

AGENCY IN SUSTAINABILITY TRANSITIONS

– A 25-YEAR REVIEW OF RESEARCH IN MANAGEMENT JOURNALS

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ABSTRACT

Who is an active agent in making the world more environmentally sustainable? This is the question that our paper seeks to answer. Whilst a plethora of research on agents in various roles in sustainability transitions exists, this knowledge is scattered across journals and fields of study. In this paper, we offer a focused review of actors in sustainability transitions, as presented in mainstream management journals in the 25-year period 1992-2017. We focus our search on eight leading journals in the field, thus reviewing 81 articles. The findings lead us to conclude that the study of agency in sustainability transitions, as presented in the field of management, is emerging, yet rapidly increasing. However, this knowledge is scattered across theoretical bases and bodies of knowledge. The main contribution of our paper is to offer a review and typology of agency in sustainability transitions, as presented in the management literature.

INTRODUCTION

There is increasing evidence that the world is heading toward an environmental crisis (IPCC, 2014). Human perturbations have destabilized Earth-system processes at planetary scale (Rockström et al. 2009, Steffen et al. 2015a). The growing population adds demand for natural resources globally: by 2030, energy demand is to increase by 45% (IEA, 2008), demand for

water for human use could rise by over 30% (IWMI, 2007), and food demand will rise by more than 30% (FAO, 2012). The global system thus appears locked into a trajectory of overconsumption of natural resources coupled with increasing emissions and pollution. It seems that via a consumption and growth-oriented way of life, humankind has found means of destroying the livability of the ecosystems on which its survival depends. For the first time in its history, humankind can ask itself the question – do we have a future?

The past 20 years have witnessed the rise in academic interest from across the social sciences in exploring the transition dynamics required for societal systems to shift toward greater degrees of sustainability. This body of work is broadly labelled as the sustainability transitions literature (Markard et al., 2012; van den Bergh et al., 2011). This does not represent a uniform body of knowledge, however, nor is it represented by a distinct theoretical framework. The field of sustainability transitions encompasses a variety of theoretical frameworks that span the social sciences including but not limited to political science, sociology, sustainability science, psychology and management (e.g. Kempt et al. 1998; Schot & Geels, 2008; Markard et al., 2012; Linnenluecke & Griffiths, 2010; Lozano, 2013; Geels, 2011).

If sustainability transitions are to succeed, the role of actors, i.e. agency, is critical. In the past decades, an increasing number of actors have initiated action. This includes individuals such as vegan consumers as well as local to global communities, collectives and social movements, such as 350.org. Corporate players have engaged in corporate social responsibility programs, whilst public organizations in the majority of countries are bound to the Paris 2015 Climate Agreement set to drastically reduce national carbon emissions by 2030/2050.

Despite these ongoing and increasing developments in the practice of sustainability, the study of sustainability transitions is critiqued for lacking thorough analyses and appreciations of the role of actors engaged in sustainability transitions (Markard et al., 2012; Clayton et al., 2015; Garud & Geman, 2012). This is a serious omission given that sustainability transitions cannot

be expected to proceed without the involvement of those who contribute to emissions and resource waste. The theoretical, practical and societal gap in understanding addressed by this paper relates to appreciating the role of agency in sustainability transitions.

Our paper thus addresses the question – who is an active agent in making the world more environmentally sustainable? Our study contributes to the above research gap(s) by offering a review and typology of agency in sustainability transitions. As the study of sustainability transitions spans disciplines, this paper focuses on a review of the role of agency in sustainability transitions in the field of mainstream management. This focus allows assessing how mainstream management has engaged with the topic. Indeed, over the past decades, management as a subject area has awakened to the sustainability crisis (Howard-Grenville et al., 2014). The paper is based on a review of eight top-tier journals in management in the 25-year period spanning 1992-2017. The findings lead us to conclude that the study of agency in sustainability transitions in the field of management is increasing. We offer a typology of agent types in sustainability transitions, as represented by management journals.

METHOD AND SEARCH STRATEGY

The paper offers a review of literature on agency in sustainability transitions via a look at this body of knowledge in leading (mainstream) management journals. We conducted searches in the following journals: *Journal of Management Studies*, *Journal of Management*, *British Journal of Management*, *Academy of Management Journal*, *Academy of Management Review*, *Organization Studies*, *Research Policy*, and *Human Relations*. This paper offers the preliminary findings from a longer-term, more ambitious review project. This explains the focus on a select number of journals only. The focus of the search was on the 25-year period spanning 1992-2017. This parallels the emergence of research on sustainability, across

sciences, as 1992 marked the signing of the United Nations Framework Convention on climate change in Rio de Janeiro.

<u>Journal</u>	<u>Search words used</u>					Total
	sustainab* AND	responsible AND	CSR AND	“climate change” AND	energy AND	
Journal of Management Studies	7	9	6	1	3	26
Journal of Management	6	3	1	0	1	11
British Journal of Management	7	3	0	0	1	11
Academy of Management Journal	4	2	4	0	3	13
Academy of Management Review	5	3	2	0	0	10
Organization Studies	6	3	2	4	2	17
Research Policy	31	5	0	1	10	47
Human Relations	10	5	1	0	6	22
Total	76	33	16	6	26	157

Table 1. Results of the initial search on agency in sustainability transitions.

The searches were performed in the database Scopus due to its solid content coverage of the years included in the search. Using the same database in all the searches also enabled a systemized search. Each of these journals were searched using two types of search words in the title, abstract and keywords of the journals. On the one hand, some search words related to sustainability and its various dimensions including sustainab*, responsible, CSR, “climate change”, and energy. On the other hand, search words related to various types of agency, including the search terms agency, agent, manager, professional, employee, grassroots, community, niche, activism, “social movement”, NGO, “social entrepreneur”. This combined search resulted in a total of 157 articles found. Please see Table 1 for an overview of the results, including findings per journal and per search word. Results from the first search round were presented in word documents, so that one word document relates to one journal’s search findings. Per journal, each word document thus provided abstracts and titles of the papers matching the search results.

In a first round of analysis, titles and abstracts of the identified papers, per journal, were reviewed by the first author. As a result, a number of articles not directly related to the search items were discarded from the final sample. Also duplicates were removed from the sample.

