

DEVELOPMENT OF TAILOR-MADE FOOD WASTE PREVENTION MEASURES BASED ON CONSUMER TYPE ANALYSIS

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Abstract

The paper aims to present the development of tailor-made measures to reduce food waste at household level based on findings of a large-scale household questionnaire conducted in Austria between March to April 2017. Through a cluster analysis of the results it was possible to divide consumers that are to a full or large extent responsible for shopping and cooking at home into four different groups (Eager avoiders, Uninformed but eager, Informed but uninterested, Uninformed Squanderers). Although there can be found large differences among these groups when it comes to attitude, knowledge, food waste prevention behaviours as well as behaviours that might lead to increased food losses, it was not possible to find great differences among the consumer groups when asked about the kind and frequency of materials they want to receive in order to prevent food waste at home. Based on that findings first aid boxes for food have been developed and distributed to 2000 households.

Key words: food waste prevention, consumer behaviours, tailor-made measures, food waste types

INTRODUCTION

Looking at food waste amounts in all European countries it is striking that especially at household level a considerable prevention potential can be found that contrasts all efforts towards a sustainable food chain. Schneider et al. (2012) provided a compilation on food waste generation in Austria. Food waste in Austria accounts for 25% of residual waste. This equals to 33.1 kg per person and year or 276,430 tonnes per year. Out of this amount 43% belong to non-avoidable food waste or preparation residues like bones, peels or stalks while 57% are at least potentially avoidable. Important for waste prevention measures are therefore 14.5% of the residual waste or 157,647 tonnes per year or 18.9 kg per inhabitant and year.

The successful implementation of measures at household level has proved to be difficult because the reasons for the generation of food waste at consumer level are often connected with personal life situation, attitudes, behaviours and of course knowledge. Therefore, within this study tailor-made measures for different consumer groups should have been developed.

MATERIALS AND METHODS

Between March and April 2017 a large scale online - household questionnaire on food waste has been conducted in Austria. 28 food waste related questions aimed to bring up a status quo on attitudes towards food waste, knowledge about the handling of food stuff as well as food waste generation and food waste prevention at households. The questionnaire has been answered fully by 2159 participants, 473 did not finish. As consumer participated on a voluntary basis it cannot be expected that the data is statistically significant and will deliver equally meaningful results for consumers of all age groups or all educational levels, but as there is no comparable data available for Austria at the moment this information will help to identify first measures that need to be developed. It must be taken into account that the majority of participants (almost 50%) has a university degree and is interested into this topic at least to some extent.

Subsequently a cluster analysis has been conducted to find groups of consumers that show similar properties within the group but differ as much as possible from other groups. The main focus was laid on consumer that stated to be fully or mostly responsible for

shopping and food preparation as these are mainly responsible for food waste prevention or generation.

RESULTS AND DISCUSSIONS

The majority of respondents in this survey are females (71%), which means that many of the clusters are female dominated. It can be seen clearly that the responsibility for purchasing and preparing food is still more often overtaken by women. Following four groups of consumers mainly responsible for food shopping and preparation have been identified: "Eager Avoiders" (Group 1), "Uninformed but eager" (Group 2), "Informed but uninterested" (Group 3) and "Uninformed squanderers" (Group 4). The group of "eager avoiders" is particularly large in this survey. This is related to the fact that participation in the survey was based on a voluntary basis and was likely to have more people participating in it, for whom this topic already has a relatively high priority. This group is very well informed and already implemented a lot of food waste prevention methods at home. Socio-demographic characteristics show that participants of this group have a lower income and less often have a university degree.

The second group is ideal for the implementation of measures. This group is very bad informed about all important issues to prevent food waste as expiration dates, food storage and environmental effects but they already started with food waste prevention and have the second best attitude towards food waste.

The third group can be described as "informed but uninterested". Respondents in these groups have solid basic knowledge (though not extensive knowledge) of how to handle food and the effects of food waste, yet they are very unconcerned with food and not convinced of the seriousness of the situation - reaching this group seems to be particularly difficult.

Particularly interesting in this regard is group 4 ("uninformed squanderers"). This group wastes the most and more often than the other groups but is not as disinterested as the group 3. It can therefore also be a very good target group for measures to be developed, where, in particular, information on waste volumes and their effects (on a financial, ecological and

social level) should be prepared in order to raise awareness.

Although different groups of consumers could be identified, these hardly differ in terms of the desired frequency of contact, the desired way to be contacted or even the type of information desired.

The survey showed that over 50% of respondents would like to receive more information about proper storage of certain food products, especially fruits and vegetables. Furthermore, leftover-recipes are in demand as well as information about which products can cause health issues after the expiration date.

An interesting aspect is that a majority of consumers surveyed (about 74%) would like to receive information on food waste prevention measures and also tips on proper storage on product packaging itself, about 47% of respondents would like to get this information at supermarkets. It is interesting to see that consumers want that the retail sector carries more responsibilities even about food waste prevention at households. Therefore, it has to be assumed that supermarkets also have a role model function for consumers. Especially fruits and vegetables that should be stored in the refrigerator are often stored at room temperature in supermarkets. This type of presentation could have a negative impact on the handling of certain varieties (for example, apples, pears, oranges, berries, salads) in households.

About 40% of respondents would like to have an app that responds individually to their needs, while free workshops, for example, would be used by just under 20% of respondents.

Concerning the frequency of the desired information all groups prefer to be contacted once so they know where to find the information when they choose to use it. It also turned out that the awareness of and the knowledge about existing campaigns is very much linked to intensive (social) media work.

CONCLUSIONS

Based on the findings of this survey tailored measures meet following consumer needs in Austria. The measure must be suitable for offering at retail stores, measures should contain the most important knowledge about

food stuff handling. Additionally it must contain basic facts about food waste in Austria and the impacts of food waste. It should provide an overview about all possible food waste measures and give detailed information about some of them, e.g. instructions for food waste prevention techniques like “making a jam” or how to freeze food products. It is helpful when the measures support consumers in a way that they immediately experiment with some contents and apply their newly gathered knowledge.

Already eager avoiders should be kept up to date and also be given the chance to act as multiplier to positively influence other consumers with their showcase behaviour and by distributing materials.

Ideal target groups at the moment are the ones that state to waste much but are generally interested in the topic or just haven't had this issue in mind so far. It is hard and maybe won't be possible to reach or create more awareness among consumers, who are not interested in the topic and see no need to change their wasteful behaviours. It may be possible to reach them with humorous contents in a first step to attract their attention.

Nevertheless, in the long run, although consumers stated to prefer to be contacted only once with all necessary information a certain persistence and the presence of the topic in the media will help to improve the situation and be the key to success, because attitudes and habits in particular change slowly.

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Figure 1. First Aid Box - Exterior View



Figure 2. Content of First Aid Box

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