



Prefiguring the counter-hegemony of open cooperativism: The case of Open Food Network

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ABSTRACT

Drawing on Ernesto Laclau and Chantal Mouffe's discourse theory of hegemony, the paper introduces a chain of equivalence that articulates discourses such as "commons-based peer production", "partner state" and "ethical market entities" around the counter-hegemony of open cooperativism vis-à-vis the current hegemony of neoliberalism. The paper sets out to empirically test its theoretical premises by reviewing the Open Food Network as an illustrative case-study of open cooperativism. The Open Food Network deploys the digital commons to launch short food supply chains and bring about systemic change in agriculture. The paper suggests that for the Open Food Network to contribute to systemic change in agriculture and beyond it may create cross-sectoral synergies across the economy, civil society and politics to help articulate a chain of equivalence linking up ethical market entities, the commons and a partner state around the model of open cooperativism.

1. Introduction

The development of information and communication technologies (ICTs) in the last decades has given rise to novel economic models driven by network effects and peer production supported by open-source technologies and the digital commons. Digital platforms have cross-fertilized a proliferation of identities and communities seeking for autonomy while criss-crossing the seas of multiculturalism, neoliberalism, postmodernism, populism, data capitalism, neo-conservatism and nationalism in all their authoritarian and democratic versions.

Internet-enabled economic models such as platform capitalism, platform cooperativism and open cooperativism compete and often intersect in hybrid versions. Platform capitalism is a digital version of neoliberalism that sets forth algorithmic design, data extractivism and network effects to promote corporatism and entrepreneurialism. On the flipside, platform cooperativism puts algorithmic management in the service of community members working together in terms of self-management, data privacy and the equitable distribution of value. Open cooperativism places commons-based peer production (CBPP) at the crossroads of ethical market entities, civil society and a partner state. Open cooperativism is anchored on open protocols, open supply chains, open book accounting, copyfair licensing and the Design Global-Manufacture Local model (Kostakis and Bauwens, 2014).

Michel Bauwens and Vasilis Kostakis introduce the model of open cooperativism as a counter-hegemonic power vis-à-vis the current hegemony of neoliberalism. Yet, open cooperativism is still underdeveloped both theoretically and empirically. The paper's objective is to produce relevant insights by reviewing the Open Food Network (OFN) as an illustrative case study of open cooperativism. The OFN seeks to bring about systemic change in the agricultural sector by deploying the digital commons to launch Short Food Supply Chains (SFSCs) as opposed to conventional food supply chains. The paper employs Ernesto Laclau and Chantal Mouffe's discourse theory of hegemony to articulate the discourses identified in OFN into a chain of equivalence aiming at contributing to systemic change in agriculture and beyond. The paper is structured as follows: Section 2 sets the theoretical framework of research; Section 3 describes the research methodology; Section 4 analyzes the findings; Section 5 discusses the findings; and Section 6 concludes the paper.

2. Theoretical framework

2.1. From platform coops to open cooperativism

The development of ICTs in the last decades has given rise to diverse modes of production introducing novel labour types in the model of a

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digital economy. Post-fordism (Hardt and Negri, 2000), the multitude (Hardt and Negri, 2004) and peer production (Benkler, 2006) have co-emerged with crowdsourcing (Howe, 2006), digital labour (Fuchs, 2014), the cyber-precariat (Dyer-Witheford, 2015; Standing, 2011; Huws 2003, 2014) and the prosumer (Toffler, 1980). In particular, peer production, featuring most prominently in peer-to-peer networks, free/libre and open-source software (FLOSS) and digital platforms, sustains three competing and often overlapping economic models: platform capitalism, platform cooperativism and open cooperativism (Author, 2020:pp.1-2).

Platform capitalism is a type of digital capitalism, with high-tech corporations and start-ups employing algorithmic management and network effects on the Internet to sell products and services (Author, 2020:pp.78-80). Platform capitalism operates alongside the industrial value chain, allowing for network interaction and multi-channel value flows across a digitalized global market (Author, 2020:pp.79). Platform capitalism realizes monopoly rents on big data and extracts fees from multi-sided markets of interdependent suppliers, producers, consumers and users (Author, 2020:pp.78-80; Srnicek, 2017). Prominent cases are Facebook, Google, Amazon, Airbnb, Uber, Alibaba, Ebay, and dozens more. These platforms enable Internet users to interact in a decentralized manner on a peer-to-peer basis. However, decentralization is limited to front-end users, with the back-end infrastructure being controlled by private firms through centralized, hierarchical decision-making systems. Eventually, platform capitalism represents a digital version of neoliberalism, since it commercializes the gift economy of the Internet through the top-down extraction of rents (advertising) from the use value (data) produced bottom-up by Internet users (Author, 2020:pp.80-82). By transforming society into a cyber-factory operating 24/7 in grey legal zones (Tronti, 2019), platform capitalism generates precarious (digital) labor conditions, all the while extracting value from the unwaged sociality of Internet users in exchange for free services (Schor, 2015, 2016).

Platform cooperativism opposes platform capitalism by extending

the principles of traditional cooperatives in the digital economy (Scholz, 2016; Scholz and Schneider, 2016). Similar to platform capitalist ventures, platform cooperatives adopt online business models. Yet, they operate on the basis of participatory governance schemes and co-ownership structures that apply algorithmic self-management alongside the equitable distribution of value among coop members. Types of platform cooperatives include cooperative market places, city-owned platforms, producers-owned platforms, union-supported platforms and data cooperatives (Scholz, 2016:pp.14-18).

Although promising, platform cooperatives suffer from financial instability and limited community outreach, among others (Author, 2022:pp.15-16). Platform cooperatives find difficulties in surviving the competition and overcoming the market pressures generated by traditional and platform capitalism, with increasing economic problems challenging their sustainability in the long run. Platform cooperatives are mostly locally-oriented enterprises, leaving bare the opportunities lying in global markets to be seized by capitalist firms.

Michel Bauwens and Vasilis Kostakis (2016:pp.163-166) argue that platform cooperatives fall short of their radical potential by operating under protected copyright systems, thereby not producing commons. Bauwens et al. (2019) seek to address these deficiencies by introducing the concept of open cooperativism (Fig. 1). Open cooperatives aim to bridge cooperative platforms with CBPP. According to Benkler (2006), CBPP is an Internet-specific sector of the economy, where information, knowledge and culture are not treated as market goods or private property; rather, they are conceived as common goods produced through open sharing, self-management and cooperative practices. CBPP operates in FLOSS and open decentralized networks, where peers undertake distributed tasks without having exclusive control and/or ownership over resources. CBPP features a number of FLOSS-specific modalities such as do-ocracy, stigmergy, holoptism, equipotentiality and modularity (Author, 2020:pp.93).

Open cooperatives further integrate CBPP into cosmopolitanism (Bauwens et al., 2019; Kostakis et al., 2015, 2016). The Design