The total number of papers used for this review thus consisted in 81 articles. Table 2 represents the final sample, including journals and search words.

Journal	Search words used					Total
	sustainab* AND	responsible AND	CSR AND	“climate change” AND	energy AND	
Journal of Management Studies	7	1	6	1	1	16
Journal of Management	4	2	0	0	0	6
British Journal of Management	0	0	0	0	0	0
Academy of Management Journal	3	0	3	0	2	8
Academy of Management Review	3	2	2	0	0	7
Organization Studies	6	2	2	4	1	15
Research Policy	16	0	0	1	4	21
Human Relations	6	1	1	0	0	8
Total	45	8	14	6	8	81

Table 2. Number of papers actually focused on agency and sustainability transitions.

In a second round of analysis, the focus was on the final sample of articles. Each paper was carefully read based on its title and abstract. This resulted in a first thematic categorization of the findings with respect to (1) change dynamics, and (2) actor types. Based on this first thematizing exercise, a second round of categorizing was conducted. This resulted in a more fine-tuned categorization within each of the sub-themes of the typology. The paper was written after this second round of coding.

This analytical process was inspired by an inductive, bottom-up approach, similar to the constant comparative method of analysis used in grounded theory building (Glaser & Strauss, 1967). The final list of papers used for the analysis was tabulated into an excel-based table. Also, an extended abstract-based table of contents based on the second round of coding was prepared in support of the writing and further analyses.

The main findings from the review could be classified into two themes. On the one hand, papers focused on transition dynamics. On the other hand, papers focused on actors in sustainability transitions. For the latter category, we developed a typology of actors involved in sustainability transitions, as this appears in mainstream management journals. We proceed to presenting our findings next.

TRANSITION DYNAMICS

Some papers focus on the dynamics of societal change toward greater degrees of sustainability. In this category we find two paper types. On the one hand, papers study sustainability transition dynamics and governance. On the other hand, other papers study societal change dynamics, be it as regards field-level change, innovation, or climate change. An overview of papers in these two categories is provided next.

Sustainability transitions

In the field of management, it was noteworthy that papers published in *Research Policy* were focused on sustainability transitions. This theme was largely missing from the other searched journals.

In *Research Policy*, the topic of sustainability transitions is discussed as follows. Smith et al. (2005) focus on the governance of sustainable socio-technical transitions. They introduce a model of socio-technical transitions, with a focus on how regimes change amidst the myriad of pressures directed at them. Four alternative transition contexts are identified. For each, questions of agency and power are discussed. In a now seminal paper, Geels (2010) provides an overview of seven social science ontologies, thus reviewing rational choice, evolution theory, structuralism, interpretivism, functionalism, conflict and power struggle, relationalism. For each, Geels (2010) discusses each respective ontology's positioning with respect to agency, socio-technical transitions, and environmental sustainability. Within this broad setting, the multi-level perspective (MLP) is considered as a mid-range theory that connects with some of the above ontologies, not all. There is no direct discussion of agency.

Recently, authors have begun offering extensions to this literature. It is thus that Safarzynska et al. (2012) discuss the opportunities that evolutionary theories offer to the literature on sustainability transitions. Jørgensen (2012) offers new perspectives to transition studies by

drawing from arenas of development. In this respect, there is much to be learnt with respect to how different actors can find their way and be proactive vis-à-vis sustainability transitions.

Some papers take an empirical approach to sustainability transitions. Lauridsen & Jørgensen (2010) conduct an in-depth case study of the execution of the European Union's Waste Electrical and Electronic Equipment (WEEE) directive. Reasons for poor progress vis-à-vis the directive's objectives are identified as relating to conflicting interpretations of sustainability and a simplistic top-down perspective on agency. The authors discuss the role of sustainable niche initiatives in electronics in contrast with multi-regime interaction. Elzen et al. (2011) are interested in how transitions 'in the making' occur, in particular when such a change is initiated by normative concerns, e.g. animal welfare, by outside groups. Theoretically the authors draw from social movement theory and political science. Hess (2014) offers a political coalitions perspective to sustainability transitions in the US context of technology transitions to low-carbon sources of energy. The slow pace of this transition, across countries, has been found to depend on incumbents' resistance. In this paper, the combination of incumbent regime coalitions, grassroots activism, and industrial power is studied. The author finds instances where countervailing industrial power has shifted the balance toward grassroots perspectives. Sutherland et al. (2015) study the role of the agricultural sector in renewable energy transitions. The findings support the need to consider agriculture as a special case in transition processes. Huguenin & Jeannerat (2017) propose a valuation policy approach to sustainability transitions. They argue that new values can be introduced into societies via pilots and demonstration projects, and these values can then be co-created with stakeholders to gradually affect the underlying societal structure. It is thus that change can be created via pilot and demonstration projects.

Societal change dynamics

Paralleling research on the dynamics of sustainability transitions, the dynamics of societal change have been studied with respect to the dynamics of field-level change, innovation policy, and climate change.

Starting with field-level change, Walter et al. (2014) offer a theory-building four-year case study of the Ontario solar industry. Their focus is on the paradox of embedded agency, i.e. actors influencing the institutions wherein they work whilst simultaneously being constrained by these institutions. In a recent inductive study of a wind energy field in Colorado, York et al. (2016) focus on the hybrid dynamics of field-level logics. In particular, they are keen to appreciate how actors with previously distanced logics come to be integrated via a process of hybridization. The findings offer support to appreciate how various societal stakeholders, from social movements, policy makers, firms to entrepreneurs can facilitate the emergence of environmentally-minded sectors.

