

Every day in grocery stores across Europe, a large amount of edible food is discarded. Unsold bread is removed from shelves at closing, produce is thrown away for minor blemishes, and canned goods are discarded due to dents or packaging deformities. Despite increasing efforts to promote sustainability, food waste remains an often-overlooked issue in the climate protection movement.

Globally, around one-third of all food produced end up becoming food waste (Stadt Wien, n.d.). Within the European Union, approximately 88 million tons of food are wasted each year (Scherhaufer et al. 2018). Households are responsible for producing the most food waste, but manufacturing, gastronomy, and retail also contribute significantly. In Austria, food waste from the retail sector accounts for around 5% of the national total (Stadt Wien, n.d.). Though proportionally smaller than the amount of household food waste, this still represents thousands of tons of food thrown away annually.

To address this issue, the European Commission has set a target for EU member states to reduce food waste by 50% at the retail and consumer levels by 2030 (European Commission 2025). In line with this goal, Austria introduced a policy in recent years requiring large retailers to submit quarterly reports showing the value, in euros, of food wasted and donated from their stores. These reports are published on a publicly accessible government platform. However, the way the data is presented makes it difficult for the average consumer to understand or use. For instance, while many stores operate under brand names like “Billa” or “Spar,” individual locations are often owned by different franchise chains and are not legally part of the same company. The food waste reports are organized by these legal franchise names, which are not

publicly linked to specific store locations. As a result, consumers are unable to tell how much food waste is generated by the stores they visit—making the data far less useful and unlikely to influence behavior.

Vienna offers a particularly relevant setting for this research. The city has implemented several food waste prevention efforts, but most have focused on households rather than retail practices. Retail-level food waste remains largely unnoticed by consumers and disconnected from their purchasing decisions. Although reporting is mandatory and the data is public, the lack of accessibility means it is not likely to affect purchasing patterns.

This thesis looks at whether making food waste data from retailers more visible has the potential to influence how people shop in Vienna. In Austria, large grocery stores are now required to report and publish their food waste figures, making that information accessible to the public. The idea seems to be that by making data public, consumers might take it into account and, in turn, encourage stores to waste less. But the findings in this thesis suggest that while some people do seem responsive, overall the connection between transparency and behavior is fairly weak. It raises the question of whether simply making information public is enough, or if the Austrian government should take further steps, like legislating limits on retail food waste, to reduce retail food waste at scale.

1.1 Research Aims and Objectives

This research examines whether retail food waste data has the potential to influence consumer purchasing behavior in Vienna and explores how responses may differ across demographic groups.

The main objectives of this research are to:

- Understand consumer attitudes toward food waste in the retail sector;
- Explore whether accessible food waste data would influence purchasing decisions;
- Identify patterns in which consumer groups are more or less likely to respond to this type of information;
- Reflect on whether transparency alone has the potential to reduce food waste, or whether additional policy interventions may be necessary.

Currently, limited research exists on how food waste publication influences consumer behaviors, particularly in Austria, where the requirement to publish food waste reports is a new policy (Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology 2025). Therefore, this thesis provides insights into an area which has been overlooked in both policy and academic discussions. By examining how people in Vienna respond to the idea of publicized food waste data, this research adds a practical perspective to ongoing efforts to reduce retail-level food waste.

1.2 Thesis Structure

This thesis is divided into five chapters. Following the introduction, Chapter 2 provides a review of existing literature on food waste, including its environmental and ethical implications, how it occurs across the supply chain, and how transparency can be associated with consumer behavior. Chapter 3 outlines the methodology used in this study, including the survey design, sample approach, and data analysis process. Chapter 4 presents the results of the survey, highlighting trends in consumer attitudes and how respondents report they would

respond to increased transparency around retail food waste. Chapter 5 discusses how the findings relate to existing research and policy efforts, and reflects on the implications for future food waste reduction strategies. The final chapter concludes the thesis by summarizing key takeaways, identifying limitations, and suggesting areas for further research.

Chapter 2: Literature Review

This literature review explores the broader context surrounding food waste and where consumers fit into efforts to reduce it. It starts by describing the complexity around defining and clarifying what actually should be considered food waste. It then discusses the framing of food waste as a systemic externality—something that causes real environmental and economic damage but rarely shows up in the price we pay for food. That disconnect helps explain why food waste continues at such a large scale, even as awareness of sustainability issues grows. When the full costs of waste are hidden or absorbed by others, there's little incentive to change course.

From there, the review looks at how waste happens across the food supply chain. Losses occur not just at the consumer level, but during agricultural production, processing and manufacturing, retail, and food service. Each stage contributes in its own way and for different reasons—whether it's spoilage, inefficiency, overproduction, or aesthetic standards. Understanding the distribution of waste across these stages helps clarify where interventions might be most effective.

Food type also plays an important role, because the environmental impact of food waste varies depending on what kind of food is being discarded. Not all food has the same production footprint, and some products—particularly animal-based ones—carry much higher environmental costs when wasted, even in smaller volumes. This has implications for how we think about waste reduction strategies, particularly in terms of prioritizing high-impact areas.

Later sections focus more directly on policy frameworks, especially in the EU and Austria. Over the past decade, efforts to reduce food waste have shifted from voluntary awareness campaigns to more structured approaches. These include EU-wide measurement directives, sustainability targets, and most recently, Austria's new reporting requirement for large grocery retailers. The policy landscape is evolving, but questions remain about whether public-facing data will be clear or accessible enough to shift consumer behavior.

Finally, the review looks at what we already know about how consumers respond to ethical or environmental information in other sectors. Labels like "Fair Trade" or "organic" have shown that transparency can influence purchasing decisions—but only under certain conditions. The same may be true for food waste data. That possibility, and its limitations, are central to understanding where this study fits into the existing literature.

Together, these sections outline what we know so far and where the gaps still are. They also provide the background needed to evaluate whether making food waste data more accessible to the public could realistically change how people shop—and whether consumer behavior can be part of the solution.

2.1 What is Food Waste?

Before diving into the broader impacts of food waste, it's important to first define the term and explain why this definition can be more complicated than it seems. Although food waste is a widely used term in sustainability and policy circles, its exact meaning varies depending on the person using it, the stage of the supply chain, and what counts as "waste" in a given context.

According to the European Commission, food waste includes both discarded food and the associated inedible parts—like bones, eggshells, or fruit cores—that are removed from the food supply chain (European Commission, n.d.-b). This definition is fairly broad and attempts to capture waste at multiple levels, from agriculture to households. Still, not everyone agrees on what to include. Some researchers and NGOs expand the term to cover food diverted to composting or energy production, while others exclude by-products that are reused in other industries (Sanchez Lopez et al. 2020).

One of the trickiest aspects of defining food waste is that the line between edible and inedible isn't universal. Social norms, cultural preferences, and regional cuisines all shape how we determine what counts as food and what doesn't (Sanchez Lopez et al. 2020). For example, chicken feet, fish heads, or the peel of a fruit may be consumed in some cultures but discarded in others. So even when trying to create consistent measurement frameworks, food waste data often ends up shaped by assumptions about what's "normally" eaten, and those assumptions can vary dramatically depending on the region.

This complexity matters, especially for policy. Without a shared understanding of what food waste includes, it's difficult to design effective regulations or track progress across different countries and sectors. At the same time, definitions that are too narrow risk leaving out parts of the system where major waste still occurs. This thesis uses the term "food waste" in the way it's typically applied in EU policy contexts: as a combination of edible and inedible materials removed from the food supply chain, particularly when they are disposed of instead of redistributed or repurposed.

2.2 Food Waste as a Systemic Externality

This section shifts focus from what food waste is to what it does. While food waste is often treated as a matter of individual responsibility or poor planning, it also generates broader consequences that go beyond the act of throwing food away. These consequences—whether environmental, economic, or social—are often not reflected in the actual cost of food, which makes them externalities. They're real impacts, but ones that fall outside the market system and often go economically unaccounted for.

