



Agency in regime destabilization through the selection environment: The Finnish food system's sustainability transition

Kuokkanen A.^{a,*}, Nurmi A.^a, Mikkilä M.^a, Kuisma M.^b, Kahiluoto H.^a, Linnanen L.^a

^a *Lappeenranta University of Technology, Saimaankatu 11, 15140, Lahti, Finland*

^b *Luke, Natural Resources Institute Finland, Lönnrotinkatu 5, 50100, Mikkeli, Finland*

ARTICLE INFO

Keywords:

Selection environment
Regime destabilization
Agency
Food system
Sustainability transition

ABSTRACT

The growing urgency of environmental threats combined with the slow pace of sustainability transitions has turned attention towards a better understanding of regime destabilization. Focusing excessively on niche innovations could be incumbent regimes' diversion and resistance strategy and could reinforce the 'business as usual' mindset instead of contributing to system-wide changes. Historical cases of system transition have most often been used to understand the dynamics of regime destabilization. However, these insights have limitations when the focus is on ongoing transitions. Moreover, it is argued that more attention should be paid to agency and actors. Herein, regime destabilization is understood through an internally structured selection environment, implying that agency is assumed not only in variation at the niche level but also in the selection processes: (1) the selection environment is shaped by active and strategic actors and actor networks; (2) the selection environment is shaped by diverse discursive framings; and (3) the selection environment is shaped by various actors beyond the regime and even beyond the system in question. The argument is empirically tested in the case of the Finnish food system by constructing prevailing storylines in the sustainability transition. Four contrasting but partially overlapping storylines and their associated actor networks are identified. The empirical case supports the view that actors across all levels aim to influence the selection environment's formulation with their framing of the problem and the strategic response. Thus, more attention must be paid to the content and diversity of different discursive framings in sustainability transitions.

1. Introduction

System-wide transitions are manifested as an imperative scope of change to meet the existing 'Grand Challenges' such as climate change, global food security, biodiversity loss, and others (Reid et al., 2010). Transition research has become a prominent analytical and normative approach to sustainable system innovation and socio-technical transitions (Markard et al., 2012; Smith et al., 2010). Much of the insights are drawn from a multi-level perspective, which explains socio-technical transition as the outcome of the interplay between three system levels: exogenous landscape, prevailing regime, and niche (Geels, 2002). The three conceptual levels can be understood as different magnitudes of power constellations (De Haan and Rotmans, 2011) or hierarchical levels of rule structures (Geels and Schot, 2007)¹. The basic idea is that a regime constitutes the 'mainstream' of system functioning with a more coercive rule structure, for example, the way food is produced and consumed. This can face different pressures from the broader landscape

such as global environmental change, population growth, dietary shifts towards higher meat and dairy consumption, and geopolitical crises. Niches, in contrast, offer an alternative and novel way of fulfilling the same need, for example, alternative food movements, biotechnological innovations, and novel products such as artificial meat. Niches operate at least partially outside the regime and have less structured rules; hence, they may be able to address specific landscape pressures better than the regime, causing the regime to face pressure not only from the landscape level but also bottom-up (Geels and Schot, 2007; De Haan and Rotmans, 2011).

A recent study shows that despite technological progress and the introduction of environmental policies, advanced economies still have not managed to decouple economic growth from resource consumption and pollution generation (Wiedmann et al., 2013), implying that more efforts are needed. One of the reasons behind the slow pace is an inherent nature of regimes, meaning they tend to enforce stability and can become locked in (Rammel and van den Bergh, 2003). Lock in is a

* Corresponding author.

E-mail address: anna.kuokkanen@lut.fi (A. Kuokkanen).

¹ However, Geels (2011) admits that understanding these levels as hierarchical may be misleading. Most niches emerge outside the regime, although niche actors are usually aware of regime structures (Geels, 2011).

systemic condition caused by technological and institutional path dependencies, leading to rigidity and resistance to switching the prevailing path (Unruh, 2000; Foray, 1997; Cowan, 1990). It occurs in major societal systems, at least in energy (Unruh, 2000), nuclear power (Cowan, 1990), agricultural innovation (Vanloqueren & Baret, 2009), and food systems (Kuokkanen et al., 2017), as well as transportation (Klitkou et al., 2015). Trivial events can tip one socio-technical regime over another, causing welfare losses in later stages due to their irreversibility (Foray, 1997). Initially, transitions research paid a great deal of attention to strategic niche management and generating innovations in ‘protected spaces’ to drive regime transformations (Kemp et al., 1998; Geels and Schot, 2007). Considerably less attention has been paid to unlocking and purposefully destabilizing regimes (Smith et al., 2010; Geels, 2014a,b; Turnheim and Geels, 2013), which can create space for the emergence of new system configurations. Furthermore, it can be argued that too much focus on niches and innovation can actually further reinforce the lock-in and divert the efforts away from destabilization and lock-outs (Geels, 2014aa,b; Del Rio and Unruh, 2007). Thus, due to the urgency of global environmental challenges and the slow pace of change, it is essential to better understanding regime destabilization.

