



Designing organised clusters as social actors: a meta-organisational approach

Evgeniya Lupova-Henry¹ · Sam Blili¹ · Cinzia Dal Zotto¹

Received: 30 April 2020 / Accepted: 6 January 2021
© The Author(s) 2021

Abstract

In this paper, we aim at exploring whether and how ‘organised’ clusters can be conceived of as deliberate actors within their contexts. Seeing such clusters as meta-organisations, we suggest that these can make ‘organisationality’ design choices, or decisions regarding full or partial implementation of the five elements constitutive of formal organisations: membership, hierarchy, rules, monitoring, and sanctions. To explore the relationship between clusters’ organisationality and actorhood, we conduct two qualitative case studies of organised clusters in Australia. Our findings suggest that clusters can deliberately ‘construct’ themselves both as organisations and social actors. Furthermore, drawing upon the institutional work perspective, we propose that clusters can engage in deliberate identity, boundary, and practice work. However, in doing so, they address both internal and external legitimating audiences. Finally, our findings suggest that clusters’ organisationality design choices may influence the locus of their actorhood resulting in more or less collaborative approaches to institutional work.

Keywords Clusters · Organisationality · Actorhood · Institutional work · Identity work · Boundary work · Practice work · Meta-organisation

Introduction

Recent scholarship in the field of organisation studies has been paying increasing attention to non-traditional organisation forms such as meta-organisations or ‘organisations of organisations’ which have become a ubiquitous—but a somewhat overlooked—phenomenon in the modern world (Ahrne and Brunsson 2008). In particular, the meta-organisational perspective has been gaining scholarly attention as a way to better understand the logic, structure and nature of ‘organised’ clustering (cf. Fen Chong 2009; Gadille et al. 2013; Viachka 2013; Kadenic 2017; Lupova-Henry et al. 2019).

In contrast to ‘spontaneous’ clusters—such as the well-known examples of the Silicon Valley in the USA or the Swiss ‘Watch Valley’—which have been defined as ‘geographic concentrations of organisations’ (Porter 1990), ‘organised’ clusters are driven by common goals or strategic directions, have dedicated ‘cluster managers’ facilitating and

coordinating the relationships between the members and, in many cases, receive financial stimuli from the national and regional authorities to whom they are accountable (cf. Sölvell et al. 2003; Müller et al. 2012; Lindqvist et al. 2013). For instance, in contrast to the Silicon Valley, the ‘Silicon Alps’ cluster in Austria has been established as a public–private partnership with a shareholder structure to drive the regional electronics and microelectronics sectors (Silicon Alps 2020). Other well-known and well-researched examples of such organised clustering are the competitiveness poles—or *pôles de compétitivité*—in France such as Sophia Antipolis or the Minalogic cluster in Grenoble (cf. Pecqueur 2008; Fen Chong 2009; Galès 2011; Sedouramane 2014).

While stimulating organised clustering has become one of the preferred approaches to reshaping the regional development paths, driving innovation and the transition towards the knowledge economy (cf. Rosenfeld 2002; Aziz and Norhashim 2008; Etkowitz 2012), on many occasions, organised clusters failed to fulfil their promise as the drivers of regional transformation becoming the ‘Silicon Somewheres’ of the world (cf. Hospers et al. 2009). In this paper, we suggest that seeing organised clusters as meta-organisations can help better understand their dynamics and nature and thus allow to steer these more deliberately.

✉ Evgeniya Lupova-Henry
elupova@gmail.com

¹ University of Neuchâtel, A.-L. Breguet 2, 2000 Neuchâtel, Switzerland

Indeed, while the benefits, disadvantages and dynamics of clustering have been extensively studied by economic geographers, industrial economists and researchers in regional studies (Lazzeretti et al. 2014; Hervás-Oliver et al. 2014), these have mostly seen clusters through the ‘determinist lens’ as geographical areas shaped by external forces (cf. Moulaert and Sekia 2003). On the other hand, adopting the meta-organisational perspective on organised clusters represents a shift towards the voluntarist approach and suggests that similarly to individual-based organisations, organised clusters can be designed (cf. Romme 2003), be considered as deliberate actors capable of shaping their environments (King et al. 2010), and be held collectively responsible for their actions (e.g. Berkowitz 2018). Moreover, their ‘organisationality’ design choices—i.e. the decisions to fully or partially implement the elements of formal organisations—may influence their ability to engage in deliberate social action (e.g. Ahrne and Brunsson 2011; Dobusch and Schoeneborn 2015).

In this paper, we aim at exploring whether and how organised clusters can be conceived of as deliberate actors within their contexts and how their ‘organisationality’ design choices mediate their ‘actorhood’, i.e. their ability to engage in social action and be perceived as actors by their legitimating audiences. To elaborate on the concept of ‘actorhood’, we ground our research in the neo-institutionalist theory, and, in particular, the institutional work perspective and distinguish between three types of agency available to an organisation as a social actor: identity work, boundary work and practice work (Lawrence and Suddaby 2006; Clegg et al. 2007; Zietsma and Lawrence 2010). We see ‘actorhood’ not as a precondition or outcome of organisation but as an evolving capability to enact, sustain and change institutions (Hwang et al. 2019; Migdal-Picker and Zilber 2019).

Thus, seeing organised clusters as ever-changing entities in the process of ‘becoming’ full-fledged organisations and social actors (Tsoukas and Chia 2002; Clegg et al. 2005), we formulate the following research questions: how do clusters engage in social action as organised collective entities? How do clusters’ organisationality design choices influence their actorhood?

To answer these research questions, we use the theory-elaborating case study approach (Eisenhardt and Graebner 2007; Ketokivi and Choi 2014) and extend the existing organisation theories to the context of clusters seen as meta-organisations. We conduct two case studies of organised clusters located in Australia and operating in food processing, sustainability, machinery manufacturing, and defence sectors. Our study suggests that organised clusters may, indeed, be viewed as intentional actors rather than passive elements within their contextual settings. However, their actorhood is a property deliberately ‘constructed’ rather than ‘innate’. Moreover, the ways clusters practise their actorhood

is shaped by their design choices concerning the implementation of the five elements of formal organisations. Specifically, our findings suggest that these choices may have an influence on the locus of clusters’ actorhood resulting in more or less collaborative approaches to institutional work.

This article is structured as follows. First, we examine the theoretical background related to clusters seen as meta-organisations and discuss the elements of organisationality in the cluster context. We also discuss cluster actorhood conceptualising it as the types of agency clusters can engage in to create, maintain, or disrupt institutions. We then describe our research design. Following this, we present the findings of our case studies. Based on these, we formulate a set of theoretical propositions regarding the clusters’ organisationality design choices and their ability to engage in social action and be perceived as actors by their legitimating audiences. Finally, we conclude and propose avenues for future research.

Theoretical background

Clusters as ‘organisations of organisations’

Traditionally, clusters have been defined as ‘geographic concentrations of interconnected companies and institutions in a particular field’ (Porter 1998). This perspective on clusters adopts a determinist view whereby clusters are seen as ‘geographical areas’ (cf. Moulaert and Sekia 2003) or ‘populations of organisations’ (Astley and Van de Ven 1983) shaped by external forces, such as national contexts, industrial dynamics and regional specifics (e.g. Porter 1990; Markusen 1996; Panicia 1998). The studies adopting this perspective have been analysing cluster development through the prism of evolutionary processes of variation, selection and retention where the ‘cluster management’ role is inexistent (Astley and Van de Ven 1983; Giuliani 2010; Dotti and Lupova-Henry 2020).

However, in the decades following the introduction of the cluster concept by Porter (1990), the whole ‘idea of clustering’ has been undergoing a transformation. Indeed, the introduction of the cluster concept allowed to legitimise the policy intervention for their (trans-)formation, and led to the ever-growing popularity of the organised clusters as tools of regional development (Sölvell et al. 2003; Motoyama 2008; Lindqvist et al. 2013). Such clusters manifest a certain level of coordination between members—often facilitated by dedicated ‘cluster managers’ or ‘cluster secretariat’—and, in many cases, receive financial stimuli from the national and regional authorities. This suggests that ‘organised’ clusters are driven by different logics, and display different dynamics as compared to ‘spontaneous’ clusters (cf. Kadenic 2017). Indeed, the motivation of a company to locate

within a geographical agglomeration may be completely different from its motivation to become a formal member of an organised cluster (cf. Viachka 2013).

Following a recent line of studies adopting a meta-organisational perspective on clusters (e.g. Lupova-Henry et al. forthcoming; Fen Chong 2009; Gadille et al. 2013; Viachka 2013; Leys and Joffre 2014; Gimet and Grenier 2018), this paper conceptualises ‘organised’ clusters as ‘organisations of organisations’ whose constituents retain their autonomy and are not bound by formal authority but are driven by a system-level goal (Lupova-Henry et al. forthcoming; Ahrne and Brunsson 2008; Gulati et al. 2012; Berkowitz and Dumez 2016). This approach leans towards a voluntarist perspective and suggests that a cluster is “not an incoherent agglomeration, but a coherent organization” (Astley and Van de Ven 1983).

In this paper, we adopt the decision-based approach to conceptualising organisations (Ahrne and Brunsson 2011; Dobusch and Schoeneborn 2015; Ahrne et al. 2016; Apelt et al. 2017; Grothe-Hammer 2018) which suggests that in organised settings joint decisions are made concerning five elements constitutive of formal organisations: membership, hierarchy, rules, monitoring and sanctions. Membership decisions imply defining who makes part of the organisation, while hierarchy entails a form of organised power which can be given to certain individuals or be represented as a form of a decision mechanism. Rules are explicit and written and organisation members are expected to comply with these. Monitoring in organisations aims at both ensuring compliance with the rules and estimating how well organisation members perform their work. Sanctions can be both positive and negative and can serve to promote or recognise members’ performance or punish undesirable behaviour (Ahrne and Brunsson 2011).

These elements are also present in cluster literature which highlights the importance of formal cluster membership (Ketels et al. 2012) and of appropriate governance mechanisms regulating the relationships in a cluster and allowing monitoring and sanction (e.g. Capellin 2003; Gebhardt 2013; Connell et al. 2014).

Recent research demonstrates that a deliberate design choice may be made to implement only some of the elements of formal organisations leading to ‘partial’ organisation (Ahrne et al. 2016). Such a choice is often driven by the goals of organisations, their contexts and internal resources and capabilities (Ahrne et al. 2016). Finally, varying degrees of ‘organisationality’—i.e. the extent to which the elements of formal organisations are present—mitigate the ability of the organisations to enforce their strategic decisions and influence their interactions with external stakeholders (Dobusch and Schoeneborn 2015; Ahrne et al. 2016; Grothe-Hammer 2018). However, there is still a need for a deeper understanding of how entities which only partially

implement the elements of formal organisations can impact society and under which conditions they are accepted and legitimised (Apelt et al. 2017).

To sum up, the ‘meta-organisational’ view on clusters implies that these are not mere geographic areas but are coherent organisations which display joint decision-making and are driven by common goals. Leaning towards a voluntarist approach, this perspective suggests that, as a form of organisation, clusters may be deliberately designed. Specifically, they can make a deliberate design choice to fully or partially implement the elements of formal organisations—membership, hierarchy, rules, monitoring and sanctions—which may then influence their ability to enforce their strategic decisions, impact society as well as be accepted and legitimised by it.