Every stage of the food supply chain relies on limited natural resources like land, water, energy, and labor. When food goes to waste, so do all the resources that went into producing it. This means the environmental pressure created by the food system is multiplied, without any added benefit in return. Economically, it also represents a significant loss, both in terms of raw materials and the infrastructure required to keep food moving through the system.

Food waste also raises serious ethical questions. Across the EU, millions of people lack access to enough food, while large amounts of edible food are still discarded. That imbalance points to a deeper flaw in the food system; one where abundance and scarcity often exist side by side, with few mechanisms in place to bridge the gap.

The next two subsections look more closely at these externalities. The first focuses on the environmental and financial costs, and the second explores the social and ethical implications of food waste.

2.2.1 Economic and Environmental Externalities

Food waste results in environmental and economic costs that are rarely reflected in its price. In the EU, food waste generates around 254 million tonnes of CO_2 equivalents each year, making up roughly 16% of emissions from the entire food system (European Commission, n.d.-b). According to the UN, if food waste were a country, it would be the third-largest emitter of greenhouse gases in the world (Scialabba 2015). In economic terms, the value of annual food waste in the EU is around €132 billion (European Commission, n.d.-b). This includes the cost of raw materials, labor, energy, water, and infrastructure used to produce food that is never consumed.

The production of food places a heavy burden on natural resources. Globally, agriculture accounts for around 70% of freshwater withdrawals (UNESCO 2024) and uses roughly 50% of the world's habitable land (Ritchie 2019). When food is wasted, the environmental pressure created by agriculture increases without any benefit (Garske et al. 2020). In this way, food waste not only reflects inefficiency but amplifies the environmental cost of food production. These are long-term costs absorbed by ecosystems and public systems, yet they remain largely invisible in everyday decision-making.

Although public awareness of food waste has increased, the structure of the market has not changed enough to reduce waste at a meaningful scale. When the economic and environmental costs of waste are externalized, there is little financial incentive to reduce them. This disconnect between cost and accountability plays a central role in why food waste remains so persistent.

2.2.2 Ethical and Social Implications

Beyond the environmental and financial impact, food waste also carries important ethical and social consequences. In the European Union, around 33 million people are estimated to lack access to a quality meal every second day (Garske et al. 2020). At the same time, significant volumes of surplus food are wasted throughout the supply chain. This disconnect underscores a fundamental inequality: while food exists in excess in some parts of the system, access remains limited elsewhere.

Reducing food waste could play a meaningful role in supporting food security, especially through improved donation and redistribution networks. In theory, the food that currently goes to waste could be redirected to meet existing needs. But in practice, this rarely happens at scale. Many food business operators cite a range of barriers—unclear or restrictive regulations, limited awareness of donation channels, logistical complications, or simply a lack of information—as reasons why they default to disposal rather than redistribution (Sokolic, Ribarić, and Zdrilic 2021). These challenges create friction in a process that could otherwise benefit both businesses and communities.

Social and cultural expectations also shape how food is treated. At both the retail and consumer levels, food is often thrown away for cosmetic reasons. Minor imperfections, like a dented can, a misshapen vegetable, or blemished fruit, can be enough for food to be removed from shelves, even if it is still perfectly edible. One study describes this as a major contributor to waste, particularly in high-income contexts where food is relatively abundant and highly standardized in appearance (Bolos et al. 2022). Encouraging consumer acceptance of "imperfect" food could be one small but meaningful way to shift attitudes and reduce waste.

Altogether, these ethical concerns point to deeper social dynamics around food: who has access to it, what is considered acceptable, and how value is assigned to resources. While policy often focuses on efficiency or environmental impact, the ethical dimension of food waste highlights why the issue matters beyond its technical definitions—and why solving it requires more than just logistical fixes.

2.3 Food Waste Across the Supply Chain

Food is lost or wasted at nearly every stage of the supply chain, starting with agricultural production and continuing through processing and manufacturing, distribution and retail, and finally to households and gastronomy. Each stage generates waste for different reasons, including by-products that are not used, food being stored improperly during storage or transport, unsold inventory at the retail level, or improper cooking methods and wasted leftovers. While households are responsible for the largest share of overall food waste, earlier stages in the chain also contribute significantly.

2.3.1 Stage-by-Stage Overview

Although food waste is often associated with consumers, earlier stages in the supply chain play a major role. In the EU, 8% of food waste occurs during primary production, 19% during processing and manufacturing, 8% at retail, 11% at the restaurant and food service level, and 54% at the consumer level (Eurostat 2025).

In food processing and manufacturing, waste varies widely by product type. Oil crops, particularly olive oil production, account for 33% of food waste from this stage, largely due to the plant particles left over after pressing (Sanchez Lopez et al. 2020). Fruit and fish also

contribute significantly, as the processing of these foods generates large volumes of material that are not typically reused. However, some by-products are used in other industries, which means they are excluded from official food waste statistics.

2.3.2 Food Type and Waste Impact

Not all food waste carries the same environmental cost. Some products, even if wasted in smaller quantities, have a much higher resource footprint due to how they are produced. For example, fruits and vegetables are among the most frequently wasted food types by volume. Although they make up only 21% of food available, they account for 76% of food waste during primary production and 41% at the consumption stage (Sanchez Lopez et al. 2020).

In contrast, animal-based products are wasted less frequently by weight but have a much higher environmental cost when they are. Livestock farming requires large amounts of land, water, and energy, making meat and dairy products especially resource-intensive. Meat production involves fertilizer-heavy feed crops, high freshwater demand, and extensive land use when compared to vegan products (Garske et al. 2020). As a result, even small amounts of wasted meat contribute disproportionately to resource loss.

This distinction matters for food waste policy. Reducing waste from high-impact products, such as meat, could lead to greater environmental benefits than reducing waste from foods with lower production impacts on the environment. According to a study comparing animal and plant-based food production, the greenhouse gas emissions created by animal-based food is double the amount of those from plant-based sources (Xu et al. 2021).

2.4 The Value-Action Gap in Sustainable Behavior

While many people claim to care deeply about sustainability, that concern doesn't always translate into action. This mismatch between values and behavior is commonly referred to as the value-action gap. It's a concept widely discussed in environmental and consumer psychology, and it raises important questions about the limits of individual behavioral change in response to sustainability issues like food waste.

The value-action gap is particularly relevant when people are asked hypothetical questions about ethical behavior. In practice, even those who express strong concern for environmental issues often continue to act in ways that contradict those values. For example, they may say they care about reducing waste, while they continue to buy more than they need, throw away usable food, or prioritize convenience over sustainability when making purchases.

Some of this can be explained by external barriers. For example, researchers studying sustainable living among university students in the UK, found that even participants who believed sustainability was important rarely followed through on sustainable actions (Chaplin and Wyton 2014). Instead, a range of practical barriers stood in the way, including lack of information, perceived effort, limited infrastructure, and most notably, the displacement of responsibility onto others (Chaplin and Wyton 2014). This last point is particularly relevant to food systems: when people view waste as someone else's problem—whether it's businesses, governments, or other consumers—it decreases the likelihood that they'll act on their own values.

Internal factors can also contribute to this gap between action and values. One study highlights how subjective time pressure and social imitation influence whether environmentally-

conscious individuals actually engage in sustainable behaviors (Franco and Ghisetti 2022). For instance, people who feel overworked or rushed are less likely to act on their values, even when those values are deeply held. However, seeing others engage in ethical consumption can help align attitudes with actions, suggesting that social norms play an important role in closing the gap (Franco and Ghisetti 2022).

These findings make clear that the value-action gap is a reflection of how environmental decision-making is shaped by time, context, and perceived control. This makes it especially relevant for this thesis, which tests whether concern about food waste is associated with concrete behaviors like willingness to pay more or walk farther for lower-waste options.

2.5 Food Waste Reduction Policies

In previous years, the EU Commission has begun to focus increasingly on food waste reduction. For example, it set a target to reduce food waste by 50% at the retail and consumer levels by 2030 (European Commission, n.d.-a). While this goal is not yet legally binding, the Commission has indicated it is exploring options to introduce legislation to enforce it. They also created the Farm to Fork Strategy, published in 2020. This strategy frames food waste as a key part of building a sustainable food system and links reduction efforts to several other goals, including food safety, biodiversity conservation, nutrient recovery, and the promotion of renewable energy (Garske et al. 2020).

