

Concepts of food wholesalers to avoid food waste in the course of the Covid-19 crisis - a survey by means of qualitative interviews with experts

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Abstract - The Covid-19 pandemic has turned proven processes in the food sector upside down and demonstrated the expandability of existing concepts to prevent food waste. Even before the pandemic, around one-third of the food produced worldwide was wasted every year. This paper analyses how the Austrian wholesale sector implemented concepts to avoid food waste in the face of unpredictable and sudden events. For this purpose, eleven representatives of Austrian wholesalers were interviewed. In total, about 40 concepts against food waste were identified. These concepts were evaluated according to their ecological and economic success. The paper illustrates the creativity of individual wholesalers in exceptional situations, their ability to adapt and the necessity of networking between food wholesalers with regard to their concepts.

INTRODUCTION AND PROBLEM DEFINITION

According to estimates, around one-third of the food produced worldwide is wasted every year. Converted, that is around 1.3 billion tonnes (United Nations, 2020). Around 90 million tonnes are wasted in Europe (European Commission, 2013). In Austria, 121,800 tonnes of food from production, 120,000 tonnes from trade and between 175,000 and 258,000 tonnes from gastronomy end up in waste every year. However, around 270,000 tonnes of food are wasted in households (Lebersorger & Schneider, 2014; Austrian Court of Audit, 2021). In the wholesale food trade, 10,300 tonnes of food are thrown away every year. This corresponds to a financial loss of 21.5 million euros (Hietler & Pladerer, 2019). Ethical as well as economic and ecological impacts can be identified (FAO; IFAD; WFP, 2015).

Due to the Covid-19 crisis and the government-imposed lockdowns, restaurants in Austria had to close their doors for a total of almost ten months. Due to the closure, new concepts had to be developed to prevent the food in the warehouses from spoiling and thus becoming unusable.

The Covid-19 pandemic has demonstrated the expandability of existing concepts to prevent food waste and has caused the previously functioning infrastructure of certain food wholesale processes to collapse. This has presented food wholesalers with unforeseeable problems such as a sudden absence of customers, spoiled products and financial losses. In particular, new concepts had to be developed that take into account a potential closure of the gastronomy trade in the course of a lockdown.

The core objective was to explore whether food wholesalers had developed concepts to prevent food waste in the wake of the Covid-19 pandemic, and how they prepared for a future unexpected event. In order to categorise the concepts, it was important to determine in which areas these concepts were developed, to what extent a distinction was made between fast and slow perishable food, if they were successful for the individual food wholesaler and which concepts could be useful in the future. Furthermore, interviewees were asked about the strength, weaknesses, chances and risks of their concepts.

METHODS AND PROCEDURES

Eleven semi-structured interviews were conducted with experts from the Austrian food wholesalers about their concepts before and during the Covid-19 pandemic. They were processed and evaluated with the help of a qualitative content analysis according to Mayring (Mayring, 2015). The interviewees were selected from the management, sales or quality management of food wholesalers as food waste can be prevented both in the area of procurement, distribution and within the storage period of these foods. The strengths, weaknesses, opportunities and threats of the implemented concepts were analysed.

RESULTS

In total, about 40 concepts against food waste could be identified. Most concepts applied before the pandemic were also conducted during the Covid-19 pandemic. New concepts include the production of smaller containers, the establishment of a drive-in, the opening to private customers, the checking and extension of the best-before date of certain articles by laboratories, the reduction of the assortment, adjustments in the disposition and the establishment of online shops.

One of the concepts mentioned was implemented by one of the eleven food wholesalers interviewed: the return of suppliers, the controlling of spoilage, a recording system of which customer buys which item, a drive-in, an internal transfer of goods, a precise observation of customer behaviour, further processing of products, the involvement of other companies and many more. One of the following concepts was implemented by two interviewed food wholesalers: the change of container sizes, the checking and extension of the best-before date, the

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freezing of products, the support of gastronomy in the take-away concept or the stocking up on Austrian suppliers to reduce dependence on foreign countries. Three of the food wholesalers interviewed indicated either cooperation with other companies or training of employees or the reduction of the product range as a concept. Four of the eleven interviewed food wholesalers took back goods from the customer, expanded their online shop or introduced active telephone sales. Nine of the eleven interviewed food wholesalers gave their food to charities. All of the interviewed food wholesalers had or introduced promotions and sales for employees, adjusted their disposition, recorded the best-before date, relied on different distribution channels and opened for private customers. The graph below illustrates the most common food wholesale concepts implemented during the Covid-19 pandemic in Austria.

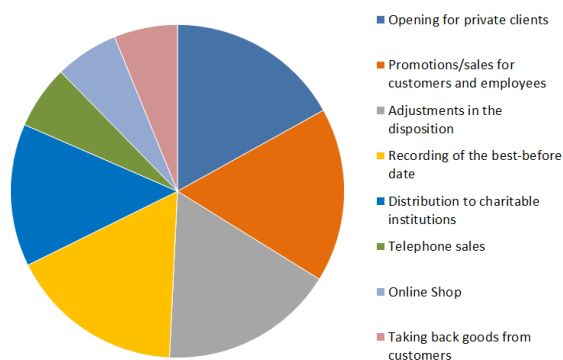


Figure 1. Most common concepts during the Covid 19 pandemic

Furthermore, the interviewees were asked about the strengths, weaknesses, opportunities and risks of the adopted concepts. The concepts were then evaluated according to their ecological and economic success and it was asked whether they could be further developed, adapted and applied in the future. Many wholesalers assessed their concepts as ecologically unsuccessful because, despite these concepts, they had to dispose of more food than before the pandemic. Others considered their concepts a success, having kept their food waste relatively low in relation to the large quantities of goods at risk of expiration.

DISCUSSION AND CONCLUSION

In general, food wholesalers were not prepared for an unpredictable and sudden event like a lockdown. Nevertheless, some of the concepts already applied before the Covid-19 pandemic could be successfully implemented during the lockdowns in Austria. Particularly surprising was the quick action of all food wholesalers avoiding food waste by implementing existing concepts. Thus, the results of the interviews not only reflect existing concepts but include newly developed concepts. A review of the assortment for less popular items and the limitation of these product groups was considered sensible. This reduction of the assortment in breadth and depth would make sense for all food wholesalers and should be considered. Furthermore, a first-in, first-out storage strategy minimises the risk of food waste (Hietler & Pladerer, 2019). This can reduce spoilage both inside and

outside the company. Furthermore, the often-discussed approval of grade II food could prevent food waste. However, systems for portion calculation for gastronomy customers do not allow grade II food. When critically reflecting on the weaknesses and risks of the concepts, the difference in the hierarchy of the interviewee within the company stood out.

The concepts implemented so far were still applicable for food wholesalers in the future. However, as many different concepts have been developed, there is a need for exchange between food wholesalers in order to be able to apply the concepts of other food wholesalers in case of another unforeseen event. The work presents the special creativity of individual wholesalers in exceptional situations and shows the necessity of networking between these food wholesalers in relation to their concepts.

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