Transitions research has been criticized for neglecting agency (Smith et al., 2010; Markard et al., 2012; Lawhon & Murphy, 2012; Pesch, 2015; Geels, 2010; Geels & Schot, 2007), technological change bias (Shove & Walker, 2007), and the analytical usefulness of retrospective case studies (Markard et al., 2012; Watson, 2004). Sidelining the role of agency is partially due to the view of landscapes as external environments on which regimes cannot exert influence, partially due to internalizing strategic responses to clearly demarcated regimes (Jorgensen, 2012) which are then perceived as homogenous and stable. While variation is borne out of agency in niches, selection is mistakenly assumed to be given and exogenous when in fact, as we argue here, actors, including policy makers, can be active in shaping the selection environment in which they operate (Garud and Gehman, 2012). The selection environment and changes in the selection environment influence the direction of change and ‘picking the winners’ (Dosi, 1982).

The analysis of regime destabilization has followed two streams, with the first aiming to conceptualize the dynamics from historical cases and the second aiming to contribute to transition policies. In the former case, the focus has not only been on emergent, technology-driven changes, for example, from sail to steam ships (Geels, 2002) or from horse carriages to automobiles (Geels, 2005), but also more goal-driven changes such as phasing out the coal industry (Turnheim and Geels, 2013). Although these studies have provided significant insights into the general dynamics, their contribution can be considered limited regarding ongoing transitions towards sustainability in housing, mobility, food, and energy systems. Rather than challenges of technological change, these transitions can be classified as a common good problem (Geels, 2010). Additionally, transitions in the food system, which essentially include both production and consumption, are less technology-driven and have received less attention than, for example, energy systems (Markard et al., 2012). In retrospect, the regime transition’s outcome never seems fully anticipated or controlled by the actors involved (Rammel et al., 2007), so the actors are perceived to be part of evolving patterns, which they can at best only modulate (Rip, 2006). Conversely, the analysis of ongoing transitions presents analytic and epistemic challenges, but it can shed light on agency and regime destabilization from a different angle. The second stream of the literature is more policy-oriented, assuming that unlocking and destabilization are essentially about correcting and redesigning policies (Del Rio and Unruh, 2007; Kivimaa & Kern, 2016; Rogge & Reichardt, 2013). However, our assumption is that before destabilization policies can be enacted, some changes in the selection environment must occur.

1.1. The aim of the paper

In system transitions including production and consumption systems, on both the producers’ and users’ sides, change constitutes tensions, contradictions, and competition, as actors across all levels (and even those from the outside) attempt to engage in change (Jorgensen, 2012; Smith et al., 2010; Geels, 2011). Hence, it is critical to perceive agency as not only adapting to fundamental and external changes but also drawing on networks to influence ongoing regime shifts and as constantly reframing actors’ internal identity and capabilities within the regimes (Markard et al., 2012). Framing, reframing, and drawing on networks can be analysed by turning attention to the role of discourses in the transition (Späth & Rohracher, 2010; Kern, 2011; Rein & Schön, 1993). Discourses can disclose the formulation of the agenda for change by looking at what is being discussed and how (Geels, 2014a,b). Destabilization occurs when either the new discourse or struggle between discourses alters the individual perception of problems and possibilities and thus creates space for forming new and unexpected actor networks (Hajer, 1995, 59). In fact, an empirical study shows that it is the broader and ‘external’ factors that affect regime destabilization rather than internal ones, calling for more attention to be paid to wider structures, discourses, and processes (Johnstone and Stirling, 2015).

The focus on discourse coalitions and storylines in the selection environment is due to three main factors. First, sustainability is becoming (if not already) so mainstream that it is rather difficult to find clear opponents of it. Hence, there is a danger that various conflicting and controversial interests and strategies can be disguised and dismissed behind the sustainability transition label (Meadowcroft, 2011; Kern, 2011). Second, discourses can be particularly effective and dispersed today due to social media, digitalization, social movements, and emerging sources of ‘new power’ (Heimans and Timms, 2014). Disclosing the underlying discourses in the selection environment can assist and reinforce regime destabilization. Third, unlike energy and mobility transitions, food transition is less technology-driven and includes various normalized everyday practices, and hence requires the selection environment analysis to be sensitive to the diversity and contradiction in actors’ strategies and views on transition (Jorgensen, 2012). Particularly in a knowledge society with an increasing amount of knowledge and professionalization of communication and technologies, discourses are of high social importance (Keller, 2013). This implies that the sustainability transition is more than a technocratic challenge; it is a social problem with divergent and conflicting interests, intentions, and objectives (Blumer, 1971).

Thus, the paper’s aim is to take note of the voiced criticism towards transition research and a multi-level perspective while contributing to the understanding of regime destabilization not only theoretically but also in practice. As Grin et al. (2011) argue, the standard for a valid explanation is based on its explanatory power as well as the capacity to inform practice in a way that increases actors’ ability to shape the ongoing transition. Herein, an attempt is made to analyze regime destabilization through the selection environment in the ongoing food system transition. In retrospect, it often seems self-evident *why* particular technology has become supreme, yet it might be less apparent *how* it became supreme (Watson, 2004). Our assumption is that agency is not only present in niches and adaptation to pressures, but also within the regime whilst shaping the selection environment, meaning that actors constantly aim to translate pressures according to their strategic responses (Smith et al., 2005), shape the dominant discourse, and align actor networks to intervene and constitute change (Geels, 2014a,b). Hence, we aim to respond to the following research questions:

- 1 How does the selection environment relate to the understanding of regime destabilization?
- 2 How does agency in the selection environment influence regime destabilization?

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