

An institutionalist perspective on smart specialization: Towards a political economy of regional innovation policy

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Abstract

The smart specialization approach has guided regional innovation policies in Europe for roughly a decade. However, the policy practice under the approach has met considerable criticism which suggests the existence of significant gaps between the conceptual level and the level of policy implementation. To explain and understand the reasons for these gaps, this article proposes an institutionalist perspective rooted in neo-institutional sociology. In particular, the article draws on concepts such as ceremony, myth, and isomorphism and argues that such an institutionalist perspective can provide one of several fields of further research on the political economy of regional innovation policy. Pursuing such research is particularly relevant to inform policymaking in the coming years, given the current tendency to re-orient smart specialization towards challenge orientation, directionality, normativity, and sustainability.

Key words: regional innovation policy; institutionalism; isomorphism; smart specialization; EU cohesion policy.

1. Introduction

For roughly the past decade, regional innovation policy in Europe has been shaped by the introduction of the smart specialization approach (Foray et al. 2009, 2012) within the context of EU cohesion policy in what Radosevic (2017b: 30) calls ‘the biggest ongoing innovation policy experiment in the EU, if not in the world’. As the result of a long-term policy evolution process that began in the 1990s with various schemes designed for promoting regional innovation systems strategically (Fitjar et al. 2019; Marques and Morgan 2018; McCann and Ortega-Argilés 2021) and as a place-based policy (Barca 2019; Barca et al. 2012; Grillitsch 2016; McCann and Ortega-Argilés 2015) the smart specialization approach aims at unleashing endogenous innovation potentials in mostly regional but, in some cases, also national economies (Di Cataldo et al. 2020). Thus, with its links to diverse conceptual foundations in economic geography, regional studies, and innovation studies (Kroll 2015), the approach can be seen as the newest wave of European regional innovation policies meant to counter spatial inequalities (Barca 2019; McCann and Ortega-Argilés 2021) and, in particular, the ‘regional innovation paradox’ that the least innovative regions have the greatest difficulties in promoting innovation effectively (Oughton et al. 2002).

Hence, examining the functioning of regional innovation policies is highly relevant in the European case for two reasons. First, the sums of funding for innovation-based economic development unleashed through the EU’s structural funds and complementary funds linked to smart specialization are significant. Radosevic (2017a) estimates the volume of funding related to smart specialization from 2014 to 2020 in the range of 120 to 250 billion euros, depending on the scope

of the definition followed. Second, the far-reaching delegation of strategic planning authority for the use of these funds to the regional level through the smart specialization *ex-ante* conditionality (Fitjar et al. 2019; Kroll 2015; Radosevic 2017b) means that a significant part of the power to shape the priorities in using these funds is vested in the regional level. Nevertheless, while the smart specialization approach can be seen as a major policy advance on the European level, its implementation ‘on the ground’, i.e. in EU member states and their regions, faces considerable challenges and shortcomings. A growing body of literature highlights the conceptual (e.g. Capello and Kroll 2016; Hassink and Gong 2019) and empirical (e.g. Gianelle et al. 2020; Tripl et al. 2020) difficulties that account for significant gaps between the concept and its implementation. These gaps seem to limit the ability of the smart specialization approach to effectively address the European regional innovation paradox so far, thus calling for explanations for why strategic alignment with selective policy priorities defined according to a regional economy’s specific opportunities appears so difficult to achieve (Iacobucci 2014), despite a wealth of advice deployed at the European level to national and regional policymakers (e.g. Foray et al. 2012; Matusiak and Kleibrink 2018).

As smart specialization is to a significant degree related to institutional change (Benner 2019; Kroll 2015; Tripl et al. 2020), the implementation problems discussed in the literature can themselves be expected to exhibit an institutional dimension that is not yet sufficiently understood. Understanding this institutional dimension is becoming increasingly important, given the rising ambitions in the European policy arena to embed smart specialization into wider innovation policy trends towards normativity, challenge orientation,

directionality, and sustainability (e.g. McCann and Soete 2020; Tödtling et al. 2021; Uyarra et al. 2019). To understand the institutional dimension of the implementation problems of smart specialization, concepts known from neo-institutional sociology such as the role of myth and ceremony in organizations (Meyer and Rowan 1977) or isomorphism in organizational fields (DiMaggio and Powell 1983) are useful to examine the political processes behind the implementation of smart specialization. As important elements of the neo-institutional school, these concepts describe the relationship between organizational practices and the wider field in which organizations are embedded (DiMaggio and Powell 1991). Because of its highly formalized entrepreneurial process of discovery (EDP) that brings together agents from government, industry, academia, and civil society (Foray et al. 2009, 2012; Roman et al. 2020), carrying out the smart specialization approach on the regional level bears similarities to the processes occurring within organizations, and this formalized process is embedded in the wider context of legal and political requirements on the regional level itself as well as on the national and European level which can be understood as an organizational field.

The aim of the article is to contribute to understanding the underlying reasons behind implementation problems of smart specialization known from the conceptual and empirical literature by resorting to neo-institutional sociology. The article argues that such an institutionalist perspective on the process of smart specialization makes available useful analytical concepts such as ceremony, myth, and isomorphism that can focus scholarly attention on structural reasons for some of the implementation problems identified in the literature. Further, the article argues that such an institutionalist perspective represents one of several fields for further research on the political economy of regional innovation policy in European regions, and that pursuing such further research will be important to provide orientation for policymakers during the coming years that are likely to see even higher ambitions for smart specialization related to increasing directionality whose achievement will critically depend on overcoming implementation problems.