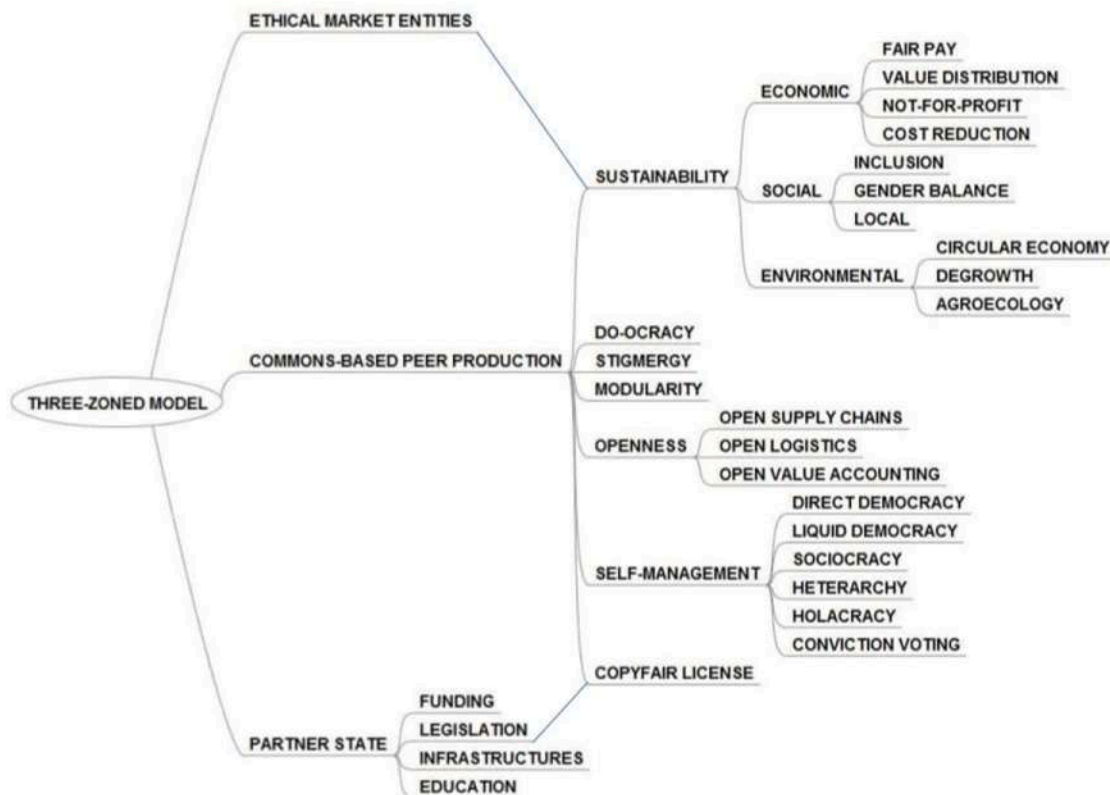


Fig. 1. The model of open cooperativism.

Global-Manufacture Local model (cosmolocalism) aims to share ideas, knowledge and best practices in terms of the digital commons and FLOSS circulating globally on the Internet, and apply them locally in Fablabs and makerspaces equipped with open-source hardware (3D printers, computer numerical machines, etc.). Open cooperatives harness the digital commons through the maintenance, circulation and regeneration of “light” knowledge, code and software globally. At the same time, they reduce transportation footprint by linking the global digital commons with “heavy” hardware locally. Thus, cosmolocalism champions an open, sustainable, resilient and circular economy based on material and immaterial commons.

Open cooperatives internalize negative externalities; adopt multi-stakeholder governance models; create material and immaterial commons; and are oriented towards a global socio-economic and political transformation, albeit locally based (Author, 2020:p.95). Open cooperatives make use of open supply chains, open value accounting and open protocols to advance transvestment from the capitalist economy to a commons-oriented post-capitalist economy (Bauwens and Kostakis, 2016). They advocate for the circulation of capital within a collaborative economy that can secure the reproduction of the commons (Fig. 2).

In this respect, the ecosystem of open cooperativism comprises a productive community, which includes waged and volunteer members, users and contributors of the commons; an entrepreneurial coalition made up of commons-oriented enterprises, which opt for social and environmental goals; and a for-benefit foundation tasked to safeguard the connection of the productive community with the entrepreneurial coalition, and also secure the reproduction of the commons through fundraising activities (Bauwens et al., 2019). The for-benefit foundation prefigures at the macro-level a partner state that can further empower the commons by maximizing “openness and transparency while it would systematize participation, deliberation and real-time consultation with the citizens” (Kostakis and Bauwens, 2014:p.66).

Kostakis and Bauwens (2014) introduce the model of open cooperativism as a counter-hegemonic power against neoliberalism. The paper seeks to build on Kostakis and Bauwens’ counter-hegemonic strategy by reading the model of open cooperativism through the lens of Ernesto Laclau and Chantal Mouffe’s (1985) discourse theory of hegemony.

In Laclau and Mouffe’s discourse theory, hegemony is the outcome of social antagonism playing out at the intersection of the logic of equivalence with the logic of difference (Laclau and Mouffe, 1985: pp.113-117). The logic of equivalence represents a simplification of the logic of difference since it condenses the latter into two poles of meaning concentrated around two chains of equivalence. One chain articulates discourses around a common identity that opposes another chain articulating discourses around another common identity. For example,

the chain of equivalence of Marxism articulates the discourses of “ecology”, “democracy”, “freedom” and “egalitarianism” around the common identity of “communism”, whereas the chain of equivalence of liberalism articulates the discourses of “market forces”, “freedom of choice”, “individuality” and “ethical pluralism” around the common identity of “capitalism”. Thus, communism opposes capitalism.

Hegemony is the precarious fixing of the social space by a chain of equivalence on the socio-ontological conditions of contingency, difference, antagonism, power and the primacy of politics (Laclau and Mouffe, 1985:pp.120-131). Hegemony is the relation by which a chain of equivalence assumes the impossible task of a universal representation.

This logic is designed to elucidate the practice of constructing political alliances and coalitions between differently positioned social actors. It captures the process by which actors link together a disparate set of particular demands in a common discourse so as to construct a more universal political project (Howarth, 2005:p.323).

The paper employs Laclau and Mouffe’s discourse theory of hegemony to analyze the model of open cooperativism as a chain of equivalence articulating the discourses of “commons-based peer production”, “ethical market entities” and “the partner state” around the empty signifier of “post-capitalism” (Fig. 3). An empty signifier refers to the absence that hegemony seeks to fill. Thus, post-capitalism is a theoretical and empirical sketch for prefiguring the counter-hegemony of radical and plural democracy vis-à-vis the current hegemony of neoliberalism.

The paper reviews the Open Food Network as an illustrative case study of open cooperativism. The model of open cooperativism is still under-theorized and highly experimental, often exhibiting the very contradictions of CBPP such as the lack of *the political*, fragmentation and precariousness (Author, 2022:pp.31-36; Kiouпкиolis, 2019). The paper embarks on the OFN case-study to explore potential contradictions and substantiate a theoretical refinement of the model of open cooperativism. The ultimate goal is to further politicize the model of open cooperativism in a mission to sharpen its strategy vis-à-vis neoliberalism. Focusing on agriculture, the paper makes the case that for OFN to promote agroecology and challenge industrial agriculture, it needs to scale up and wide in equivalent sectors of the economy, civil society and politics to contribute to systemic change within and beyond agriculture.

2.2. Conventional food supply chains vs short food supply chains

In agriculture, the 20th century was marked by the transition from local farming practices to concentrated corporate industrial production (Friedland et al., 2021:p.3). The main feature of industrial agriculture

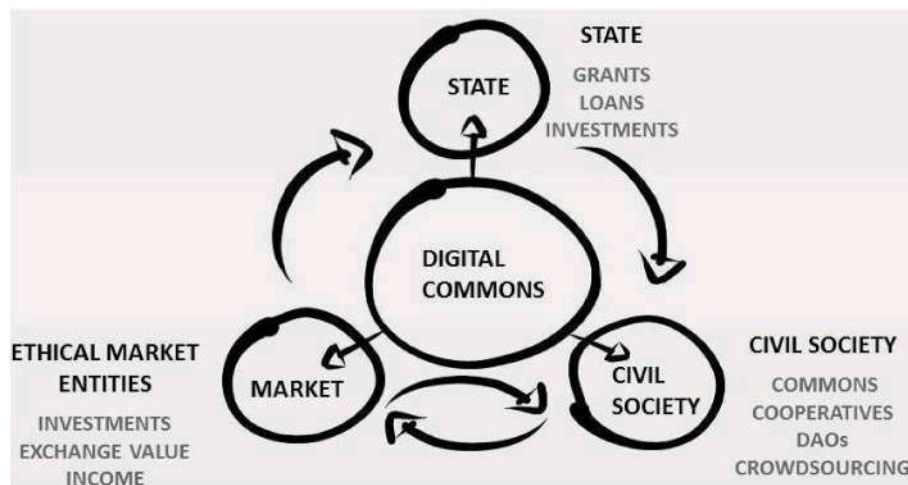


Fig. 2. Open cooperativism among the partner state, ethical market entities and the commons.