Sustainable change dynamics have also been addressed in literature on innovation and technology policy. In terms of policy, Nill & Kemp (2009) assess the policy effectiveness of evolutionary approaches in cases of radical systemic change. Three evolutionary approaches – strategic niche management, transition management, and time strategies – are thus discussed. These approaches are found to bear promise with respect to enabling radical change bearing economic and environmental benefits. Anadon (2012) offers a three country study, comparing the United States, the United Kingdom and China 2000-2010, in terms of energy technology innovation. The author observes that different national-level goals combined with different institutional environments result in different policies across the three countries. The countries' governments have sought different means to activate innovation at the interfaces of the state and industry. Borghesi et al. (2015) analyze factors affecting the adoption of environmental innovation. The empirical focus is on the Italian manufacturing industry 2006-2008 in terms

of whether the first phase of the European Union's Trading Scheme affected CO₂ emissions. The authors find that sectors involved in the scheme are more likely to innovate, yet the sector's advancement in terms of carbon emissions is hindered by the sector's strict policy regime. Kivimaa & Kern (2016) focus on the role of innovation policy in stimulating sustainability transitions. In particular, they argue that a mix of policy instruments are needed in order to enable innovation-led societal change. The authors argue that in the context of sustainability transitions, both policies aimed at creating as well as creatively destroying are needed. The paper draws from a comparative analysis of low energy policy mixes in the UK and Finland.

Third, transition dynamics have also been studied in the specific context of climate change. Out of the many grand societal challenges, it appears that climate change is the one challenge that mainstream management have sought to address. It is thus that Levy & Egan (2003) offer a Gramscian analysis of the international negotiations to control greenhouse gas emissions, with a focus on European and US firms' responses in the oil and automobile industries. The findings suggest that the divide between market vs. non-market strategies is untenable. MacKay & Munro (2012) take an information warfare perspective to assess how Greenpeace and ExxonMobile have adopted different information tactics in climate change-related conflicts and debates. The authors caution against the rise of information warfare. Penna & Geels (2015) offer a longitudinal, mixed methods analysis of the American car industry's evolution to appreciate the grand challenge of climate change via the adoption of low-carbon technologies.

In the context of climate change, Wittneben et al. (2012) call for a wide variety of stakeholders, including state agencies, firms, industry associations, NGOs, and multi-lateral organizations to engage. As editors of a special issues on climate change, Wittneben et al. (2012) argue that there is a need for scholars to appreciate the seeming apathy toward climate change and identify pathways forward. Porter et al. (2017) focus on the question of voice and authority – whose

voice is heard, whose voice is influential in society and the scholarly debate. The paper takes as its analytical focus the Dutch Parliament's bridging of climate scientists vs. climate skeptics, following the high-profile errors identified in the Fourth assessment report of the inter-governmental panel on climate change. The authors study the organizing of authority and the diverging discourses on climate change.

TYPOLGY OF ACTORS IN SUSTAINABILITY TRANSITIONS

Paralleling an appreciation of change dynamics, our review led us to identify a typology of actors in sustainability transitions. These actors operate in the firm's environment, in the firm, and as niche players. This body of knowledge is reviewed next.

Firm's environment

To begin with, authors have sought to analyze sustainability-related issues with respect to the dynamics in the firm's environment. In this respect, the following themes can be identified: a focus on transnational players, the firm's institutional environment and corporate social responsibility, a focus on markets and owners, a focus on stakeholders, and a focus on shared forms of governance. These are reviewed next.

Transnational players

In the context of a transnational sector, i.e. the global coffee industry, Manning & Reinecke (2016) bring forth the role of transnational standard-setters in negotiating between local and global level actors. Reinecke et al. (2012) study the dynamics of transnational standard setting via an in-depth case study of the global coffee industry. The authors observe how a variety of different standards – be they of industry or social movement origin - coexist, competing and collaborating on the market. Reinecke et al. (2012) term this the global coffee standards market, wherein simultaneously convergence and differentiation between multiple standards takes

place. This leads to meta-standardization, consisting of convergence with respect to the rules of the game, whilst allowing for differentiation at the level of actors maintaining their own standards. In a theoretical paper, Wijen (2014) conceptualizes the issues of standards adoption with a focus on opaque fields lacking transparency. Wijen argues that institutional entrepreneurs working on voluntary sustainability standards proactively create and sustain rules, apply incentives and disseminate best practices in order to secure compliance from adopters.

Institutional environment

Research focused on the firm's institutional environment offers perspectives from different parts of the world. It is thus that Doh & Guay (2006) offer a comparative analysis of how institutional environments in Europe vs. the United States affect expectations regarding corporate responsibility in society. Differences are identified with respect to government policy, corporate strategy, and non-governmental organizations. Höllerer (2013) examines the rise of corporate social responsibility in Austria in the years 1990-2005, paying particular attention to the roles that institutional pressures on the one hand, and actors on the other hand, play in such transitions. Höllerer observes a distinction between an anti-CSR elite compared with a pro-CSR non-elite actors. The findings offers an appreciation of how social structures and actors positions in the social order affect their motivations, and subsequently, the processes of institutional change. Giamporcaro & Gond (2015) conduct an in-depth longitudinal study of the French socially responsible investment market. Via this context, the authors examine the connections between power and calculability, and how their interplay shapes the construction of markets. The authors study how power is exercised and how calculative agency materializes. The paper contributes to an appreciation of how micro-level power games interact with macro-level politics of market building. The longitudinal study (2008-2011) by Luo et al. (2017) focuses on the Chinese institutional context. Whereas typically the role of governments as

stakeholders is studied, Luo et al. (2017) explore the Chinese context, wherein institutional pressure from both central and local governments creates potential double-edged swords that firms need to navigate with respect to CSR strategy execution.

In parallel, management literature has identified developing countries as an influential actor in sustainability transformation, and especially argued that poverty should be understood as an integral part of sustainability (Khavul and Bruton, 2013). Khavul and Bruton (2013) argue that today's managers need to understand poverty as a part of the new international business equation, what means that sustainability enhancing innovations in developing countries need to be designed with local customers, networks, and business ecosystems in mind. Hall et al. (2012) support this view by examining the poor as entrepreneurs, the role of local innovation, and how entrepreneurship policies generate different social impacts within poor communities.

At the national level, Späth & Rohrer (2010) study the role of regions in sustainability transitions. Taking the example of the Austrian Murau region, active engagement around a shared vision has enabled the execution of an energy-wise and economically sustainable strategy. The role of discourses as applied in niches is discussed. Kivimaa (2014) finds that government-affiliated intermediary organizations can support system-level transition by acting in strategic niche processes and facilitating transitions from a neutral standpoint.