Constructing cluster actorhood

Clusters are often created to re-shape their contexts and redirect the development paths of their regions (e.g. Rosenfeld 2002; Hospers et al. 2009; Etzkowitz 2012; Berkowitz and Bor 2018). Representing collaborative settings, they can be seen as ‘protected spaces’ for the introduction and dissemination of new institutions—rules, technologies and practices—through inter-organisational collaborations within their boundaries (cf. Lawrence et al. 2002). At the same time, as meta-organisations, clusters can become ‘orchestrators’ of institutional change by defining and creating broader rules and scripts and thus shaping institutional fields (Semper 2019).

Organisation scholarship has recently highlighted the expanding actorhood of organisations whereby these are expected to respond to the ever-growing number of stakeholder demands and to take action on a wide variety of societal concerns (cf. Meyer and Jepperson 2000; Meyer 2010; Bromley and Sharkey 2015; Halgin et al. 2018). However, the nature of organisational actorhood has often been taken for granted and not clearly defined in organisational research (Hwang et al. 2019). In contrast to some recent explorations of actorhood assimilating it to the ‘external attribution of the capability to act’ (Dobusch and Schoeneborn 2015; Halgin et al. 2018; Grothe-Hammer 2018), we adopt here a broader perspective, suggesting that actorhood is defined both by the organisation’s capability to act purposefully (intentionality) and the perception of this capability by the external audiences (external attribution) (King et al. 2010; Bromley and Sharkey 2015). Furthermore, we follow recent research into actorhood suggesting that it is “a model whose approximations may be a variable” (Hwang et al. 2019). In other words, we see actorhood as a property being ‘constructed’ by organisations depending on their context and their goals, rather than a precondition, outcome or a necessary attribute of an organisation (Migdal-Picker and Zilber 2019).

To conceptualise ‘what it means to be an actor’ we build upon the definition of actorhood seen through the lens of intentionality and external attribution of the capability to act and draw upon the institutional work perspective (Lawrence and Suddaby 2006; Lawrence et al. 2009; Zietsma and Lawrence 2010). We define institutions as “sets of common habits, routines, established practices, rules, or laws that regulate the relations and interactions between individuals and groups.” (Edquist and Johnson 1997, p. 46). We suggest distinguishing between three types of institutional work an organisation can engage into as a social actor: boundary work and practice work (Zietsma and Lawrence 2010), and identity work (Clegg et al. 2007).

Identity work

Organisations shape their identities so that their internal and external audiences perceive them as legitimate actors in given contexts (Suchman 1995; Clegg et al. 2007; Bridwell-Mitchell and Mezias 2012). Organisational collective identity, i.e. “communicative claims on what the organization is and what it is not” (Dobusch and Schoeneborn 2015) can be seen as the organisation’s character or self-image (Gioia et al. 2013). It is manifested through such features as key values, labels, products, services, or practices, which allow the organisation to collectively define ‘who we are’ (Gioia et al. 2013). Collective identity is constructed through the ‘bricolage’ of the elements existing in the institutional environments (symbols, values, meanings) which are (re-)combined in new ways to introduce ‘institutionally sanctioned’ variations (Glynn 2008). To achieve legitimacy through identity work, organisations are expected to balance between similarity and differentiation, i.e. while striving to be perceived as a representative of a legitimate type of organisation, they are at the same time working to differentiate themselves from all other representatives of this type of organisation (Clegg et al. 2007).

Boundary work

Boundary work is defined as “the attempts of actors to create, shape, and disrupt boundaries” (Zietsma and Lawrence 2010). Boundaries help distinguish the organisation from its environment and can be defined either through formal membership (Ahrne and Brunsson 2008) or, in its absence, through the adherence of organisation members to common goals, identity or an overarching agenda (Gulati et al. 2012; Dobusch and Schoeneborn 2015; Crespin-Mazet et al. 2018). Thus, the previously defined ‘organisationality’ design choices play a role in the boundary work (see also Barberio et al. 2018). The relationship between boundaries and identity are mutual and decisions on who makes part of the formal organisation and who does not affect its identity

and allow to reach a critical mass necessary to legitimise the organisational action in the eyes of external stakeholders (Crespin-Mazet et al. 2018). It also works the other way around: by deliberately shaping the collective identity by assembling elements from different institutional categories, organisations can disrupt the boundaries between these categories (Glynn 2008).

Practice work

Finally, practice work is conceptualised as “actors’ efforts to affect the recognition and acceptance of sets of routines, rather than their simply engaging in those routines” (Zietsma and Lawrence 2010). This type of work implies actors’ efforts to affect the practices that are considered legitimate within a certain domain (Zietsma and Lawrence 2010). Practices can also relate to the way organisations ‘perform’ their identities in specific contexts and though such performances transform institutions (Glynn 2008) and ‘construct’ themselves as legitimate actors in the eyes of their external audiences (Crespin-Mazet et al. 2018).

Thus, the three types of agency while being distinct, exist in a recursive relationship (Zietsma and Lawrence 2010) whereby the identities may help shape group boundaries and identity performances may disrupt existing practices (Clegg et al. 2007; Glynn 2008). At the same time, boundaries delimit legitimate practices, while practices support specific group boundaries (Zietsma and Lawrence 2010). The creation of a new organisational form itself is a way to alter identities, boundaries and practices (Clegg et al. 2007; Zietsma and Lawrence 2010). With respect to each of these types of agency, social actors can engage in creating, maintaining and disrupting institutions (Lawrence and Suddaby 2006). By making certain design choices concerning their organisationality, actors can create, maintain, and disrupt identities, boundaries and practices and construct their actorhood.

The three types of agency can be relevant in the cluster context. Cluster literature highlights the ‘narrativisation’ of cluster development and its vision as one of the drivers allowing the alignment of diverging interests of cluster actors and articulation of a shared vision situated within the broader national and sectoral discourses (O’Dwyer et al. 2015). Due to the engagement of a wide variety of actors in cluster development, a system-level goal may be one of the key elements ‘gluing’ different actors together (Gebhardt 2013; Matinheikki et al. 2017). The adherence to a ‘collective identity’ can also substitute formal membership allowing to ‘demarcate’ the ground between inclusion and exclusion of organisation members (Gulati et al. 2012; Dobusch and Schoeneborn 2015). Thus, while a decision can be made to not establish formal cluster membership, a cluster can still be considered

a meta-organisation and, as such, a deliberate actor, if it exhibits a ‘collective identity’. The latter would then play a key role in delineating the conceptual and geographical boundaries of a cluster.

Finally, one of the interesting questions that can be raised concerning clusters’ intentionality is the locus of their actorhood. While some research highlights the role of individuals or organisations adopting the leadership role to drive the institutional work (Lawrence et al. 2002; Dorado 2005; Wijen and Ansari 2016), others suggest that institutional work may be conducted by multiple actors working towards similar goals without any joint agenda (Dorado 2005; Semper 2019). As complex organisations driven by plural intentions and motivations (Brès et al. 2018), meta-organisations rely on ‘soft’ law, voluntary agreements and compromises (Ahrne and Brunsson 2008; Berkowitz and Dumez 2016) and involve a complex power and authority interplay between its members (Gulati et al. 2012). Thus, the locus of actorhood and the degree to which the institutional work is coordinated within a cluster may depend on its organisationality design choices—such as the presence of formal membership, the role distribution between members and the availability of the critical mass of members, as well as the presence of formal or informal secretariat coordinating and managing the activities (Ahrne and Brunsson 2011; Gulati et al. 2012; Crespín-Mazet et al. 2018).

To sum up, the meta-organisational view of clusters suggests that these may be seen as deliberate social actors which, through their boundary, practice and identity work may re-shape existing institutions and create new ones. However, their ability to do so and the way they ‘construct’ and perform their actorhood may depend on the organisationality design choices they make.

Methodology

Research design

For this research, we chose a qualitative approach and a multiple-case study method (Yin 2008). Acknowledging the complexity of the subject at hand and the current lack of research which would allow to develop and test hypotheses, we have aimed to elaborate on the existing ‘general’ theories and explore their applicability in the specific context of clusters (Ketokivi and Choi 2014). In this respect, our research aims to be generalisable to theoretical propositions rather than entire ‘populations’ and focuses on developing a deep understanding of a specific situation (Daft and Lewin 1990; Easton 1995).

Case selection

Coming back to the voluntarism-determinism dialectic in organisation studies, the process of defining and delimiting clusters was guided by the manner in which these perspectives address the unit of analysis, or ‘the population’ (Astley and Van de Ven 1983). ‘Traditional’ cluster theories, such as those rooted in industrial economics, see the unit of analysis as a relatively homogenous population of organisations (Astley and Van de Ven 1983). Delimiting and identifying clusters within this perspective has been a question of measuring the density of economic activity in a given geographic location, be it through patent data (Alcácer and Zhao 2016), industry concentration (Ellison and Glaeser 1994); or input–output relationships between industries (Feser and Bergman 2000).

On the other hand, the meta-organisational approach to clusters leans towards the voluntarist perspective which sees a population as a ‘coherent organization’ (Astley and Van de Ven 1983). Delimiting the geographical and conceptual boundaries of clusters seen as meta-organisations is thus a matter of identifying clusters characterised by the presence of joint decision-making concerning the five elements constitutive of formal organisations (Ahrne and Brunsson 2011; Ahrne et al. 2016).

From this discussion as well as the preceding literature review, we drew two operational criteria for cluster identification. First, we focused on clusters perceiving themselves as such and engaging in deliberate joint decision-making concerning the elements constitutive of formal organisations. Second, to get a deeper insight into how the presence or absence of the attributes of formal organisations may mediate cluster actorhood, we gave preference to cases displaying varying degrees of organisationality.

A set of general criteria was developed based on Miles et al. (2014). These included (1) the relevance of the case, i.e. its capacity to provide fruitful ground for the study of theoretical concepts; (2) the potential for knowledge production in terms of the willingness of key cluster actors to participate in the study and the availability of supporting documentation; and (3) the feasibility, whereby proximate and easily accessible cases were given priority provided that they also met other general and operational criteria.

The initial screening process was guided by the data on Australian clusters provided by the Australian chapter of the Competitiveness Institute (TCI) Network. The database listed 45 organised clusters, providing details of the cluster location (state, city), sector of activity, and contact details. Additional input was then sought through consultations with industry experts and academics in Australia to identify clusters that would present different levels of organisationality at the same time meeting the general selection criteria. As a result, two clusters in neighbouring regions (the Central

Coast and the Hunter) in the state of New South Wales have been selected. The choice of these clusters was made due to their capability to provide fruitful ground for analysis displaying different levels of organisationality and being located in regions presenting different institutional contexts while at the same time geographically proximate to the first author.

Case description

The setting

While there is recognition of the importance of cluster development for economic growth in Australia (cf. Australian Government 2016), the public support for and interest in cluster policies has not been consistent over the years (Connell et al. 2014; Innovation and Science Australia 2016). This is also the case for broader innovation support policies, their frequent changes and fragmented nature hindering innovativeness of Australian businesses (Howard 2011; Australian Council of Learned Academies (ACOLA) 2014).