The EU also introduced a revised Waste Framework Directive in 2018, which requires member states to measure food waste consistently (International Energy Agency 2020). By standardizing methods for tracking food waste across the EU, this directive makes it easier to compare food waste between countries. While the directive does not mandate specific reduction

targets at the national level, it does require countries to submit regular reports on food waste generation across agriculture, processing, retail, and consumption.

These developments show a gradual move toward more standardized monitoring and accountability. However, implementation still varies across member states, and many national-level strategies remain voluntary. For example, in 2016 France passed a law which prohibits supermarkets from discarding unsold edible food and requires them to donate it to charities (Saltzman et al. 2019). In addition, Italy has focused on reducing food waste through donor tax incentives and simplified donation procedures. Their 2016 law allows food businesses to donate surplus food without facing penalties, even if products are past their "best before" date, as long as they are still safe to consume (Condamine 2020). These differences reflect the variety of policy tools being tested across the EU.

2.5.1 Reporting Frameworks in Austria

Austria has introduced several national efforts to address food waste, but until recently, most of them focused on the hospitality sector rather than retail. That changed with the 2023 amendment to the Austrian Waste Management Act (AWG), which introduced a mandatory reporting requirement for large grocery retailers. Since the fourth quarter of 2023, stores with a sales area of at least 400 m² or more than five locations have been required to report how much food they discard and how much they donate, on a quarterly basis ("Data on Food Waste in Retail for the First Time" 2024). The Ministry of Climate Protection published the first round of reports in early 2024, covering around 250 retail companies and roughly 4,000 store locations across Austria ("Data on Food Waste in Retail for the First Time" 2024).

While this is a major step toward transparency, the way the data is published limits how useful it actually is. The reports are organized by the legal names of franchise operators, rather than the brand names consumers recognize. This makes it difficult, or even impossible, for consumers to tell which store locations the data refers to. Additionally, the reports are published in administrative language, without any summaries, visuals, or context that would help people interpret the numbers. So even though the data is technically publicly available, it's not easy for most people to access or use.

Outside of the retail sector, Austria's main long-running initiative is United Against Waste, which was launched in 2014 as a public-private partnership (Bundesministerium für Land- und Forstwirtschaft, Klima- und Umweltschutz, Regionen und Wasserwirtschaft, n.d.-b). It focuses on reducing food waste in the hospitality and food service industries, including restaurants, hotels, and institutional kitchens. The goal is to cut avoidable kitchen waste by half by 2030. The initiative has supported studies in over 50 kitchens to identify high-waste areas and offers consulting services, toolkits, and training materials to help businesses implement changes. Since 2016, the program has been available nationwide and is partly integrated into regional environmental funding programs. So far, results from pilot projects show that targeted operational changes can lead to meaningful reductions in kitchen waste (Bundesministerium für Land- und Forstwirtschaft, Klima- und Umweltschutz, Regionen und Wasserwirtschaft, n.d.-b).

Austria also outlines broader waste prevention goals through its Federal Waste Management Plan (Bundes-Abfallwirtschaftsplan), which is updated every six years (Bundesministerium für Land- und Forstwirtschaft, Klima- und Umweltschutz, Regionen und Wasserwirtschaft, n.d.-

a). The 2023 plan includes food waste as a national priority and aligns with EU-level targets, but like many high-level strategies, it focuses more on guidelines than on enforcement.

There are also limited tax incentives in place to encourage food donation. Under Austrian tax law, donations to approved non-profit organizations can be deducted from business taxes, but the system is complex (Federal Ministry of Finance 2025). To be eligible, donors must provide personal data that matches official records exactly, and the organizations receiving the donations must report them directly to tax authorities. In practice, this creates an administrative burden that may discourage some businesses from donating, especially when dealing with perishable food that has to be moved quickly (Federal Ministry of Finance 2025).

Overall, Austria's approach to food waste has started shifting from voluntary awareness campaigns toward more formal structures like mandatory reporting. But the impact of these policies depends on how accessible the information is, how it's communicated to the public, and whether they actually lead to changes in behavior.

2.6 Consumer Behavior and Ethical Purchasing

In discussions about food waste policy, there's growing interest in whether transparency could influence not just businesses, but also consumers. If people had more visibility into how much food is wasted at the retail level, it is possible that this information could shape where they choose to shop. While this hasn't been tested directly in the context of food waste reporting, there are examples from other areas where ethics-based transparency has influenced consumer behavior in other ways, like ethical labeling, sustainability certifications, or company disclosures. This section looks at what existing research shows about how ethical concerns

affect purchasing habits, and under what conditions consumers are likely to act on that information.

2.6.1 Effects of Transparency on Consumer Choice

There's evidence that transparency can shape consumer behavior, especially when it comes to ethical or sustainability issues. Some studies suggest that ethical behavior matters more than just having sustainability labels. One study found that when a company is seen as acting unethically, it risks losing its most loyal customers, who are often the hardest to replace (Ingram, Skinner, and Taylor 2005). Another study came to a similar conclusion. Even though consumers say they care about corporate social responsibility, what often matters more is whether a company is seen as generally ethical (Brunk 2010). This suggests that sustainability efforts like reducing food waste could be taken more seriously by consumers if they're part of a broader ethical approach.

Overall, transparency appears to have a stronger impact when the information is presented in a way that is easy to understand, when consumers already care about the issue, and when it is part of a company's broader ethical image. In the case of food waste, even if the data is public, it may not affect consumer decisions unless people know how to find it, trust it, and see it as part of something meaningful.

2.6.2 Consumer Barriers to Ethical Purchasing

While there is evidence that ethical information can shape consumer decisions, especially when it is visible and easy to understand, a wide range of studies also show that transparency alone is often not enough to drive behavior change. In reality, people often face barriers that prevent them from acting on their ethical concerns, even when those concerns are genuine.

One common issue is the gap between what people say and what they actually do. Consumers may express support for sustainability, but those values don't always translate into action. One consumer behavior study found that even ethically aware consumers often prioritize price, convenience, and personal preferences over ethical considerations (Harris, Roby, and Dibb 2016). In this study, which focused on sustainable fashion, participants said that while they valued ethics in theory, decisions were still based on self-interest. Factors like style, affordability, and brand familiarity regularly outweighed ethical concerns (Harris, Roby, and Dibb 2016).

Similar patterns have been observed in food consumption. In one study which researched barriers that limit consumer engagement with sustainable food choices, affordability was the most common barrier mentioned, because consumers view sustainable options as more expensive or less accessible (Goryńska-Goldmann 2019). Time was another issue. Finding, comparing, and preparing sustainable products often required more effort. Additionally, social and psychological barriers were identified, such as family resistance, the perception that sustainable food is less enjoyable, or the disruption of established routines (Goryńska-Goldmann 2019). Even consumers who are interested in sustainability often felt that the burden of responsibility falls entirely on them, which was discouraging when they also lacked broader systemic support.

There is also the issue of information overload and distrust. One study looking at consumer trust found that consumers are often overwhelmed by the number of labels and messages competing for attention, and they may not know which claims to trust (Harris, Roby, and Dibb 2016). If ethical information is unclear, inconsistent, or seems unreliable, people may ignore it

completely. These findings suggest that for transparency to work, the data must be be accessible, from a publicly trusted source, and presented in a way that connects to people's everyday decisions.

2.7 Identified Research Gap

Although food waste has become a more prominent policy concern in recent years, much of the research has focused on measuring waste, identifying causes, or evaluating large-scale interventions like donation programs or hospitality guidelines. There has been far less attention given to the consumer side of transparency, especially how making retail-level food waste data publicly available might influence everyday purchasing behavior.