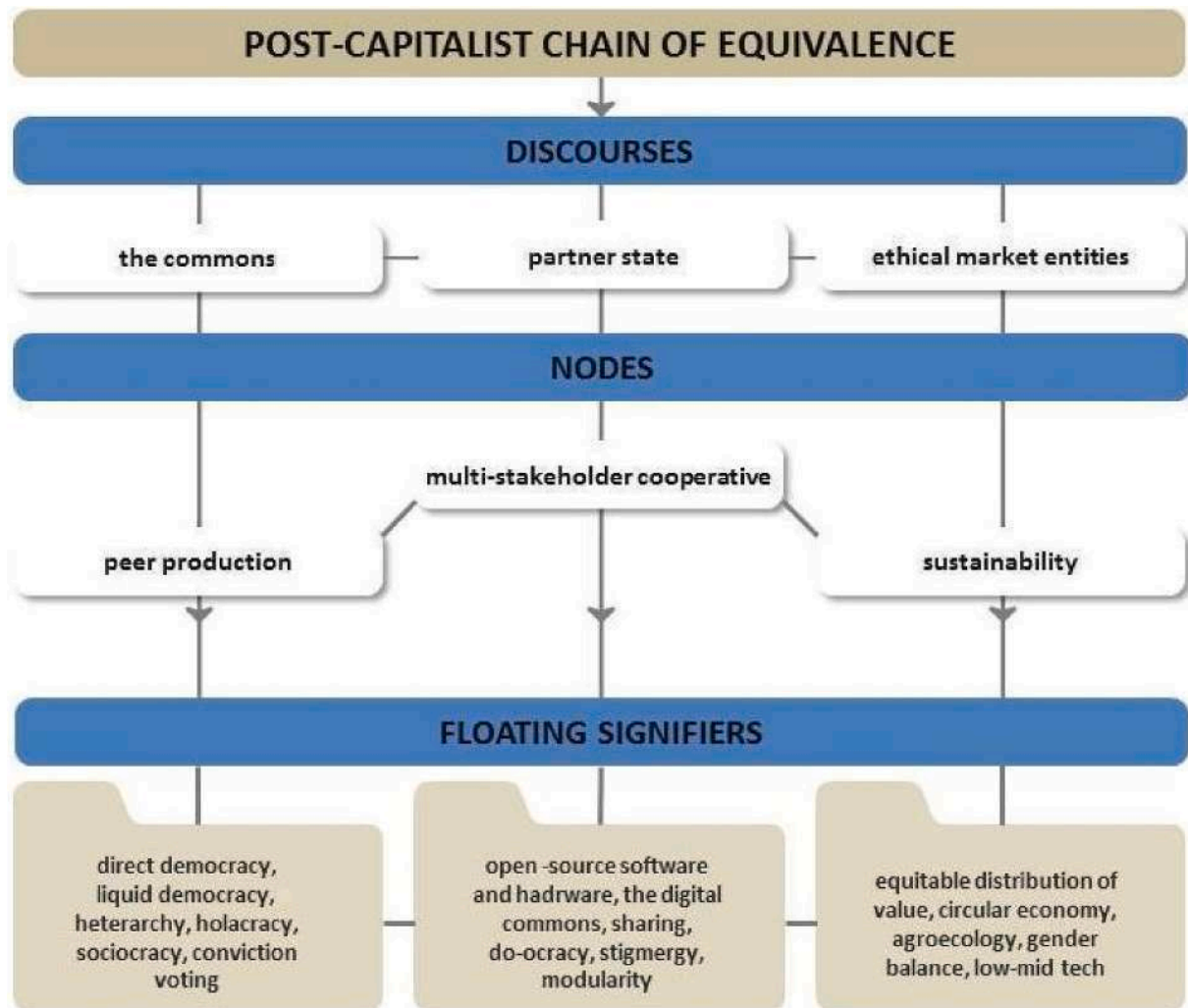


Fig. 3. The post-capitalist chain of equivalence.

has been market concentration, integrating a profit-oriented logic in all stages of the value chain, from food production and processing to distribution and finance (Lakhani et al., 2021; Chemnitz et al., 2017). Industrial agriculture has followed neoliberal path dependencies leading to mass food production, high production and transaction costs, land consolidation, massive food retailing, seed patents and bio-tech (Renting et al., 2003:pp.396-397). A few powerful transnational corporations dominate every link of the food supply chain: from livestock breeding, seeds, pesticides and fertilizers to slaughterhouses and supermarkets to cereals and beers.

3 companies control 50% of the commercial seed market, 7 companies control nearly 100% of fertilizer sales, 5 companies share 68% of the agrochemical market, 4 firms account for 97% of private R&D in poultry, 4 firms control up to 90% of the global grain trade. (IPES-Food, 2016:p.57)

Industrial agriculture has been driven by subsidization, finance, international trade, and export-oriented growth based on monocultures particularly suited for economies of scale. Neoliberal growth strategy implements short-term thinking as well as poor working conditions featuring most prominently in the Global South (IPES-Food, 2016). Intensification of production has been reliant on the excessive usage of fossil fuel, chemical fertilizer, pesticides and antibiotics, exacerbating climate change due to increased greenhouse gas emissions.

The viability of industrial agriculture is foregrounded on a cost-benefit analysis aiming at profit-maximization, overly dismissing

negative externalities such as pollution and carbon emissions. By lowering food quality and safety standards and increasing standardization levels, industrial agriculture has reduced food costs, all the while severely contributing to food waste and food devaluation. Negative effects have been propelled by the growth of large supermarket retailers, which have transformed the supply chains as autonomous coordinating systems (Jarzębowski et al., 2020; Thomé et al., 2021) and further distanced the processes, places and relationships of production and consumption (Thomé et al., 2021; IPES-Food, 2016).

Agroecology stands opposite to industrial agriculture since it embraces SFSCs, fair pay, biodiversity, food health, permaculture, resilience, resource efficiency and low greenhouse gas emissions (Table 1). Agroecology recognizes the finitude of natural resources, puts forth de-growth and post-growth strategies (Kallis et al., 2018), adopts environmentally friendly technologies and endorses equity in resource allocation (Horrigan et al., 2002:p.452). In short, agroecology sets forward a globally dispersed social movement aiming at economic, social and environmental sustainability.

The paper reviews the OFN as an illustrative case of open cooperativism that advocates a paradigm shift from industrial agriculture to agroecology. The OFN was launched in 2012 by two farmers from Violet Town in Australia to reverse the disconnection between producers and consumers as well as the food supply chain centralization driven by market concentration (Ortolan, 2020). Middlemen, corporations and big supermarkets were squeezing out income from farmers while at the same time undermining food quality, producing food waste, threatening

Table 1
Industrial vs sustainable agriculture.

Industrial agriculture		Sustainable agriculture	
Features	Negatives	Features	Positives
market concentration; economies of scale; long global supply and distribution chains; mass food retailing; financial short-termism	asymmetric political and economic power; profit squeeze; livelihood stresses for farmers; slavery; inhumane working conditions; 60% of child labor	short supply chains; food hubs; community supported agriculture; community food enterprises	reduction in transaction and production costs; secure livelihoods; fair pay; more equitable power relations
crop monocultures; genetically modified crops; specialization; uniformity	biodiversity losses; epidemics, biotic and abiotic stresses	biodiversity optimization	long-term fertility; nutritional adequacy, seed commons, community gene banks, seed banks
intensified use of resources, reliance on inputs and chemicals (fossil fuel, fertilizer, pesticides, insecticides, herbicides)	20–30% of global greenhouse gas emissions (Horrihan et al., 2002:p.448); ecosystems degradation; chronic hunger (Horrihan et al., 2002:p.449); 19% food waste at the household level	carbon sequestration; circular economy, recycling of waste; organic; permaculture; reduced use of chemicals	low greenhouse gas emissions; democratization of production; resilience; relocalization; resource efficiency (land, energy, water and nutrients); food security, diverse diets and improved health
precision agriculture (Bellon-Maurel et al., 2022; Rotz et al., 2019), highly-mechanized, labour-saving systems	unemployment; precariousness; “data grab” (Prause et al., 2020:pp.648-649)	mid-tech, digital commons, open-source technologies	cosmolocalism, prosumers of agricultural tools

biodiversity and exacerbating climate change. Compared to conventional food supply chains, the OFN deploys open-source software to support instead SFSCs, directly interconnecting producers and consumers by cutting out the middlemen (Fig. 4). SFSCs date back to the 1970s, when health scandals and increased consumers’ concerns regarding health issues, GMOs and animal welfare had sprung a growing distrust of conventional agriculture (Thomé et al., 2021:p.4; Renting et al., 2003:p.395).