This article starts by reviewing the concept of smart specialization and summarizing the conceptual and empirical critique expressed towards its implementation in the literature. Then, the article introduces the salient concepts of ceremony, myth, and isomorphism and relates implementation problems of smart specialization to these institutionalist concepts. This discussion leads up to the identification of several fields of further research on the political economy of regional innovation policy that builds on the institutionalist perspective advocated here but at the same time goes beyond it. The final section presents conclusions.

2. Smart specialization: concept and critique

The 2014–20 financial period of EU cohesion policy was marked by the large-scale roll-out of the smart specialization approach with the goal of promoting the diversification of regional economies based on their specific innovation opportunities (Foray et al. 2009, 2012). This development is underscored by an *ex-ante* conditionality¹ that links EU cohesion policy funding for innovation to the existence of smart

specialization strategies (Fitjar et al. 2019; Foray et al. 2012; Radosevic 2017b).

2.1 Smart specialization and its policy relevance

Following the smart specialization literature (Benner 2019, 2020b; Foray et al. 2009, 2012; McCann and Ortega-Argilés 2015; Radosevic 2017a, 2017b), the idea behind the approach can be briefly described along three points. First, smart specialization calls for a variety of regional stakeholders from government, firms, intermediaries, academia, and civil society in a quadruple-helix approach (Roman et al. 2020) to decide on strategic priorities in a participatory process called ‘entrepreneurial process of discovery’ (EDP). Second, this process is supposed to lead to a national or, in most cases, regional innovation strategy called ‘research and innovation strategy for smart specialization’ (RIS3). Third, this strategy is supposed to guide innovation-related spending of the structural funds under EU cohesion policy and thus unfolds considerable cross-cutting relevance for regional development, possibly much more so than other, sectoral strategy documents. Through these characteristics, the approach is meant to counter the ‘one size fits all’ orientation of previous innovation policies (Fitjar et al. 2019; Tödtling and Trippel 2005; Veugelers 2015; Veugelers and Schweiger 2016) and the transfer of perceived ‘best-practice’ models (Geerdink et al. 2010; Marques and Morgan 2018) such as cluster policies (Kiese and Wrobel 2011; Martin and Sunley 2003), various kinds of special zones for economic development (Chien 2008), or science and technology parks (Castells and Hall 1994; Rodríguez-Pose and Hardy 2014) and to align regional innovation strategies and their implementation through EU cohesion policy to the particular context of a regional economy (Benner 2019, 2020b; Foray et al. 2009, 2012; McCann and Ortega-Argilés 2015; Radosevic 2017a, 2017b).

Given its inclusion in the architecture of EU cohesion policy, smart specialization can be regarded as currently ‘the world’s biggest and most substantial territorial development policy’ (Coenen and Morgan 2020, p.15). With its ambition to promote regional development through innovation, the approach can be seen as the preliminary culmination of the evolution of regional innovation policies in the EU since the early 1990s (Benner 2020b; De Bruijn and Lagendijk 2005; Marques and Morgan 2018).

While on the policy level the concept is considered a welcome and successful development (Kyriakou 2017), the assessment in the academic sphere is mixed, laying out both the achievements and the shortcomings of the concept as it was implemented so far. As the next sub-sections lay out, a considerable body of conceptual critique has surfaced and empirical evidence suggests that implementation does not necessarily follow the original smart specialization concept or the ensuing strategies.

2.2 Conceptual issues about smart specialization

Among the earliest conceptual reviews on the implementation of the smart specialization approach is the critique by Capello and Kroll (2016) who argue that the concept is difficult to implement for lagging regions. According to them, this shortcoming is related, *inter alia*, to open questions about the capabilities of implementing agencies particularly on lower, non-functionally defined regions, the political willingness and

preparedness to engage in participatory strategy formulation, and the administrative capacities to implement these strategies. These difficulties lead back to the regional innovation paradox for lagging regions (Oughton et al. 2002) while smart specialization's core ideas might not be all too novel for advanced regions with their own traditions in participatory innovation policymaking (Benner 2019; Kroll 2017; Kroll et al. 2016). These implementation problems call into question the quasi-compulsory roll-out of smart specialization across all types of regions motivated by the *ex-ante* conditionality and suggest a more voluntary approach (Capello and Kroll 2016).

Marques and Morgan (2018) reveal what they call 'heroic assumptions' behind the smart specialization approach whose fulfilment cannot be taken for granted. Among these assumptions are, *inter alia*, the unquestioned commitment of regional policymakers to promoting innovation, a departure from a linear view of innovation, a harmony of interests between the agent groups involved in the EDP, and the existence of governance capabilities needed for implementing the approach even when faced with austerity pressures. In reality, however, Marques and Morgan see these assumptions violated by phenomena such as policymaking behavior motivated by wishes for top-down policymaking or by clientelist or even corrupt actions,² a persistent reliance on the linear view of innovation emanating primarily from research and development, diverging outlooks and interests by stakeholders, and weak administrative capabilities of implementing agencies. For these reasons, gaps between the smart specialization concept and its implementation can be expected and its impact challenged (Marques and Morgan 2018).

Focusing on the EDP, Sotarauta (2018) identifies a number of 'policy traps'. These traps refer to the dependence of effective implementation on adequate institutional preconditions and capabilities in public-private governance, as well as difficulties in mobilizing stakeholders and in forming a common vision (see also Benner 2020a). Again and similar to Marques and Morgan's (2018) 'heroic assumptions', these traps lead to a gap between the smart specialization concept and its implementation (Sotarauta 2018).