Both selected clusters operate in a variety of sectors although the bulk of their activity is in the manufacturing sector. The sector is dominated by small and medium enterprises and plays an important role in the Australian national economy reporting the highest proportion of innovation-active firms (Australian Council of Learned Academies (ACOLA) 2014; Australian Government 2017). Finally, the Australian manufacturing industry has been found to be one of the most volatile in the world, whereby upcycles and downturns affect Australian manufacturers more than those located elsewhere (AMGC 2018).

The clusters

Cluster A is located in the Central Coast region of the state of New South Wales. The region has a population of about 327,000 people (Australian Bureau of Statistics 2017) and its

major areas of economic activity are retail and construction, manufacturing and logistics, health care, tourism, music, social enterprise and food processing (Connell et al. 2014).

Cluster A was initiated in 2011 as a not-for-profit and non-membership-based organisation. Currently, the cluster is specialised in food manufacturing which is reported to be the largest value-adding sub-sector on the Central Coast (CCMC 2014).

Cluster B is located in the Hunter region of New South Wales. The region has a population of about 630,000 people and a range of industries including mining, wine, defence, manufacturing, horse breeding and training (Connell et al. 2014). Manufacturing is one of the largest industries of employment in the region, behind health and social assistance, and retail trade (Bill et al. 2015).

Cluster B was incorporated in 1992 as a registered, member-funded, not-for-profit co-operative. At the time of the study, the cluster included around 150 members—manufacturing firms, engineers and consulting companies in the Hunter, Upper Hunter and Central Coast Regions of New South Wales. Table 1 provides an overview of the two clusters.

Data collection and analysis

To conduct case studies, a data collection protocol was designed. It included an interview guide and data coding procedures. To ensure construct validity of the study and allow for the methodological triangulation (Stake 1995; Yin 2008), we used multiple sources of data: interviews and observations as primary sources and documentation as a secondary source.

The interviews took place in April–June 2018 and were conducted according to an interview guide including semi-structured and unstructured questions to allow for an in-depth exploration of the topic. The themes of the interviews were established to gain insight into the cluster design and cluster-environment interactions and the potential mediating effect of cluster organisationality level. The interview

Table 1 Case overview

	Cluster A	Cluster B
Year of the formal foundation	2011	1996
Organisationality elements	No formal membership, although a hierarchy exists (the Board of Directors and an Advisory Committee). Due to the absence of membership, the rules, monitoring, and sanctions are difficult to enforce	All elements of formal organisations are present (formal fee-based membership; the Board of Directors; a Charter setting rules in writing; monitoring, and sanctioning by the Board)
Sectoral context	Food processing, sustainability, machinery manufacturing	Machinery manufacturing, defence
Regional context	The Central Coast, New South Wales A tourism-oriented region, variety of resources but a lack of regional specialisation	The Hunter region, New South Wales Natural resource-rich environment, strong mining, agriculture

themes included cluster membership (key actors and relations among these, membership fees, admission procedure and rules), governance structures (decision-making mechanisms, rules, monitoring and sanctions), regional and national specifics (available resources and capabilities, barriers to cluster innovativeness), cluster strategy-making process, shared values and norms, innovation capabilities and performance.

The interviewees were selected so as to represent the key groups of cluster stakeholders: industry, academia, cluster management organisations and government. The selected interviewees either had knowledge of both clusters' activities or were directly involved in steering the two clusters, and we treated all interviews as relevant to the two case studies. Table 2 describes the interviewees and their involvement with the clusters.

Additionally, for Cluster B, it was possible to collect observations during several events, such as strategic planning and knowledge-sharing sessions. Several informal conversations were held with cluster members during a peer-learning event. During these, the first author asked some of the interview questions, however, due to the informality of the setting, these conversations were not recorded but noted in the research diary. The formal interviews were recorded and transcribed. The average duration of an interview was around 60 min. Some of the participants were interviewed more than once. The total duration of the audio material collected was close to 12 h.

Regarding the secondary data, for Cluster A, several important internal documents were shared by the cluster management, including strategy-related materials. Other documents and information were retrieved from open sources, such as the cluster website, industry reports, mass media and academic articles. For Cluster B, several presentations were shared by the cluster management,

other publicly available documents and information were retrieved from the cluster website and other open Internet sources. The total volume of the written material amounted to about 480 pages (see Table 3 for an overview).

For data analysis, we applied the 'provisional coding' approach (Miles et al. 2014). We established provisional codes based on the preliminary literature review and identified additional codes during the coding process. Two matrices have been developed for data analysis. A categorisation matrix (Elo and Kyngäs 2008) established the relationship between the elements of the theoretical framework, interview themes and their codes. An observations coding matrix (Miles et al. 2014) was used to systematise and analyse the memos produced during the research process. The data were categorised, coded, and analysed with the help of NVivo software.

Table 3 Overview of data sources

Type of source	Type of document	Quantity	Total pages
Primary	Interview transcripts	8	99
	Observation notes (research diary)	1	10
Secondary	Web resources (cluster websites)	2	n/a
	Strategic documents	6	111
	Research articles	4	69
	Industry reports	7	192
	Media sources	1	n/a (video)
Total		29	481

Table 2 Interviewees' description

Interviewee nr.	Position	Relevance for research
1	Academic	Involved in strategy development for both clusters as an external consultant
2	Business development manager (Cluster B)	Acts as a cluster facilitator, has deep knowledge of the cluster companies. Present on the Board of Directors of Cluster A
3	CEO (Cluster A)	The key driver of cluster development, one of the key actors in cluster strategy- and decision-making
4	Government official	As a government-appointed innovations facilitator for the Central Coast Region, the interviewee works with the clusters as well as the regional companies not making part of the cluster and has a deep understanding of their needs and capabilities
5	CEO (Cluster B)	Drives strategy- and decision-making of the cluster organisation
6	Start-up founder, entrepreneur (Cluster B member)	Due to his previous experience in a large manufacturing company where he was the contact point for the cluster, the interviewee provided relevant information from the perspective of both large and small cluster members

Findings

In presenting our findings, we will first describe and contrast the institutional environments of the two clusters and discuss the enablers and constraints these present for cluster development. We will then discuss the instances of boundary, identity and practice work in which clusters engaged to alter their institutional environments. We will also highlight one of the insights of this research into the bidirectional nature of this institutional work. We will then analyse the links between the organisationality design choices of the clusters and the ways these constructed and practised their actorhood. We will note a somewhat unexpected finding of this research, notably, the association between the higher levels of organisationality and lower levels of member engagement, leading to a higher ‘concentration’ of cluster actorhood.

Clusters’ institutional environments

Although located in close geographic proximity to each other, the host regions of the studied clusters have very different histories and institutional environments.

Cluster A is located in the Central Coast region between two major cities—Sydney and Newcastle. For most of its history, the region has been considered primarily as a tourist destination for the residents of the nearby cities. The region is dominated by small and medium businesses, most of which are in the population-related service sectors (Wilkinson 2012; Australian Bureau of Statistics 2017). In particular, there is a predominance of ‘lifestyle’ businesses, where owners “just want to create themselves a job so that they can go surfing when they want to.” (Interviewee 4).

Most companies have a low level of capabilities: “90% are just not interested in doing anything, 5% are really engaging and you’ve got 5% you can work on to get them into that level.” (Interviewee 3). While several large national firms and MNCs are located in the region, these are “not sticky in terms of thinking about... that they belong to this region because they have a national view or a global view of who they are.” (Interviewee 4).

Although the Central Coast region has a diversified regional resource base, it has no clear specialisation or a field of excellence. Moreover, the region’s population is transient, lacking place-attachment: “It’s not a place, it’s a congregation of villages and there is no ownership.” (Interviewee 1). The closeness of Sydney and Newcastle results in the outflow of talent from the Central Coast region, as many regional residents employed in the knowledge-based sectors commute to these cities (Wilkinson 2012).

Thus, throughout its history, Cluster A has been facing the challenge of a lack of regional identity and a clear specialisation. While the interviewees have recognised that the presence of two major cities and a diversified resource

base of the region can present advantages, the region has been slow in leveraging these due to the lack of firm capabilities and a ‘silo’ mentality, whereby collaboration between the firms has been virtually non-existent and finding a ‘common denominator’ has been a major challenge.

The Hunter region, where Cluster B is located presents a different picture. Rich in natural resources, the region has been known for its specialisation in mining and steelmaking. The region makes up over 30 per cent of state exports (Connell et al. 2014) and hosts some of the most innovative companies in the country reporting higher rates of innovation activity than the national average (HRF 2019).

However, although the geographic agglomeration of companies supporting the mining industry, steelworks and shipbuilding existed in the region long before the establishment of the formal cluster organisation, there was virtually no collaboration among smaller firms. Indeed, these firms—specialising in manufacturing and services for the bigger mining and shipbuilding companies as well as the Newcastle port—have been fiercely competing. Being dependent on just very few customers all located in the same region, the firms have also experienced a series of economic shocks and downturns following the crises in the mining and steel industries as well as the relocation from the region of several largest companies.

In contrast to the neighbouring region of the Central Coast, the Hunter region is characterised by strong place-embeddedness: “The thing about this region is that everybody knows each other or knows someone who knows someone...” (Interviewee 2). The presence of such close, trust-based, relationships in the regional community allowed it to withstand some challenges through mutual help: “We’ve gone to some companies before and said, ‘Look, they are in trouble, how can we help collectively?’ And people have helped out, they’ve given them a bit of work or something to make sure that things get going.” (Interviewee 2). However, over time, this created a ‘lock-in’ situation in the region and hampered the ability of the cluster to pro-actively address the mining crisis which hit the region a decade ago and resulted in considerable losses for some companies and pushed others out of business altogether.

Thus, the institutional environment presents a different set of challenges, constraints, and enablers for Cluster B. Indeed, the rich resource base of the region and its historical specialisation in mining, steelmaking and shipbuilding have helped create a strong regional mass of specialised, highly skilled and competing companies. However, this regional specialisation—‘keeping the eggs in one basket’—has also led the region to a lock-in situation and resulted in several economic downturns in the last decades. The strong place-embeddedness and trust-based personal relationships in the regional community helped some of the companies to

withstand these shocks, but were not enough to shield the region from these completely.

Instances of institutional work

Our research suggests that both clusters engaged in institutional work to challenge the existing barriers and to leverage the enablers for cluster development presented by the institutional environment. The following sections describe the ways clusters engaged in institutional work to establish new organisational boundaries and identities, as well as new practices of collaboration where none existed before and tried to build the perception of themselves as legitimate collective actors.

Boundary work

Due to the lack of the regional specialisation of the Central Coast region and its image as a ‘tourist destination’ rather than an ‘innovation hotspot’, throughout its history Cluster A has been looking for a niche for specialisation to differentiate itself—and its region—and define its boundaries.

The history of the cluster begins in 2010 when the current cluster CEO—at the time employed by a regional food producing company—created a regional manufacturing group on the Central Coast which can be considered as a first step in the creation of the cluster. In 2011, the cluster was initiated as a part of ‘Innovative Regions Centre’ initiative launched by the Australian Government. The initiative implied the creation of 10 innovative regions in the country—the Central Coast being one of them—which received financial support for cluster development and benefitted from a dedicated innovation facilitator (Connell et al. 2014).