Markets and owners

A third stream of work has focused on markets and owners. Here, we observe attention toward institutional owners and intermediaries on the one hand, and investors on the other hand. Starting with the former, Neubaum & Zahra (2006) study strategies of institutional owners and corporate social performance (CSP). Based on data collected 1995 and 2000 from Fortune500 firms, they find long-term institutional ownership positively relates to CSP. Moreover, the

frequency and coordination of activism interacts with long-term holdings to positively affect CSP on a longer-term 3-year horizon. Doh et al. (2010) offer an empirical analysis on the seemingly consensual understanding of markets reacting positively to firms' virtuous behaviors. The results highlight that institutional intermediaries influence market assessments of a firm's degree of social responsibility. The role of experts as offering knowledge on the relationship between social and financial performance is highlighted. The findings further show the connections between different social performance assessments and more traditional measures of firm performance.

Moving onto studies on investors, three articles were identified. The study of corporate social responsibility sets the paradox for firms in terms of how to reconcile the maximization of shareholder value with responsible firm behavior. Crouch (2006) seeks to answer this paradox by proposing methodologies for studying corporate social responsibility that model the firm interacting with its environment as a market actor and as an organization. Crouch (2006) argues that such an approach does away with the concept of stakeholders – instead, the focus is on the firm's relations with political action and the preferences of consumers, investors and employees. Hendry et al. (2006) study the relationship between institutional investors and corporate managers using in-depth interviews. The findings contradict popular discourses on ownership and agency. Fund managers and corporate managers view institutional investors as financial traders, who as a result of their professional position, control key resources, yet whose interests are divorced from those of long-term shareholders. The findings show how in the UK, accountability and responsibility have become separated. The interests of institutional investors differ markedly from those of longer-term owners. More research on corporate governance and its processes is called for. Mackey et al. (2007) propose a theoretical model addressing the question of whether firms should engage in socially responsible behavior or not. The authors suggest that managers might opt for funding socially responsible activities that maximize the

market value of the firm whilst they do not maximize the present value of the firm's future cash flows.

Stakeholders

Patriotta et al. (2011) study how different stakeholder groups legitimize the action of institutions relevant to their work using discourses and objects. The paper uses a controversy arising from a European energy company's nuclear accident as its empirical basis. Based on their analysis, the authors propose a process model of institutional repair as actors seek to maintain legitimacy. The maintenance of legitimacy is considered as a controversy-based process. Based on large-scale multiple case study involving 12 multinationals and their stakeholders, involving a total of 261 interviews, Crilly et al. (2016) offer a cognitive-linguistic perspective on how stakeholders can be misled by firms' sustainability reporting. Firms with advanced sustainability strategies use more complex and nuanced terminology in their sustainability reporting. Such nuanced are depicted by experts, whereas they go undetected by the general public and generalist stakeholders. Crilly et al. (2016) thus advance our understanding of how firms deceive non-expert stakeholder audiences with respect to the extent of their involvement with sustainability related activity.

Shared governance

The fifth theme related to shared governance, and in particular, how shared, or collective governance, can be induced and facilitated. Wijen & Ansari (2007) explore how cooperation between numerous actors with different interests can be enabled, so that collective action is induced. The study uses the field of global climate policy as its empirical arena to study how the Kyoto Protocol was arrived at. The findings are based on regime and institutional theories. The drivers of collective institutional entrepreneurship are identified. This is argued to offer an important contribution to a field much focused on the role of individual institutional

entrepreneurial spear-heads bringing forth change. Fan & Zietsma (2017) study the construction of shared governance logics based on a longitudinal qualitative study of a water stewardship council. The authors are interested in appreciating how actors embedded in different logics are able to overcome their differences to develop a shared governance logic. Council members are found to mobilize social emotions, moral emotions and emotional energy in order to facilitate processes of agreeing on values, shared learning and enacting shared values. As a result, actors become more open and reflexive about their home logics whilst building a shared governance logic. Whereas previous research on shared governance has relied on cognitive dynamics, this paper highlights the role of emotions in enabling dually embedded agency. The findings bear implications for institutional agency and emotions in the process of new logic construction.

Firm level agency

Beyond the roles within firms, management research has analyzed sustainability related agency at firm-level. In this respect, the following themes can be identified: influential factors, political CSR and performance effects. These are shortly reviewed next.

Influential factors

First, management research has identified how certain influential factors shape a firm's approach to sustainability and their contribution to sustainability transformation. These influential factors are both internal and external factors to the firm. For example, Williams and Siegel (2001) outlined that a firm's sustainability approach depends on its size, level of diversification, research and development, advertising, government sales, consumer income, labor market conditions, and stage in the industry life cycle, while Crilly (2013) suggest that the question of stakeholder engagement to support corporate performance is about corporate identity and strategic capabilities, such as strategic goals, organization design, and organization

boundaries. Luo et al. (2017) support the view of conflicting external pressures shaping sustainability practices in business, by framing sustainability disclosures as organizational response to institutional complexity.

Political CSR

Second, management literature has identified how firms may use their influence and power to shape sustainability transformation through the concept of political CSR. This refers to how firms have started to take social and political responsibilities that go beyond legal requirements and fill the regulatory vacuum in global governance (Scherer and Palazzo, 2011). According to this view, firms are not considered simply as economic actors, but also as political actors (Scherer and Palazzo, 2011). The view assumes embeddedness of markets in contested social and political structures and the political character of strategies (Levy and Egan, 2003) and challenges dialogues seeking consensus by stressing focus on constructing economic alternatives. (Ehrnström-Fuentes, 2016). Political CSR assumes a firm interacting with its environment as both a market actor and as an organization, and in particular through the interaction between these two, and with no need for separate concept of stakeholder (Crouch, 2006). On the other hand, the concept of political CSR has not been applied only to show business has increasingly taken regulatory roles to address sustainability but also to show how business may be responsabilized for sustainability challenges by framing an issue and its root cause in certain ways (Reinecke and Ansari, 2016).

Resistant or not?

Whilst extant research positions incumbent firms as regime-level actors maintaining the status quo, Berggren et al. (2015) show that the matter is more complex. Based on data from the heavy vehicle industry, the authors posit that incumbent firms are active at both regime and niche levels. Whilst incumbent firms tend to be considered as resistant to sustainability

transitions, Steen & Weaver (2017) see the matter in more optimistic light. Based on a survey of 133 incumbent Norwegian firms in the energy sector, the authors highlight the incumbents' engagement in transition processes.