Drawing on the critical literature on smart specialization so far, Hassink and Gong (2019) summarize a number of key questions about smart specialization and its implementation. These questions deal with the misleading term because the approach actually focuses on diversification instead of specialization (see also Foray 2019), the (hitherto) deficient integration of smart specialization into directional, challenge-oriented innovation policy (see also Schot and Steinmueller 2018), the continuation of traditional cluster thinking of sectoral specialization, the risk of the EDP in entrenching lock-in (Grabher 1993) and furthering vested interests (see also Grillitsch 2016; Kyriakou 2017; Sotarauta 2018), doubts about whether lagging or old industrialized regions (Hassink and Kiese 2021) benefit from the approach, and a limited evidence base to assess the impact of the approach that focuses mainly on quantitative indicators instead of richer qualitative methods (Hassink and Gong 2019).

To this critique, Benner (2020b) adds further questions about the implementation of the smart specialization approach. Accordingly, the practice of smart specialization suffers from a one-sided focus on R&D that often reduces RIS3 to mere sectoral science and research strategies instead

of more comprehensive regional innovation strategies which may be due in part to the approach's origins as an aspatial R&D concept (see also Iacobucci 2014; Kroll 2017; McCann and Ortega-Argilés 2015). On a related note, the spatial scale for implementing smart specialization remains vague as RIS3 are developed nationally, regionally, or on both levels (see also Capello and Kroll 2016). Further, while the smart specialization approach responds to the long-standing critique on 'one size fits all' policy content (Tödtling and Trippel 2005), the policy process remains methodologically largely uniform and almost dogmatic which contradicts the place-based logic of the approach (Kristensen and Pugh 2022). As a consequence, smart specialization practice tends to focus on strategy documents instead of the process, although the EDP has been shown to exert more transformative potential than the eventual strategy document (Benner 2019; Kroll 2015; Trippel et al. 2020). More recently, tendencies of directionality and challenge orientation under newer innovation policies (Joly 2017; Martin 2016; Schot and Steinmueller 2018) and the ambition for smart specialization strategies to contribute to 'sustainability' (McCann and Soete 2020) charge the approach with even more and possibly unrealistic expectations. Given that the smart specialization approach has grown into a complex policy framework that relies on a wide range of methodological guidance (e.g. Foray et al. 2012; Matusiak and Kleibrink 2018), it risks losing sight of regional-level experimentation and policy learning (Benner 2020b).

Similar to Benner (2020b), Marques and Morgan (2018) criticize the gap between policymaking and implementation and see an 'intellectual bias [of] policy design over policy delivery' (p.289) for which the empirical literature provides evidence, as the next sub-section demonstrates.

2.3 Implementing smart specialization: empirical insights

Empirical evidence suggests a distance between the smart specialization concept and its implementation. In his cross-regional account, Kroll (2015) finds that smart specialization with its participatory EDP can improve governance practices in regions to which it is introduced, specifically in Eastern Europe, but that the actual policy impact of smart specialization strategies may be much more limited. Similar insights apply to those German *länder* whose decision makers engaged seriously with smart specialization such as North Rhine-Westphalia and Saxony (Kroll 2017; Kroll et al. 2016). Despite governance-related advances, the limited policy impact could be related not only to the conjecture 'that regions and countries have put in place mechanisms that can circumvent the very rationale of Smart Specialisation' (Gianelle et al. 2020, p.1386) but also to the high demands of implementing the approach that confront regional policymakers and stakeholders with considerable challenges. For instance, Karo et al. (2017) highlight procedural problems found in Central and Eastern European countries when carrying out the EDP. These problems include, *inter alia*, limited participation of business agents and a disproportional influence of R&D agents including stakeholders from academia (Karo et al. 2017). Further, as was the case with earlier cluster policies (Kiese and Wrobel 2011), smart specialization strategies use extensive rhetoric of cooperation but tend to

underemphasize aspects of inter-firm competition (Reiner and Benner 2022).

Critically, despite the conceptual novelty of the smart specialization approach during the 2014–20 funding period of EU cohesion policy, D’Adda et al. (2022) find that in Italy, the implementation of projects funded through the structural funds that were supposed to be guided by the principles established in smart specialization strategies did not considerably change compared to the preceding funding period, leading to their conclusion ‘that inertia rather than innovation prevails in regional policy’ (p.168). Kroll et al. (2016) show how in German *länder* implementing smart specialization, new policy instruments were rare although some pre-existing ones were aligned with the smart specialization strategy, the inclusion of new agents in the EDP was rather weak, and some measures would probably have been implemented even without smart specialization. The case of Austria’s lagging Burgenland province offers an illustrative example for a RIS3 that was developed with considerable enthusiasm to catch up with the policy landscape in other provinces but eventually not seriously implemented (Benner 2020a). The cases of Croatia and Slovenia, two younger EU member states with little experience in participatory innovation policymaking processes, show how the *ex-ante* conditionality proved a strong motivator, and arguably the decisive one, for carrying out an EDP and formulating a RIS3 (Benner 2019). These cases, as well as Kristensen and Pugh’s (2022) Midtjylland case, suggest a risk that policymakers regard smart specialization as an obligatory exercise to comply with higher-level legal or political requirements at the expense of focusing on the content of the approach that would call for a more strategic mindset to increase the effectiveness of innovation policy implementation. On a related note, Kroll (2017) describes the reluctant adoption of the smart specialization approach in many regions in Germany beyond producing formal strategy documents which highlights the difficult relationship between the European-level *ex-ante* conditionality and regional policymaking traditions. Similarly, Hassink et al. (2021) report criticism that the smart specialization strategy of Schleswig-Holstein contains ‘few real innovations, since an established set of actors passively followed the prescription given by the EU’ (p.12).

