

DEPARTMENT OF BUSINESS STUDIES

ROMA TRE UNIVERSITY

*Open Sustainability Innovation
in the
Food Sector*

Authors

Gabriella Arcese; Serena Flammini; Maria Claudia Lucchetti; Olimpia Martucci



The 4th World Sustainability Forum
1 - 30 November 2014

Introduction

The food sector



- ✦ In the food sector a larger variety of consumers' needs and a shorter lifecycle products, tend to increase competitiveness.
- ✦ The increased attention towards social economic and environmental issues aiming to create sustainable development patterns offer a more credible and valid image of a company with its customers and business partners (Arcese, G.; Lucchetti, M. C.; Merli, R., 2013);
- ✦ The food industry “is seen as a low-tech industry [...]”. However, Open Innovation is widely adopted” (Martinez, M. G., 2013).



Introduction

The concept of “Open Sustainability Innovation”



Consists in the generation of sustainable ideas,
services and products exploiting the open
innovation paradigm.

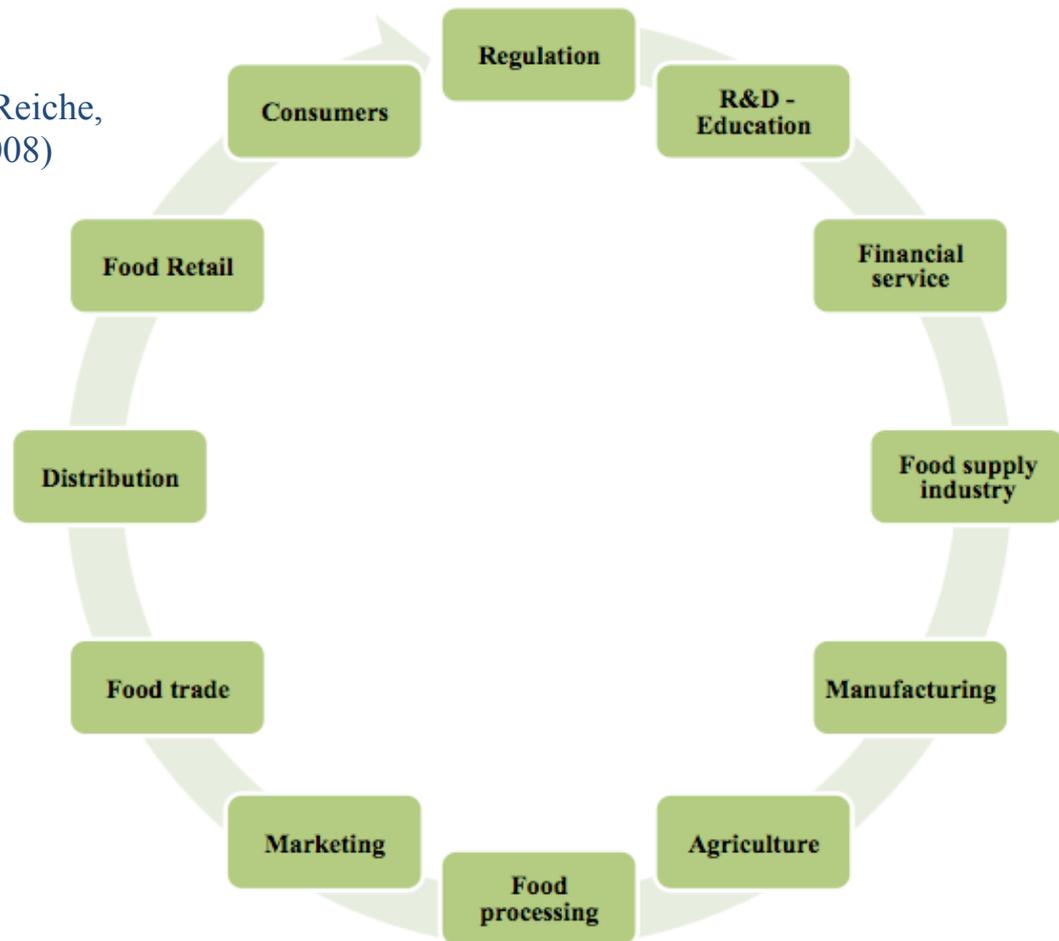
(Belz, F. M.; Peattie, K., 2009)



State of art of the food sector

The food sector structure

(Authors' elaboration based on Lehmann, R. J.; Reiche, R.; Schiefer, G., 2012; Fritz, M.; Schiefer, G., 2008)



State of art of the food sector

Specific issues in the food sector

Issue	Explanation
<i>Rapid adaptation to different scenarios</i>	A rapid adaptation to new scenarios is needed [18] in which the process of coordination and communication between the main actors of the food sector requires abilities to face constantly new difficult issues.
<i>Innovative problem solving</i>	It is the need to overcome the structural problem that comes from the numerous SMEs in the European food sector [12; 19]. To do so those companies need to cooperate and look for a possible external support.
<i>Attention to the consumer needs</i>	Special attention to the consumer needs; this means that enterprises in this sector are willing to reach the consumers and take into the right consideration their needs. In this way enterprises could develop technologies, management and communication strategies between enterprises and consumers with the aim of building a trust worth relationship [20;21].

