Grassroots Digital Commons for a Bottom-Up Transition Towards Sustainability

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Summary

The distributed nature of the internet offers plenty of opportunities for grassroots initiatives to prosper and pioneer innovative forms of collective action towards sustainability. Online initiatives aiming to provide information-based tools for local sustainability are mushrooming. First this presentation will present an inventory of those grassroots initiatives that focus on enabling information commons. Influenced by the work of Elinor Ostrom, this presentation proposes to analyze these initiatives as self-organized enablers of information commons. It suggests applying the Institutional Analysis and Development Framework that has decades of track record in analyzing institutions related to common-pool resources. Eventually, it is argued that understanding the factors of success and obstacles in the development of self-organized information commons in the digital age, brings new insights to transition management. Such grassroots digital commons are radical innovations that form niches. Such niches may form shadow networks that could provide an alternative pathway towards sustainability from the bottom-up when opportunity occurs.

Keywords

Digital commons; Sustainability transition; Niches; Self-organization; Innovation

Abstract

The distributed nature of the internet offers plenty of opportunities for grassroots initiatives to prosper and pioneer innovative forms of collective action towards sustainability. From Mundraub.org and its online collaborative map locating edible across German cities, or Flaechen-in-leipzig.de that provides an online platform where urban dwellers can find a vacant land for growing a community garden, to initiatives such as www.landshare.net which connect people looking for a spot where to grow food to those who have one to share, grassroots are creating a wealth of information platforms that reinvent collective action beyond markets and government.

According to Hardin's metaphor of the Tragedy of the commons (1968) or to the conventional theory of collective action by Olson (1965) such initiatives should simply not work without government support or market involvement. Then why do they actually work? And what does it mean for a wider urban sustainability transition?

An inventory of online grassroots initiatives

In order to answer these questions, this presentation will first introduce a preliminary inventory of such digital platforms that mushroom around the theme of urban sustainability. The goal is to contribute to mapping the diversity of such initiatives and propose a typology in function, among others, of their thematic focus, of the tools they use (collaborative maps, dedicated social networks, apps, etc.) and of their degree of institutionalization.

A robust framework to analyze the self-organization of information commons

In a second part, we propose a dedicated conceptual framework to analyze such initiatives as enablers of digital (or information) commons. It argues that such information fit the characteristics of common-pool resources that can face social dilemmas such as enclosure, commodification or free-riding (Hess, Ostrom 2007). As such, it further extends to the field of information, the large empirical evidence that has shown that self-organization often perform better at governing commons than markets and governments contradicting Hardin's and Olson's theoretical models (Ostrom 1990, 2009). Following Hess and Ostrom (2007), we propose to evaluate the outcome of these self-organized initiatives along the criteria of equity, efficiency and sustainability:

> *"Equity refers to issues of just or equal appropriation from, and contribution to, the maintenance of a resource. Efficiency deals with optimal production, management, and use of the resource. Sustainability looks at outcomes over the long term." (Hess, Ostrom 2007, p. 6)*

Such analysis builds on the Institutional Analysis and Development (IAD) Framework that has been developed by Vincent and Elinor Ostrom as well as other scholars to understand the ways in which institutions operate and evolve over time (McGinnis 2010). The Framework has been used extensively in the context of institutions regulating common-pool resources. Its main component is the *action situation*, the "black box" where actors make choices. It insists, among other things, on feedback and adaptive learning that modify inputs and processes of an action situation (McGinnis 2010). By integrating such elements as norms and social capital, leadership, the autonomy to make new rules, the framework provides powerful tools to understand why individual cooperate or not with others beyond behavioral explanations (Poteete et al. 2010). The IAD Framework therefore

seems a promising tool for analyzing the development of shared information resources, helping understand what factors are favorable or standing in the way, providing insights to grassroots activists and policy makers especially at the local level.

The contribution to the study of sustainability transitions

In a third part, one should try to understand what contribution those digital commons do bring to the wider process of a transition towards sustainability. Indeed, all the initiatives selected in our inventory have clearly stated that their general goal is to contribute to sustainable development in its widest understanding.

Existing research has emphasized the role niches of innovation play in large transition processes (Rotmans, Loorbach 2009). Niches are the locations of learning processes, allowing deviation from dominant socio-technical regimes: they act as 'incubation room' for radical innovation (Geels 2004). Westley et al. (2011) insist on the role of "shadow networks", informal networks that develop alternatives that can potentially replace the dominant regime when the right opportunity occurs. The information commons that are in the focus of this presentation are clearly operating in niches that are quite specific as they operating outside markets and with a generally loose connection to governmental policies and institutions. In answer to the need for radical innovation capable of disrupting a path dependency that is locking society in an unsustainable trajectory, recent contributions have called for an increased focus on communities in the generation of new ideas (Westley et al. 2011; Seyfang, Smith 2007). Thus, Smith and Seyfang (2007) propose to look at *grassroots innovation* which they define as novel bottom-up solutions for sustainable development generated by networks of activists and organizations. In this approach, the grassroots is considered as an important site of innovation and community-level activities as innovative niches (Seyfang, Smith 2007). Such approaches seem of particular relevance to the post-growth debate, as they operate clearly outside of market dynamics and profit seeking logics.

Socio-technical regimes are defined as: "relatively stable configurations of institutions, techniques and artefacts, as well as rules, practices and networks that determine the 'normal' development and use of technologies" (Smith et al. 2005, p. 1493). Regime transitions occur when landscapes (e.g. available resources) shift, putting pressure on the dominant regime, which passing a threshold has to recombine with successful existing niches to eventually recover into a new stable configuration (Rotmans, Loorbach 2009). A sustainability transition suggests that the new configuration is more sustainable that the previous one. Therefore, the availability of diverse niches that explore more sustainable pathways of consumption, production and social organization is critical. The transition management literature stresses the role of institutional entrepreneurs in supporting the emergence of such niches (Rotmans, Loorbach 2009). For Westley et al. (2011) the distributed nature of online tools in particular can provide the platform to organize collective action and foster radical innovation escaping the path dependencies proper to top-down institutions. While they remain far from the mainstream, initiatives such as Mundraub.org or www.landshare.net seem to confirm this argument.

Eventually, the sustainability challenge is characterized by the complexity of social-ecological systems (Holling 2001; Norberg, Cumming 2008; Westley et al. 2011). In the face of such complexity, command-and-control, elite top-down governance and innovation systems are ill-suited (Ostrom 2007; Westley et al. 2011). Instead, research has emphasized the need for adaptive institutions (Boyd 2012) and polycentric systems (Ostrom 2010) that allow for experimentation at various levels and in

diverse arenas. The last decade has seen an explosion of the visibility and the connectivity of grassroots initiatives online, with plenty of resources compiling results of local experiments. As our inventory shows, such initiatives are stimulated by the new opportunities of peer-to-peer collaboration the Internet provides. The emergence of information commons that are focusing around the issue of urban sustainability may well form pieces of a shadow network that is slowly unleashing the potential of the web to enhance grassroots collective action delivering new and more sustainable forms of living. The analysis of specific grassroots initiatives and the information commons they enable could provide transition management with valuable insights in times when Internet has become pervasive to all domains of society.

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