When it comes to policy content, while McCann and Ortega-Argilés (2016) find considerable heterogeneity of priorities set in national or regional RIS3, suggesting that the smart specialization approach may indeed have contributed to more alignment with regional contexts, findings of broad and non-selective sectoral or technological prioritization (Gianelle et al. 2020; Iacobucci 2014; Karo et al. 2017; Kroll 2015; Trippel et al. 2020) call into question to what degree prioritization exercises during the EDP indeed follow the smart specialization logic. For example, in their case study of Lower Saxony, Kroll et al. (2016) find broad priorities and an orientation towards spatial redistribution. In his review of early smart specialization presentations from 36 regions, Iacobucci (2014) reports a tendency to follow a more generic orientation of innovation policy, implying a certain distance from the smart specialization concept. In their recent evaluation of smart specialization strategies, Di Cataldo et al. (2020) find that strategies are often not sufficiently adapted to regional characteristics, that some of the same economic and scientific priorities are adopted in the strategies of a vast majority

of regions, and that ‘strategies to a large extent mimic what neighbouring areas are doing’ (p.18). Deegan et al. (2021) reach similar conclusions for regions within the same country. These results imply that the policy approach itself as followed by regional policymakers is remarkably similar, thus confirming a ‘methodological one-size-fits-all logic’ (Benner 2020b: 1672) that implementation of the smart specialization approach often seems to follow. This similarity and the underlying methodological uniformity are not surprising, given that the EU regulation that stipulated the rules for the structural funds from 2014 to 2020 attached detailed ‘criteria for fulfilment’ to the *ex-ante* conditionality that required a strengths, weaknesses, opportunities, and threats (SWOT) analysis, monitoring provisions, and ‘measures to stimulate private RTD investment’ in each RIS3 (European Union 2013: 438). While the new ‘enabling condition’ has been regarded as leaving policymakers more freedom (Foray 2019; Larosse et al. 2020), in the new structural fund regulation it is again accompanied by detailed requirements such as an ‘up-to-date analysis of challenges for innovation diffusion and digitalisation’ (European Union 2021: 321), thus raising the question if the methodological one-size-fits-all pressure can really be expected to subside (Benner 2020b).

Table 1 provides a simplified summary of the smart specialization critique based on conceptual and empirical literature, arranged according to their overlaps. Notwithstanding the achievements of smart specialization, Table 1 highlights a considerable amount of open issues that can hamper the implementation of the approach.

3. An institutionalist explanation: ceremony, myth, and isomorphism in organizational fields

While the conceptual and empirical critique on smart specialization reveals implementation gaps, there is a need to examine the underlying reasons for these gaps. An institutionalist perspective that is rooted in neo-institutional sociology offers one lens to do so. Neo-institutional sociology is generally concerned with understanding the position and change of organizations in their social context or organizational field as well as their quest for their actions to be regarded as legitimate by other agents (DiMaggio and Powell 1983, 1991; Meyer and Rowan 1977) and has generated a number of concepts to explain empirical organizational phenomena accordingly. For example, DiMaggio and Powell emphasize the phenomenon that ‘administrators and politicians champion programs that are established but not implemented’ (DiMaggio and Powell 1991: 3). To explain the gaps in the implementation of smart specialization, Meyer and Rowan’s (1977) influential work on the role of myth and ceremony in institutionalization within organizations and DiMaggio and Powell’s subsequent work on isomorphism (DiMaggio and Powell 1983) which seeks to explain ‘the striking homogeneity of practices and arrangements’ in organizations and organizational fields (DiMaggio and Powell 1991: 9) are particularly relevant for an institutionalist perspective on the implementation of smart specialization.

According to Meyer and Rowan (1977), organizations adopt practices not because of their actual efficiency but because they follow external pressures for isomorphism to

Table 1. Conceptual and empirical issues about smart specialization.

Conceptual critique		Empirical critique
	(no overlaps)	<p>More alignment of priorities with the regional context</p> <p>Broad and non-selective prioritization or lack of alignment with the regional context</p> <p>Neglect of inter-firm competition</p> <p>Focus on strategies over implementation and/or limited change on the implementation level</p> <p>Uniform policymaking framework and contradiction with place-based logic</p> <p>Improvement of institutional conditions and governance capabilities</p> <p>Persistence of cluster thinking</p> <p>Uneven mobilization of different stakeholder groups</p>
Focus on strategies over implementation	Benner (2020b) Marques and Morgan (2018)	McCann and Ortega-Argilés (2016) Deegan et al. (2021) Di Cataldo et al. (2020) Gianelle et al. (2020) Iacobucci (2014) Karo et al. (2017) Kroll (2015) Kroll et al. (2016) Trippel et al. (2020) Reiner and Benner (2022) Benner (2020a) D'Adda et al. (2022) Hassink et al. (2021) Kristensen and Pugh (2022) Kroll (2017) Kroll et al. (2016) Kristensen and Pugh (2022)
Uniform and complex policymaking framework and possibly unrealistic expectations	Benner (2020b)	Uniform policymaking framework and contradiction with place-based logic
Lack of institutional conditions and governance capabilities for implementation	Capello and Kroll (2016) Marques and Morgan (2018) Sotarauta (2018)	Improvement of institutional conditions and governance capabilities
Persistence of cluster thinking	Hassink and Gong (2019)	Persistence of cluster thinking
Difficulties in mobilization and vision building	Benner (2020a) Sotarauta (2018)	Uneven mobilization of different stakeholder groups
Diverging interests of stakeholders	Marques and Morgan (2018)	
Focus on diversification instead of specialization	Foray (2019)	
Lack of directionality and challenge orientation	Hassink and Gong (2019)	
Limited, mainly quantitative impact measurement	Hassink and Gong (2019)	
Limited suitability for lagging or old industrialized regions	Capello and Kroll (2016) Hassink and Gong (2019) Hassink and Kiese (2021)	
Linear and research and development (R&D)-focused view of innovation	Benner (2020b) Marques and Morgan (2018)	(no overlaps)
Risk of lock-in and dominance of vested interests	Benner (2014, 2017) Boschma (2014) Grillitsch (2016) Hassink and Gong (2019) Kyriakou (2017) Sotarauta (2018)	
Top-down policymaking preferences or clientelist practices	Marques and Morgan (2018)	
Unclear spatial scale	Benner (2020b) Capello and Kroll (2016)	