Performance effects

Third, a stream of management research has focused on the relationship between corporate sustainability and the firm's performance as measured on other performance indicators. These studies have focused on measuring financial impacts of sustainability strategies and the mediation process between sustainability performance and financial performance (Peloza et al. 2009), the strategic value of sustainability, including the conditions under which corporate sustainability can contribute to sustainable competitive advantage (McWilliams and Siegel, 2011) and to value co-creation and its relationship to organizational sustainable advantage (Pitelis, 2009). Mackey et al. (2007) have added to this stream by managerial perspective. They conclude that managers may invest in socially responsible activities that do not maximize the present value of their firm's future cash flows yet still maximize the market value of the firm.

Niche-level actors

Beyond the firm and its environment, management research has analyzed the contribution of certain niche level actors to sustainability transition in larger regimes. The following actors can be identified: niches, sustainably responsible entrepreneurs, community, NGOs and SMOs and developing countries. These are shortly reviewed next.

Niches

In their review paper, Geels & Schot (2007) assess strategic niche management as a policy approach for radical innovation. Smith & Raven (2012) focus on strategic niches, i.e. protective spaces for radical innovations. Despite interest in niches in the literature on innovation management, the concept of protection has been less attended to. The authors argue that

protection consists in shielding, nurturing, and empowering. The latter property, i.e. empowering, appears least developed to date. Going forward, the authors caution that niche actors need to connect to wider processes of social change.

Sustainable entrepreneurs

Second, the research has identified the influence of sustainable entrepreneurship. Sustainable entrepreneurship has been defined from different perspectives. For example, Markman et al. (2016) regard that sustainable or ethical entrepreneurs are moving towards the direction in which the natural environment can be the foundation on which the economy operates, and it includes driving positive changes rather than only minimizing harm. Sustainability is justified and motivated by ethical considerations and pioneered by entrepreneurial engagement. McMullen and Warnick (2016) connected sustainability with the idea of hybrid organizations, which are created to address social and environmental objectives in addition to their financial objective. The hybrid organizations included the ideal of blended value creation. The research has further shown, how sustainable entrepreneurs can facilitate systematic social change. Waldron et al. (2016) developed a framework to show how cognitive structures, identity and power, can influence on social entrepreneurs' perceptions of industry members and the social entrepreneurs' rhetorical strategies for persuading the industry members to adopt new practices.

Community

Third, management researchers have identified the influence of a community to sustainability transitions. Ehrnström-Fuentes (2016) focused on communities through two local stakeholder groups involved in a conflict over a pulp mill in the south of Chile. Her study found differences in how each community made sense of the world through place-bound social imaginaries, which affected the stakeholders' willingness to participate in deliberation. The findings

contribute by showing how legitimacy cannot be universally secured through consensus seeking dialogues.

NGOs and SMOs

Fourth, management literature has identified non-governmental organizations and social movement organizations as influential actors in sustainability transitions. Khan et al. (2010) studied a Western-led CSR intervention into Pakistan's soccer ball industry to explore the dynamics surrounding local NGO staff charged with implementation. They show how NGO staff must navigate post-colonial conditions, which result in unsatisfactory experiences, and thus lead to negative unintended consequences. Based on the study, they suggest that CSR calls for bottom-up approaches. MacKay and Munro (2012) analyzed how ExxonMobil and Greenpeace employ distinctive informational tactics in their dispute over the climate change debate. They contribute by showing how corporations and non-governmental organizations are increasingly sensitive to their informational environment as a source of both opportunity and possible conflict.

Roles within organizations

Management literature has analyzed the agentic roles of actors within organizations. In this respect, following themes can be identified: embedded agency, managerial agency, professional agency and employee agency. These are shortly reviewed next.

Embedded agency

First, some studies focused on the paradox of embedded agency and how agency for sustainability may be facilitated despite of limits by institutional constraints. For example, Fan and Zietsma (2017) theorized how embedded actors new logic construction is mobilized by three emotional facilitators: social emotions, moral emotions and emotional energy, to build a

shared governance logic, while Walker (2014) identified ingenuity strategies challenge to comply with or escape the major institutional constraints.

Managerial agency

Second, management research identified the role of managers as powerful actors contributing sustainability transition processes. The research has first highlighted to importance of managers' *personal level agency* for commitment with sustainability. Personal level agency is rooted in the concept management's ecological embeddedness, which means the extent to which a manager is rooted in the land (Whiteman et al. 2000). Whiteman and Cooper (2006) argued that if managers have a strong ecological sense of who and what they are, they are more likely to care for the environment. However, the view has been criticized for being rooted in neocolonial thought and lacking relevance to current management theory and practice (Banerjee and Linstead, 2004). In addition to the concept of ecological embeddedness, researchers have shown how personal beliefs in business case of CSR influence managerial CSR engagement (Hafenbradl and Waeger, 2017) and how the emotional meanings managers attribute to transformation shape the change (Fineman, 1996), and how managers can morally disengage from transformation, if opportunities that harm the environment are experienced as highly attractive (Shepherd et al. 2013).

Management research has also highlighted the *relational* importance of managers' contributions to sustainability transformation. This means the influence managers can have on internal and external stakeholders. For example, Kim et al. (2017) showed how leader green behavior and advocacy shapes the green behavior of individual subordinates. Their view is supported by Erdogan et al (2013), who suggest that perceived management commitment to environmental sustainability supports also employee attitudes and behaviors. Basu and Palazzo (2008) extended this view by proposing how manager's cognitive, linguistic and conative sensemaking guides sustainability related activities. Third, the researchers have highlighted the

decision-making power held by managers as a possibility to contribute sustainability transition. Hahn et al. (2014) showed how managerial decision making regarding ambiguous sustainability issues is shaped by certain cognitive determinants, while Schrempf-Stirling et al. (2016) discuss the contemporary managers ways to engage in critiques and contest the past, less legitimate decisions.

