

Food sustainability and crowd-funding: the role of Internet

Rosa Misso¹, Gian Paolo Cesaretti²

¹Department of Economic and Legal Studies, University of Naples “Parthenope”, Naples, Italy, e-mail: misso@uniparthenope.it

²Simone Cesaretti Foundation, Naples, Italy, e-mail: gp.cesaretti@gmail.com

Abstract. Food and sustainability are now an inseparable binomial for the development of our society, or rather an inevitable strategic priority in the pursuit of a socio-economic and environmental well-being, both individually and collectively, to be projected in time and space. In this context, support for entrepreneurial projects aimed at achieving this goal represents a crucial leverage not only for the enterprise but for the entire society. In the light of these considerations, this paper aims to clarify the important role that the Internet can play through crowd-funding platforms that not only allow the sustainability-oriented agri-food enterprise to "finance its vocation", but above all to potentiate in the society the culture of sustainability in the food field.

Keywords: crowdfunding; food sustainability; sustainable finance; financing instrument; well-being sustainability.

1 Introduction

Starting point of this paper is the recognition of sustainability as an inevitable perspective for the development of the agri-food system. The development strategies of this last are in fact correlated to every form and size of sustainability and are evaluated with respect to the construction and maintenance of well-being in time and space. This orientation, today a compulsory goal for the food system, is the result of internal and external variables to the system itself and, at institutional level, it is due to the indications of Agenda 2030, to the programming guidelines of the European Union and to the actions of different states aimed at implementing economic, social and environmental sustainability in each territory. At the sectoral level, instead, it is due to the propensity of businesses to pursue their mission to meet a need for well-being in the broadest sense, to an increasingly informed, skilled and aware consumer of food choices importance.

In this context, agri-food businesses become part of a larger socio-economic and environmental project that goes beyond the core business of the company itself. Specifically, they are an active part of this project for well-being sustainability and use various tools in full respect of this role. In financial terms, in particular, the

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crowdfunding is widely used and it is made possible by platforms on the Internet, which, on the one hand, allow the company to find an economic response to its design interest, on the other, they trigger a process Informative directed to the growth of the culture of sustainability.

Taken in consideration the results of the project funded by the University of Naples “Parthenope” (Italy) on the theme “Sustainability Practices in Food system and Financial Instruments” (Scientific Director: Prof. Rosa Misso), this paper provides, first of all, an overview on the sustainability goals in the food sector and then it focuses on the role that crowdfunding platforms can play as a multiplier of the vocation of the food system to the individual and collective well-being sustainability.

2 Food sustainability

The pursuit of well-being sustainability is now a universal aim, or rather, the goal towards which all businesses operating in the agri-food sector should aim in order to give new value to their core business. This theme, more precisely, represents a topic of great interest for each productive sector as well as for any level of society.

Analyzed no longer exclusively in its environmental dimension, sustainability is increasingly understood as an extension in the future, or as a strengthening, of the economic, social and cultural (in addition to environmental) patrimony currently held by an individual, community or territory (Misso et al. 2013). After all the action plan signed in September 2015 by the Governments of the 193 UN member countries, “Agenda 2030 for Sustainable Development”, is a clear signal that no one is excluded, nor should it be left behind on the road to bring the world on a sustainable path. The signatory countries have pledged to achieve by 2030 the Development Goals (which act on the results of the Millennium Development Goals that preceded them) representing common goals on a set of important issues for development: the fight against poverty, the elimination of hunger and fighting climate change, to name just a few. In agriculture, of course, the goal of greater environmental sustainability led to the definition of the concept of integrated control of harmful organisms in the principles of integrated production, the concepts and practices of which were the subject of general and specific documents for individual crops. On this basis, numerous private and public guidelines have been proposed on the integrated production in order to meet the growing demand for healthy products by producers and consumers, products that require processing processes with minimal environmental impact.

While at an international level, Agenda 2030 is marking the transition to a new sustainable society, at European level, undoubtedly, the principles of sustainable development are an integral part of the Common Agricultural Policy (CAP). From the Treaty of Rome to date, this policy has evolved in line with the needs that emerged on the European horizon from time to time in order to be always current and meeting the expectations of its members' agriculture. Today, the CAP, in more apparent way than in the past, has to overcome the existing conflicts between the market, society and the environment and to synthesise in its action the needs arising

from these three spheres in order to ensure the sustainability of its agriculture, both at global than at European level (Table n. 1).

