# Community Fridge Food Waste Dashboard Report

James Simmill

2024-07-04

Agriculture Data Science Research Centre

## Purpose:

This document provides an overview of the Community Fridge Food Waste Data Dashboard, designed to visualise the magnitude of food saved through the community fridge initiative. It discusses the integrity of the data, the total amount of food saved, and addresses challenges such as specific user errors encountered during data collection.

## Findings:

Upon first loading the dataset “ePOS system report.xls”, it was identified that the file format was actually an HTML table. Once converted and loaded, we found inconsistency and incompleteness of data. Many entries in the dataset were incomplete or missing, limiting the scope of analysis to categories such as Quantity, Product, Category, Date/Time, and Tender.

Some categories had formatting inconsistencies. The quantity field showed significant variation, with donated food measured in grams or numerical count of items. The Product category contained heterogeneous data (e.g. food type and user type in the same column). This inconsistency made it impossible to accurately analyse the data. Some numerical entries included both characters and numerals making numerical analysis impossible without manual adjustment.

The dataset features excessive detail (e.g. the number of food categories, some containing almost no entries). Thus, some categories could have been grouped under more concise labels. For example, “Dessert, Confectionery, biscuit & snacks” could be shortened to “Desserts & Snacks,” while others, such as “Sauces, Pickles, Herbs, Tins & Bottles,” were irrelevant and could be merged into an "Other" category. These problems required data cleaning, preprocessing and re-categorised before analysis.

During a laboratory visit to the fridge, we found the machine used to record taken food was complicated to operate, leading to errors in data entry. This could explain incorrect quantities, mismatched categories, and missing user details, such as staff and student identifiers in the actual data.

Despite the challenges, by cleaning the data, correcting inconsistencies, and implementing broader category groupings, the dashboard was able to effectively visualise the magnitude of food saved through the community fridge and track how new users visit the fridge over time.

Community Fridge Link: <https://www.harper-adams.ac.uk/community/988/community-fridge-pilot-project/>

Dashboard Link: <https://haucommunityfridge.github.io/James_FoodWasteData/FoodWasteDataDashboard.html>