At this point, the cluster operated under the commercial arm of the local University which provided ample opportunities for collaboration with academics and allowed to launch several sub-clusters specialised in a range of fields from food processing, to sustainability, to music. The cluster thus leveraged the enabling institutional environment of the region and the variety of resources it offered. The collaboration lasted for several years, but around 2014 the restructuring of the University’s commercial unit and the discontinuation of the public funding meant that the cluster no longer had the support from the academia and the government. In 2015, the cluster management faced a difficult choice—to shut down or to continue its work under a different structure and banner. By the end of 2016, the cluster redefined itself to broaden its boundaries and involve other industry players thus creating more development opportunities, again building upon the rich and diversified regional resource base.

At this stage, Cluster A had to make another difficult decision: should it be incorporated as a cooperative or a not-for-profit company? A cooperative would mean establishing a

formal membership where the members would pay a membership fee and share the outcomes, while the not-for-profit company structure would not allow it, thus reducing the possibilities for financing the cluster activities. However, creating a membership-based organisation would entail a competition for members with the other industry bodies present in the region—such as professional associations—and a potential loss of their support. Finally, the choice was made in favour of forming a not-for-profit company and positioning it as a collaboration between three major industry bodies present in the region: “We didn’t want to have another [membership-based] organisation, so we don’t have members. Our members initially came from their membership.” (Interviewee 5).

On the one hand, this design choice allowed the cluster to leverage the institutional environment of the region and to reach an important critical mass by building upon the membership base of the existing industry bodies. On the other hand, this choice brought with it some challenges for cluster governance. Indeed, the absence of formal membership may lead to lower engagement of the participants in its activities and limited sources of funding: “We have a pretty successful penetration to our database compared to industry standards, but there’s no compulsion for people to come to our database because they are not paying a membership fee.” (Interviewee 3). The absence of formal membership also makes it difficult for the cluster secretariat to identify and differentiate between the ‘customers’ and stakeholders and, in fact, to delimit its boundaries and define its value proposition.

Thus, this design choice constrained the ways in which the cluster could engage in boundary work. Indeed, in this case, to set its boundaries the cluster could not rely on the formal membership admission rules. The only mechanism available to the cluster in its boundary-setting was the development of a system-level goal and an overarching agenda to bring the cluster actors together. Indeed, at the time of the study, one of the key focus areas for the cluster was finding a distinctive niche and a specialisation which would mean narrowing the boundaries of its activities.

This boundary work was directed both at the cluster’s internal and external audiences. Indeed, this boundary-setting helped create a stimulus for the key regional actors to start working together. A ‘common denominator’ has been found further to a series of round tables with the key regional stakeholders facilitated by the cluster secretariat: “We’re at a point now where we’ve got government, university and industry starting to work.” (Interviewee 2). The cluster actors were able to collectively identify a niche in food innovation and nutrition to establish the cluster as the centre of excellence in these fields. Thus, by setting the boundaries with respect to the types of fields and industry actors that make part of the cluster, it worked to create a

coherent image in the eyes of its external audiences. Indeed, the cluster has been successful in obtaining funding for this initiative and is now supported through a Cluster Programme launched by ‘Food Innovation Australia Limited’, a government-funded not-for-profit organisation encouraging connectivity and collaboration in the food manufacturing and agribusiness sectors.

Cluster B demonstrates a very different picture. Established in 1991–1992 as a not-for-profit membership-funded co-operative, over the years the cluster has been developing its membership base having started with 14 companies and involving around 150 by the time of the study. The cluster has different categories of membership with varying membership fees as well as the rights and responsibilities of formal members.

One of the aims of the cluster has been in developing members’ capabilities, growing market opportunities and reducing the cost of supplying services. The decision to start the cluster was motivated by the discontinuation of shipbuilding and the recession in the steel industry in the 1990s. There was also a push from the large companies in the region for more consistent quality standards of their suppliers—small and medium regional firms. This motivated these companies to seek out new opportunities and to benefit from large contracts collectively: “They realised that if they helped each other and talked to each other they’d actually identify and discover other opportunities, so they thrived then.” (Interviewee 2).

Over the years, however, the cluster turned into a closed ‘old boys club’ with limited access of new members. As another crisis in the coal mining industry hit a decade ago, a regional economic downturn followed. The cluster collective did not have enough capabilities and lacked external outlook to see it coming in time to take countermeasures. Many cluster companies went out of business, others struggled to keep afloat.

Boundary work has been one of the important elements in the efforts made by the cluster secretariat and the Board of Directors to help the cluster to collectively overcome the regional economic downturn. The presence of the formal membership meant that Cluster B had a wider range of mechanisms for boundary work and more control over its boundaries. Indeed, the redefinition of the membership base has been one of the key instruments for Cluster B allowing to re-shape its boundaries and its collective capabilities. Specifically, one of the steps in this process has been the deliberate reduction of the number of cluster members—from about 170 to 150—as the decision was made to go after the ‘quality’ of members rather than their quantity: “It’s not a ‘free-for-all’, it’s better quality. Some of that has been because of the economic situation but some of that has also been because of the type of member you want and the type you don’t want.” (Interviewee 1).

The cluster’s Board of Directors—composed of the elected representatives of member companies—has the powers to sanction and exclude members who ‘do not play by the rules’ and thus to regulate the boundaries of the meta-organisation as well as enforce its decisions. While some of the criteria for member exclusion have to do with their ability to pay membership fees and perform economic activity, others can be applied at the discretion of the Board and concern more ‘intangible’ aspects such as the adherence of the members to common values and principles, and the influence of the members’ actions on the cluster’s collective reputation and image.

Finally, some of the boundary work is done by the cluster members. Indeed, strong network connections and the place-embeddedness of the regional actors allow to spread the word about the opportunistic and otherwise unwanted behaviour and thus prevent or penalise it: “If something is not quite right, there’ll be enough people...the ‘kangaroo court’ will come into play and that will correct it...” (Interviewee 2).

Thus, in case of Cluster B, the boundary work aimed at re-defining ‘what the cluster is’ by re-defining who makes part of it. Through this boundary work, the cluster aimed at breaking out of the ‘lock-in’ situation which became apparent after the regional economic downturns. In this case, the bidirectional nature—internal and external orientation—of boundary work is also visible. Indeed, by regulating who makes part of the cluster, the latter shapes its collective capabilities. However, at the same time, it works to construct its collective reputation and image, interlinked with the region’s image. Indeed, in re-defining its boundaries, Cluster B predominantly focused on the companies that are regionally ‘sticky’: “We’re trying to get the businesses that are in the system to another level, more around that ‘hidden champion’, German *mittelstand* approach, family companies, because they are stickier in the region, they’ll hang tough...” (Interviewee 1). Furthermore, one of the key membership requirements stipulated in the cluster’s Constitution is that the members have a “substantial interest in the economic development of the Hunter region”. Thus, defining the cluster’s boundaries was not only a matter of deciding ‘who is in’ to shape cluster collective capabilities but also of understanding the broader impact of these decisions on the regional image and competitiveness.

Practice work

From the outset, the aim for the creation of Cluster A was to re-shape the existing practices in the region by improving actors’ capabilities and transforming the entrenched culture of working in ‘silos’: “It’s been a cultural thing here for quite a while... a lot of big heads”. (Interviewee 2). To change the existing practices and create new ones, Cluster

A's secretariat has been working to establish an alignment between the key regional stakeholders which has been a long journey: "That's taken quite a few years for all the planets to line up." (Interviewee 4).

The organisationality design choices made by the cluster secretariat—and, specifically, the decision to not implement formal membership—are associated in this case with the mechanisms the cluster actors then made use of to engage in practice work. Indeed, this design choice limited the possibility to enforce any strategic directions by the cluster secretariat upon other cluster actors and required a consensual and collaborative approach. The practice work has mostly been conducted by the cluster secretariat by organising capability-building activities, workshops, and round tables. The secretariat played the facilitation role in identifying the direction of cluster development in collaboration with the regional stakeholders: "We have to build the relationships and I've been very fortunate, I've built a lot of relationships, so that's why we can bring people in, that's why the University wants to connect with us." (Interviewee 3). Some of the practice work has also been conducted by active regional companies and entrepreneurs who come up with initiatives, such as regional newsletters promoting new practices of collaboration and knowledge-sharing, previously absent in the region.

Another facet of the practice work was the long-term engagement of several academic consultants who established collaborative relationships and research projects with the key regional stakeholders: "... a year it took us to understand them and their behaviours and to now understand transitioning for them". (Interviewee 1).

Linking this back to boundary work, we can note that not only did the cluster work to include or exclude certain members to differentiate itself, but it also worked to change the existing practices—notably, the 'silo mentality'—and to help the actors within its boundaries adopt new practices and improve their capabilities in order to achieve their collectively set goals. Indeed, these efforts finally allowed to create an initial understanding of the desired direction for the cluster development around the niche in food innovation and nutrition and to break the barriers between the regional actors. While this practice work has mostly been internally oriented, by transforming the practices internally, the cluster also contributed to a transformation of the broader regional institutions. Indeed, by promoting certain types of practices—such as inter-firm collaboration and innovation—it worked to create a perception of the region as a centre of excellence, which would not have been possible without the transformation of the existing institutional environment.

Cluster B, again, presents a different picture. Throughout its history, one of the important facets of practice work for the cluster has been changing the 'mentality' of the regional companies used to extreme competition and secrecy.

Creating a network consisting of competing companies was not a common practice back in the early 1990s: after having been first exposed to the idea by the Chamber of Manufacturers in 1991, the regional companies were suspicious and pessimistic about the idea of collaborating and sharing their practices and innovations. Even those who supported the idea had to make sense of it and find the ways to implement it—a process that only after 12 months resulted in the creation of the cooperative by 14 companies.

"That's one of the biggest barriers I see that people sort of close up and they don't allow people to work out who you are and how you function and generally that's the sign of how the business functions as well and that's the sign of whether or not people would want to engage with you. So, if you're open and you're happy to talk about your business [...], I think you're a lot further ahead of the game." (Interviewee 2).

To promote collaboration, the cluster secretariat emphasises the importance of trust and openness: "We like to make sure everybody has a trusting nature, that everybody's integrity be extremely high, we also want people to be able to open up, and [...] we actually tell our new members that if you are not prepared to open up and talk about your business or talk about your activities, you are not going to get the value out of the collective." (Interviewee 2).

This practice work has allowed establishing a close-knit community: "It's not just totally business or totally work, it's a good social atmosphere as well. Look, that part of it has always been there at [the cluster] and I think it's even more and more important, especially when the time comes for doing it tough..." (Interviewee 2). While the collaboration within the cluster helped the companies to survive the crisis and thrive, over time the role of the cluster shifted from the business to social activities: "It wasn't about coming to our fence to get opportunities, it was just about getting that social side. Life was easy." (Interviewee 2). However, the crisis which hit the mining industry a decade ago has led the cluster secretariat to the realisation that strategic action was necessary: "A lot of people put all eggs in that one basket. And that was what we could always see—that we need to look at different fields." (Interviewee 2).

In Cluster B, the presence of formal membership and a hierarchy allowed the cluster secretariat to enforce some of its strategic decisions upon the cluster members. However, some of the practice work was also done by the secretariat 'by stealth' due to the absence of its formal authority over the cluster members' strategic decisions. Indeed, the cluster secretariat together with an academic consultant took a leading role in re-shaping the existing practices within the cluster. Having focused on the development of collective capabilities, they aimed at diversifying the existing members' capability pool: "We started re-defining the business model for [the cluster] to spread it to more than just mining

and try to help the members to get into other areas like medical equipment, food, and a whole range of things. We probably did it too late, but it was still better than what would have happened if we had just been a mining cooperative.” (Interviewee 1).