The literature has documented a diversity of SFSCs operating on a variety of dimensions such as the type of relation of SFSCs to conventional food supply chains, the type of producer-consumer networks distributed in time and space, contextual food quality definitions, direct/indirect types of sale and individual/collective organizing modes (Renting et al., 2003:pp.399-401; Jarzębowski et al., 2020:pp.4-5). SFSCs cut out intermediaries, thereby reducing costs and reconnecting producers and consumers (Renting et al., 2003:p.394). SFSCs guarantee local and fresh quality products, support sustainable and healthy agricultural methods, increase producers’ income and contribute to the revitalization of local society and economy (Jarzębowski et al., 2020: p.2). The result is customers are getting better, fresher, more ethically raised food. In return, farmers get direct lines of feedback from their customers, less food waste and more money in their pockets” (Cornish, 2019). The Covid-19 pandemic gave a push to the OFN with a tenfold

increase in people signing up for the platform and a tenfold increase in turnover through the platform (Ortolan, 2020). The increased demand, however, has smoothed out after the ease of Covid restrictions and has slowed down due to inflationary pressures on local economies.

The literature often showcases SFSCs (Thomé et al., 2021; Jarzębowski et al., 2020; Galli and Brunori, 2013; Kneafsey et al., 2013) and food hubs (Drissen, 2022; Nelson and Landman, 2020; Guzman and Reynolds, 2019; Hoey et al., 2018; Levkoe et al., 2018) as pillars of sustainability and relocalization, without acknowledging the interdependencies of agroecology with the broader neoliberal structure of politics and the economy. SFSCs encounter a number of obstacles such as increased labor needs, high costs, fragmentation, lack of capital, lack of communication and marketing skills, lack of certification labels, lack of institutional support and regulation (Kneafsey et al., 2013; Renting et al., 2003:p.408). SFSCs are further subject to political greenwashing and corporate capture. By claiming for systemic change, the OFN seems to be cognizant of the inherent contradictions of SFSCs operating in the contours of neoliberalism. The OFN’s strategic vision of systemic change coincides with marginal synergy effects manifested in agroecology (Renting et al., 2003), which testify to a premature chain of equivalence linking up overlapping sectors of the economy such as ecotourism and timber production. The main challenge the OFN is facing is the very systemic change it advocates, which is coefficient with the articulation

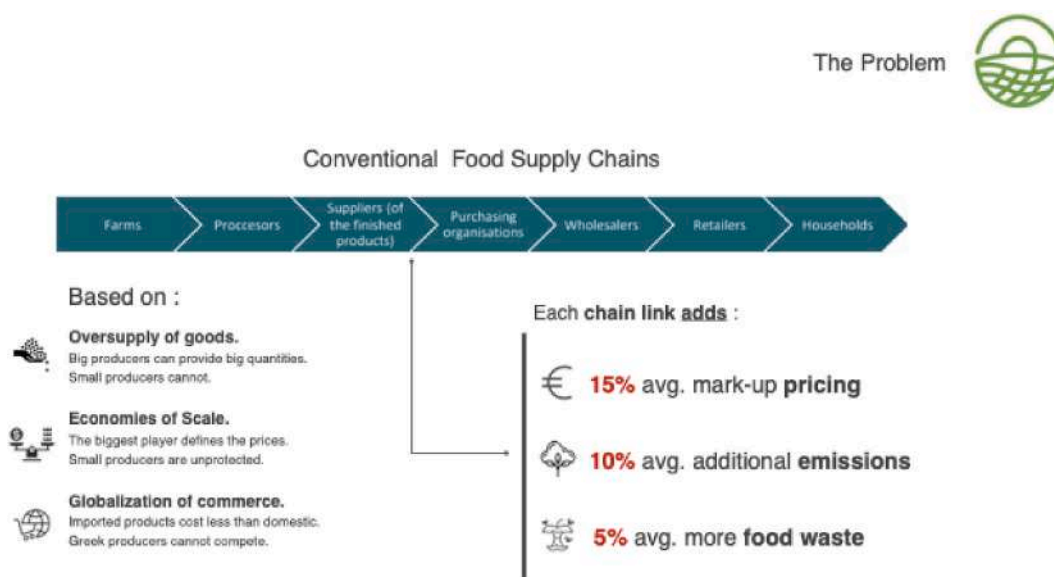


Fig. 4. Conventional food supply chains. Figure used with permission from Interviewee 3 from OFN Global.

of a chain of equivalence that would help the OFN scale wide and challenge industrial agriculture. We extrapolate further this chain of equivalence in Sections 4 and 5.

3. Methodology

The paper employs Laclau and Mouffe's discourse analysis to review the OFN as an illustrative case study of open cooperativism. Laclau and Mouffe's discourse analysis is the methodological extension of their political theory of hegemony, applied to empirical research (Howarth, 2005). Contrary to behaviorist, positivist, functionalist, techno-economistic, rationalist and essentialist theories that seek to reduce reality to a single point of scientific truth and produce an objective account of the social, Laclau and Mouffe's discourse theory of hegemony conceives of the social as a field ontologically replete with contingency, indeterminacy, difference, openness, antagonism and politics (Howarth et al., 2000:pp.6-7; Laclau and Mouffe, 1985). Social antagonism presupposes an ontological dimension of negativity that constructs and deconstructs any precarious objectivity. Laclau and Mouffe's social constructivism draws upon Marxism, post-structuralism, hermeneutics, and psychoanalysis to introduce a post-Marxist political analysis of the social that articulates floating signifiers, nodal points and discourses into equivalential and differential logics, which constantly seek to hegemonize and dislocate the social respectively (Howarth et al., 2000; Laclau, 1996; Laclau and Mouffe 1985). Nodal points are privileged signifiers or reference points or chains of signification that temporarily align floating signifiers around discourses. Beyond the dichotomy between idealism/rationalism and realism/empiricism, discourses fix social practices and subject positions in a retroductive manner moving back and forth between empirical data and critical explanation (Glynos et al., 2021; Howarth, 2005; Howarth and Roussos, 2023).

Discourses set up language games governed by context-specific rules that establish a system of relations between objects and practices constituting subject positions (Howarth et al., 2000). In Laclau and Mouffe's socio-ontological universe, there is no context-free object-subject relationship but a historical perspectivism of truth, knowledge and power that contrasts relativism by projecting on the normative framework of radical and plural democracy (Laclau and Mouffe, 1985: pp.133-177). While discourse theory of hegemony purports to be a neutral theory of political analysis and thus subject to any form of hegemony (majoritarian, authoritarian, neoliberal, socialist, democratic, etc.), Laclau and Mouffe favor a particular form of democratic hegemony, that is, the project of radical and plural democracy (Howarth, 2004; Howarth and Roussos, 2023), which champions plural forms of democracy (representative, direct, sociocratic, etc.) coupled with multi-stakeholder governance anchored on the socialization of the means of production.