Source: author's elaboration

gain legitimacy. Hence, they tend to focus on 'ceremonial' forms of performance instead of the ultimate implementation of tasks. As a result, instead of following a technical logic that derives suitable practices from impact criteria such as efficiency, organizations pursue ceremonial practices that are seen as legitimate because they are assumed to be efficient due to their isomorphism. In this way, the practices of organizations harden into 'myths' that reflect the generalized myths in the field in which the organizations are embedded (Meyer and Rowan 1977).

Such myths are also found in policymaking processes, initially as simplified interpretations of a complex reality

that legitimize symbolic action and often become unquestioned over time (Betz 1999a). Myths can prevent change by masking or oversimplifying problems ceremonially but also enable change through their legitimizing function although over time the preventing effect may often prevail and crowd out competing ideas (Betz 1999b). A number of these myths exist in the fields of regional policy (Thierstein 1999) and technology or innovation policy (Behrendt 1999) such as, for example, widespread ambitions 'of becoming the next Silicon Valleys' (Castells and Hall 1994: 7) that shape regional policies (Geerdink et al. 2010). Similarly, the common assumptions for smart specialization Marques and Morgan (2018)

identify can be regarded as such myths that oversimplify the complex reality of implementing regional innovation policies.

On a related and complementary note, Pfeffer (1981) stresses the role of symbolic action by managers in organizations which leads to the phenomenon that ‘symbolic outcomes will suffice if those in contact with the organization are unable to discriminate reality from symbol’ (p.28) in an environment marked by uncertainty, ambiguity, and multidimensional objectives. Such an environment makes it difficult or even impossible to define target groups’ preferences in the first place and to measure eventual outcomes and impacts with any degree of precision or objectivity (Pfeffer 1981).

The environment in which regional innovation policies are designed and implemented is likely to feature these characteristics, given the many unknowns about the contingent and contextual causes and effects of innovation and growth (Bathelt and Glückler 2003). Hence, smart specialization can be interpreted in the terms suggested by Meyer and Rowan (1977) and Pfeffer (1981). Indeed, one of the most remarkable empirical results on smart specialization so far, the insight recently reported by D’Adda et al. (2022) that the introduction of smart specialization apparently did not significantly alter project implementation in Italy, can very well be interpreted in ceremonial terms. It seems plausible that policymakers understood the smart specialization approach with its complex terminology and guidelines as the ceremonial game to play in order to comply with the *ex-ante* conditionality, either without understanding the content of the approach or without taking its core ideas seriously (Kroll 2015). This interpretation is supported by further empirical findings (Di Cataldo et al. 2020; Gianelle et al. 2020; Karo et al. 2017; Trippi et al. 2020) and confirms that the assumptions identified by Marques and Morgan (2018) are not universally fulfilled. Sotarauta’s (2018) ‘mobilization trap’ and particularly the difficult mobilization of businesses in the EDP (Karo et al. 2017) might be a direct consequence of a ceremonial focus because in view of the challenges of pursuing their day-to-day work, managers and entrepreneurs might not be willing to engage in such a participatory policymaking process if it lacks the credibility of achieving real impact (Benner 2019, 2020a; Kroll et al. 2016). The high effort policymakers seem to put into the formulation of smart specialization strategy documents that can span several hundreds of pages provides another indication of a ceremonial focus, in line with an original *ex-ante* conditionality that called for the *existence* of a strategy but (curiously) not its actual implementation (Benner 2020b). Hence, the widespread critique that smart specialization might benefit lagging or old industrialized regions less than advanced ones can be interpreted in the light of the ceremonial focus because advanced regions can more easily afford ceremonial policymaking than regions that need higher-impact innovation policies.