Practice work is mainly conducted by the cluster secretariat through face-to-face contact and through the events they organise for their members, such as peer-learning sessions and the industry forums: “The other thing we do in these forums is to make sure that people are aware of what they actually do in their business, what I mean by that... because a lot of people will say they work in the mines for example, but that’s not really what they do, that’s just a sector they work in, so we help people to try and understand what they do within their business for them then to transfer over into other areas they can work in, so that they don’t have a narrow focus and that allows their business to grow a bit more.” (Interviewee 2).

Again, we can note here the two-dimensional nature of practice work. While, on the one hand, the cluster secretariat focused on building new firm capabilities internally, it also had a broader agenda and worked to establish the reputation of the region as a centre of excellence in manufacturing and engineering, thus helping bring new business opportunities to the region. “A really good example that brings this all together is the work we’ve done in the region, the way we’ve looked after people here... A few years ago, there was no coal coming from here going to Vietnam, there is now 22 million tons per year, cleaner, better coal [...] and a lot of it was due to us helping to look after all these government officials from Vietnam and then doing follow-up trips to Vietnam...” (Interviewee 2).

Indeed, another important element in the diversification strategy of the cluster secretariat has been the internationalisation programme. To build the capabilities and establish the reputation of the region as a centre of excellence in manufacturing in Australia and abroad, the cluster received funding from the Australian Trade and Investment Commission (or Austrade): “we’ve had a bit of money from Austrade to do international, so last year we did presentations on the free trade agreement stuff on China, Japan and Korea and, they’ve gone overseas, now we do some sessions to educate members ...” (Interviewee 1). Thus, again, not only did the cluster work to re-shape and improve the members’ capabilities internally, but it also worked to achieve external recognition for its efforts and managed to obtain the support of external funders for its practice work.

Identity work

For Cluster A, building the regional identity through the cluster collective identity has been one of the cluster’s *raison d’être*. The consultations with regional stakeholders

allowed to define a niche for the specialisation at the intersection between the health, nutrition, food processing, tourism and manufacturing sectors and the cluster now sees the opportunity in developing the region as the ‘Centre of Excellence for Food Innovation’. This would allow it to differentiate itself: “It’s not Sydney, it’s not Newcastle, food innovation is actually the Central Coast” (Interviewee 3). It would also allow leveraging the enabling institutional environment and bringing together the different sectors present in the region and the capabilities of the regional actors.

Again, our findings suggest bidirectionality of the identity work. On the one hand, for Cluster A, the achievement of some ‘early wins’ and success stories has been one of the crucial elements for it becoming perceived as a legitimate social actor by its internal stakeholders: “...we have to build the trust, deliver against that so that they are comfortable, and they can see where we are heading, and they are on the journey with us.” (Interviewee 3).

On the other hand, being seen as a legitimate and powerful actor by the state and federal authorities is also crucial as it allows the cluster to have an influence on policymaking and to secure the funding necessary for its development: “It’s really about trying to gain support for what we’re doing and being included in what they are doing... and that’s how eventually potentially we could have some influence on policy.” (Interviewee 3). The cluster ‘constructs’ its image and actorhood by positioning itself as a collaboration between the major industry bodies present in the region: “That gives us a lot of strength because when you go and talk to somebody, particularly in the government, and you say you’re a collaboration between three major industry groups in the region, it’s a very powerful position to be in.” (Interviewee 3). The cluster collective identity is built and reinforced by the Board of Directors and the Advisory Committee who are seen as ‘agents of legitimacy’ for the cluster helping to craft and promote its vision.

This identity work is all the more important for Cluster A due to the absence of any mechanisms for the enforcement of the secretariat’s decisions on the cluster members further to the absence of formal membership. Thus, shaping its collective identity allows to attract the ‘right’ categories of members and to communicate a clear and attractive message to the external audiences.

For Cluster B, again, the situation has been different. Indeed, since its foundation, the cluster leveraged the already present strong resource base and specialisation of the region. However, as discussed previously, the strong regional specialisation resulted in a ‘lock-in’ where the cluster members became vulnerable to the economic downturns in the mining industry. To ‘break out’ of this developmental trajectory, the cluster secretariat deliberately re-crafted the cluster’s values and identity, and, by doing so, re-shaped its boundaries and practices: “We’ve

worked on that for the last couple of years and [...] we are really insistent about the values and living those values.” (Interviewee 1). The emphasis has been on openness, transparency, inclusiveness, and innovation. These values are reflected through the composition of the Board and the membership base: “Some of the older members weren’t really happy [...] when we got some women on the Board [...] but that’s end-of-century stuff [...]. That old mentality—long gone now—and so are those members, they liked the fact that it was just a boys’ club and they liked the fact that they could sit there and have a drink with the blokes.” (Interviewee 2). Similar to Cluster A, Cluster B sees its role as a driver of regional development and one of its aims has been in promoting the region as a whole as a centre of excellence for manufacturing and engineering thus attracting more business opportunities for the cluster members.

Furthermore, the cluster secretariat is present on various regional and national committees which ensured the cluster’s recognition as an important regional actor by the external stakeholders: “[the cluster] does have a place in the industry, like people trying to break into Australia, need someone they come and talk to about Hunter area and trying to get into it.” (Interviewee 6).

The cluster works closely with the government, at the state and federal levels, which allows providing new opportunities to cluster members: “...they would be a conduit for the State government and [...] if the Federal government has got an initiative, they’ll use [the cluster] to get that out to manufacturers...” (Interviewee 1). The achievement of the critical mass allowed the cluster to be recognised by the external stakeholders as an important collective actor: “[the government] will generally talk to us because they know we are a big block; we’ve got a big voice.” (Interviewee 2). This has also been the case outside Australia: “So, when you go to China, they treat us very, very well and take it very seriously because they are not dealing with [the cluster secretariat], a small business, they are dealing with [the cluster’s] power of many, all those businesses including the mines, including the supply chains, and including the port. So, suddenly [the cluster] is like a huge conglomerate in China to the Chinese rather than a few businesses.” (Interviewee 1).

Maintaining a coherent identity throughout the cluster’s existence has been important to ensure both federal and state-level support and maintain cluster legitimacy. One of the crucial elements in this identity work is maintaining the cluster’s image as being a-political: “So, we are a-political, we play nicely with everybody and every party, and they all love us... we think.” (Interviewee 2). The members of Cluster B are seen as the carriers and embodiments of the collective identity and values of the cluster. The expression of political opinions contrary to the collective cluster values under the cluster banner is not tolerated and has in some

cases led to the members’ exclusion: “... If you’re a representative of [the cluster] you’ve got to be straight down the middle”. (Interviewee 2).

Thus, our findings suggest that the ability to leverage formal rules and sanctions allows Cluster B more control over its identity and the way it is perceived both by its internal and external legitimating audiences.

Linking clusters’ organisationality and actorhood

The discussion above suggests that both clusters engaged in institutional work and social action, however, we also saw that their organisationality design choices were associated with different ways in which clusters performed their actorhood.

The key difference between the two clusters is in the presence of all the elements of formal organisations in Cluster B and the absence of formal membership in Cluster A which limits the possibility for its governing actors to enforce rules, monitoring and sanctions. We found that this may have implications for the way the clusters construct and practise their actorhood. Specifically, we note a higher ‘concentration’ of actorhood in Cluster B and a more collaborative approach in Cluster A, which may be related to the absence of formal membership requiring the cluster actors to rely on consensual and collaborative decision-making.

Indeed, while the availability of all the elements of formal organisations in Cluster B allowed the cluster to act as a single entity, wielding important resources and power, it also led to a concentration of power and actorhood in the hands of a limited group of individuals and a gradual disengagement of cluster members. Indeed, due to the presence of formal membership and relatively high fees of certain categories of membership, the cluster secretariat is experiencing a pressure to bring ‘value for money’: “So, value is important, that’s the part we’re always conscious of—are we giving the members enough value? Because if we don’t, they’ll bail out, they’ll leave.” (Interviewee 1). This leads to the secretariat’s taking on more and more responsibilities and results in the disengagement of the members: “the companies at [the cluster] don’t appreciate the full value they are getting, they are not participating as much as they should.” (Interviewee 1).

Moreover, the strategic direction of the cluster is increasingly set by a limited number of actors where the secretariat—or the cluster facilitators—along with an academic consultant are setting the direction which is then presented to the Board. The participation of the cluster members and the Board in the strategic decision-making of the cluster has been reducing over the years: “This used to be a lot bigger, we used to have a lot of members come to those strategy days”. (Interviewee 1). Moreover, not all the Board members were present at the strategic session attended by the first

author. The issue of decreasing engagement is recognised by both the academic consultant and the cluster CEO: “We want more people, we want more buy-in, it shouldn’t be just the Board. And the funny thing was—a lot of the Board members weren’t there. [...] There are key days in their calendar that they need to turn up, and that’s one of them.” (Interviewee 1).

This has shaped the way identity, boundary and practice work was carried out, forcing the key decision-makers to take the lead in shaping the strategies of the cluster and to ensure members’ adherence by guiding them towards the identified directions: “That’s by stealth as much as anything that we actually got a lot of companies to diversify in what they were doing. Because we don’t go out and tell you how to run your business, all right, that’s not what we do, what we do is trying to guide you...” (Interviewee 2).

On the other hand, for Cluster A the construction of actorhood has been a collaborative process involving negotiations and collective sense-making by a number of actors. The cluster does have a hierarchy and is governed by the Board of Directors and the Advisory Committee. However, despite the presence of a governing body, the decision-making in the cluster is not centralised and depends on the consensus and the voluntary engagement of the key regional players—both firms and research and education organisations—whereby the cluster CEO, the Board of Directors and the Advisory Committee are more of facilitators of the process rather than the leaders in it: “We can only guide the industry to where they can go and what their capability is...” (Interviewee 3). Indeed, the lack of membership has meant that the decisions cannot be enforced and the strategic direction for the cluster and regional development needs to be embraced by the regional actors: “We have some ideas, but we want the industry to come, not us, industry together to come to that conclusion.” (Interviewee 5).

Table 4 summarises our findings concerning the relationship between organisationality design choices and their influence on cluster actorhood.

Discussion

In this paper, we set out to examine whether and how ‘organised’ clusters engage in social action as organised collective entities and to analyse how their organisationality design choices influence their actorhood. Although this research was exploratory in nature and thus offers limited possibilities for generalisation, we believe that it still brought several important insights which are formulated as theoretical propositions in this section.