(Authors' elaboration based on Fritz, M.; Schiefer, G., 2008)

G. Arcese; S. Flammini; M.C. Lucchetti; O. Martucci



Sustainability in the food sector

Sustainability issues in the food sector

Sustainability issues	Requirements
<i>Socio-economic</i>	The governance of the food sector needs to be constantly updated.
<i>Production</i>	The food production needs to be implemented by using more sustainable, technological and efficient systems.
<i>Consumption</i>	Changes in the daily dietary are needed based on how they can influence the food production.

(Authors' elaboration based on Garnett, T., 2013)



Sustainability in the food sector

Is possible to find several ways that companies can find to change their context with a more careful perspective on sustainability.

Technological innovations and managerial changes can be considered as the key elements for a reduction of the environmental impacts and increasing resources.

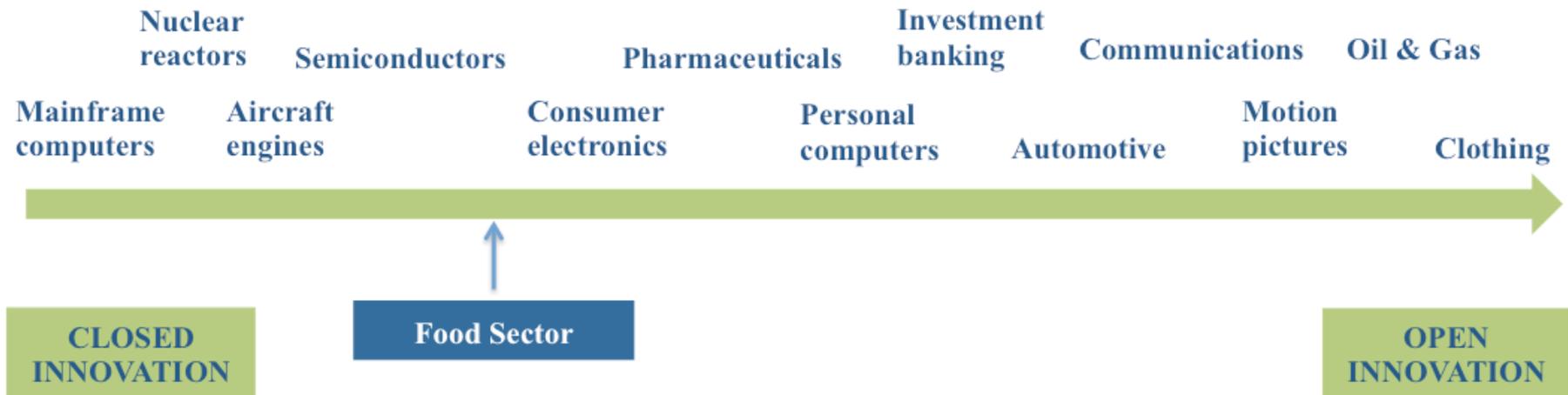
(Garnett, T., 2013)





Open Innovation in the food sector

Open innovation in different industries



(Authors' elaboration based Chesbrough, H. W. ., 2003; Lazzarotti, V.; Manzini R.)



Open Innovation in the food sector

The main factors that can lead to open innovation are:

- ✦ A different nature of food demand.
- ✦ A different organization of food supply.
- ✦ A more differentiated demand from consumers in terms of quality, variety and convenience.
- ✦ A different demand for healthy food with a low ecological impact.
- ✦ A different approach to food safety.



(Fortuin, F.T.J.M.; Omta, S.W.F.,2009)

G. Arcese; S. Flammini; M.C. Lucchetti; O. Martucci

Open Sustainability Innovation in the food sector

“**Open innovation** offers the prospect of lower costs for innovation, faster times to market, and the chance to share risks with others”

(Chesbrough, H. , 2013)

Customers behavior play a key strategic role for **sustainability**, because with their consumption and purchasing habits are able to influence the market.

(Grunert, K. G., 2011)

Therefore companies are increasing their willingness both in the co-operation with customers and in the adoption of sustainability approach. Those are the reasons why **open sustainability innovation** could represent an effective approach in order of gaining competitive advantages and differentiation.

(Belz, F. M.; Peattie, K., 2009)



Open Sustainability Innovation in the food sector

Company Name	Project	Open Innovation	Sustainability	Type of Innovation	Supporting Technology	Goals
Starbucks	Betacup Project	Crowdsourcing	Reduce paper cups waste	Incremental	Karma cup a law-tech chalkboard solution	<ul style="list-style-type: none"> - Reduce paper cups waste - Lower time to market
BTTR	AquaFarm	Crowdfunding	Growing home food from waste	Incremental	Home Aquaponics Kits	<ul style="list-style-type: none"> - Reduce waste - Grow at home food - Fund the production - Lower time to market
Bubbly Dynamics LLC	The Plant	Food startups incubator	“All food waste generated by these businesses will be processed in an onsite anaerobic digester to create biogas for The Plant’s renewable energy system”[87]	Incremental	Sustainable Food startup Business incubator	<ul style="list-style-type: none"> - Green jobs. - Food waste processed into The Plant renewable energy system. - Lower operating costs - Startups become sustainable ventures.

(Authors’ elaboration based on [82; 83; 84; 85; 86; 87; 88])



Conclusions

For the food sector the merging of open innovation and sustainability represents an important challenge.

This because from the merging of these two elements could be possible to reach, for example, goals such as a reduction of environmental impact, healthier and safer food for an increasing number of population and at the same time, leveraging on open innovation strategies, and also a reduction of some of the company costs and time to market.





*Corresponding author:
gabriella.arcese@uniroma3.it*