The role of monitoring provides an example for the role of ceremony. According to Meyer and Rowan (1977), monitoring and evaluation are becoming ceremonial by moving away from ultimate outputs as ‘goals are made ambiguous or vacuous, and categorical ends are substituted for technical ends’ (p. 357). Consequently, indicators are used selectively and input indicators are employed as alternatives to indicators capable of actually measuring outcomes and impacts (Meyer and Rowan 1977; Pfeffer 1981). This focus on vacuous goals

enables the upkeep of policy myths even when their assumptions might have become doubtful and overly simplified (Betz 1999a). The widespread use of rankings in innovation policy such as the Global Innovation Index (Cornell University, INSEAD, WIPO 2019) or the EU’s Regional Innovation Scoreboard (Hollanders et al. 2019) provides an example for easily measurable indicators. The popularity of comparisons and benchmarks requires a focus on standardized, quantitative evidence (Haddad and Benner 2021; Martin 2016; Pfothenauer and Jasanoff 2017) for which smart specialization has been criticized (Benner 2020b; Hassink and Gong 2019). In particular, a mechanistic approach to monitoring and evaluation based on quantitative indicators and rankings neglects the opportunities for policy learning rooted in tacit knowledge (Kyriakou 2017) and makes possibly important forms of innovation go unnoticed (Martin 2016) but suits well with a ceremonial focus as well as with decisionmakers’ possible interest to focus more on symbolic action than on measuring actual impacts (Pfeffer 1981). Consistent with Meyer and Rowan’s (1977) prediction of organizational isomorphism, the popularity of easily measurable and comparable quantitative monitoring indicators and rankings exerts pressure on regional-level policymakers to follow largely similar trends and possibly divert the focus of policymakers away from real, context-dependent needs (Geerdink et al. 2010; Haddad and Benner 2021; Kuhlmann and Ordóñez-Matamoros 2017).

The concept of isomorphism was characterized by Hawley (1968) as the principle of human ecology that ‘units subject to the same environmental conditions (...) acquire a similar form of organization’ among each other and with their overarching ‘parent system’ (p.334). Hannan and Freeman (1977) refined the concept and defined it as the ‘correspondence between structural elements of social organization and those units that mediate flows of essential resources into the system’ (p.957). DiMaggio and Powell (1983) further elaborated isomorphism in a neo-institutional perspective by distinguishing three forms of pressure that make organizational fields spawn the same or similar practices: *coercive isomorphism* due to external regulative or cultural forces, *mimetic isomorphism* as a strategy to handle uncertainty, and *normative isomorphism* resulting from professionalization. Each of these forms of isomorphism can lead to organizations adopting similar ways of working (DiMaggio and Powell 1983).

Beyond the functioning of organizations within their organizational field, forms and drivers of isomorphism offer useful tools to study more generally how agents position themselves towards their environment and, specifically, how policymakers seek and find orientation in policymaking. For instance, Chien (2008) finds isomorphism in local development policies in China, arguing that this phenomenon of isomorphism unfolds ‘in the context of different policy agents at various spatial scales strategically interacting with others’ (p. 275), and defines five mechanisms driving this isomorphism. The ‘herd behaviour’ in regional policies provides another example for isomorphism reinforced by interregional competition which is often inefficient (Geerdink et al. 2010). Kuhlmann and Ordóñez-Matamoros (2017) discuss how isomorphism, together with implementation problems, increases the risk that policies end up with limited impact or even generate negative, unintended consequences. However, isomorphism of the core content of policies is not the end of the story. Pfothenauer and Jasanoff (2017) find a certain variety in the way the ‘MIT

model' is implemented across national contexts. Irwin et al. (2021) contrast isomorphic forces with contextual forces in Denmark's national innovation policy, resulting in a pattern they call 'isomorphic difference'.

In the context of smart specialization, the similarity of the content of strategies among neighboring regions (Di Cataldo et al. 2020) offers evidence for isomorphism, although the heterogeneity of priorities found by McCann and Ortega-Argilés (2016) suggests that the isomorphism of policy content is not absolute. Beyond strategy content, the conceptual and empirical critique summarized above suggests that even to the degree that policy content may not be unequivocally isomorphic, the methodological one-size-fits-all tendencies in the policy process suggest considerable forces for isomorphism on the procedural level. Hence, in addition to the partial isomorphism evident on the level of policy content, the isomorphic forces on the procedural level should lead to the similarity in organizational forms DiMaggio and Powell (1983) describe as emerging in an organizational field.

Drawing on the hypotheses proposed by DiMaggio and Powell (1983), some characteristics of the smart specialization architecture make it susceptible for isomorphism, notably the high uncertainty in promoting innovation, professionalization due to the role of experts, similar backgrounds of stakeholders involved in EDPs (such as policymakers, entrepreneurs, or academics, respectively), or reliance on EU cohesion policy as the same source of resources (see also Di Cataldo et al. 2020). In addition, high uncertainty implies risk that encourages herd behavior (Geerdink et al. 2010). The *ex-ante* conditionality or enabling condition and their fulfilment criteria provide clear sources of coercive isomorphism, as the motivating role of the conditionality particularly in younger EU member states such as Croatia and Slovenia (Benner 2019) but partly also in Germany (Kroll et al. 2016) shows. A driver of mimetic and possibly even coercive isomorphism can be found in higher-level policy agendas such as the 'Lisbon agenda' or 'Europe 2020' (Brunazzo 2016; De Bruijn and Lagendijk 2005; Fitjar et al. 2019; Joly 2017) that can be seen as the sources of myths in the field of European policy such as 'smart, sustainable and inclusive growth' the 'Europe 2020' strategy defines (European Commission 2010).

Despite these higher-level isomorphic forces, as strategic documents guiding the spending of public investment through EU cohesion policy, RIS3 give regional policymakers a considerable margin of discretion. However, methodological 'best practices' such as the elaborate RIS3 guide published by the European Commission that gives policymakers a range of tools and methods for the EDP (Foray et al. 2012) or the detailed roadmap for the introduction of the smart specialization approach in EU enlargement and neighborhood countries (Matusiak and Kleibrink 2018) can be expected to exert pressure for normative, mimetic, and possibly even coercive isomorphism.