In brief, the findings of this research could be exemplified by the citation of one of the interviewees: “you can transition a region very deliberately, you can transition a cluster and

Table 4 Overview of clusters’ organisationality design choices and their actorhood

Types of agency		Approaches to constructing and performing actorhood
		Cluster A (lack of formal membership, rules, monitoring and sanctions)
Identity work	Focus on creating the regional image through the cluster image The Board of Directors and the Advisory Committee as ‘agents of legitimacy’ promoting the cluster’s vision and values	Cluster B (all elements of the formal organisation are present) Focus on re-shaping the image of the cluster and the region to attract new business opportunities and re-orient the cluster from the undesirable developmental trajectory The members are considered as carriers and embodiments of the cluster identity and their discourse is constitutive of the cluster image Boundaries are well-defined through several categories of formal membership The Board of Directors shapes membership through formal decisions of exclusion and inclusion based on formal criteria specified in the Constitution of the cluster Shaping the values of the cluster and enforcing these contribute to boundary work by leading dissenting members to quit the cluster and attracting the desired types of actors
Boundary work	Boundaries are fluid and only depend on voluntary engagement and full ‘buy-in’ of the actors whose goals and interests shape the cluster and define what is included and what remains outside of its areas of activity	
Practice work	Focus on improving the regional actors’ capabilities based on the identification of the existing strengths and the potential for developing a niche Most of the institutional work is done through collaboration with the key stakeholders	Focus on capability-building, diversification, and internationalisation Most of the practice work is conducted by the cluster secretariat and the academic consultants ‘by stealth’ to guide the cluster out of the ‘lock-in’

make a big difference”. (Interviewee 1). Indeed, our research suggests that clusters may be perceived as deliberate actors that can engage in institutional work and thus be seen as social actors.

Located in neighbouring regions, only about a one-hour drive away from each other, Cluster A and Cluster B face very different challenges and have adopted deliberate strategies to counter these by co-constructing the clusters’ and the regional identities, establishing themselves as legitimate social actors regionally, nationally and internationally and creating new practices and boundaries for collaboration where none existed before. We thus suggest that organised clusters can be seen as ‘becoming’ organisations and simultaneously constructing themselves as actors whereby their members are seen as the embodiment and the carriers of cluster actorhood (Bromley and Sharkey 2015). These findings lead us to formulate the following proposition:

P₁: Organised clusters can deliberately engage in collective social action.

Furthermore, our cases suggest that clusters can deliberately construct themselves as actors supporting other recent research (e.g. Migdal-Picker and Zilber 2019). However, expanding this perspective, our study implies the bidirectionality of institutional work in a meta-organisational setting. Specifically, our findings suggest that the instances of identity, boundary, and practice work in both clusters aimed at constructing cluster actorhood internally—towards their internal stakeholders (cluster members)—and externally—towards the general public and the government bodies. Cluster A has been crafting its image and the image of its region in parallel and thus creating the institutions that have been missing in the region. In doing so, it has been negotiating its boundaries to differentiate itself from other regional industry bodies and, at the same time, differentiate the Central Coast region from the neighbouring Sydney and Newcastle currently drawing most of the knowledge-based workers. At the same time, Cluster A built its legitimacy as a social actor by securing the support of powerful industry bodies present in the region and achieving early successes to mobilise other actors and gain their trust. Although to shape its identity and boundaries, the cluster drew upon the existing capabilities, resources, and practices, it also aimed at altering the regional institutional practices, such as the lack of regional embeddedness and the low level of capabilities and willingness to collaborate among the regional companies.

Cluster B has been shaping its values internally as a way to disrupt the institutions within by breaking the ‘old boys club’ mentality. The boundary work which has been conducted by the cluster secretariat aimed at re-shaping cluster composition by altering the boundary between the cluster and its external environment. This was done through two mechanisms: deliberately excluding some of the members and re-shaping collective values allowing to attract the

desired categories of members. Building capabilities and re-directing the members towards new fields of activity allowed to change the existing practices within the cluster and get out of the ‘lock-in’ while at the same time helping promote the region as a centre of excellence for manufacturing and engineering. By leveraging the critical mass of actors and promoting its role as the driver of the regional transformation, the cluster has been ‘constructing’ itself as an important collective actor and obtained recognition from the external stakeholders both nationally and internationally. We thus formulate the following theoretical propositions:

P₂: Clusters can deliberately ‘construct’ themselves as social actors and perform their actorhood by engaging into identity, boundary, and practice work directed at internal and external legitimating audiences.

P_{2a}: Internally oriented identity, boundary and practice work allows clusters to construct their legitimacy as social actors in the perception of their members and build the internal cohesion necessary for collective action.

P_{2b}: Externally oriented identity, boundary and practice work allows clusters to construct their legitimacy as social actors in the perception of their external stakeholders and thus to exert influence on their institutional environments and secure access to resources necessary for collective action.

Finally, our cases suggest an association between the organisationality design choices of the clusters and the ‘construction’ and the ‘performance’ of their actorhood. For Cluster A, one of the key design choices was whether or not to implement a membership-based structure. Due to the pre-existing institutional context of the region dominated by a large number of membership-based industry bodies, the decision was to avoid competition for members and to not implement formal membership. Further to this decision, we note the lack of rule enforcement mechanisms to monitor and sanction actors’ behaviour and thus implement the decisions—a finding that goes in line with Ahrne et al. (2016) and Ahrne and Brunsson (2011). Importantly, our findings suggest that this has led to a more collaborative approach to setting boundaries and negotiating the ‘acceptable’ practices in Cluster A as compared to Cluster B where all elements of formal organisations are present. Thus, we note that the actorhood of Cluster A was performed and shaped through a collective process of negotiation and sense-making aiming at creating place-embeddedness in the regional actors and uniting them around a common goal.

In Cluster B, where all the elements of formal organisations have been implemented, we observed a concentration of decision-making power in the hands of the limited number of companies, due to the presence of formal membership and high pressure to retain members for the cluster organisation to survive. The cluster secretariat along with an academic consultant have been the key actors driving the cluster

strategy-making with an ever-diminishing involvement of cluster members. They carried out boundary, practice, and identity work ‘by stealth’ adopting strategies and techniques to try and ‘show the way’ to cluster members leading and ‘nudging’ them to re-orient their activities from the mining sector to a broader array of fields.

This finding may seem somewhat unexpected and counterintuitive as one could expect that a more structured cluster would be more engaging for its members. However, our analysis of this case suggests that a higher level of organisationality may not be the direct cause of the members’ disengagement. Indeed, Cluster B has had a high level of formal organisation since its very creation in 1991–1992 when it was incorporated as a member-funded co-operative. However, while the cluster started with just 14 companies, it counted about 150 members at the time of the study. This growth of the number of members was accompanied by the ever-increasing role of the cluster secretariat that has been experiencing pressure to prove the cluster’s relevance to its internal members. At the same time, due to the frequent policy changes in Australia and a lack of consistent cluster support by the government, the cluster has been under constant pressure to prove its value to the external audiences to obtain support for its activities. These internal and external pressures may have been the cause of the greater ‘concentration’ of actorhood. However, such a concentration most probably would not have been possible without the presence of all the elements of formal organisations. Thus, while a higher level of organisationality is not necessarily the reason for the ‘concentration’ of actorhood in Cluster B, it might be its enabler, as it allows the enforcement of the decisions made by the clusters governing bodies. These findings lead us to formulate the following propositions:

P₃: The organisationality design choices of clusters influence the way they construct and perform their actorhood.

P_{3a}: The lack of formal membership, rules, monitoring and sanctions may require a collaborative approach to boundary, identity, and practice work.

P_{3b}: The implementation of the full range of the elements of formal organisations can enable the concentration of actorhood within a limited group of individuals assimilating cluster actorhood to the institutional work conducted by this group.

Conclusion

In this paper, we examined ‘organised’ clusters from the meta-organisational perspective (Ahrne and Brunsson 2008) to analyse whether and how their organisationality design choices mitigate their ability to engage in social action. Indeed, while clusters are often expected to contribute to regional growth and transformation, the ways they

can deliberately do so are not yet clearly identified. While the adopted approach—theory-elaborating multiple-case study—does not allow to develop highly generalisable propositions, this research still offers several important insights into the nature of organised clustering.

Indeed, our cases suggest that organised clusters can be seen as coherent organisations, and deliberate actors, rather than aggregations of organisations, contrary to the dominant perspective in the ‘traditional’ cluster studies. We also propose that clusters’ actorhood—or their ability to act purposefully and to be perceived as actors by legitimating audiences—is not a necessary element or a precondition of their organisationality, but a property that can be deliberately ‘constructed’ by the cluster actors. Having grounded our analysis of actorhood in the institutional work perspective (Lawrence and Suddaby 2006; Lawrence et al. 2009), we distinguished between three types of agency clusters can engage in as social actors: identity work, boundary work and practice work. Our research suggests that while ‘constructing’ and performing their actorhood across these dimensions, clusters work to differentiate themselves from their environment, legitimise their existence towards their members and the external stakeholders, as well as re-shape the existing practices and rules or establish new ones. Our findings also suggest an association between clusters’ design choices with respect to their organisationality levels and the ‘construction’ and ‘performance’ of their actorhood. Notably, we propose that higher levels of organisationality may enable a higher concentration of cluster actorhood and lead to the disengagement of cluster members.

By positioning our research at the intersection of organisation and cluster studies we contributed to two streams of literature: we further the meta-organisational perspective in cluster studies, and, at the same time, we contribute to the organisation studies—and the neo-institutionalist perspective in particular—by focusing on the concept of actorhood through the lens of institutional work perspective and exploring its relationship with organisationality design choices clusters make. Thus, this research makes a step towards a better understanding of clusters as organisational phenomena, at the same time advancing our knowledge of organisationality and its relationship with organisations’ capability to engage in social action. We see three major theoretical contributions of this research, each of these opening new avenues for future studies.

First, our conceptualisation of clusters as meta-organisations with varying degrees of organisationality has allowed us to elaborate on the nature and logic of organised clustering. Indeed, our research suggests that the meta-organisational perspective can be valuable in explaining the behaviour and the developmental paths of organised clusters. Although geography plays an important role in cluster development, our research suggests that deliberate collective

action by the cluster is possible and can re-shape the regional dynamics. This proposition constitutes a contribution to cluster studies suggesting a shift of perspective from determinist—where the cluster is ‘acted upon’—to a voluntarist one, where a cluster can deliberately act upon its environment. This perspective suggests that clusters can potentially defy dominant institutional logics and act as change agents (cf. Crouch et al. 2009). In this respect, one of the interesting questions for future studies may be whether in some cases clusters can exhibit behaviour deviating from the dominant environmental patterns and institutional models and how such behaviour influences their legitimacy (King et al. 2010). Such further explorations could draw upon the contingency and configurational schools of thought in strategic management. These suggest that some strategies, structures or organisational ‘configurations’ produce better outcomes in certain contexts and a ‘fit’ or ‘alignment’ is necessary (cf. Venkatraman and Prescott 1990; Meyer et al. 1993; Mintzberg et al. 2005). However, the alignment can be multi-scalar and involve both market or sectoral dynamics and institutional models (Volberda et al. 2012), thus, addressing the question of whether and how clusters seek alignment with their environment can be of interest for future studies.

Second, by proposing a view of organisationality and actorhood as ever-changing and mutually shaping, we have suggested the capability of ‘partial’ forms of organising to shape their contexts and the types of institutional work they can engage in. We further contribute to the institutional work perspective by addressing a less explored type of actor—a heterogeneous network of independent organisations—and its role in institutional work (Hampel et al. 2017). Future research can advance this perspective by analysing whether and how a collective such as a cluster can engage in institutional entrepreneurship (e.g. Dorado 2005; Battilana et al. 2009) and which institutional strategies it can adopt collectively (e.g. Oliver 1991; Lawrence 1999; Pache and Santos 2010).

