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CONTRIBUTOR

DIGITALLY TRANSFORMED WORLD

Digital platforms for food waste recovery

This blog post explains how digital platform organizations helps to overcome difficulties in the important fight against food waste. Food waste is profoundly unethical in view of the fact that one billion people in the world currently suffer from food deprivation and in addition has significant negative impacts on the environment. Digital platform

organizations act as circularity brokers to connect actors in the food chain with food at risk of becoming waste to those who can use it as input or for their own consumption.

 By [Guest Contributor](#) on May 09, 2019

By: [Francesca Ciulli](#), [Ans Kolk](#) & [Siri Boe-Lillegraven](#), University of Amsterdam, The Netherlands

The existence of food waste is environmentally and socially unsustainable. It implies an inefficient use of scarce resources, such as water and land, which are spoiled instead of being preserved or employed productively. It is also morally unacceptable: while one-third of the food produced for human consumption is spoiled every year, one in nine people in the world are undernourished.

Over the last few years the waste problem has increasingly been acknowledged as an indication of failure of the existing economic model. This understanding has been particularly triggered by the emergence of a new economic paradigm, the circular economy. A core principle of the circular economy is the “waste-as-food” concept, which indicates that the waste of one actor can be used as a resource by one or more others. Thus, waste recovery is critically contingent on the creation of ties between organizations and/or individuals for the transfer of goods at risk of becoming waste.

However, particularly in the food supply chain waste recovery is often hampered by what we call ‘circularity holes’, i.e., missing linkages between waste generators and potential receivers. A new type of actor, the digital platform organization, has recently taken on a brokerage function to bridge circularity holes, especially in the food supply chain. This “circularity broker” is positioned along a supply chain and connects actors with products or materials that have no value to them, on one side, with other actors

that can use those products or materials for their own consumption or as inputs for their activities, on the other side. Digital platform organizations have engaged in facilitating different kinds of connections along the food supply chain, i.e. those between food businesses and other food businesses, between food businesses and charities, between food businesses and consumers and between different consumers. All digital platform organizations exploit the opportunities offered by digital technology to foster the transfer and recovery of discarded food between supply chain actors.

Our recent study “[Circularity Brokers: Digital Platform Organizations and Waste Recovery in Food Supply Chains](#)” explores the roles taken by digital platform organizations to foster waste recovery in the food supply chain. We find that they connect, inform, protect, mobilize, integrate and measure, to help fill the holes in the food supply chain and thus reduce food waste. Fundamental to the connecting role is the creation of a virtual ‘location’ that supply chain actors can use for making food waste easily available to those who are interested. Platforms also help supply chain actors by allowing food waste providers to create profile pages that others can follow, to send notifications about available food waste, to communicate with potential receivers through an online messaging system, etc.



Informing implies that digital platform organizations underline the economic, environmental and/or social importance of food waste recovery to help change supply chain actors' perceptions and thus convince them to connect and bring about waste flows. For example, they emphasize that food waste recovery means lower disposal costs or help for local communities in need. Platforms may also need to educate supply chain actors to remove their pre-existing beliefs related to food waste, for example about the meaning of best-before date or the legal risks related to donating food. As food waste is a sensitive topic, platforms are also stepping in to ensure, for example, that the food offered meets safety standards and requirements and/or that offering food waste does not endanger providers' brand and reputation. To help the flow of food waste, they undertake a 'protecting' role to make users feel sufficiently safe to offer or collect food waste.

What digital platforms frequently do as well is mobilizing volunteers to expand the network of supply- and/or demand-side users or to transport food from the providers to the receivers, or involving organizations that can accelerate the expansion of the

users' network. For example, if a platform organization collaborates with a large retailer, its whole network of stores can join the platform as providers of food waste, thus allowing it to reach a much larger scale and have more impact. Platforms can also introduce new practices, solutions and tools into supply chain actors' logistics, production and/or marketing processes. The platform may, for example, be integrated with retailers' existing food management processes, to make the offering of food waste as fast and easy as possible. Also, through co-creation with food manufacturers, a platform may find appealing ways to offer food that is 'imperfect' due to production errors. A final role we found entails the measurement and reporting of the amount of food saved, the environmental and social impacts created and/or the revenues generated through food waste recovery by the platform users. This is specifically enabled by digital technology, which allows for tracking the transfer of food waste that takes place on the platform.

Dr. Francesca Ciulli, Prof. Dr. Ans Kolk and Dr. Siri Boe-Lillegraven work at the University of Amsterdam Business School, The Netherlands, as respectively post-doctoral researcher, full professor, and assistant professor. The research appointment of Dr. Ciulli was funded by the Netherlands Organization for Scientific Research; with Professor Kolk she published another recent article on incumbents and business model innovation in the sharing economy. For more information and a full list of their publications on Grand Challenges, see www.anskolk.eu

Guest Contributor

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No comments yet.