Among the five mechanisms for policy isomorphism Chien (2008) describes in local development in China, at least four are plausible to be relevant for the implementation of smart specialization: first, higher-level regulatory pressure through the *ex-ante* conditionality (coercive), second, competition for investment from the structural funds (coercive), third, the emulation of allegedly successful approaches under the uncertainty of development processes (mimetic), and fourth, the

role of professional networks, experts, and consultants (normative) that are involved in the smart specialization arena (see, e.g. Karo et al. 2017; Kroll 2017), while the importance of filtered recruitment and professional mobility of regional decisionmakers (normative) is less relevant in the decentralized landscape of European regions than in the Chinese case (Chien 2008).

4. The political economy of regional innovation policy: fields for further research

The institutionalist perspective on smart specialization introduced in the previous section calls for deepening our understanding of the political economy of regional innovation policy, particularly in Europe. Doing so is important for the next generation of smart specialization strategies that are meant to provide a stronger contribution to challenge-oriented innovation policy (Coenen and Morgan 2020; Hassink et al. 2021; Schlaile et al. 2017; Tödtling et al. 2021) with the goal of sustainability (McCann and Soete 2020), thus witnessing a 'normative turn' (Uyarra et al. 2019). Hence, research that further explores the causes and consequences of ceremonial practices, myths, isomorphism, and the gaps between concepts and implementation, and that complements and widens the institutionalist perspective introduced here is needed. The following considerations are meant as a stimulus for further research, drawing on several pillars that could complement and broaden the arguments presented above.

Issues to further explore include procedural aspects of smart specialization such as the composition of the EDP that risks excluding outsiders and favoring vested interests (Benner 2014, 2017; Boschma 2014; Grillitsch 2016; Hassink and Gong 2019; McCann and Ortega-Argilés 2015). For example, Fitjar et al. (2019) summarize the pressures that the rollout of smart specialization in the EU in 2013–14 faced and that may have limited the possibilities for inclusiveness and policy reflexivity during EDPs, and Di Cataldo et al. (2020) presume that this fast rollout may have facilitated isomorphism. Comprehensive empirical research will be needed to fully assess who gets a say in regional innovation policymaking in European regions, how precisely the composition of the EDP affects pressures for isomorphism, and how this composition relates to wider issues of governance quality that appear to affect the effectiveness of the implementation of smart specialization (Di Cataldo et al. 2020). For example, it would be interesting to see whether the inclusion of trade unions and environmental advocacy groups in the EDP affects the role of ceremony, myth, and isomorphism. Quantitative, cross-sectional research across European regions and their strategies in the 2014–20 period could reveal correlations while the precise impact of the inclusion of these and other civil-society agents can be examined in more detail through qualitative case studies of extreme or maximum-variation cases (Eisenhardt and Graebner 2007; Flyvbjerg 2009).

Behavioral approaches can further enhance our knowledge on why the EDP seems to stimulate mimetic isomorphism. Behavioral phenomena such as a missing outsider's view, narrow framing, loss aversion, or overoptimism (Flyvbjerg 2009; Kahneman 2011; Tversky and Kahneman 1981, 1991) can be at play in regional policymaking (Benner 2020a; Storper et al. 2015). These approaches and concepts offer an insightful complement to the established organizational explanation of

isomorphism offered by DiMaggio and Powell (1983) and can contribute to better understanding the impact of agents and the roles they play in policy processes (Flanagan and Uyarra 2016).

A public-choice perspective can help explain the rationalities of different groups involved in policy design and implementation. Kiese and Wrobel (2011) offer such a critique about cluster policy by distinguishing an economic rationality of experts, a political rationality of policymakers, and a bureaucratic rationality of administrators. Geerdink et al. (2010) explain herd behavior in regional policy with the rationality of risk-averse policymakers seeking re-election under the conditions of interregional competition resulting from the incentives policymakers follow. Similarly but more specifically related to smart specialization, Lundström and Mäenpää (2017) lay out the different objectives and interests of agents in the EDP and their possible conflicts. These rationalities help understand why policy instruments get infused with interests attached that shape and constrain the room for change (Flanagan and Uyarra 2016), consistent with Kroll's (2017) call to regard innovation policymaking as an autonomous system apart from a purely economic logic. Different rationalities, objectives, and interests make the implementation of the smart specialization approach a multiscalar 'wicked game' (Lundström and Mäenpää 2017) and can help explain a limited openness to new approaches and higher-level conditionalities in some regions with a complex governance structure (Kroll 2017). However, the motivations held by different groups of agents do not necessarily need to be 'rational' but can be rooted in the institutional orders to which they belong or conform to the institutional logics agents choose to employ for strategic reasons (Friedland and Alford 1991; Thornton and Ocasio 1999). Hence, neo-institutional and public-choice perspectives are complementary and can together provide a more complete picture of the motivations behind ceremony, myth, and isomorphism in the implementation of smart specialization, notably through qualitative case studies of paradigmatic cases (Flyvbjerg 2006) that help understand why agents participate in the EDP and which strategic orientations they advocate.

Further, the role of institutional entrepreneurs (Battilana et al. 2009; DiMaggio 1988) can provide an agency perspective to what happens within national and regional-level implementation processes of smart specialization and help understand how ceremony and isomorphism are driven or challenged by the action of individuals pushing for institutional change, thus enabling links to research on place leadership (Sotarauta 2018) and policy entrepreneurship (Edler and James 2015) in smart specialization. Last but not least, the concept of institutional work (Lawrence and Suddaby 2006) can be useful in highlighting the role of agents not only in causing or disrupting ceremonial and isomorphic practices but also in maintaining them during the formulation and implementation of regional innovation policies, notably in paradigmatic or maximum-variation case studies (Flyvbjerg 2006) that might even enable further theory building (Eisenhardt and Graebner 2007).