Our third contribution relates to establishing a link between the organisationality design choices—i.e. the decisions to fully or partially implement the elements of formal organisations—and their influence on the way clusters construct and perform their actorhood. Future studies may focus on advancing our understanding of power distribution in meta-organisations and the locus of their actorhood. In this respect, the ‘power school’ in strategic management can provide a suitable lens (cf. Mintzberg et al. 2005). This perspective addresses strategy-making as a process of negotiation within an organisation or between the organisation itself and its external environment. Furthermore, the ‘communicative constitution of organisation’ perspective can also provide insight into intra-organisational power and extra-organisational relationships of meta-organisations (Kuhn 2008).

Finally, the findings of this article have implications for cluster practitioners and policymakers as they demonstrate the consequences of clusters’ organisationality design choices for their ability to engage in social action and to re-shape their contexts. The study also suggests that clusters can manage their level of organisationality to have a better ability to change their settings. However, while higher levels of organisationality may allow better control over clusters’ strategic decisions, these may also enable a concentration of actorhood within a limited group of cluster actors and result in a gradual disengagement of cluster members from cluster steering.

Our study is not without limitations. First of all, given the novelty of the approach, it was only possible for us to adopt a theory-elaborating approach which limits the generalisability of our propositions. Thus, future studies could further test and extend these through larger-scale studies. Furthermore, as we addressed clusters in a developed country setting, our findings may not apply to the developing and emerging country contexts. In this respect, in future studies, it may be interesting and worthwhile to address cluster agency and organisationality from the ‘comparative institutionalism’ perspective (Jackson and Deeg 2006; Gadille et al. 2013; Hotho and Saka-Helmhout 2017) and conduct multiple-case studies comparing cluster design in different contextual settings.

Acknowledgements The authors would like to thank Anton Kriz of Australian National University for his support during the empirical research stage as well as the participants of the case studies for their time and willingness to share their experiences. We would also like to thank the anonymous reviewers and the Editor for their insightful comments and guidance.

Authors’ information ELH is a post-doctoral researcher in Organisation and Management studies. Her current research focuses on understanding the role of meta-organised clusters in sustainability transitions. This article makes part of her doctoral dissertation written under the supervision of SB and CDZ at the University of Neuchâtel in Switzerland and defended in September 2020.

Authors’ contributions ELH conceptualised the paper, developed the methodology, collected and analysed the data as well as drafted the first version of the paper. SB and CDZ supervised throughout all stages of the project. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Funding Open Access funding provided by Université de Neuchâtel.

Availability of data and materials The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Code availability Not applicable.

Competing interests The authors declare that they have no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Ahrne G, Brunsson N (2008) *Meta-organizations*. Edward Elgar Publishing, Cheltenham
- Ahrne G, Brunsson N (2011) Organization outside organizations: the significance of partial organization. *Organization* 18(1):83–104. <https://doi.org/10.1177/1350508410376256>
- Ahrne G, Brunsson N, Seidl D (2016) Resurrecting organization by going beyond organizations. *Eur Manag J* 34(2):93–101. <https://doi.org/10.1016/j.emj.2016.02.003>
- Alcácer J, Zhao M (2016) Zooming in: A practical manual for identifying geographic clusters. *Strateg Manag J* 37(1):10–21. <https://doi.org/10.1002/smj.2451>
- Silicon Alps (2020) Silicon Alps. <https://www.silicon-alps.at/>. Accessed 7 Nov 2019
- AMGC (2018) *Advanced manufacturing: building resilience in Australian manufacturing*. Advanced Manufacturing Growth Centre Ltd., Sydney
- Apelt M, Besio C, Corsi G, von Groddeck V, Grothe-Hammer M, Tacke V (2017) Resurrecting organization without renouncing society: a response to Ahrne, Brunsson Seidl *Eur Manag J* 35(1):8–14. <https://doi.org/10.1016/j.emj.2017.01.002>
- Astley WG, Van de Ven AH (1983) Central perspectives and debates in organization theory. *Adm Sci Q* 28(2):245. <https://doi.org/10.2307/2392620>
- Australian Council of Learned Academies (ACOLA) (2014) *The role of science, research and technology in lifting Australian productivity*. Australian Council of Learned Academies (ACOLA), Melbourne
- Australian Government (2016) *Australian innovation system report*. Office of the Chief Economist, Canberra
- Australian Government (2017) *Australian Innovation system report 2017*. Department of Industry, Innovation and Science, Office of the Chief Economist, Canberra
- Aziz KA, Norhashim M (2008) Cluster-based policy making: assessing performance and sustaining competitiveness. *Rev Policy Res* 25(4):349–375. <https://doi.org/10.1111/j.1541-1338.2008.00336.x>
- Barberio V, Höllner MA, Meyer RE, Jancsary D (2018) Organizational boundaries in fluid forms of production: the case of Apache open-source software. In: Ringel L, Hiller P, Zietsma C (eds) *Research in the sociology of organizations*. Emerald Publishing Limited, Bingley, pp 139–168
- Battilana J, Leca B, Boxenbaum E (2009) How actors change institutions: towards a theory of institutional entrepreneurship. *Acad Manag Ann* 3(1):65–107. <https://doi.org/10.5465/19416520903053598>
- Berkowitz H (2018) Meta-organizing firms' capabilities for sustainable innovation: a conceptual framework. *J Clean Prod* 175:420–430. <https://doi.org/10.1016/j.jclepro.2017.12.028>
- Berkowitz H, Bor S (2018) Why meta-organizations matter: a response to Lawton et al. and Spillman. *J Manag Inq* 27(2):204–211. <https://doi.org/10.1177/1056492617712895>
- Berkowitz H, Dumez H (2016) The concept of meta-organization: issues for management studies. *Eur Manag Rev* 13(2):149–156. <https://doi.org/10.1111/emre.12076>
- Bill A, McLeod R, Williams J (2015) *Innovation in regional manufacturing: a Hunter based study*. Hunter Research Foundation, Albury
- Brès L, Raufflet E, Boghossian J (2018) Pluralism in Organizations: Learning from Unconventional Forms of Organizations. *Int J Manag Rev* 20(2):364–386. <https://doi.org/10.1111/ijmr.12136>
- Bridwell-Mitchell EN, Mezas SJ (2012) The quest for cognitive legitimacy: organizational identity crafting and internal stakeholder support. *J Change Manag* 12(2):189–207. <https://doi.org/10.1080/14697017.2011.645053>
- Bromley P, Sharkey A (2015) Casting call: the expansion of actorhood in U.S. firms, 1960–2010. *Acad Manag Proc* 2015:15743–15743. <https://doi.org/10.5465/AMBPP.2015.15743abstract>
- Capellin R (2003) Networks and technological change in regional clusters. In: Bröcker J, Dohse D, Soltwedel R (eds) *Innovation clusters and interregional competition*. Springer-Verlag, Berlin, pp 52–78
- CCMC (2014) *Mapping the Connections Central Coast NSW Food Industry: "a taste of collaboration"*. Central Coast Manufacturing Connect, AusIndustry, Australia
- Clegg SR, Kornberger M, Rhodes C (2005) Learning/becoming/organizing. *Organization* 12(2):147–167. <https://doi.org/10.1177/1350508405051186>
- Clegg SR, Rhodes C, Kornberger M (2007) Desperately seeking legitimacy: organizational identity and emerging industries. *Organ Stud* 28(4):495–513. <https://doi.org/10.1177/0170840606067995>
- Connell J, Kriz A, Thorpe M (2014) Industry clusters: an antidote for knowledge sharing and collaborative innovation? *J Knowl Manag* 18(1):137–151. <https://doi.org/10.1108/JKM-08-2013-0312>
- Crespin-Mazet F, Goglio-Primard K, Grenier C (2018) Social collectives: a partial form of organizing that sustains social innovation. *Manage Int* 21(3):35–46. <https://doi.org/10.7202/1052763ar>
- Crouch C, Schröder M, Voelzkow H (2009) Regional and sectoral varieties of capitalism. *Econ Soc* 38(4):654–678. <https://doi.org/10.1080/03085140903190383>
- Daft RL, Lewin AY (1990) Can organization studies begin to break out of the normal science straitjacket? *An Editorial Essay Organ Sci* 1(1):1–9. <https://doi.org/10.1287/orsc.1.1.1>
- Dobusch L, Schoeneborn D (2015) Fluidity, identity, and organizationality: the communicative constitution of anonymous. *J Manage Stud* 52(8):1005–1035. <https://doi.org/10.1111/joms.12139>
- Dorado S (2005) Institutional entrepreneurship, partaking, and convening. *Organ Stud* 26(3):385–414. <https://doi.org/10.1177/0170840605050873>
- Dotti NF, Lupova-Henry E (2020) Creative mediators and their role in the governance of creative clusters. In: Komorowski M, Picone I (eds) *Creative cluster development: governance, Place-Making and Entrepreneurship*
- Easton G (1995) Case research as a methodology for industrial networks: a realist apologia. In: IMP Conference. IMP
- Edquist C, Johnson B (1997) Institutions and organizations in systems of innovation. In: Edquist C (ed) *Systems of innovation: technologies, institutions and organisations*. Routledge
- Eisenhardt KM, Graebner ME (2007) Theory building from cases: opportunities and challenges. *Acad Manag J* 50(1):25–32. <https://doi.org/10.5465/amj.2007.24160888>
- Ellison G, Glaeser EL (1994) *Geographic concentration in U.S. manufacturing industries: a dartboard approach*. National Bureau of Economic Research, Cambridge