The paper adopts Laclau and Mouffe's theoretical framework and methodology for a number of reasons. Kostakis and Bauwens (2014) conceive of the model of open cooperativism as a counter-hegemonic power vis-à-vis the current hegemony of neoliberalism. Therefore, the very hegemonic strategy of open cooperativism begs for a theory of hegemony. The reason for selecting Laclau and Mouffe's discourse theory of hegemony to analyze the model of open cooperativism lies in their mutual commitment to radical and plural democracy. The model of open cooperativism builds on a multiplicity of social, political and fantasmatic logics (open-source software, the digital commons, circular economy, sociocracy, fair pay, and more) along with the necessity of their articulation around the discourses of "the partner state", "ethical market entities" and "the commons". The discourse of "the partner state" digresses from statism, classism and economism by seeking to diffuse power in civil society, while the discourse of "ethical market entities" promotes sustainability and multi-stakeholder schemes of ownership and governance, conforming to the discourse of "the commons". All three discourses eventually point to the empty signifier of

post-capitalism as an alternative to the current hegemony of neoliberalism.

Laclau and Mouffe's discourse theory of hegemony is deemed most appropriate as an analytical toolkit inasmuch as the OFN case study corresponds to the three-zoned structure of the model of open cooperativism, featuring different modalities of political subjectivities, social movements, logics of collective action, power relations and their affinity with specific kinds of frontier formations playing out in varying agonisms, myths and imaginaries such as food sovereignty, sustainability, systemic change, etc. Zooming out from the OFN case study to the social sciences, the diversity of grassroots eco-techno-social innovation variously showcased in platform cooperativism, commons-based peer production and cosmopolitanism calls for a chain of equivalence to politicize the under-theorized model of open cooperativism in a mission to sharpen its counter-hegemonic strategy vis-à-vis the current hegemony of neoliberalism.

The paper adopts a case study approach (Yin, 2004), since it is most suitable when exploring novel organizational forms such as the model of open cooperativism. The paper has chosen, in particular, the OFN case study, since the OFN is a paradigmatic, albeit experimental, case of open cooperativism. Data collection was based on literature review, digital ethnography, participatory observation, in-depth interviews and a survey. Floating signifiers, nodal points and discourses were classified in four coding themes: value proposition, governance, economic policy and legal policy. The four coding themes came up when reviewing the literature on CBPP (Fuster et al., 2017) and analyzing the discourses in the OFN website and handbook.

Semi-structured in-depth interviews (Fiss, 2009) were conducted with 4 core members of OFN. Interview length ranged from 30 to 100 min. Interviews were carried out in person, in Slack and in Zoom. The interview that was recorded in Zoom was transcribed using Descript. Additionally, 2 already available interviews from core members of the OFN UK and OFN Australia along with 9 interviews from core members of food hubs in the UK and Australia, all open-sourced in Slack and YouTube, were analyzed for the purposes of research. In total, 15 interviews (4 conducted by the first author and 11 open-sourced in Slack and Youtube), plus academic articles, press articles and data collected via the OFN website, compiled the main empirical research material (Appendix). Supplementary empirical data were collected through a survey disseminated in multiple channels of OFN in Slack. The survey received 27 responses out of the 100 members of the OFN local instances across the globe (UK, France, Canada, Spain, Switzerland, Australia, Germany, Greece, USA, Ireland, Belgium). The authors, finally, participated in an online event featuring presentations and discussions on sociocracy, consent-based decision-making and the self-governance model of OFN.

4. Findings and analysis

Table 2 demonstrates the OFN discourses identified through data collection (literature review and interviews). Discourses are classified according to four coding themes: value proposition, governance, economic policy and legal policy. OFN discourses correspond to a large degree to the discourses of CBPP and open cooperativism (Fig. 3). Finally, we assess the findings from a counter-hegemonic point of view in Section 5.

4.1. Value proposition

The OFN has evolved during the years into an open-sourced e-commerce platform that aligns farmers, user communities and ethical market entities around the launch of SFSCs across the globe (OFN Handbook, n.d.). The OFN platform now hosts more than 7000 producers in over 20 countries around the world. The back-end of the platform open sources the code behind the front-end that features a directory, a map, shop fronts and logistics such as products listing,

Table 2
OFN discourses, nodal points and floating signifiers.

VALUE PROPOSITION	GOVERNANCE	ECONOMIC POLICY	LAW POLICY
<p>the digital commons, SFSCs, agroecology, systemic change, food sovereignty</p> <p>problem: food centralization and disconnection, profit squeeze</p> <p>solution: decentralization and connection via SFSCs</p> <p>economic sustainability: fair pay, “cutting out the middleman”, lower costs, reduced information asymmetry, consumer empowerment, producer-consumer reconnection</p> <p>social sustainability: inclusion, relocalization, reduced health inequality and food poverty, community building</p> <p>environmental sustainability: organic, recycling waste, permaculture, reduction in CO2 emissions, resource efficiency, biodiversity</p>	<p>multi-stakeholder governance, subsidiarity, holacracy, sociocracy, modularity, lazy consensus</p> <p>OFN Global: 5 coordination Circles (Delivery of code/software, Marketing/ Communications, Governance, Fundraising, Other Services/Providers)</p> <p>instances/members: 20 local/national instances (5 core instances: US, Canada, France, UK, Australia), 20 core team members (representatives of the 5 core instances), 100 members (members of local/national instances)</p> <p>decision-making: subsidiarity, community forums and newsletters > equal voting rights using online voting tools/mechanisms, lazy consensus</p> <p>stakeholders: farmers/growers, food processors, food hubs, shoppers, distributors, consumers, associates (white label users), service providers, volunteers</p>	<p>diversity of revenue streams and business models, transparency, fair pay, “cutting out the middleman”</p> <p>revenue streams: fundraising, grants, subscriptions, fees, OFN instances contribution, crowdfunding, partnerships</p> <p>contribution: minimum of 40%</p> <p>fair pay for farmers: cutting out the middlemen > decrease of production and transaction costs</p> <p>fair pay for OFN employees: payment according to the cost-of-living index by country (10–40 euro per hour)</p> <p>business models: producers selling directly to customers or indirectly through food coops, farmers’ markets and food hubs</p> <p>transparency: open budget spreadsheet</p>	<p>open-source software, the digital commons, diversity of legal entities, data food interoperability</p> <p>for-benefit foundation: the Open Food Foundation</p> <p>community pledge: informal legal agreement</p> <p>food certification: compliance with organic and food safety standards</p> <p>open-source content and code: licensed with CC BY-SA 3.0 and AGPL 3 respectively</p> <p>data food interoperability: common standards and protocols</p> <p>community food enterprises: not-for-profits, charities, associations, local food markets, coops, social enterprises, community interest enterprises, community supported agriculture</p>

products stock, orders, etc.

Open Food Network (OFN) is a collaborative global network of local non-for-profit organisations who codevelop open-source software and knowledge, and make it available to food hubs worldwide through localized online platforms (like [Open Food Network UK](#), [Open Food Network Australia](#), [Open Food France](#), [Katuma](#), [Open Food Network Canada](#), etc.) and communities. The mission of this community is to build shared digital infrastructure and shared knowledge to enable short food chain operators to manage their activities, cooperate more efficiently, and build food sovereignty. (OFN Handbook, n.d.)

Internet-enabled SFSCs interconnect producers and consumers via community food enterprises such as food hubs, food collectives, not-for-profit food coops and farmer’s markets. OFN is now an international community of volunteers and members that is locally-led across the world. From a cosmological perspective, the software is developed globally and applied locally by producers and community food enterprises. “Each country sets up their deployment and their instance of the software to suit the local conditions of their country. That adds to the resilience and depth and breadth of experience of the OFN Global team” (Interviewee 2).

Value flow traceability is a key defining feature of the OFN platform. Traceability enhanced by data interoperability allows for transparency in pricing, costs and production methods, thereby fostering food sovereignty and food security (Schumilas, 2019). The result is a food system where the flow of the food from farm to fork is made open for all to know who came in between, what margin they took, what value they added. The OFN community provides not only software, but also support, training, peer learning and a solidarity network that seeks to empower community food enterprises to thrive (OFN Handbook, n.d.). The OFN is institutionally backed by the Open Food Foundation, “a non-profit, registered charity established in October 2012 to develop, accumulate and protect open-source knowledge, code, applications and platforms for fair and sustainable food systems” (OFN Handbook, n.d.).