Professional agency

Third, management research has identified agency among sustainability professionals contributing sustainability transformation. The research has highlighted the *ambiguity and tensions related with the dynamic role* of CSR managers/sustainability professionals in shaping the transformation. For example, Risi and Wickert (2017) showed how ambiguity may lead to asymmetrical relationship between professionalization and institutionalization under certain conditions. The view of ambiguity was supported by Wright and Nyberg (2012) who showed that sustainability professionals are key agents in shaping positive emotionology of climate change, but this often results to tensions and contradictions in relation to their own emotional engagement and negative climate impact of corporate activities. Mitra and Buzzanell (2017) further supported the view by showing how sustainability practitioners derive meaningfulness in tensional ways form enabling and constraining factors and circumstances. Prior research has also connected the ambiguity in the agency of CSR professionals/managers with their *identity work*. According to Wright et al. (2012) their role requires balancing tensions and contradictions between their own sense of self and the various work and non-work contexts. This is supported by Lefsrud and Meyer (2012) who showed how sustainability professionals' identity work is based on the heterogeneity of claims, legitimation strategies, and use of emotionality and metaphor.

Employee agency

Forth, management research has identified employees as influential actors in sustainability transformation. Concerning employee agency, research has made two-fold contributions. First, it has shown how perceived *CSR influences employee identification*. For example, Farooq et al. (2017) applied social identity theory to show how CSR actions focusing on external and internal stakeholders support employee organizational identification. In addition, the literature has shown how *agency of other actors* influence employee agency. According to Erdogan (2015) perceived management commitment, as perceived organizational support, influences employee environmental attitudes and behaviors. Shen and Benson (2016) supported this view by applying the concept of socially responsible human resource management and showed how it shapes employee behavior through the mediation of individual-level organizational identification. Kim et al. (2017) extended this view by suggesting that voluntary green behavior among employees is not only supported by managerial behavior but also advocacy of co-workers.

CONCLUSIONS AND DISCUSSION

In this paper, we provided a review of how agency in sustainability transitions has been studied in mainstream management journals in the last 25 years, i.e. in the period 1992-2017.

A first observation is that this field has emerged rather lately. Papers from the 1990s are rather rare, whereas the frequency of publishing in this field increased in the early 2000s, and seems to be moving forward at a rapid pace since 2010 and particularly 2015. We can thus conclude that mainstream management scholars are (finally) awakening to the sustainability challenge. This awakening can be considered as a rather late one, given the intensity with which neighboring disciplines such as environmental management or the focused study on corporate

social responsibility have developed. For this paper, we have deliberately left out journals focused on corporate social responsibility. Our objective was to assess where mainstream management stands vis-à-vis agency in sustainability transitions.

A second observation to make is that this field of study is markedly qualitative in terms of the methods used. Numerous papers offer rich in-depth case studies, multiple case studies, comparative case studies, or longitudinal findings. In so doing, researchers have been keen to study all three continents, given that papers focused on Europe, the United States, China and Africa can be found in this sample.

A third observation relates to the fact that there appears to be no single answer to the question of agency in sustainability transitions. On the one hand, theories and frameworks of change span the multi-disciplinary area of sustainability transitions, field-level change as well as innovation and technological change. On the other hand, a myriad of actors have been identified by this literature. Per actor, we identified one to three papers. This highlights the field's small size, yet its focused attention to the phenomenon under study.

The main contribution of the paper is in developing a typology of actors in sustainability transitions. This typology respects levels of analysis. These actors thus operate within the firm, at the firm level or in smaller sized niche organizations, or in the firm's external environment. At each level, numerous actor types are identified.

Whilst this paper has enhanced our understanding of how agency is depicted by mainstream management journals vis-à-vis sustainability transitions, this paper represents our work at an early stage. Only eight journals were included in this paper. Also, the findings are presented as such, without a more refined cross-theme analysis. Going forward, the review effort continues. As for practitioners and individuals be they in consumer, professional or citizen roles, the findings are a call to act toward the sustainability agenda.

REFERENCE LIST

- Anadón, L.D. 2012. Missions-oriented RD&D institutions in energy between 2000 and 2010: A comparative analysis of China, the United Kingdom, and the United States. *Research Policy* 41 (10): 1742-1756
- Banerjee, S.B., Linstead, S. 2004. Masking subversion: Neocolonial embeddedness in anthropological accounts of indigenous management. *Human Relations* 57 (2): 221-247
- Basu, K., Palazzo, G. 2008. Corporate social responsibility: A process model of sensemaking. *Academy of Management Review* 33 (1): 122-136
- Berggren, C., Magnusson, T., Sushandoyo, D. 2015. Transition pathways revisited: Established firms as multi-level actors in the heavy vehicle industry. *Research Policy* 44 (5): 1017-1028
- Borghesi, S., Cainelli, G., Mazzanti, M. 2015. Linking emission trading to environmental innovation: Evidence from the Italian manufacturing industry. *Research Policy* 44 (3): 669-683
- Calic, G., Mosakowski, E. 2016. Kicking Off Social Entrepreneurship: How A Sustainability Orientation Influences Crowdfunding Success. *Journal of Management Studies* 53 (5): 738-767
- Crilly, D. 2013. Recasting enterprise strategy: Towards stakeholder research that matters to general managers. *Journal of Management Studies* 50 (8): 1427-1447
- Crilly, D., Hansen, M., Zollo, M. 2016. The grammar of decoupling: A cognitive-linguistic perspective on firms' sustainability claims and stakeholders' interpretation. *Academy of Management Journal* 59 (2): 705-729
- Crouch, C. 2006. Modelling the firm in its market and organizational environment: Methodologies for studying corporate social responsibility. *Organization Studies* 27 (10): 1533-1551
- Doh, J.P., Howton, S.D., Howton, S.W., Siegel, D.S. 2010. Does the market respond to an endorsement of social responsibility? The role of institutions, information, and legitimacy. *Journal of Management* 36 (6): 1461-1485
- Ehrnström-Fuentes, M. 2016. Delinking Legitimacies: A Pluriversal Perspective on Political CSR. *Journal of Management Studies* 53 (3): 433-462
- Erdogan, B., Bauer, T.N., Taylor, S. 2015. Management commitment to the ecological environment and employees: Implications for employee attitudes and citizenship behaviors. *Human Relations* 68 (11): 1669-169
- Fan, G.H., Zietsma, C. 2017. Constructing a shared governance logic: The role of emotions in enabling dually embedded agency. *Academy of Management Journal* 60 (6): 2321-2351
- Farooq, O., Rupp, D.E., Farooq, M. 2017. The multiple pathways through which internal and external corporate social responsibility influence organizational identification and multifoci outcomes: The moderating role of cultural and social orientations. *Academy of Management Journal* 60 (3): 954-985
- Fernández, P.D., Martí, I., Farchi, T. 2017. Mundane and Everyday Politics for and from the Neighborhood. *Organization Studies* 38 (2): 201-223
- Fineman, S. 1996. Emotional subtexts in corporate greening. *Organization Studies* 17 (3): 479-500