- Elo S, Kyngäs H (2008) The qualitative content analysis process. *J Adv Nurs* 62(1):107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Etzkowitz H (2012) Triple Helix Clusters: Boundary Permeability at University—Industry—Government Interfaces as a Regional Innovation Strategy. *Environ Plan C Gov Policy* 30(5):766–779. <https://doi.org/10.1068/c1182>
- Fen Chong S (2009) Le pilotage chemin faisant : émergence des modes de gouvernance et de pilotage des pôles de compétitivité. Université Paris-Dauphine
- Feser EJ, Bergman EM (2000) National Industry cluster templates: a framework for applied regional cluster analysis. *Reg Stud* 34(1):1–19. <https://doi.org/10.1080/00343400050005844>
- Gadille M, Tremblay D-G, Vion A (2013) La méta-organisation territorialisée, moteur d'apprentissages collectifs. *Rev Interv Économiques Pap Polit Econ*
- Galès YL (2011) Minalogic, un pôle de compétitivité modèle. *Le Figaro*
- Gebhardt C (2013) The making of plasma medicine. Strategy driven clusters and the emerging roles of cluster management and government supervision. *J Technol Transf* 38(4):401–414. <https://doi.org/10.1007/s10961-012-9245-z>
- Gimet P, Grenier C (2018) Gouvernance et leadership d'une méta-organisation innovante: Le cas d'un pôle dédié aux services médicosociaux à domicile. *Rev Fr Gest* 44(273):11–27. <https://doi.org/10.3166/rfg.2018.00222>
- Gioia DA, Patvardhan SD, Hamilton AL, Corley KG (2013) Organizational identity formation and change. *Acad Manag Ann* 7(1):123–193. <https://doi.org/10.5465/19416520.2013.762225>
- Giuliani E (2010) Clusters, networks and economic development: an evolutionary economics perspective. Edward Elgar, Cheltenham
- Glynn MA (2008) Beyond constraint: how institutions enable identities. In: Greenwood R, Oliver C, Suddaby R, Sahlin K (eds) *The SAGE handbook of organizational institutionalism*. SAGE Publications Ltd., London, pp 413–430
- Grothe-Hammer M (2018) Organization without actorhood: exploring a neglected phenomenon. *Eur Manage J*. <https://doi.org/10.1016/j.emj.2018.07.009>
- Gulati R, Puranam P, Tushman M (2012) Meta-organization design: rethinking design in interorganizational and community contexts. *Strateg Manage J* 33(6):571–586. <https://doi.org/10.1002/smj.1975>
- Halgin DS, Glynn MA, Rockwell D (2018) Organizational actorhood and the management of paradox: a visual analysis. *Organ Stud* 39(5–6):645–664. <https://doi.org/10.1177/0170840618765008>
- Hampel CE, Lawrence TB, Tracey P (2017) Institutional Work: Taking stock and making it matter. In: *The SAGE handbook of organizational institutionalism*. SAGE Publications Ltd: London, pp 558–590
- Hervás-Oliver JL, Gonzalez G, Caja P (2014) Clusters and industrial districts: where is the literature going? Identifying emerging sub-fields of research. *INGENIO (CSIC-UPV)*
- Hospers G-J, Desrochers P, Sautet F (2009) The next Silicon Valley? On the relationship between geographical clustering and public policy. *Int Entrep Manag J* 5(3):285–299. <https://doi.org/10.1007/s11365-008-0080-5>
- Hotho J, Saka-Helmhout A (2017) In and between societies: reconnecting comparative institutionalism and organization theory. *Organ Stud* 38(5):647–666. <https://doi.org/10.1177/0170840616655832>
- Howard J (2011) Great expectations: Developing “instruments for engagement”. In *University, business, government, and community relations*. Bristol
- HRF (2019) *Hunter Innovation—Growing an Innovation Ecosystem*. The Hunter Research Foundation
- Hwang H, Colyvas JA, Drori GS (2019) Chapter 1 The proliferation and profusion of actors in institutional theory. In: Hwang H, Colyvas JA, Drori GS (eds) *Research in the sociology of organizations*. Emerald Publishing Limited, Bingley, pp 3–20
- Innovation and Science Australia (2016) *Performance Review of the Australian Innovation, Science and Research System*, Innovation and Science Australia, Australia
- Jackson G, Deeg R (2006) How many varieties of capitalism? Comparing the comparative institutional analyses of capitalist diversity. Social Science Research Network, Rochester
- Kadenic MD (2017) Transitioning from an economic cluster to a collaborative community: mining projects in Greenland. *J Organ Des* 6(1):1. <https://doi.org/10.1186/s41469-016-0011-9>
- Ketels C, Lindqvist G, Sölvell Ö (2012) *Strengthening clusters and competitiveness in Europe*. The cluster observatory. Stockholm School of Economics, Stockholm
- Ketokivi M, Choi T (2014) Renaissance of case research as a scientific method. *J Oper Manage* 32(5):232–240. <https://doi.org/10.1016/j.jom.2014.03.004>
- King BG, Felin T, Whetten DA (2010) Perspective—finding the organization in organizational theory: a meta-theory of the organization as a social actor. *Organ Sci* 21(1):290–305. <https://doi.org/10.1287/orsc.1090.0443>
- Kuhn T (2008) A communicative theory of the firm: Developing an alternative perspective on intra-organizational power and stakeholder relationships. *Organ Stud* 29(8–9):1227–1254
- Lawrence TB (1999) Institutional strategy. *J Manage* 25(2):161–187. <https://doi.org/10.1177/014920639902500203>
- Lawrence TB, Suddaby R (2006) *Institutions and institutional work*. The SAGE handbook of organization studies. SAGE Publications Ltd., London, pp 215–254
- Lawrence TB, Hardy C, Phillips N (2002) Institutional effects of Inter-organizational Collaboration: the emergence of proto-institutions. *Acad Manage J* 45(1):281–290. <https://doi.org/10.2307/3069297>
- Lawrence TB, Suddaby R, Leca B (2009) *Institutional work: actors and agency in institutional studies of organizations*, 1st edn. Cambridge University Press, Cambridge
- Lazzeretti L, Sedita SR, Caloffi A (2014) Founders and disseminators of cluster research. *J Econ Geogr* 14(1):21–43. <https://doi.org/10.1093/jeg/lbs053>
- Leys V, Joffre P (2014) Méta-organisations et évolution des pratiques managériales. Une étude appliquée au champ de la santé. *Rev Fr Gest* 40(241):121–134. <https://doi.org/10.3166/rfg.241.121-134>
- Lindqvist G, Ketels C, Sölvell Ö (2013) *The cluster initiative greenbook 2.0*. Ivory Tower Publishers, UK
- Lupova-Henry E, Blili S, Dal Zotto C (forthcoming) *Innovation-centric cluster business model: findings from a design-oriented literature review*. Triple Helix J
- Lupova-Henry E, Blili S, Dal Zotto C (2019) *Designing a cluster business model*. University of Neuchâtel, Switzerland
- Markusen A (1996) Sticky places in slippery space: a typology of industrial districts. *Econ Geogr* 72(3):293–313. <https://doi.org/10.2307/144402>
- Matinheikki J, Pesonen T, Artto K, Peltokorpi A (2017) New value creation in business networks: the role of collective action in constructing system-level goals. *Ind Mark Manag* 67:122–133. <https://doi.org/10.1016/j.indmarman.2017.06.011>
- Meyer JW (2010) World society, institutional theories, and the actor. *Annu Rev Sociol* 36(1):1–20. <https://doi.org/10.1146/annurev.soc.012809.102506>
- Meyer JW, Jepperson RL (2000) The “Actors” of modern society: the cultural construction of social agency. *Social Theory* 18(1):100–120
- Meyer AD, Tsui AS, Hinings CR (1993) Configurational approaches to organizational analysis. *Acad Manage J*. <https://doi.org/10.2307/256809>

- Migdal-Picker M, Zilber TB (2019) Chapter 12 The Claim for Actorhood in Institutional Work. In: Hwang H, Colyvas JA, Drori GS (eds) *Research in the Sociology of Organizations*. Emerald Publishing Limited, Cheltenham, pp 251–272
- Miles M, Huberman M, Sdana J (2014) *Qualitative data analysis: a methods sourcebook*, 3rd edn. Sage, Thousand Oaks
- Mintzberg H, Ahlstrand B, Lampel J (2005) *Strategy Safari: a guided tour through the wilds of strategic management*. Simon and Schuster, New York
- Motoyama Y (2008) What was new about the cluster theory? What could it answer and what could it not answer? *Econ Dev Q* 22(4):353–363. <https://doi.org/10.1177/0891242408324373>
- Moulaert F, Sekia F (2003) Territorial innovation models: a critical survey. *Reg Stud* 37(3):289–302. <https://doi.org/10.1080/0034340032000065442>
- Müller L, Lämmer-GampMeier zu Kôcker TG, Alslev Christensen T (2012) Clusters are individuals: creating economic growth through cluster policies for cluster management excellence. Danish Agency for Science, Technology and Innovation, Copenhagen
- O'Dwyer M, O'Malley L, Murphy S, McNally RC (2015) Insights into the creation of a successful MNE innovation cluster. *Compet Rev* 25(3):288–309. <https://doi.org/10.1108/CR-08-2014-0026>
- Oliver C (1991) Strategic Responses to Institutional Processes. *Acad Manage Rev* 16(1):145–179. <https://doi.org/10.2307/258610>
- Pache A-C, Santos FM (2010) When worlds collide: The internal dynamics of organizational responses to conflicting institutional demands. *Acad Manage Rev* 35(3):455–476
- Paniccia I (1998) One, a hundred, thousands of industrial Districts. Organizational variety in local networks of small and medium-sized enterprises. *Organ Stud* 19(4):667–699. <https://doi.org/10.1177/017084069801900406>
- Pecqueur B (2008) Pôles de compétitivité et spécificité de la ressource technologique : une illustration grenobloise. *Géographie Économie Société* 10(3):311–326
- Porter ME (1990) *The Competitive Advantage of Nations*. Harv Bus Rev
- Porter ME (1998) Clusters and the new economics of competition. *Harv Bus Rev* 76(6):77–90
- Romme AGL (2003) Making a difference: organization as design. *Organ Sci* 14(5):558–573
- Rosenfeld SA (2002) *Creating Smart Systems: A guide to cluster strategies in less favoured regions*. European Union-Regional Innovation Strategies
- Sedouramane H (2014) Minalogic, le pôle qui a fait de Grenoble l'un des piliers de la #FrenchTech. *L'Opinion*
- Semper D (2019) *Machina ex Deus? From Distributed to Orchestrated Agency*. In: Hwang H, Colyvas JA, Drori GS (eds) *Research in the Sociology of Organizations*. Emerald Publishing Limited, Cheltenham, pp 187–208
- Sölvell Ö, Lindqvist G, Ketels C (2003) *The cluster initiative greenbook*, 1st edn. Ivory Tower, Stockholm
- Stake RE (1995) *The Art of Case Study Research*. SAGE
- Suchman MC (1995) Managing legitimacy: strategic and institutional approaches. *Acad Manage Rev* 20(3):571–610
- Australian Bureau of Statistics (2017) Central Coast Region Summary. In: ABS. http://stat.abs.gov.au/itt/r.jsp?RegionSummary®ion=102&dataset=ABS_REGIONAL_ASGS&geoconcept=REGION&datasetASGS=ABS_REGIONAL_ASGS&datasetLGA=ABS_NRP9_LGA®ionLGA=REGION®ionASGS=REGION. Accessed 15 Jan 2019
- Tsoukas H, Chia R (2002) On organizational becoming: rethinking organizational change. *Organ Sci* 13(5):567–582. <https://doi.org/10.1287/orsc.13.5.567.7810>
- Venkatraman N, Prescott JE (1990) Environment-strategy coalignment: an empirical test of its performance implications. *Strateg Manage J* 11(1):1–23. <https://doi.org/10.1002/smj.4250110102>
- Viachka A (2013) Comparing firms' associational strategies across sectors and locations: cluster initiatives as meta-organizations. Stockholm School of Economics, Stockholm
- Volberda HW, van der Weerd N, Verwaal E, Stienstra M, Verdu AJ (2012) Contingency fit, institutional fit, and firm performance: a metafit approach to organization-environment relationships. *Organ Sci* 23(4):1040–1054. <https://doi.org/10.1287/orsc.1110.0687>
- Wijen F, Ansari S (2016) Overcoming inaction through collective institutional entrepreneurship: insights from regime theory. *Organ Stud*. <https://doi.org/10.1177/0170840607078115>
- Wilkinson J (2012) *The Central Coast Region: An Economic Profile*. NSW Parliamentary Research Service
- Yin RK (2008) *Case Study Research: Design and Methods*, 4th edn. SAGE Publications Inc, Thousand Oaks
- Zietsma C, Lawrence TB (2010) Institutional work in the transformation of an organizational field: the interplay of boundary work and practice work. *Adm Sci Q*. <https://doi.org/10.2189/asqu.2010.55.2.189>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.