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Food sharing platforms: unlocking opportunities for digital impact reporting

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Extended abstract

Food waste prevention and reduction is considered one of the main challenges of our time. According to the UN Environment Programme, in 2019 about 931 million tonnes of food waste was generated, 61 per cent of which came from households, 26 per cent from food service and 13 per cent from retail (UNEP, 2021). In this scenario, food sharing and redistribution business models aiming at the re-use of surplus food for human consumption may represent an impactful tool to address this issue.

Food sharing platforms have recently raised increasing scholarly attention because of their ability to leverage the digital technologies to connect suppliers and consumers of edible food waste while having social and environmental impacts related to the reduction of waste (Michelini et al., 2018). Prominent examples of food sharing platforms are *Too Good to Go* founded in 2015 in Denmark and operative in almost all major European cities, and *Olio* started in the UK in 2015 and currently active in 49 countries.

Generally, food sharing platforms involve three main different categories of actors: (i) peers (or providers) who share exceeded or not saleable (e.g., ugly food) food; (ii) users (private users or non-profit organizations); and (iii) third part as local institutions that act as track donations and apply a tax deduction.

Due to the multitude of stakeholders potentially involved and to the different types of business models, the positive impact of these platforms is not limited to the food waste reduction but encompasses different areas that are worthy of investigation such as poverty and social inclusion (Michelini et al., 2020). Consequently, there is a pressing need to explore the impact beyond the material waste reduction and to understand how potential social, economic, environmental, and political areas of impact are addressed (measured, communicated, etc.) by different platforms.

Considerable effort has been paid in the literature to identify feasible indicators and measures shared by the research community and provide easy-to-use frameworks to assess and report the

wider impact of food sharing (Mackenzie and Davies, 2019). However, the effective implementation of shared measurement models is still a challenge, and little is known on the extent to which these impacts are reported to the stakeholders by the food-sharing platforms.

Building on these premises, the purpose of this research is to *identify whether and how the different dimensions of impact are measured and reported by food sharing platforms, and to point out some main pitfalls.* Specifically, the study aims to answer the following research questions:

– How food sharing platforms report their potential social, economic, environmental and political impacts?
– Are there any differences among food sharing platforms business models?
– What is the relationship between the platform performance on the different areas of impact, and the popularity that each individual platform has on the web?
– What are the main pitfalls / criticalities which emerge in the impact reporting?

For every type of impact, we then reflect both on the potential benefits and the main pitfalls face in the impact assessment reporting, contributing to the sharing economy literature through an advancing of the understanding about the main strategy path to enhance the impact assessment and reporting**.**

Drawing on the existing literature (Sanna and Michelini 2021; Michelini et al., 2020; Mackenzie and Davies, 2019) we developed a framework composed by four areas of impact - economic, environmental, social, and political. Considering a food sharing platform as the "unit of analysis", we then devised a set of indicators aimed at measuring the potential positive and negative impacts (Table 1).

Area of impact	Indicator	Description of the indicator
Social	**Social bonding**	Strengthening social interaction/networking between members - trust)
	Quality of life / well-being	To improve quality of life, to promote leisure and/or health of P/U.
Environmental	**Sustainable food value chain**	Reduction of saleable and unsaleable food wasted CO_2 emissions saved
	Green attitude and behaviour	Activities, articles, events aiming to enhance green consumer attitude
Economic	**Opportunities for providers**	Create new economic opportunities for providers, and growth of new economic sectors (e.g. secondary market supporting the CSE ecosystem).
	Ecosystem	To improve the self-sufficiency of the local community (e.g. local money is spent locally/off-the-grid/self-organization). Waste tax reduction, Reduction of bureaucracy
Political	**Political empowerment**	Political empowerment and participation of P/U, including in decision-making processes.
	Political mobilization	Political mobilization and increased demand for political change. This involves P/U organising with a common purpose or common understanding to achieve collective goals, social mobilisation, building alliances and coalitions.

Table 1. Areas of impact and selected indicators for the assessment

In order to give an answer to our research questions we carried out a two-steps analysis (quantitative and qualitative analysis) on a sample of 45 food sharing platforms active worldwide. In order to critically assess and elaborate a cluster analysis of food-sharing platforms, we built a comprehensive database in which a number of variables have been collected and categorised (e.g.

country of origin; foundation year; business type e.g. for-profit or non-profit organizations; revenue model; marketplace; ecc.).

Based on the aforementioned impact assessment theoretical framework (Table 1), the selected platforms have been analysed (this means that every web page of the platforms was examined), and each individual indicator has been assigned a performance value ranging from 1 to 5 (*where 1 represent a bad performance and 5 a top performance*). In addition, in order to devise a *Social Media Popularity Index*, the amount of social media followers for three major social networks (Facebook, LinkedIn and Instagram) have been collected and incorporated in the analysis.

This comparative assessment of food sharing platforms shows to what extent social, economic, environmental and political impacts have been addressed by the selected selection of sharing platforms. Using illustrative cases, we explore how these platforms tend to report their impacts. Finally, in order to reflect on the main drawbacks/pitfalls and to suggest future implementation trajectories, we propose possible and transferable examples of *impact assessment reporting strategies* which have already been implemented by existing platforms.

Keywords

Food sharing platforms, impact reporting, food waste

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