Among the literature that does explore ethical consumerism or sustainability-oriented behavior, most studies examine labeling systems (such as Fair Trade, organic, or emissions-based labels), not public data platforms. And even within the realm of food waste, retail-level transparency as a behavioral tool remains largely untested. In the Austrian context in particular, very little research exists on whether newly introduced reporting requirements could affect consumer habits, especially given the technical nature of the published data and its limited accessibility.

This thesis aims to fill that gap by focusing on a specific policy context—Austria's new mandatory food waste reporting requirement for large retailers—and asking whether increased transparency could have an impact on consumer behavior. While the current reports are not widely used by the public, this research explores a hypothetical policy extension: What if the same data was made more accessible, clearly communicated, and linked to specific store locations? Would consumers in Vienna respond by shopping differently?

By collecting and analyzing original survey data, this study explores how values like food waste concern are associated with factors like income and behavioral habits, and how these factors may shape consumer behaviors. The findings help policymakers assess whether transparency alone could shift market behavior or whether stronger regulatory measures or communication strategies would be needed. In doing so, the research contributes both to the emerging conversation around food waste transparency and to broader debates about the role of consumers in the circular economy and improved sustainability.

Chapter 3: Methodology

This chapter explains how the data for this project was collected and how the analysis was carried out. The main goal was to understand whether people are more likely to change their shopping behavior—like paying slightly more or choosing a different store—when they know that a grocery store wastes less food.

Because the research looks at both values and ability, the survey was designed to measure two key things: how much people care about food waste, and whether their income might influence whether they're able to act on that concern. After collecting the data, I built a series of models to explore these relationships from different angles.

What follows is an overview of how the survey was shared, how responses were cleaned and prepared, and how each model was developed to focus on a specific part of the research question.

3.1 Survey Design and Data Collection

The data was collected though a survey using Google Forms, which was distributed through snowball sampling. It was distributed mostly through personal networks and social media, with participants encouraged to pass it along to others. This method made it easy to collect responses quickly, but it also meant that the sample leaned heavily toward certain demographics, particularly younger people.

In total, 78 people responded to the survey. After removing responses from people who do not live in Vienna, there were 76 usable responses. This location filter was necessary to keep the

results relevant to the policy and retail environment in Vienna since that's the specific context the study is focused on.

The survey asked questions related to both values and behavior. Participants were asked how much they care about food waste (on a 1–5 scale), how often they waste food themselves, and whether they would be willing to either pay slightly more or walk a bit farther to shop at a grocery store that wastes less food. It also collected basic demographic information like income, age, gender, education, diet, and shopping habits. The willingness-to-pay and willingness-to-walk questions were meant to act as behavioral proxies, to get a sense of whether people might actually change how or where they shop in response to food waste information.

While the survey was open to all adults living in Vienna, the final sample was heavily skewed toward younger respondents. Of the 76 valid responses, 74 were from individuals under the age of 35. Because only two responses came from older participants, including them would have introduced disproportionate weight to an age group that was not meaningfully represented in the data. To maintain consistency and ensure that the findings reflect the actual group surveyed, those two responses were excluded from the analysis. As a result, this study focuses specifically on young adult consumers in Vienna.

Income was collected in categories and is a central demographic variable in several models. Other demographic variables like education level and gender were included in the survey, but were not used in the main analysis, as they weren't central to the research question and didn't show clear variation or balance between groups.

Even though the sample is not representative of Vienna's entire population, the responses give some initial insight into how values (like concern about food waste) and capacity (like income) might influence consumer decisions when presented with food waste data. That is the central question this thesis aims to explore.

3.2 Model 1: Behavioral Outcome—Willingness to Pay Slightly More

The first model tests whether concern about food waste, treated as a value-based indicator, is associated with a greater willingness to pay slightly more to shop at a grocery store that wastes less food. This directly engages with the value-action gap discussed in the literature. While prior studies suggest that concern for sustainability does not always translate into action (Chaplin and Wyton 2014; Franco and Ghisetti 2022), this model tests whether concern about food waste in particular predicts willingness to take on a financial cost. Income is included to test whether material capacity influences whether a person can act on their concern, as past research shows that ethical behavior is often limited by affordability (Goryńska-Goldmann 2019). While this model doesn't directly measure the impact of a specific transparency policy, it asks a key underlying question:

> *Do people who care more about food waste—and have the financial ability—actually show signs of being more willing to change their behaviors to support reduced food waste?*

This is important, because if concern and income aren't connected to behavioral intention in the first place, then a policy built on consumer response to food waste data likely will not be

effective. That is why this model functions as a baseline; it checks whether the conditions that a transparency policy would rely on are present at all.

Willingness to pay slightly more was treated as an ordered outcome variable. The survey allowed for three response options: *No*, *Maybe*, and *Yes*, and answers were relatively evenly spread across the three. Because of this, the original scale was kept and used in an ordinal logistic regression.

Concern about food waste was originally collected using a 1–5 Likert scale, but the responses were heavily skewed toward the higher end. Only a small number of participants selected 1 or 2, while most chose 3, 4, or 5. To address this and make the variable more useful in the model, concern was grouped into three levels:

- Low concern (1–3)
- Moderate concern (4)
- High concern (5)

This grouping helped reflect how the data was actually distributed and also made it easier to interpret the results.

Income was also simplified before running the model. Because some income brackets had very few responses, all participants were grouped into one of two categories: those earning under €2000 per month, and those earning €2000 or more. This helped avoid overfitting and made the variable more reliable in the regression.

No interaction terms were included at this stage. The goal here was simply to see whether concern and income were associated with a higher willingness to pay more. This model sets the groundwork for the models that follow, which begin to explore variations in behavior, alternate outcomes, and the potential interaction between concern and financial capacity.

3.3 Model 2: Alternative Behavioral Outcome—Willingness to Walk Slightly Farther

The second model shifts focus to a non-financial form of behavioral intent: willingness to walk farther. This allows for a test of whether people are more likely to act on their concern when the cost is not monetary, but physical or logistical. Drawing on the value-action gap literature, this model explores whether concern is enough to motivate action when external constraints like price are removed, but other factors like time or effort remain. Since Franco and Ghisetti (2022) note that perceived time pressure plays a role in the value-action gap, this model helps explore how non-financial burdens might still inhibit action, even among the concerned. Instead of money, participants were asked whether they would be willing to walk farther to support a grocery store that wastes less food. This question approaches the same core issue—whether consumers are willing to change their behavior—from another angle.

The responses were recoded into a binary variable where only those who answered “Yes” were counted as 1. All other responses, including “Maybe” or “No,” were grouped together as 0. The goal was to focus specifically on participants who expressed clear behavioral intent.

As with the first model, income and concern about food waste were included as predictors. Income was already collapsed into a binary variable (under €2,000 vs. €2,000 or more).

Concern level groups from the previous model were maintained (low, medium, and high), and they were treated as an ordered factor.

A binary logistic regression was used to estimate how concern and income influenced the likelihood of saying "Yes." Because concern was ordered, R automatically generated both linear and quadratic terms, which allowed for the possibility of a non-linear relationship.

3.4 Models 3 & 4: Household Habits as Predictors of Concern

The earlier models looked at how values (like concern) and resources (like income) shape someone's willingness to support a grocery store that wastes less food. The next two models explore whether people's reported household habits—specifically how often they throw away food—are linked to their stated concern or willingness to act. These models are informed by prior research suggesting that many people believe themselves to be environmentally responsible, even when their behaviors don't fully align with those values (Chaplin and Wyton 2014). Unlike the previous models, however, these tests focus on a behavior—reducing food waste at home—that doesn't require a financial sacrifice or added burden. In fact, wasting less food could save both money and time. For that reason, these models provide a particularly useful lens for examining the value-action gap. If someone expresses high concern but still throws away food frequently, it raises further questions about what barriers, whether informational, social, or psychological, might be keeping values from translating into action.