In a multiscalar perspective, the role of consultants, experts, or international organizations (Czarniawska-Joerges 1990; Frahm et al. 2022; Godin 2006; Irwin et al. 2021; Kiese and Wrobel 2011) in the professionalization of regional policymaking processes and, hence, normative isomorphism is of high interest. Similar to the role of civil-society organizations,

how these agents are involved in the design and implementation of smart specialization strategies and how this shapes the resulting strategies can be grasped through cross-sectional research. Making explicit different rationalities among groups involved in policy design and implementation on various scales could contribute to better understanding possible contradictions between different European-level initiatives such as smart specialization with its purpose of encouraging variation and the pressures for isomorphism wielded by political discourses such as those on the 'knowledge-based economy' (Godin 2006) or 'competitiveness' (Geerdink et al. 2010; July 2017) with their myth-like character that underpin European policies such as 'Europe 2020' (European Commission 2010).

Examining the reasons behind implementation gaps in regional innovation policies through these different lenses can foster our understanding of the processes and complications of innovation policymaking (Flanagan and Uyarra 2016), respond to the conceptual and empirical critique directed towards smart specialization, address some of the challenges for innovation studies identified by Martin (2016), and possibly generate conclusions for designing more effective policies to counter the persistent regional innovation paradox (Oughton et al. 2002) in European regions.

5. Conclusion

This article has put ceremony, myth, and isomorphism in organizational fields to the fore to partly explain implementation problems related to smart specialization during roughly the past decade of regional innovation policy in Europe. While a ceremonial focus of policymakers and policy myths can explain why the substance and impact of European regional innovation policy in the smart specialization era does not seem to depart fundamentally from prior practice, pressures for isomorphism help explain why the call on regional policymakers to 'adapt before adopting' (Kyriakou 2017: 9) apparently often goes unheard. Partial as they are, these institutionalist explanations are meant less as a fundamental critique of the smart specialization approach as such but more as analytical tools to draw practitioners' attention to possible ceremonial and isomorphic tendencies and to help them overcome those implementation problems that emanate from these tendencies. In combination with the further research proposed, institutionalist concepts can contribute to a deeper understanding of how to design regional innovation policy processes less prone to ceremony, myth, and isomorphism and possibly more likely to effectively contribute to overcoming the regional innovation paradox.

In the coming years, these insights can become important to design policies that live up to the growing expectations of smart specialization to fit into a new generation of innovation policies (Schot and Steinmueller 2018) that foregrounds normativity, directionality, and challenge orientation (Coenen and Morgan 2020; Schlaile et al. 2017; Tödtling et al. 2021) and to evolve into even more ambitious 'place-based innovation for sustainability' (McCann and Soete 2020) policies. Such a 'normative turn' (Uyarra et al. 2019) driven to a significant degree by EU-level priorities such as the 'European Green Deal' (European Commission 2019; McCann and Ortega-Artilés 2021; Ossewaarde and Ossewaarde-Lowtoot 2020) may intensify tension for smart specialization. Similar

to previous EU-level policies such as the Lisbon agenda or ‘Europe 2020’ but possibly even more stringently, these new priorities define goals in a top–down way while smart specialization is meant to define innovation strategies in a bottom–up way (Friends of Smart Specialisation 2021; Larosse et al. 2020; McCann and Soete 2020), thus reinforcing possible contradictions between top–down priorities and a place-based logic (Kristensen and Pugh 2022). However, despite their apparent contrast, these different logics do not necessarily have to contradict each other but are also complementary (Larossee et al. 2020; McCann and Soete 2020), particularly in a framework of multilevel governance (Kroll 2017). Since the spatial distribution of problems to be solved in society is not uniform and does not equal the spatial distribution of capabilities to solve them (Calignano and Trippel 2020), ambitions for challenge orientation will have to consider regional-level societal needs and capabilities because ‘despite of labels of “grand” and “global”, the challenges remain contextual’ (Wanzenböck and Frenken 2020: 56).

Hence, to reconcile top–down priorities and bottom–up implementation without running the risk of additional pressures for isomorphism, it will be important to consider the contextual ways grand societal challenges play out regionally and locally as ‘the challenges faced by different contexts differ, and therefore actions need to be tailored to the local context’ (McCann and Soete 2020: 17). While contextuality is a well-established concept in relation to regional development and innovation (e.g. Bathelt and Glückler 2003; Haddad and Benner 2021), this call is particularly important given the possible isomorphic forces that challenge orientation and directionality could bring with them in the regional-level implementation of smart specialization during the coming years. While there is arguably a wide consensus that major societal challenges such as climate change or resilience against pandemics need to be tackled by innovation policies on all levels (Hassink et al. 2021), the institutionalist perspective proposed in this article implies that strong pressures for isomorphism emanating from outside the regional policy process and notably from higher levels such as the EU level can entail a certain tension with the logic and aims of smart specialization. Ascertaining the contextuality and compatibility of smart specialization with challenge orientation by reconciling directionality with diversity in policy implementation processes and thus precluding possible additional pressures for isomorphism may be of critical importance to strengthen the effectiveness of sustainable regional innovation policies, but how to do so requires further research.

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Notes

1. Renamed ‘enabling condition’ and modified for the period after 2020 (Benner 2020b; Larosse et al. 2020).
2. On a related note, on the role of rentierism in regional development, see Barca (2019), and on the role of governance capabilities, see Di Cataldo et al. (2020).

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