The OFN thus corresponds to the three-zoned model of open cooperativism, since it is run by a global community of volunteers and members who co-produce digital commons deployed locally by peers and ethical market entities aligned around the launch of SFSCs. Cosmologicalism, CBPP, openness, transparency, sharing, sustainability, relocalization and the equitable distribution of value are core features of the OFN open cooperative backed by a Foundation and local authorities prefiguring the role of a partner state.

The OFN’s core value proposition lies in the paradigm shift from industrial agriculture to agroecology via Internet-enabled, decentralized and local SFSCs. The literature on agroecology and SFSCs often comes with a “thin” narrative focusing on sustainability and relocalization, thus sidelining major political issues such as market concentration, information and power asymmetries, democratic governance and value redistribution. OFN comes to fill the lack of *the political* (Author, 2020; Kioupiolis, 2019) in agroecological discourse as it advocates for systemic change (OFN Handbook, n.d.). However, it is not clear what OFN means by “systemic change”. To clarify the empty signifier of “systemic change” we conducted a survey in which we received 27 responses out of the 100 members of OFN Global. When members were asked what future they envision for community food enterprises, 44% replied that community food enterprises will coexist with supermarkets and 30% replied that the former will replace the latter (Fig. 6).

When asked what future they envision for open-source interoperable food data platforms, 41% replied that open-source interoperable food data platforms will replace centralized proprietary platforms and 33% replied that the former will coexist with the latter (Fig. 7).

When asked what “food system change” means to them, 52% replied with the replacement of industrial agriculture with agroecology and 22% with the tendency of the former towards the latter (Fig. 8). In general, responses reproduce the motto of diversity, with a core strand eventually anticipating the replacement of industrial agriculture with agroecology and big tech with open-source technologies.

Systemic change is in tension with diversity (Coutinho, 2021) arrayed in a wide range of organizational and business models adopted by individual producers and ethical market entities participating in the OFN platform. OFN institutional diversity flirts with gated communities, localism, fragmentation and neoliberal cooptation (Schumilas, 2019). In addition, OFN exhibits contradictions such as volunteers working for free versus paid contributors (Schumilas, 2019), unaffordable organic food prices (Coutinho, 2021), neoliberal cost-benefit discourses (Prost et al., 2018) and the risk of open-source software cooptation by private firms (Schumilas, 2019). Discourses over the digital commons, food democracy and food security often rest within a reformist framework that falls short of OFN’s radical potential (Prost et al., 2018). Agrodigital innovation is by no means exclusive to SFSCs nor challenging to big tech. On the contrary, bio-tech data grab goes along with land grab to showcase the neocolonial accumulation by dispossession of small-scale farmers’ cultural and ecological knowledge (Prause et al., 2020). Open-source technologies “simply do not offer a serious

challenge to the status quo in the absence of the kinds of structural shifts necessary to regulate corporate integration” (Rotz et al., 2019:p.15). We further discuss contradictions and tensions in Section 5.

4.2. Governance

Democratic participation is a key feature of the OFN operating around 5 interconnected but semi-autonomous Circles: (1) Delivery (code, software); (2) Marketing/Communications; (3) Governance; (4) Fundraising; and (5) Other Services/Providers (Fig. 5). Circles are coordinated by representatives of the network’s five core instances (OFN Australia, OFN France, OFN UK, OFN Canada and OFN USA).

The OFN comprises local democratically run multi-stakeholder co-operatives and collectives. OFN stakeholders include farmers/growers, processors, food hubs, shoppers, distributors and end-users/consumers (OFN Handbook, n.d.). OFN members include stakeholders/affiliates, associates (white label users), service providers (software developers, communication facilitators), and contributors/volunteers (individuals, organisations or institutions) (OFN Handbook, n.d.). The OFN applies holacracy as an operating model: “Our organisational structure has roots in permaculture principles, with each person having multiple roles, and each task able to be done by multiple people. The outcome has been an elastic, resilient system able to accommodate shocks” (Sheridan, 2020).

Decision-making is based on the principles of subsidiarity and sociocracy. Subsidiarity distributes authority locally. It secures operational autonomy for local instances, thereby allowing for decentralization, relocalization and resilience. Sociocracy draws on the use of consent rather than majority voting. If no objection is raised, decision-making settles around a lazy consensus, otherwise a decision is reached by the 2/3 majority voting. Global community meetings are taking place on a monthly basis online.

But because there is such a level of trust, they feel there is no need to vote, there is no point in voting. They have given responsibility to the next layer of authority if you like to make the best decisions on behalf of the whole. So voting becomes almost unnecessary. (Interviewee 1)

The OFN adopts core features of CBPP such as modularity, granularity, do-ocracy and stigmergy. (Schumilas, 2019:p.10). Modularity

refers to the relative independence of Circles and the compartmentalization of tasks. It provides autonomy in terms of skills and motivations as well as it permits “diverse participation and efficient completion of project components” (Schumilas, 2019:p.10). Granularity further breaks down tasks by size and complexity. Granularity complements modularity as it enables the engagement of various stakeholders, both paid members and volunteers, in the different OFN’s modules. Do-ocracy designates the self-assignment of tasks according to skills and availability (Schumilas, 2019:p.10). Stigmergy drives the decentralized coordination of the network on the basis of peer-to-peer generated signals.

Do-ocracy and stigmergy save time from training individuals who may leave the network at an early stage and also indirectly tests whether contributors are indeed willing and/or capable to engage in OFN’s activities and become members. Yet, the voluntarism linked with do-ocracy and stigmergy runs the risk of creating a two-level workforce, with some contributors being paid and others working for free for the same type of activities. The tension between voluntarism and professionalism reflects a contradiction most prominent within the commons, leading to informal hierarchies as well as to projects’ malfunction due to differential levels of commitment and engagement. This problem was witnessed, for example, during the establishment of the OFN instance in the USA, where quality and efficiency standards had been challenged, since the volunteer-based OFN instance in Australia, which gatekeeps the code functionality, could not efficiently anticipate the work produced by the full time paid developers of the collaborating private firm (Schumilas, 2019:pp.6-10).

4.3. Economic policy

Farmers’ income may account for the 10% of the final price consumers pay to purchase their produce, with the rest of it being distributed to the various middlemen involved in the conventional food supply chain. If one deducts production costs, farmer’s income is far less, equaling the 1% of the final price of their produce sold in the market (Paul, 2013). The OFN software cuts out the middlemen and reduces administration and transaction costs, thereby contributing to a fair pay for farmers and food hubs participating in the platform.