This matters because if the people who are already wasting less food at home also show higher concern or a greater willingness to act in retail contexts, it suggests that values and behaviors are more likely to align across settings. That kind of consistency would support the idea that transparency policies—like publishing grocery store food waste data—might resonate most

with people who already engage in low-waste behavior privately. It would also suggest that awareness or education campaigns could have spillover effects across both household and consumer contexts. On the other hand, if home behavior doesn't appear to predict concern or willingness to act, it raises doubts about whether people respond consistently to food waste as an issue. In that case, making food waste data visible might not be enough on its own to shift shopping behavior, and more targeted policy interventions, like price incentives or donation regulations, might be necessary to close the gap between values and action.

To explore this, two models were created. The first asks whether people who waste less food at home report higher concern about food waste overall. The second tests whether people who waste less food at home are more likely to say they would walk further or pay more to shop at a store that throws away less food.

3.5 Methodological Overview and Limitations

The models presented in this chapter approach the research question from several different angles, each aiming to understand how people think about food waste and whether they're willing or able to act on that concern in everyday shopping situations. While each model focuses on a specific behavioral or value-based factor, they all connect back to the core question: *could transparent food waste data realistically change how people shop?*

Throughout the analysis, the statistical methods were selected based on the structure of the survey responses. Because many outcome variables were either binary (like saying "yes" or "no") or ordered (like "no," "maybe," and "yes"), logistic and ordinal logistic regression were used where appropriate. In a few cases, R automatically accounted for nonlinear relationships

in the data—for example, when a middle category seemed to behave differently than the extremes. This allowed the analysis to better reflect what was happening in the responses.

Several variables, like income and concern about food waste, were recoded before running the models to reflect how responses were distributed. Income was condensed into a binary variable, and concern about food waste was grouped into three levels. These adjustments were meant to keep the models interpretable and grounded in how people responded.

There are also limitations that should be acknowledged. The survey was conducted using snowball sampling, which means that most participants came from less diverse social or educational backgrounds. The final dataset leaned heavily toward younger adults, and after removing two outliers over the age of 34, the analysis was narrowed to focus only on young adult consumers in Vienna. This choice was made to ensure that the findings reflected the group actually represented in the data. Other variables, like gender and education level, were not included in the final models, because the sample lacked balance or variation in those categories, which would have made the models less reliable.

Despite these limitations, the models still provide useful insights. They help clarify how financial capacity, personal values, and everyday habits might interact in shaping whether someone would support a low-waste grocery store. While the results may not be broadly generalizable beyond the sample, they offer an exploratory first step toward understanding what role consumers might play in reducing food waste, and what policies might be needed to support that behavior.

Chapter 4: Results

This section presents the key findings from the statistical models introduced in the previous chapter. The aim is to explore whether income and concern about food waste are linked to people's willingness to change their shopping behavior—specifically, whether they would pay slightly more or walk a bit farther to support a grocery store that wastes less food.

It begins with an overview of the dataset, including basic descriptive statistics to give context to the sample—such as participant demographics, levels of concern about food waste, and general shopping habits. From there, the chapter moves on to the main regression models, which were introduced in the previous methodology chapter. Each model is presented in the same order as in the previous section, starting with willingness to pay slightly more, followed by willingness to walk farther, and then exploring how self-reported household food waste relates to levels of concern and behavioral intent. Each section includes a summary of the results and a brief interpretation of the findings. These findings serve as the foundation for the discussion that follows in the next chapter, where they are evaluated in relation to the broader literature and the policy context in Vienna.

4.1 Descriptive Statistics

The final dataset includes 76 responses from people living in Vienna, as participants who did not meet this location requirement were excluded from the analysis. As noted in the methodology, the sample skewed heavily toward younger adults under the age of 35. For this reason, the two responses of people 35 and older were excluded to improve the consistency of the models' ability to predict the behavior of young people, and the research will focus specifically on young consumers in Vienna.

In terms of gender, the responses were fairly balanced, with a slight majority identifying as women. Most respondents reported monthly household incomes below €2,000, reflecting the younger age profile and possibly the student-heavy sample captured by snowball sampling.

When asked how concerned they are about food waste, participants overwhelmingly rated it as a high priority. Although concern was measured on a 1–5 scale, the responses clustered at the top, with the majority selecting 4 or 5. Despite this high concern, 71.4% of respondents reported throwing away food at least once per week, indicating a disconnect between concern and actual behavior. The most common reasons cited for food waste were forgetting food until it spoiled, buying more than needed, and confusion about expiration dates.

Participants also answered two questions related to their willingness to change shopping habits. When asked if they would be willing to pay slightly more to shop at a store that reduces food waste, responses were split across "Yes," "Maybe," and "No," with "Maybe" being the most common. A larger share said they would be willing to walk farther to support a low-waste grocery store, suggesting that effort-based changes may be more acceptable than cost-based ones.

These patterns give a clearer sense of the values and behaviors shaping participants' decisions. They also provide important context for the models that follow, which test whether values like concern, and constraints like income, can actually predict willingness to change consumer behavior in response to food waste information.

4.2 Model 1: Willingness to Pay Slightly More

The first model tested whether income and concern about food waste were associated with participants' stated willingness to pay slightly more to shop at a grocery store that reduces food waste. Because the outcome variable had three ordered response options (No, Maybe, Yes), an ordinal logistic regression was used.

The results indicate that income was a statistically significant predictor of willingness to pay more. The income coefficient was positive (1.2318) and significant at the 0.05 level (t = 2.03), suggesting that people with higher incomes were more likely to say they would be willing to pay slightly more. This aligns with expectations, as financial flexibility may make it easier for these participants to follow through on their stated ethical preferences.

```
Coefficients:
                            Value Std. Error t value
waste_concern_levellow    -0.9070     0.6926 -1.3096
waste_concern_levelmedium -0.1628     0.7200 -0.2261
income                     1.2318     0.6067  2.0305

Intercepts:
          Value   Std. Error t value
No|Maybe  -1.4722  0.6111    -2.4089
Maybe|Yes  0.3049  0.5800     0.5257
```

Figure 1: Willingness to pay slightly more predicted by concern about food waste and income

In contrast, concern about food waste did not appear to play a strong role in predicting willingness to pay more. Neither the "medium" nor "low" concern groups showed statistically significant differences compared to the "high" concern baseline. The negative coefficients for both concern groups suggest that participants who reported lower concern were slightly less likely to pay more, but these differences were not statistically meaningful.

These results provide partial support for the hypothesis that people who care about food waste and have the capacity to act are more likely to change their shopping behavior. While income clearly influenced willingness to pay, concern on its own did not. This suggests that while values may play a role, as all as structural capacity (in this case, income) may be more important when it comes to cost-based behavioral change.

4.3 Model 2: Willingness to Walk Further

The second model explored whether a participant's concern about food waste and their income level predicted their willingness to walk farther in order to support a grocery store that throws away less food. Since responses were heavily skewed toward "maybe" and "yes," this outcome was recoded into a binary variable. Only "yes" responses were counted as 1, indicating a clear behavioral intent, while "no" and "maybe" were grouped together as 0.

