
Waste reduction in the Sustainable Grocery Store

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H.5.2. Information interfaces and presentation (e.g., HCI): User Interfaces.

Background

Our current industrial food system is unsustainable in too many ways. We hope to make a dent in some of the unsustainable structures by way of our research project Sustainable Practices and Data: Opportunities for Change (SPOC). The practices in question all relate to the food system. Other important parts of the project concerns lifestyles, behaviour/practices (social practice theory), ICT and (critical) design (Bohné et. al. 2015, Bohné 2016, Svenfelt & Zapico 2016, Zapico et. al. 2016).

The SPOC project is housed at the Center for Sustainable Communications at KTH Royal Institute of Technology in Stockholm, Sweden. The most active project partners are the City of Stockholm and one of the largest grocery chains in Sweden with stores all around the country. The project focuses on the parts of the food chain that concerns the store, the household and waste (from stores and households). In this position paper we focus on the grocery store and more

specifically on the challenge of reducing waste in/from the store.

The paper is based on ongoing work in the part of the larger project that works with the concept "The sustainable store". We have previously interviewed the "chief facilities officer" at the grocery chain and will continue to work with issue of waste management in grocery stores during the first half of 2017. This will mainly be done by way of a master's thesis (written by position paper co-author Sofie Nyström). The thesis will result in a system (prototype) for reducing waste in stores. We will here briefly present the master's thesis project and we will present preliminary results at the workshop in May.

Waste management in grocery stores today

Sweden made the producer responsible for collecting and taking care of old products and used material by introducing the producer responsibility ordinance in 1994 (SEPA 2016a). Companies and industries are responsible for transporting and disposing waste correctly (unless burned). Statistics show that national goals for recycling were being met 2015, with an average recycling level of 73% for all kinds of packaging (SEPA 2016b).

In 2014, 60% of the generated waste at the grocery chain was recycled. The grocery chain uses a minimum of six categories for waste disposal, but sorting waste in at least ten categories is required in order to be certified as a "sustainable store". Furthermore, to dispose residential/burnable waste is associated with costs while sorted materials (e.g. plastic and cardboard) instead generate income to the store. While environmental branding and Corporate Social

Responsibility (CSR) are important within the grocery chain, the economic incentives have a bigger impact on store managers (interview 2016)

Waste management in the sustainable store

In figure 1 (below), we present a preliminary scheme of strategies for reducing in-store waste. Although the term "waste" has negative connotations, not all waste is without value. First, the value of the food "waste" can be recognized in-store and sold for a reduced price or donated to a non-profit organization (NGO). It can also be recognized after having been thrown away by the store (e.g. dumpster diving). Second, the number of categories of waste can be increased to achieve a higher proportion of recycled materials. Third, the quality of sorting waste into categories could be improved either by sorting more (e.g. investing more time in the practice of sorting waste) or by reducing the error rate (e.g. by increasing knowledge). Finally, packaging material could be redesigned to facilitate sorting and cause less waste at later stages. Most of these strategies are within the control of the store and physically takes place within the store, but some happen before (packaging material) and others afterwards (dumpster diving).

Analyzing in-store waste reduction practices

We believe it would be fruitful to analyze current practices and propose improved practices taking into account the fact that there is a trade-off between volume (of waste sorted) vs quality (of waste sorted) vs costs to sort waste (in time) vs goodwill/CSC/brand equity (with an eye towards the potential for greenwashing). A master's thesis student has just started to work in this project and we intend to present and discuss preliminary results at the workshop in May.

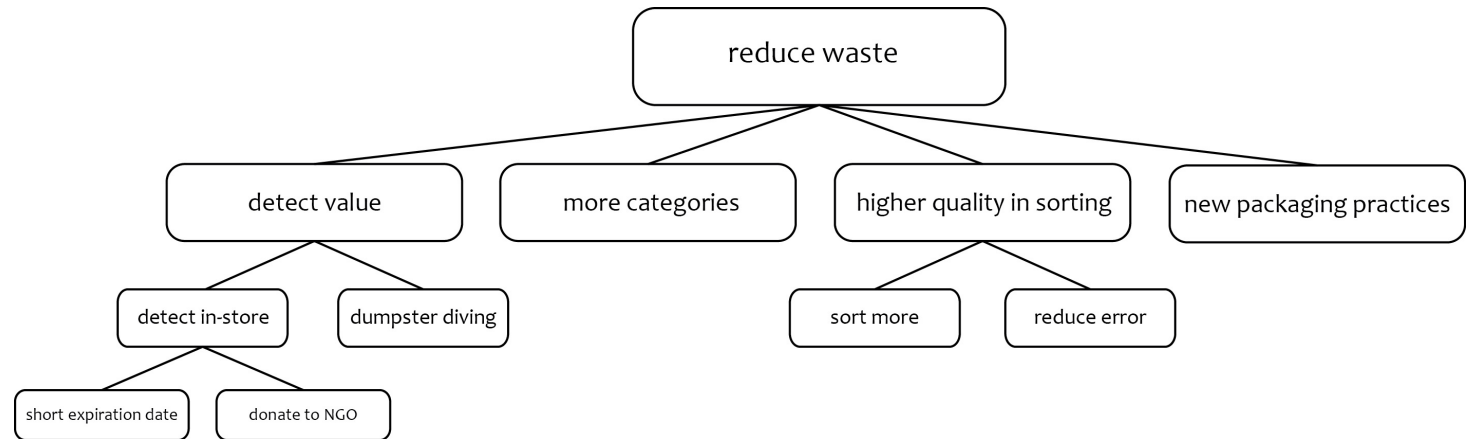


Figure 1: Strategies for reducing waste in grocery stores .

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