Table 1. The CAP between Market, Society and Environment (Misso, 2010).

	Market	Society	Environment
Internal dimension	<ol style="list-style-type: none"> 1. Simplify access to credit and favor a widespread diffusion 2. Growth of the sector 3. Increase the contractual power of farmers 4. Quality standards 	<ol style="list-style-type: none"> 1. Increase farmers' income 2. Fight the aging of the rural population 3. Repopulate the countrysides 4. Occupation 5. Investments in human capital 	<ol style="list-style-type: none"> 1. Management of landscaping and natural resources (biodiversity) 2. Attenuating vulnerability to climate change and greenhouse gas emissions
International dimension	<ol style="list-style-type: none"> 1. Sustainable competitiveness on markets 2. Volatility of prices 3. Quick action tools for any crisis 4. Food security of emerging countries 5. Food Standards 	<ol style="list-style-type: none"> 1. Attract young people towards rural areas and activities 2. Support the role of farmers as providers of public goods 3. Guaranteeing Healthy Products 	<ol style="list-style-type: none"> 1. Preserving the identities of European territories 2. Promote eco-friendly practices and green energy production 3. Environmental Standards 4. Adapt the CAP to the global fight against climate change

So, if at institutional level, international and European programming has outlined new pathways for sustainable development, at the sectoral level, an increasingly informed consumer stimulates businesses to pursue their mission to meet a need for well-being in the broadest sense.

Consumers are, in fact, increasingly sensitive to issues related to the improvement of information on agri-food products, but also to the production processes used. New consumer trends are heavily influenced by changes in social work organization and demographic changes (macro-economic variables). Such dynamics of consumption greatly affect the behavior of the operators and the economic system and, on the other hand, this then affects the consumption of food, in a logic of circular evolution of the phenomenon.

In this context, the ability of food system to develop over the long term depends on the ability to set strategies that ensure the sustainability of production factors. The presence of an intact environment, social capital and more generally, the existence of all those factors that guarantee economic, social, environmental, territorial and

generational sustainability, are, in fact, necessary elements for the survival of the sector. Therefore, an enterprise strategy oriented to ensure the sustainability of factors and production processes focuses on a responsible and equitable management of the workforce, the preservation and enhancement of environment and the introduction of sustainable innovations capable of balancing sustainability and competitiveness goals.

3 Crowdfunding

Financial support for companies that pursue ethically and responsibly goals that we could call "off-market" is very important for the company's sustainability. A bottom-up microfinance practice that mobilizes people and resources to support sustainability-oriented businesses is crowdfunding. It is a relatively new and evolving method of using the Internet to raise capital to support a wide range of ideas and ventures. An enterprise raising funds through crowdfunding typically seeks small individual contributions from a large number of people. Individuals interested in the crowdfunding campaign – members of the “crowd” – may share information about the project, cause, idea or business with each other and use the information to decide whether to fund the campaign based on the collective “wisdom of the crowd”.

The recent rise in crowdfunding activity is due to different reasons: firstly, matching funders with creators is now more efficient and effective due to lower search costs online. Second, risk exposure is reduced because funding in small increments is economically feasible online. Finally, low communication costs facilitate better information gathering and progress monitoring for distant funders and also better enable funders to participate in the development of the idea.

Indeed, there are several crowdfunding models that differ for the reward that is recognized in favour of the supporters. A type of crowdfunding is based on donation, so, it does not offer any reward to its funders. But there are also crowdfunding schemes that could recognize economic rewards to the funders or various other kinds of not economic reward as participation to the results of the project or simply symbolic acknowledgements (Stemler, Abbey, 2013; Giudici et al. 2017; OECD, 2015).

More in particular, Agrawal A. et al., (2014) make a difference between equity and non-equity crowdfunding. The most critical differences between equity and non equity crowdfunding will arise due to the amplification of information asymmetries. Whereas the asymmetry problem currently concerns the feasibility of the creator's ability to deliver the product, in the equity setting the asymmetry problem includes the above as well as the creator's ability to generate equity value by building a company rather than just delivering a product (Agrawal A. et al., 2014).

Hemer (2011) identifies five types of crowdfunding according to the type of reward offered: crowd donations, crowd sponsoring, crowd pre-selling, crowd lending, crowd equity and ranked by process complexity:

Crowd donations: Although a donation is – in essence – an altruistic act without any obligation for the recipient to give the donor anything in return, one feature of crowdfunding is for donors to be given some "reward" for their support.