A binary logistic regression was used, with concern about food waste treated as an ordered factor (low, medium, high) and income treated as a binary variable (under €2000 vs. €2000 or more). As with Model 1, the concern variable generated both linear and quadratic terms to capture potential non-linear effects.


```
Coefficients:
                   Estimate Std. Error z value Pr(>|z|)
(Intercept)         -1.0695     0.3944  -2.711   0.0067 **
waste_concern_ord.L  0.5625     0.5836   0.964   0.3351
waste_concern_ord.Q -1.1707     0.5597  -2.092   0.0365 *
income               0.9543     0.7355   1.297   0.1945
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

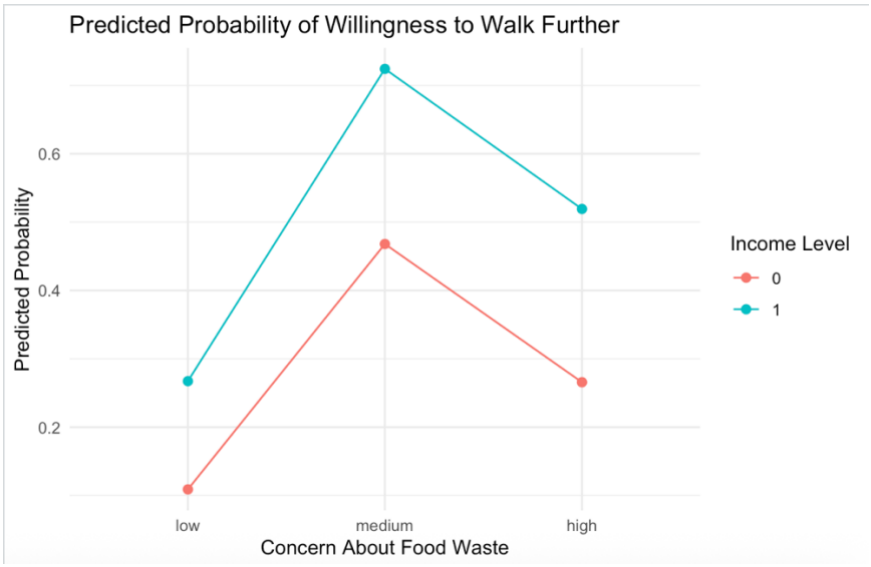

Figure 2: Willingness to walk further predicted by concern about food waste and income

In contrast to the first model, Model 2 shows a statistically significant quadratic effect for concern. Specifically, the quadratic term "waste_concern_ord.Q" has a negative coefficient and is statistically significant at the 5% level with a p value of 0.0365. This suggests an inverted-U shaped relationship, where those with moderate concern about food waste were most likely to express willingness to walk farther, while those with low or high concern were less likely to do so.

This result is illustrated visually in Figure 2. Across both income groups, the predicted probability of willingness to walk farther peaks at medium concern, then drops again at high concern. This is somewhat surprising, as one might expect that higher concern would correspond to greater willingness. One possible explanation is that individuals with very high concern may be more skeptical or disillusioned about the effectiveness of individual consumer action. Conversely, those with moderate concern may strike a balance between caring enough to take action and feeling that their efforts are meaningful.

Income, while included in the model, was not a statistically significant predictor on its own ($p = 0.1945$), and neither was the linear term for concern ($p = 0.3351$). The intercept was negative and significant, consistent with a relatively low baseline likelihood of respondents selecting "yes."

This model adds important nuance to the findings from Model 1. While willingness to pay more was largely explained by income, willingness to walk farther appears more closely tied to how individuals relate to the issue of food waste and how confident they feel about taking action on it.

4.4 Model 3: Household Waste Frequency and Concern About Food Waste

This model explores whether people who say they waste less food at home also report higher concern about food waste more generally. Concern was treated as an ordinal variable with three levels—low, medium, and high—and modeled using an ordinal logistic regression. Waste frequency was a binary predictor: participants who reported throwing away food less than once per week were coded as 0, and those who reported wasting food at least once per week were coded as 1.

The model did not find a statistically significant relationship between self-reported waste frequency and the overall level of concern about food waste (Estimate = 0.4744, $p = 0.3346$). However, the intercept between medium and high concern levels was significant (Estimate = 1.3489, $p = 0.0031$), suggesting that individuals who reach the highest concern level may differ meaningfully from those who only report moderate concern. This points to a potential threshold

effect, where strong concern about food waste is qualitatively different than simply moderate concern—but this effect wasn't clearly predicted by waste frequency.

In short, while people who waste less food at home do not appear significantly more likely to express concern about food waste overall, the data does suggest that the most concerned group—those who score a "5" on the concern scale—may be distinct from the rest in ways that are worth exploring further.

```
Coefficients:
                 Value Std. Error t value
waste_frequency 0.4744     0.4916  0.9649

Intercepts:
            Value  Std. Error t value
low|medium  0.0151 0.4274     0.0354
medium|high 1.3489 0.4566     2.9543

                   Value Std. Error    t value p value
waste_frequency 0.47437437  0.4916187 0.96492330  0.3346
low|medium      0.01511208  0.4273572 0.03536171  0.9718
medium|high     1.34893400  0.4566021 2.95428779  0.0031
```

Figure 3: Household food waste frequency as a predictor of concern level

4.5 Model 4: Household Waste Frequency as a Predictor of Willingness to Act

This final model set explored whether people who report wasting less food at home are also more likely to express willingness to change their shopping behavior—either by walking farther or paying slightly more—to support a store that throws away less food. The idea behind this test is straightforward: if a person is already mindful about food waste in their own home, they may be more likely to value and support low-waste practices in public contexts as well.

```
Coefficients:
               Estimate Std. Error z value Pr(>|z|)
(Intercept)     -1.1632     0.5123  -2.270   0.0232 *
waste_frequency  0.4128     0.5908   0.699   0.4847
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 4: Waste frequency as a predictor of willingness to walk further

The first model (Figure 4) used binary logistic regression to examine the relationship between household food waste and willingness to walk farther. The predictor variable was a binary indicator of waste frequency, with “1” indicating that the respondent throws away food at least once per week. The outcome variable measured whether or not they said they would be willing to walk farther for a store that wastes less food.

The result showed a positive association (β = 0.4128), but it was not statistically significant (p = 0.4847). This suggests that people who waste less food at home may be slightly more likely to say they would walk farther, but the relationship was weak and should be interpreted with caution. Overall, this model did not provide strong evidence that home habits predict willingness to walk farther.

```
Coefficients:
                 Value Std. Error t value
waste_frequency 0.3096     0.4725  0.6552

Intercepts:
          Value   Std. Error t value
No|Maybe  -0.9974  0.4236    -2.3547
Maybe|Yes  0.7751  0.4161     1.8629

                   Value Std. Error    t value p value
waste_frequency  0.3095944  0.4725277  0.6551878  0.5123
No|Maybe        -0.9974391  0.4235938 -2.3547068  0.0185
Maybe|Yes        0.7751368  0.4160977  1.8628721  0.0625
```

Figure 5: Waste frequency as a predictor of willingness to pay more

The second model (Figure 5) used ordinal logistic regression to test the relationship between household food waste and willingness to pay slightly more. Here again, the waste frequency variable served as the predictor, and the outcome variable was the ordered response scale: No, Maybe, and Yes.

In this case, the coefficient for waste frequency was also positive ($\beta = 0.3096$) but again not statistically significant ($p = 0.5123$). However, the ordinal outcome model shows some directional movement. The threshold estimate between "No" and "Maybe" was significant ($p = 0.0185$), suggesting that people who waste less food may be less likely to respond "No." Still, there was no significant difference between "Maybe" and "Yes," so the model as a whole remains inconclusive.

4.6 Summary of Results

Across the four models, a few patterns began to emerge. Income was a consistent predictor of willingness to pay more, but less relevant when it came to willingness to walk farther. Concern about food waste, while generally high among participants, showed more complex and sometimes non-linear relationships with behavior, particularly in the second model where medium concern appeared to align more with action than high concern. Household food waste, used as a proxy for personal habits, was not a strong predictor of behavior, though it did show some connection to how concerned participants said they were about the issue.

Overall, the models paint a nuanced picture. While values and income both seem to matter, their influence depends on the type of behavioral change being asked of the consumer. These mixed findings highlight the importance of considering both psychological and material

constraints when designing food waste reduction policies, especially those that rely on public response to transparency measures.

Chapter 5: Conclusion

This thesis examined whether improving the visibility and accessibility of retail food waste data could influence consumer behavior in Vienna. The research was grounded in Austria's current food waste reporting policy, which requires large retailers to submit quarterly data, but presents that data in a way that is often difficult for consumers to find or understand. By focusing on how concern about food waste, income, and personal habits interact with consumer willingness to act, the goal was to explore whether more accessible transparency could serve as a meaningful policy tool. While the scope of the study was specific to the Viennese context, the broader question—how to design food system policies that translate concern into action—remains relevant across settings. This final chapter reflects on the key findings, outlines their implications, acknowledges the study's limitations, and points toward possible directions for future research.