- Garud, R. and Gehman, J. 2012. Metatheoretical perspectives on sustainability journeys: Evolutionary, relational and durational. *Research Policy* 41: 980-995.
- Geels, F. 2011. The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions* 1: 24–40.
- Geels, F.W. 2010. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. *Research Policy* 39 (4): 495-510
- Geels, F.W., Schot, J. 2007. Comment on 'Techno therapy or nurtured niches?' by Hommels et al. [*Res. Policy* 36 (7) (2007)]. *Research Policy* 36 (7): 1100-1101
- Giamporcaro, S., Gond, J.-P. 2015. Calculability as Politics in the Construction of Markets: The Case of Socially Responsible Investment in France. *Organization Studies* 37 (4): 465-495
- Hafenbradl, S., Waeger, D. 2017. Ideology and the micro-foundations of CSR: Why executives believe in the business case for CSR and how this affects their CSR engagements. *Academy of Management Journal* 60 (4): 1582-1606
- Hahn, T., Preuss, L., Pinkse, J., Figge, F. 2014. Cognitive frames in corporate sustainability: Managerial sensemaking with paradoxical and business case frames. *Academy of Management Review* 39 (4): 463-487
- Hall, J., Matos, S., Sheehan, L., Silvestre, B. 2012. Entrepreneurship and innovation at the base of the Pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies* 49 (4): 785-812
- Hendry, J., Sanderson, P., Barker, R., Roberts, J. 2006. Owners or traders? Conceptualizations of institutional investors and their relationship with corporate managers. *Human Relations* 59 (8): 1101-1132
- Hess, D.J. 2014. Sustainability transitions: A political coalition perspective. *Research Policy* 43 (2): 278-283
- Höllerer, M.A. 2013. From Taken-for-Granted to Explicit Commitment: The Rise of CSR in a Corporatist Country. *Journal of Management Studies* 50 (4): 573-606
- Huguenin, A., Jeannerat, H. 2017. Creating change through pilot and demonstration projects: Towards a valuation policy approach. *Research Policy* 46 (3): 624-635
- Jermier, J.M., Forbes, L.C. 2016. Metaphors, organizations and water: Generating new images for environmental sustainability. *Human Relations* 69 (4): 1001-1027
- Jørgensen, U. 2012. Mapping and navigating transitions - The multi-level perspective compared with arenas of development. *Research Policy* 41 (6): 996-1010
- Khan, R.F., Westwood, R., Boje, D.M. 2010. 'I feel like a foreign agent': NGOS and corporate social responsibility interventions into Third World child labor. *Human Relations* 63 (9): 1417-1438
- Khavul, S., Bruton, G.D. 2013. Harnessing Innovation for Change: Sustainability and Poverty in Developing Countries. *Journal of Management Studies* 50 (2): 285-306
- Kim, A., Kim, Y., Han, K., Jackson, S.E., Ployhart, R.E. 2017. Multilevel Influences on Voluntary Workplace Green Behavior: Individual Differences, Leader Behavior, and Coworker Advocacy. *Journal of Management* 43 (5): 1335-1358
- Kivimaa, P. 2014. Government-affiliated intermediary organisations as actors in system-level transitions. *Research Policy* 43 (8): 1370-1380

- Kivimaa, P., Kern, F. 2016. Creative destruction or mere niche support? Innovation policy mixes for sustainability transitions. *Research Policy* 45 (1): 205-217
- Lauridsen, E.H., Jørgensen, U. 2010. Sustainable transition of electronic products through waste policy. *Research Policy* 39 (4): 486-494
- Lefsrud, L.M., Meyer, R.E. 2012. Science or Science Fiction? Professionals' Discursive Construction of Climate Change. *Organization Studies* 33 (11): 1477-1506
- Levy, D.L., Egan, D. 2003. A neo-Gramscian approach to corporate political strategy: Conflict and accommodation in the climate change negotiations. *Journal of Management Studies* 40 (4): 803-829
- Luo, X.R., Wang, D., Zhang, J. 2017. Whose call to answer: Institutional complexity and firms' csr reporting. *Academy of Management Journal* 60 (1): 321-344
- MacKay, B., Munro, I. 2012. Information Warfare and New Organizational Landscapes: An Inquiry into the ExxonMobil-Greenpeace Dispute over Climate Change. *Organization Studies* 33 (11): 1507-1536
- Mackey, A., Mackey, T.B., Barney, J.B. 2007. Corporate social responsibility and firm performance: Investor preferences and corporate strategies. *Academy of Management Review* 32 (3): 817-835
- Manning, S., Reinecke, J. 2016. A modular governance architecture in-the-making: How transnational standard-setters govern sustainability transitions. *Research Policy* 45 (3): 618-633
- Markard, J., Raven, R. and Truffer, B. 2012. Sustainability transitions: An emerging field of research and its prospects. *Research Policy* 41: 955-967.
- Markman, G.D., Russo, M., Lumpkin, G.T., Jennings, P.D.D., Mair, J. 2016. Entrepreneurship as a Platform for Pursuing Multiple Goals: A Special Issue on Sustainability, Ethics, and Entrepreneurship. *Journal of Management Studies* 53 (5): 673-694
- Mcmullen, J.S., Warnick, B.J. 2016. Should We Require Every New Venture to Be a Hybrid Organization? *Journal of Management Studies* 53 (4): 630-662
- McWilliams, A., Siegel, D. 2001. Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review* 26 (1): 117-127
- McWilliams, A., Siegel, D.S. 2011 Creating and capturing value: Strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage. *Journal of Management* 37 (5): 1480-1495
- Mintzberg, H., Westley, F. 1999. Sustaining the Institutional Environment. *Organization Studies* 20 (7): 71-94
- Mitra, R., Buzzanell, P.M. 2017. Communicative tensions of meaningful work: The case of sustainability practitioners. *Human Relations* 70 (5): 594-616
- Neubaum, D.O., Zahra, S.A. 2006. Institutional ownership and corporate social performance: The moderating effect of investment horizon, activism, and coordination. *Journal of Management* 32 (1): 108-131
- Nil, J., Kemp, R. 2009. Evolutionary approaches for sustainable innovation policies: From niche to paradigm? *Research Policy* 38 (4): 668-680
- Patriotta, G., Gond, J.-P., Schultz, F. 2011. Maintaining legitimacy: Controversies, orders of worth, and public justifications. *Journal of Management Studies* 48 (8): 1804-1836