Crowd sponsoring: In the case of sponsoring, the project initiator and the sponsor agree on a defined reward which the initiator is obligated to give. Often these rewards take the form of services like PR or marketing for the sponsor.

Crowd pre-selling: Very often the donation takes the form of pre-selling or pre-ordering: The donation is meant to help produce something (a book, a film, a music album, a theatre performance, software, some new technical product, an agricultural product, a service concept etc.) and the promised return is the delivery of an early version of the product or service. In such a case, crowdfunding is basically an advance order of a product and represents a purchasing act which is subject to turnover tax.

Crowd lending: Here the rewards are normally the interest and the payback after the lending period. One alternative to this is long-term lending based on the revenue sharing principle. Here, the creditor gives a risk-bearing loan. He does not get interest but receives, at the defined end of the lending period, an amount including an agreed share of the earnings of the venture, which could be a multiple of the original loan but could – in the case of bad performance – also be nothing.

Crowd equity: This variant of micro-investments is – in administrative terms – the most complicated alternative in the spectrum of crowdfunding instruments. Crowdfunders invest equity; the rewards are either shares of the venture, dividends and/or voting rights.

The different forms of crowdfunding referred to above show differences in user groups, risks, complexity and purpose, which warrant a distinction among these various forms, and, importantly, a distinction between financial and non-financial return models. Crowdfunding with financial returns is slightly less well-known and is considered to carry higher risks for contributors who take the position of investors. The main issues EU legislation addresses with regards to all types of crowdfunding include anti-money laundering, advertising, consumer protection and – where relevant – intellectual property protection. Financial returns campaigns and platforms may be subject to further rules at both EU and national level, again depending on the specific business model used (European Commission 2014).

3.1 Crowdfunding and food sustainability

Most crowdfunding platforms allow you to invest in projects related to different sectors: art, comics, crafts, dance, design, fashion, film & video, music, food, etc. This is the case of the most renowned international platforms, Kickstarter and Indiegogo, which include a generic Food category. Many other platforms do not distinguish projects by sector, but they include food projects with big platforms as Angel List, Crunch Base or CrowdCube.

Surely, crowdfunding can be a good tool to connect the producers and consumers of food. But above all it can promote the achievement of the company's sustainability goals through the launch of projects geared towards this.

Application of crowdfunding in agrifood sector can provide a huge help in foundation of small businesses and stabilizing cash-flow of small farmers. Because it reduces pressure on financing and sales, the producer can make their products in the way he want without anxiety. Also, unlike other agrifood transaction, relationship

between producers and consumers grow up during the funding process. This leads to interest and active participation of consumer which can result additional purchases and popularity. Through the proceeding of crowdfunding, project creator can get not only funds but also various helpful effects for the success of the project. The project creator can check point for improvement through this. Also, participants sometimes form a supporting community and play a role as a co-producer. In case of pre-sale type of crowdfunding, it can help the pricing of products or services. For the success of crowdfunding, active participation of friends and fans in early funding, promotion through social media, and communication effort of a creator such as information provision are important.

Crowdfunding in agrifood field appears in many different shapes. There are many different cases of projects such as funding for making a community farm, foundation of small business, pre-sale for something (cooking equipment, farm products, processed farm products, garden equipment and so on), farm operation cost, facility cost, farming education management cost, supporting events (market, party), and publishing a cookbook. We can classified crowdfunding projects on agrifood into 3 types, presale, event, and funds for operation cost. Presale type is funding projects before the production stage of food. Event type is a funding for the events related to agrifood, such as opening a market, launching a festival or making educational event. Two cases succeeded in funding by providing enjoyable opportunities which people can't normally experience. Funds for operation cost are supporting essential operation expenses such as cost for setting up company, equipment, research and development. Mainly these projects have social benefit, or can help to produce healthy food. All of them reached the funding goal by emphasizing the sincerity and expected effect (Yoo Y. et al, 2014).

In some ways, crowdfunding almost always benefits the public, and in this case, it is constructed rollover bars provided to poverty-stricken farmers through the local agricultural education program. The public is able to view campaigns and donate a small amount of money to be used toward the project.