5.1 Summary of Key Findings

The analysis in this thesis focused on whether young consumers in Vienna are willing or able to change their shopping behavior in response to retail food waste information, and what factors might shape that response. Several important patterns emerged from the results.

The first model tested whether income and concern about food waste predicted a participant's willingness to pay slightly more to shop at a store that wastes less food. Income showed a significant relationship with willingness—participants earning over €2,000 per month were more likely to say they would pay slightly more. However, concern about food waste did not have a statistically significant effect in this model. This suggests that financial capacity may

play a stronger role than values when consumers are faced with monetary trade-offs, even in cases where they personally care about the issue.

The second model looked at willingness to walk farther, which represents a different kind of cost: time and effort rather than money. Here, concern again played a role, but the relationship was non-linear. Participants with moderate concern levels were the most likely to say they would walk farther, while both high and low concern groups were least likely to express willingness. Income had no significant effect in this model. This suggests that behavioral intention doesn't always follow a predictable gradient, and that values alone can drive action—even when financial resources aren't involved.

The third and fourth models turned the lens toward household habits, asking whether participants who waste less food at home are more likely to care about food waste or to support low-waste retailers. Results did not show a statistically significant connection between personal behavior and concern over all levels of concern; however, people who reported wasting less food at home were significantly more likely to report high concern levels in comparison to moderate or low levels. Household food waste was not a strong predictor of willingness to pay more or walk farther. This disconnect suggests that even when people behave sustainably at home, they may not always translate those habits into public or commercial settings.

5.2 Limitations

As with any small-scale study, this research comes with a number of limitations that should be acknowledged when interpreting the findings. The most obvious is the sample itself. The survey was distributed through snowball sampling, which means participants were mostly

drawn from the social networks of the researcher and their contacts. This makes the sample non-random and inherently biased toward certain demographics.

The clearest result of this sampling method was the age profile of respondents. Despite being open to all adults living in Vienna, the final sample skewed overwhelmingly young. After removing two outlier responses from participants over the age of 34, the entire dataset consisted of individuals aged 18–34. This limitation was addressed by adjusting the scope of the thesis to focus specifically on young adults in Vienna. However, this also means the results cannot be generalized to older populations or to Vienna's broader consumer base.

In addition to the age skew, the sample size was relatively small, with 76 valid responses in total, and even fewer included in each regression model after removing incomplete or unusable responses. This limited the complexity of the models and meant that some subgroups (such as income brackets or education levels) were too underrepresented to be used in meaningful analysis. As a result, the models focused on a few core variables rather than a broader range of demographic factors or behavioral factors. For example, the study collected data on district, but did not use it in modeling, as there was not enough meaningful representation from each district.

The survey also relied entirely on self-reported data, which introduces the possibility of bias through misremembering, variation in how participants interpreted questions, or idealized self-perception. For instance, respondents may have overstated their concern about food waste or underreported how often they throw food away at home. This issue becomes especially relevant when a participant associates sustainable behavior with their sense of morality or self-worth. In such cases, they may answer in line with how they want to see themselves, rather than how

they actually behave. For example, someone might believe they would change their shopping habits in response to food waste data, but when faced with that decision in real life, they would not. While these kinds of issues are difficult to eliminate in survey-based research, they should be kept in mind when interpreting the models, particularly when effect sizes are small or borderline significant.

Finally, the research design itself is exploratory and hypothetical in nature. Participants were asked whether they would be willing to pay slightly more or walk farther—an intention, not an action. While useful as a behavioral proxy, this kind of data doesn't fully capture how people would actually behave when faced with food waste information in a real-world context. The gap between attitudes and action remains a key challenge in sustainability research more broadly, and future studies will need to test these dynamics in more applied settings.

In short, this thesis offers early insights into consumer responses to food waste transparency among young people in Vienna, but these findings are exploratory. Broader studies with more representative samples, larger datasets, and real-world interventions would be needed to draw firmer conclusions.

5.3 Policy Implications and Practical Relevance

This research set out to examine whether transparency—specifically, retail food waste reporting—could act as a meaningful tool for influencing consumer behavior. The core idea was that if consumers had access to clearer data on which stores waste the most food, they might adjust their purchasing behavior in response. While the models show that some consumers are indeed willing to act, the results also make clear that willingness is unevenly distributed and closely tied to broader structural factors—particularly income.

In the first model, income emerged as a statistically significant predictor of whether someone was willing to pay slightly more to support a lower-waste grocery store. This suggests that values alone are not enough. People may care about food waste, but without the financial flexibility or peace of mind that comes with higher income, they may not be in a position to act on that concern. Behavioral change, in this case, is not simply a matter of awareness or intention, it's also a matter of capacity.

This raises important questions about the limits of market-based responses to systemic issues like food waste. If the expectation is that transparency alone can drive change, it assumes all consumers are equally able to respond. But this is not the case. Many people, particularly those with lower incomes, may not have the bandwidth—financial or otherwise—to prioritize sustainability over cost, time, or convenience.

While initially proposed as a potentially low-cost, market-based tool, the findings suggest that transparency alone may not generate a strong enough consumer response to drive meaningful change. What this implies is that the costs of food waste cannot be absorbed solely by individual consumers. If financial and emotional bandwidth are prerequisites for taking action, then transparency will disproportionately empower only certain portions of the population. As a result, the free market is unlikely to self-regulate this externality without additional intervention.

For transparency to be effective, it needs to be part of a broader strategy that includes public policy measures. These might include legally binding waste reduction targets, mandatory donation requirements, or targeted subsidies and supports that make sustainable choices more

accessible. Transparency alone is unlikely to produce large-scale behavioral change unless it is paired with clear institutional responsibility and policy structures that reduce the burden placed on consumers—particularly those with fewer resources.

In Austria, recent legislation now requires large grocery retailers to report how much food they discard and how much they donate. This represents an important step toward institutional accountability, but the current policy's impact may remain limited if consumers are the only ones expected to act on that information. Based on this study's findings, simply making data available may not be enough to shift behavior at scale. For Austria's policy to succeed, it may need to go beyond disclosure and integrate stronger mechanisms, such as introducing regulatory limits on waste, mandating the donation of all edible food to food banks, or supporting other low-waste practices through tax incentives or legal enforcement. Without that broader framework, the policy risks placing the burden of action on consumers who may not have the capacity to carry it.

5.4 Recommendations for Future Research

Future research should further investigate the boundaries of the value-action gap, especially in contexts where sustainable behavior is not costly or inconvenient. Much of the literature on this gap focuses on actions that require sacrifice, like spending more or changing routines. But this thesis suggests that even for behaviors that save time or money, like avoiding food waste at home, the gap between values and actions can still persist. This raises important questions about how people perceive their own responsibility and what factors actually drive behavior, even when there's no clear downside to acting sustainably.

There is also space to explore how structural interventions compare to individual responsibility in shaping outcomes. While this thesis focused on transparency as a potential low-cost, market-based tool, future research could examine the actual impact of legislation—such as mandatory food waste limits or donation requirements—on both business practices and consumer behavior. This would help clarify whether policy tools need to go beyond informing consumers and instead reshape the rules retailers operate under.

Additionally, it would be useful to examine how food waste norms are formed and reinforced in different social and cultural contexts. If people see food waste as a collective issue, but lack a strong sense of individual efficacy, then shifting norms through campaigns, education, or community-level messaging may be more effective than simply appealing to personal ethics. Exploring how those norms develop and what messaging actually influences them could offer deeper insight into how to achieve more durable behavioral change.

Finally, future work should also engage more seriously with the environmental impact of food waste itself. While this study focused on behavior and values, the climate cost of wasted food remains one of the strongest justifications for intervention. Studies which tie consumer behavior to concrete environmental outcomes, both perceived and actual, may help build stronger public support for action and better-targeted policies.

5.5 Final Remarks

This thesis set out to explore whether making food waste data visible at the retail level could meaningfully influence consumer behavior in Vienna. While many participants expressed concern about food waste, that concern didn't always translate into clear willingness to act, especially when action involved a cost, like paying more or walking farther. Even at home,

where reducing food waste can actually save time and money, concern didn't strongly predict behavior.