To achieve that, the network applies a two-tier economic model,

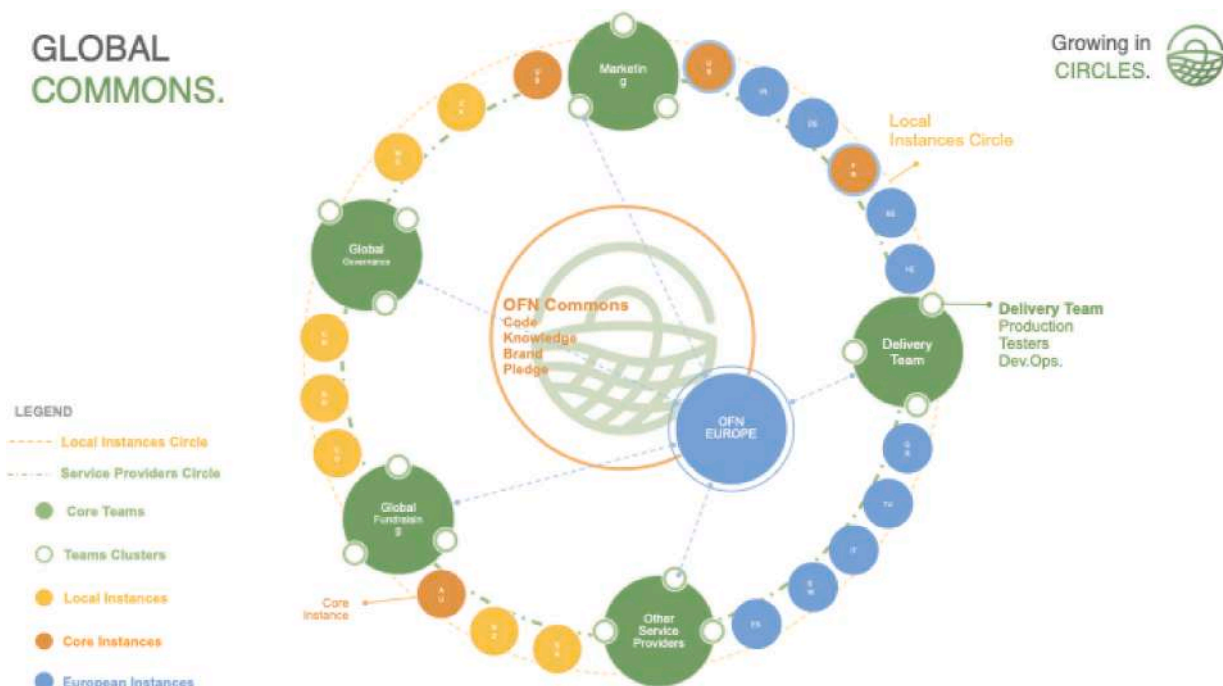


Fig. 5. OFN Circles. Figure used with permission from Interviewee 3 from OFN Global.

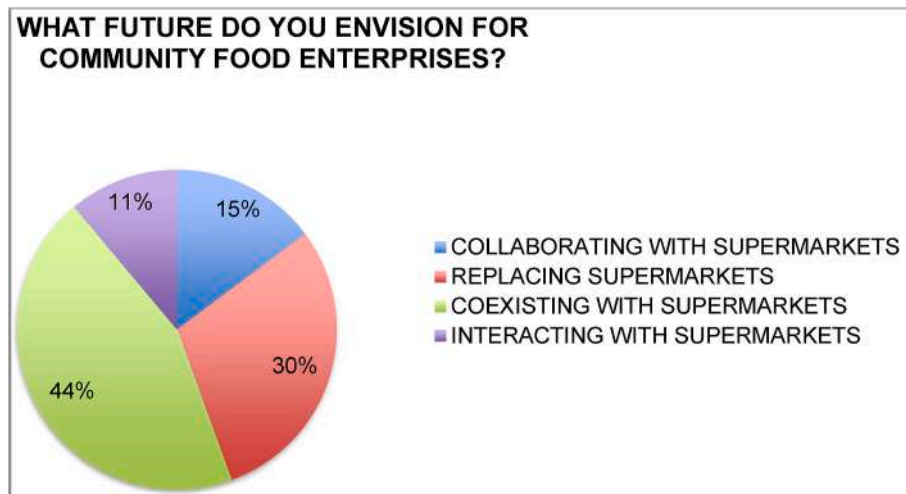


Fig. 6. Survey question 1.

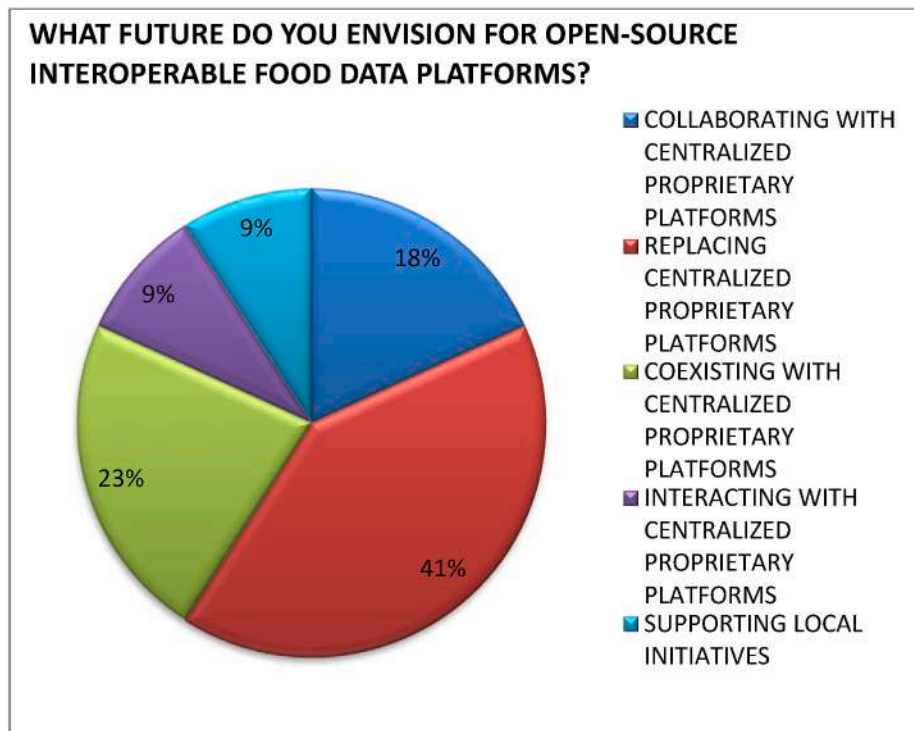


Fig. 7. Survey question 2.

which uses resources, on the one hand, to support the development and maintenance of the shared software (wages for developers, testers, etc.), and on the other, to provide services for users (OFN Handbook, n.d.). Total costs are presently estimated around 400 k€ a year: 300 k€ for the global product development team plus 100 k€ for the other roles and costs altogether. OFN’s payments distinguish between hourly contributions for beginner, intermediate and master level professionals. Wages also differentiate according to the living indexes of the cities the contributors live.

All costs are covered by the OFN local instances which contribute 40% of their revenue or 40% of their time to global efforts. As stated in OFN’s handbook: “OFN affiliates have searched for funds locally, talked to local private foundations, participated in EU projects, etc. Some (like Australia or Catalunya) also have carried out crowdfunding campaigns. Usually, local fundraising serves both the local costs to deploy the

project and part of the money is attributed to the ‘global pot’ to finance software improvement” (OFN Handbook, n.d.). The global budget is detailed in a public spreadsheet.

We’ve never accepted investment that asked for a return to be made from the pockets of farmers. It goes against the organization’s mission to push the full costs of building a new food system onto farmers. Instead, by pooling funding around the world we’ve managed to keep the cost to farmers at one percent of their sales, and have financed development work by fundraising and cross-subsidising the platform’s costs through our other work. We’ve also been a place where people can pour their passion for change into a tangible outcome, and as a result thousands of volunteer hours have been spent on this project. Our paid staff operates on a sustainable livelihoods model, in which we each set a manageable livelihood and an ideal livelihood level for ourselves and as finances