Oftentimes, projects with clear goals, specific needs, and a defined end date are more successful at raising money than projects without clear objectives. Most often, family members and friends of project creators who are involved in the project are the most likely to donate. Crowdfunding is less about raising large amounts of money from a few investors, and rather, more about raising small donations from a large group of people, "the crowd". One reason crowdfunding is so successful is due to the "feel good" or philanthropy attached to donating (Morgan L. et al., 2016; Servato et al., 2013). Belleflamme et al. (2013) states that crowdfunding produces the same amount of funds as if you were to seek funds from a bank, but what compels the public to donate to a crowdfunded project is the perceived benefit to what is being created.

4 The role of Internet

The financial support for entrepreneurial projects aimed to achieving the sustainability goal represents a crucial leverage not only for the enterprise but for the

entire society. In this context, Internet can play an important role through crowdfunding web-based platforms that not only allow the sustainability-oriented agri-food enterprise to "finance its vocation", but above all to potentiate in the society the culture of sustainability in the food field.

From the point of view of its concrete application, crowdfunding transcends simple financial support to business projects through credit and is a powerful business accelerator capable of enhancing sustainable projects by halting the weaker ones.

This is because crowdfunding platforms - from the past - use a new paradigm to select the worthy financing projects, which consists of an estimate "market test" that can provide valuable indications and projections of business success. Crowdfunding platforms initially show the idea-project and its goal to reach: afterwards, they give users the ability to decide whether and how to finance the projects, and also identify the economic commitment they intend to sign up. Projects that reach the finish line will be realized and lenders will get the agreed interest. Projects that otherwise will not reach the minimum amount of funding will not be realized, and the sums eventually paid will be fully refunded to the lender, without any loss. This process allows an extremely effective selection of "profitable" projects, starting with the design phase of the business, thanks to the impact that the project produces on consumer-investors (Servato F. et al, 2013).

Crowdfunding platforms also have an incentive to attract projects that can generate a disproportionate share of media attention because they both expand the existing community of funders (further increasing network effects) and allow the platform to expand into new categories (Agrawal A. et al, 2014).

In this regard, crowdfunding platforms entirely dedicated to the food industry such as Crowdfunding, Barnaiser and WoopFood has been surveyed. The first is a crowdfunding platform dedicated to the world of food and beverage, created by an Italian entrepreneur. Most startups that responded to Crowdfunding's call are European, but many entry requests come from India and the United States. The Food Section is divided into ten categories: Food & Tech, Food & Beverages, Grocery, Food Delivery, E-marketplace, Specialty Food, Organic Food, Wine & Spirits, Coffee & Tea, AgTech. Unlike such platform, Barnaiser and Woop Food are dedicated to sustainable agriculture and are aimed at promoting small, organic, sustainable farms and projects related to proper and healthy nutrition. In fact, there is a specific section dedicated to sustainability. In particular, on the Barnaiser platform, created in the United States in 2014, the categories of projects that are sponsored are very different from one another, with a single denominator: the one of quality food production. In "farm", from the urban farming you go to young peasants, from bio farms to exchange markets; in "community" we find initiatives related to food-related justice, community gardens, cooperative kitchens and more; Food includes projects related to accommodation facilities (restaurants, bars and clubs), handicrafts and distribution; the section "education" deals with workshops and didactic farms; food media focus on books, TV shows, cellular applications, and creative projects dedicated to sustainable food.

WoopFood, instead, is the first reward microfinance platform for small businesses in the Italian agricultural industry. Companies that aim to expand their business or to new agri-food products can launch a bottom-up funding campaign, collecting sums of between 5 and 2 thousand euros. The prize varies according to the generosity of

the donors, according to the scheme already experienced by colossi like Indiegogo and Kickstarter. The selection filter for the projects is twofold: the eco-sustainable impact of the activity or a certain rate of innovation, in the form of technologies applied to the production.

The push from Internet can lead both to supporting small business as well as to providing a more showcase for niche productions, fixed on zero KM or local distribution. Like all reward-based crowdfunding systems, the company generates its revenue with the collected fees at the end of the campaign. The sum is borne by the project proposer, with a share that may vary depending on the amount reached (Magnani A., 2016).

An example of crowdfunding web-based platform in Italy (www.woopfood.it).

The benefits of this crowdfunding web-based platform are:

- The creation of a new demand;
- The reduction in investment risk for producers;
- The establishment of direct relations with consumers;
- The sponsorship of a product;
- The valorization and protection of the traditional ecosystem made in Italy;
- The promotion and dissemination of the concept of environmental sustainability;
- The strengthening of food security and quality assurance.