Still, the findings point to some nuance. Income played a role in shaping willingness to pay, and moderate concern appeared more predictive of action than either low or high concern. These results suggest that awareness matters, but that increasing awareness may not be enough on its own. Therefore, Austria's current approach of publishing food waste data is a meaningful first step, but likely not sufficient as it currently stands. If the goal is to significantly reduce retail food waste, policymakers should consider whether further action, such as legislative limits, would have a greater impact on reducing food waste at the retail level.

Chapter 6: References

Bolos, Laura Andreea, Carl-Johan Lagerkvist, Anna Kristina Edenbrant, and Rodolfo Nagya. 2022. "Consumer Preferences for Visually Sub-Optimal Food: Role of Information Framing and Personal Goals." *Resources, Conservation and Recycling* 184 (September):106426. https://doi.org/10.1016/j.resconrec.2022.106426.

Brunk, Katja H. 2010. "Exploring Origins of Ethical Company/Brand Perceptions—A Consumer Perspective of Corporate Ethics." *Journal of Business Research* 63 (3): 255–62.

Bundesministerium für Land- und Forstwirtschaft, Klima- und Umweltschutz, Regionen und Wasserwirtschaft. n.d.-a. "Bundes-Abfallwirtschaftsplan (BAWP) 2023." Accessed May 16, 2025. https://www.bmimi.gv.at/themen/klima_umwelt/abfall/aws/bundes_awp/bawp2023.html.

———. n.d.-b. "United Against Waste." Accessed May 13, 2025. https://www.bmimi.gv.at/themen/klima_umwelt/abfall/abfallvermeidung/lebensmittel/partner/united.html.

Chaplin, Gareth, and Paul Wyton. 2014. "Student Engagement with Sustainability: Understanding the Value–Action Gap." *International Journal of Sustainability in Higher Education* 15 (4): 404–17.

Condamine, Pierre. 2020. "Italy's Law for Donation and Distribution of Food and Pharmaceuticals to Limit Food Waste." Zero Waste Europe. November 2020. https://www.google.com/search?client=safari&rls=en&q=italy+food+donation+tax&ie=UTF-8&oe=UTF-8.

"Data on Food Waste in Retail for the First Time." 2024. Pro.earth. March 4, 2024. https://pro.earth/en/2024/03/04/erstmals-daten-zu-lebensmittelverschwendung-im-handel/.

European Commission. 2025. "European Food Loss and Waste Prevention Hub." 2025. https://ec.europa.eu/food/safety/food_waste/eu-food-loss-waste-prevention-hub/eu-member-state-page/show/AT.

———. n.d.-a. "Food Waste Reduction Targets." Accessed May 8, 2025. https://food.ec.europa.eu/food-safety/food-waste/eu-actions-against-food-waste/food-waste-reduction-targets_en.

———. n.d.-b. "Frequently Asked Questions: Reducing Food Waste in the EU." Accessed May 7, 2025. https://food.ec.europa.eu/food-safety/food-waste/frequently-asked-questions-reducing-food-waste-eu_en.

Eurostat. 2025. "Food Waste and Food Waste Prevention - Estimates." 2025. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Food_waste_and_food_waste_prevention_-_estimates.

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology. 2025. "Lebensmittelweitergabe - Veröffentlichte Berichte." 2025. https://edm.gv.at/lmw/#/berichte/oeffentlich.

Federal Ministry of Finance. 2025. "Taxation of Associations and Deductibility of Donations." Oesterreich.Gv.at - Österreichs Digitales Amt. May 1, 2025. https://www.oesterreich.gv.at/en/themen/reisen_und_freizeit/vereine/Seite.220930.html.

Franco, Chiara, and Claudia Ghisetti. 2022. "What Shapes the 'Value-Action' Gap? The Role of Time Perception Reconsidered." *Economia Politica* 39 (3): 1023–53. https://doi.org/10.1007/s40888-022-00282-8.

Garske, Beatrice, Katharine Heyl, Felix Ekardt, Lea Moana Weber, and Wiktoria Gradzka. 2020. "Challenges of Food Waste Governance: An Assessment of European Legislation on Food Waste and Recommendations for Improvement by Economic Instruments." *Land* 9 (7): 231. https://doi.org/10.3390/land9070231.

Goryńska-Goldmann, Elżbieta. 2019. "Barriers to the Development of Consumption Sustainability: The Consumers' Perspective on the Food Markets." https://digilib.uhk.cz/bitstream/handle/20.500.12603/104/GORY%C5%83SKA-GOLDMANN.pdf?sequence=1&isAllowed=y.

Harris, Fiona, Helen Roby, and Sally Dibb. 2016. "Sustainable Clothing: Challenges, Barriers and Interventions for Encouraging More Sustainable Consumer Behaviour." *International Journal of Consumer Studies* 40 (3): 309–18. https://doi.org/10.1111/ijcs.12257.

Ingram, Rhea, Steven J. Skinner, and Valerie A. Taylor. 2005. "'Consumers' Evaluation of Unethical Marketing Behaviors: The Role of Customer Commitment'." *Journal of Business Ethics* 62 (3): 237–52. https://doi.org/10.1007/s10551-005-1899-0.

International Energy Agency. 2020. "EU Waste Framework Directive." IEA. October 13, 2020. https://www.iea.org/policies/24849-eu-waste-framework-directive.

Ritchie, Hannah. 2019. "50% of All Land in the World Is Used to Produce Food." World Economic Forum. December 11, 2019. https://www.weforum.org/stories/2019/12/agriculture-habitable-land/.

Saltzman, Melanie, Christopher Livesay, Joan Martelli, and Deborah Gouffran. 2019. "Is France's Groundbreaking Food-Waste Law Working?" PBS News Weekend. August 31, 2019. https://www.pbs.org/newshour/show/is-frances-groundbreaking-food-waste-law-working.

Sanchez Lopez, Javier, Carla Caldeira, Valeria De Laurentiis, Serenella Sala, and Marios Avraamides. 2020. “Brief on Food Waste in the European Union.” ResearchGate. 2020. https://www.researchgate.net/publication/343879091_Brief_on_food_waste_in_the_European_Union.

Scherhaufer, Silvia, Graham Moates, Hanna Hartikainen, Keith Waldron, and Gudrun Obersteiner. 2018. “Environmental Impacts of Food Waste in Europe.” *Waste Management* 77:98–113.

Scialabba, Nadia. 2015. “Food Wastage Footprint & Climate Change.” Food and Agriculture Organizaiton of the United Nations. 2015. https://openknowledge.fao.org/items/a1f15579-4af8-407b-b946-2ceb11fa716b.

Sokolic, Danijela, Elizabeta Ribarić, and Iva Zdrilic. 2021. “Challenges in Organizing a Food Donation System: Requirements and Barriers for the Food Business Operators.” In *ResearchGate*. https://www.researchgate.net/publication/363214302_CHALLENGES_IN_ORGANIZING_A_FOOD_DONATION_SYSTEM_REQUIREMENTS_AND_BARRIERS_FOR_THE_FOOD_BUSINESS_OPERATORS.

Stadt Wien. n.d. “Lebensmittelabfälle: Zahlen, Daten und Fakten.” Accessed May 6, 2025. https://www.wien.gv.at/umweltschutz/abfall/lebensmittel/fakten.html.

UNESCO. 2024. “UN World Water Development Report.” February 26, 2024. https://www.unesco.org/reports/wwdr/en/2024/s.

Xu, Xiaoming, Prateek Sharma, Shijie Shu, Tzu-Shun Lin, Philippe Ciais, Francesco N. Tubiello, Pete Smith, Nelson Campbell, and Atul K. Jain. 2021. “Global Greenhouse Gas Emissions from Animal-Based Foods Are Twice Those of Plant-Based Foods.” *Nature Food* 2 (9): 724–32. https://doi.org/10.1038/s43016-021-00358-x.