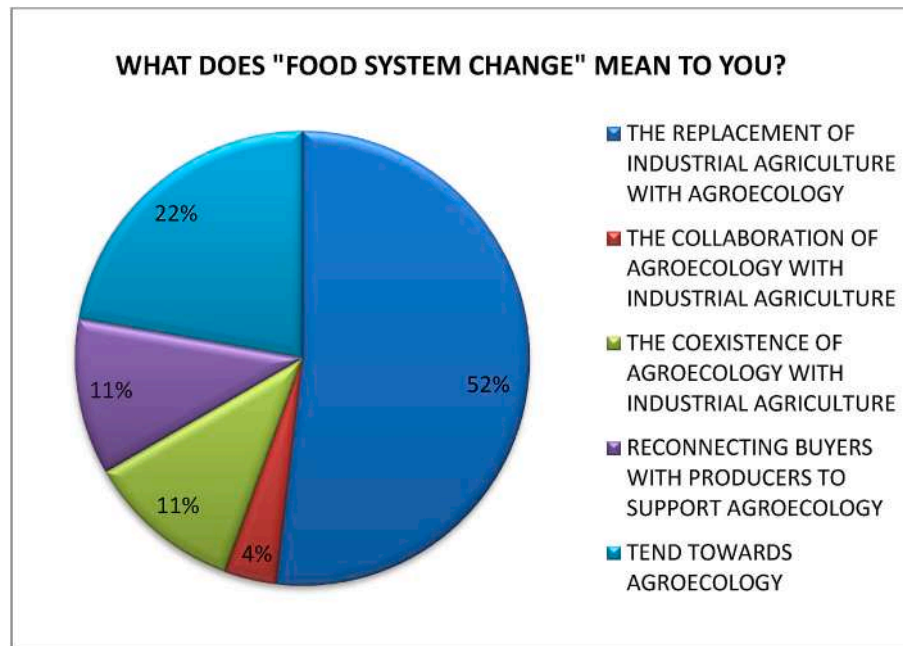


Fig. 8. Survey question 3.

ebb and flow we all maintain the same proportion of livelihood. (Sheridan, 2020)

The OFN software enables producers to access new markets via different hubs, thus allowing for a diversity of business models reflecting the specificity of each community and its needs (Coutinho, 2021). Together with groups of volunteers collecting potential food waste and distributing it to people in need, farmers are distributing their produce directly to customers or indirectly via food coops, farmers' markets and food hubs. The OFN platform registers the product costs in a transparent manner. The customer can see how much of the money spent goes to the producer, for packaging, transportation and other retailers' costs.

4.4. Legal policy

The OFN is legally backed by the Open Food Foundation, which is a not-for-profit entity overseen by a board operating in Australia. The Open Food Foundation aims to protect the OFN digital commons of software and code, which are licensed under CC BY-SA 3.0. and AGPL 3 respectively. The OFN is currently in the process of implementing data food interoperability² across the different platforms interconnected through the OFN (Interviewee 1). Data food interoperability "will enable a data standard so that multiple different platforms, including the Open Food Network and other open-source platforms and several proprietary platforms will work together so that farmers and growers and food producers can list their products on one of those platforms, and their data would be available to other platforms" (Interviewee 2).

Thus, the OFN brings together ethical market entities under diverse legal formats such as not-for-profits, charities, associations, local food markets, cooperatives, social enterprises, community interest enterprises, community supported agriculture, individual farmers and for-profit businesses.

So legally speaking, the Open Food Network is a network of local entities who are together committed and engaged with one another to codevelop and maintain global commons, and to start with, the

OFN software they all use. The contractual document here is our "community pledge". Every entity who wants to be part of the Open Food Network community has to sign that pledge publicly. (OFN Handbook, n.d.)

The community pledge specifies the rules that affiliates need to abide by when setting up a local instance. Affiliates are free to use any legal entity they see fit. However, in order to claim themselves members of the OFN they need to be democratically run and to be not-for-profit.

5. Discussion: prefiguring the OFN counter-hegemony

OFN advocates for systemic change in agriculture. It integrates core features of CBPP such as sharing, modularity, granularity, transparency, openness, stigmergy and do-ocracy in the three-zoned model of open cooperativism structured around: (1) the OFN community producing the digital commons; (2) ethical market entities participating in the OFN platform; (3) and a Foundation prefiguring the role of a partner state.

However, it is not clear what systemic change means within the OFN community. The survey revealed that, in general, the OFN members anticipate the replacement of industrial agriculture with agroecology in the long term. Yet, the OFN members envisage that this paradigm shift may pass through a diversity of institutional and organizational models, often including supermarkets and big tech. Moreover, the OFN community seems to focus mostly on food security, data interoperability and sustainability, downplaying broader political change and, thereby, being prone to neoliberal cooptation. Long-term radicalism goes hand in hand with short-term reformism and a mixed economy.

Therefore, one wonders whether OFN could deliver in its promise to realize systemic change in the long term. A part of the literature on SFSCs stresses the necessity for cross-sectoral synergies to prevent neoliberal co-optation and advance agroecological farming practices. The OFN makes a first step towards cross-sectoral synergies. As an interviewee states, "More recently, we've been approached by, um, a network of woodland cooperatives. So these are people who manage woodlands and they manage them for biodiversity, for, uh, ecosystem renewal, but also for firewood to produce a heat source as an economic resource. And they want to use the OFN to distribute, firewood, charcoal, permaculture courses, educational courses. Um, they are looking for a software platform to link together all of these organisations across

² <https://fooddatacollaboration.org.uk/>, <https://www.datafoodconsortium.org/en/>.

the UK and we are talking to them about them using the OFN” (Interviewee 2). The OFN is also currently in discussions with CoopCycle³ to render their platforms interoperable in the Basque Country.

Interoperability can lay the digital groundwork for cross-sectoral synergies by enabling the sharing of data, knowledge and resources across different platforms. Interoperability thus can support an open-source counter-hegemony vis-à-vis the current hegemony of neoliberal agribusiness. Yet, this is not a straightforward task, since “(t)here’s tension between not-for-profit, open-source philosophy, and closed-source profit-making, individual gain versus collective gain” (Interviewee 2).

Diversity often breeds fragmentation, contradictions and tensions. Open-source technologies are prone to neoliberal cooptation if not backed by a copyfair license designed to require reciprocity in exchange for software use (Bauwens and Kostakis, 2014). Kostakis and Bauwens’ model of open cooperativism, passed through the lens of Laclau and Mouffe’s discourse theory of hegemony, may be instructive here to counter co-optation. For the OFN to bring about systemic change in agriculture and beyond, it needs to create cross-sectoral synergies in the economy, civil society and politics. It needs to accommodate institutional diversity across a chain of equivalence linking up ethical market entities, the commons and a partner state around the model of open cooperativism. Interoperability, cross-sectoral alliances and institutional reforms are vital to forge a chain of equivalence in the model of open cooperativism. Open cooperativism would fill in the empty signifier of “systemic change” with cross-sectoral value propositions, inclusive governance models, heterodox economics and innovative copyfair law. Thus, the OFN could push forward the counter-hegemony of open cooperativism against the current hegemony of neoliberalism.

On a more general note, future research on the model of open cooperativism would explore how to protect the commons while opening up in institutional diversity. In other words, the contradiction between the closeness of platform coops and the openness of the commons is a major issue to be resolved going forward.

6. Conclusion

The paper employed Laclau and Mouffe’s discourse analysis to review the OFN as an illustrative case study of open cooperativism. To demonstrate the operation of OFN we classified discourses, nodal points and floating signifiers along four thematic axes: value proposition, governance, economic policy and legal policy. Discourse analysis brought to the fore the empty signifier of “systemic change”, which stands at the core of OFN’s value proposition. To clarify this, we conducted a survey with OFN members, which revealed a diversity of approaches revolving around the meaning of systemic change. Our research aimed to accommodate OFN’s institutional diversity across a chain of equivalence linking up ethical market entities, the commons and a partner state around the model of open cooperativism. To this end, the paper concludes that for the OFN to bring about systemic change in agriculture and beyond, it needs to create cross-sectoral synergies in the economy, civil society and politics to fill in the empty signifier of “systemic change” with cross-sectoral value propositions, inclusive governance models, heterodox economics and innovative law. Thus, the OFN can push forward the counter-hegemony of open cooperativism against the current hegemony of neoliberalism.

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Authors statement

We have addressed all reviewer’s comments as requested. We therefore resubmit the revised version of the paper.

Data availability

Data will be made available on request.

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Appendix. OFN Empirical Material

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³ <https://coopcycle.org/en/>.

List of Interviewees

Interviewee 1 – CEO, OFN UK/OFN Global

Interviewee 2 – Communications manager, OFN UK/OFN Global

Interviewee 3 – Business and finance admin, OFN Greece/OFN Global

Interviewee 4 – Cofounder/Director, OFN Australia/OFN Global

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