- Peloza, J. 2009. The challenge of measuring financial impacts from investments in corporate social performance. *Journal of Management* 35 (6): 1518-1541
- Penna, C.C.R., Geels, F.W. 2015. Climate change and the slow reorientation of the American car industry (1979-2012): An application and extension of the Dialectic Issue LifeCycle (DILC) model. *Research Policy* 44 (5): 1029-1048
- Peredo, A.M., Chrisman, J.J. 2006. Toward a theory of community-based enterprise. *Academy of Management Review* 31 (2): 309-328
- Pesch, U. 2015. Tracing discursive space: agency and change in sustainability transitions. *Technological forecasting & social change* 90: 378-388.
- Pitelis, C.N. 2009. The co-evolution of organizational value capture, value creation and sustainable advantage. *Organization Studies* 30 (10): 1115-1139
- Porter, A.J., Kuhn, T.R., Nerlich, B. 2017. Organizing Authority in the Climate Change Debate: IPCC Controversies and the Management of Dialectical Tensions. *Organization Studies* 1 June 2017, (available online)
- Reinecke, J., Ansari, S. 2016. Taming Wicked Problems: The Role of Framing in the Construction of Corporate Social Responsibility. *Journal of Management Studies* 53 (3): 299-329
- Reinecke, J., Manning, S., von Hagen, O. 2012. The Emergence of a Standards Market: Multiplicity of Sustainability Standards in the Global Coffee Industry. *Organization Studies* 33 (5-6): 791-814
- Risi, D., Wickert, C. 2017. Reconsidering the 'Symmetry' Between Institutionalization and Professionalization: The Case of Corporate Social Responsibility Managers. *Journal of Management Studies* 54 (5): 613-646
- Safarzyńska, K., Frenken, K., Van Den Bergh, J.C.J.M. 2012. Evolutionary theorizing and modeling of sustainability transitions. *Research Policy* 41 (6): 1011-1024
- Scherer, A.G., Palazzo, G. 2011. The New Political Role of Business in a Globalized World: A Review of a New Perspective on CSR and its Implications for the Firm, Governance, and Democracy. *Journal of Management Studies* 48 (4): 899-931
- Schrempf-Stirling, J., Palazzo, G., Phillips, R.A. 2016. Historic corporate social responsibility. *Academy of Management Review* 41 (4): 700-719
- Shen, J., Benson, J. 2016. When CSR Is a Social Norm: How Socially Responsible Human Resource Management Affects Employee Work Behavior. *Journal of Management* 42 (6): 1723-1746
- Shepherd, D.A., Patzelt, H., Baron, R.A. 2013. "I care about nature, but...": Disengaging values in assessing opportunities that cause harm. *Academy of Management Journal* 56 (5): 1251-1273
- Smith, A., Raven, R. 2012. What is protective space? Reconsidering niches in transitions to sustainability. *Research Policy* 41 (6): 1025-1036
- Smith, A., Stirling, A., Berkhout, F. 2005. The governance of sustainable socio-technical transitions. *Research Policy* 34 (10): 1491-1510
- Späth, P., Rohracher, H. 2010. 'Energy regions': The transformative power of regional discourses on socio-technical futures. *Research Policy* 39 (4): 449-458

- Steen, M., Weaver, T. 2017. Incumbents' diversification and cross-sectorial energy industry dynamics. *Research Policy* 46 (6): 1071-1086
- Sutherland, L.-A., Peter, S., Zagata, L. 2012. Conceptualising multi-regime interactions: The role of the agriculture sector in renewable energy transitions. *Research Policy* 44 (8): 1543-1554
- Waldron, T.L., Fisher, G., Pfarrer, M. 2016. How Social Entrepreneurs Facilitate the Adoption of New Industry Practices. •*Journal of Management Studies* 53 (5): 821-845
- Walker, K., Schlosser, F., Deephouse, D.L. 2014. Organizational Ingenuity and the Paradox of Embedded Agency: The Case of the Embryonic Ontario Solar Energy Industry. *Organization Studies* 35 (4): 613-634
- Whiteman, G., Cooper, W.H. 2000. Ecological embeddedness. *Academy of Management Journal* 43 (5): 1265-1282
- Whiteman, G., Cooper, W.H. 2006. Sixty-six ways to get it wrong: A response to Banerjee and Linstead. *Human Relations* 59 (3): 409-427
- Wijen, F. 2014. Means versus ends in opaque institutional fields: Trading off compliance and achievement in sustainability standard adoption. *Academy of Management Review* 39 (3): 302-323
- Wijen, F., Ansari, S. 2007. Overcoming inaction through collective institutional entrepreneurship: Insights from regime theory. *Organization Studies* 28 (7): 1079-1100
- Wittneben, B.B.F., Okereke, C., Banerjee, S.B., Levy, D.L. 2012. Climate Change and the Emergence of New Organizational Landscapes. *Organization Studies* 33 (11): 1431-1450
- Wright, C., Nyberg, D. 2012. Working with passion: Emotionology, corporate environmentalism and climate change. *Human Relations* 65 (12): 1561-1587
- Wright, C., Nyberg, D., Grant, D. 2012. "Hippies on the third floor": Climate Change, Narrative Identity and the Micro-Politics of Corporate Environmentalism. *Organization Studies* 33 (11): 1451-1475
- York, J.G., Hargrave, T.J., Pacheco, D.F. 2016. Converging winds: Logic hybridization in the Colorado wind energy field. *Academy of Management Journal* 59 (2): 579-610