Very interesting, it is the new project titled "Hemp of Campania Region: the revolution starts in the fields". The hemp of Campania Region agricultural cooperative company was founded in 2015 by three young farmers, Valentina Capone, Simona Falco, Giuseppe Mugione, united by the desire to launch an initiative to relaunch the territory through the re-introduction of a noble and ancient plant such as canapa in Campania, a region that until the middle of the last century contributed to making Italy the second nation in the world for produced hemp and first for fiber quality. Around 1914, the province of Caserta produced 157,000 quintals of hemp, while in the area of Naples the quintals were 89,000, making Campania the second Italian region for textile hemp production. The best fiber was supplied by the "Carmagnola" variety and unit yields per hectare were higher than in any other country, and the fact that the Italian variety was recognized as the best for textile fiber quality. Hemp had always been used to dress and produce any type of cord, cloth, paper (until the beginning of the 20th century, almost all of the paper was produced with hemp), its seeds gave excellent fuel oil and in the pharmaceutical field its applications were wide.

In conclusion, in food system, a variety of fairly large-scale ICT-enabled projects demonstrate economic viability and provide significant social and economic value. Such projects are directly linked to income-generating activities (for example providing better selling opportunities for agro-products), making their value easily visible for end-users (Bargain O. et al, 2016; Carvalho A. et al, 2012). At the same time these project, collect individuals around a topic that allow them to improve their knowledge on a product or on an activity in terms of sustainability.

References

1. Agrawal, A., Catalini, C., and Goldfarb, A. (2014) Some simple economics of crowdfunding. *Innovation Policy and the Economy*, 14(1), 63-97.
2. Bargain, O., Cardebat, J. M., and Vignolles, A. (2016). Crowdfunding in Wine (No. 234638). Aawe Working Paper N. 196, 1-21.
3. Belleflamme, P., Lambert, T., and Schwienbacher, A. (2014) Crowdfunding: Tapping the right crowd. *Journal of business venturing*, 29(5), 585-609.
4. Carvalho A., Feinberg C., Klarsfeld L., Lepicard F. and Posthumus B. (2012) Leveraging Information and Communication Technology for the Base of the Pyramid-Innovative Business Models in Education, Health, Agriculture and Financial Services. Proceedings of M4D New Delhi, India.
5. European Commission (2014) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions unleashing the potential of crowdfunding in the European Union.
6. Giudici G., Guerini M., Rossi-Lamastra C. (2017) Reward-based crowdfunding of entrepreneurial projects: the effect of local altruism and localized social capital on proponents' success. *Small Business Economics*, p. 1-18.
7. Hemer J. (2011) A snapshot on crowdfunding. Working paper firms and region R2/2011.
8. Magnani A. (2016) Woopfood, il crowdfunding finanzia la filiera agricola. www.ilsole24ore.it.
9. Misso R., Cesaretti G.P., and Viola I. (2013) Sostenibilità del benessere e responsabilità, *Rivista di studi sulla sostenibilità*, N.1, p. 77-92.
10. Misso R. (2010). *L'uomo, il clima e l'agricoltura – Verso nuovi strumenti e politiche*, Milano: FrancoAngeli, p. 1-144.
11. Morgan L., Vincent SK. and Mazur J. (2016) Establishing a Crowdfunding Sustainability Project for Resource - Depleted Secondary Agricultural Education Programs. Southern Region Conference of the American Association for Agricultural Education February 7-9, 2016 San Antonio, TX, p. 34-37.
12. OECD (2015) *New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments*. OECD. Paris.
13. Servato F., Miglietta A., Parisi E. and Pessione M. (2013) Gli strumenti finanziari a supporto delle start-up innovative: le opportunità offerte dal CrowdFunding. XXV Convegno annuale di Sinergie Referred Electronic Conference Proceeding. L'innovazione per la competitività delle imprese, Ottobre 2013 – Università Politecnica delle Marche, p. 491-506.
14. Stemler A.R. (2013) The JOBS Act and Crowdfunding: Harnessing the Power-and Money- of the Masses. *Business Horizons*, Vol.56, p. 271, 2013. Indiana Legal Studies Research Paper N° 295, p. 271-275.

15. Yoo Y.G., Choe Y.C. (2014) Current Status of Korean Crowdfunding Industry and its Applicability to Agrifood Sector. *Advanced Science and Technology Letters* Vol.49 (SoftTech 2014), p. 213-221.