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Comparing Public Sector Innovation in Cross-Border Cooperation: A Set-Theoretic Approach

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This article analyses innovation by developing and empirically applying the concept of public sector innovation in cross-border cooperation. The focus on intra- as well as inter-institutional characteristics provides a conceptual framework for identifying empirical differences and shared characteristics revealing different types of innovation. The proposed typology is operationalised with six dimensions and empirically applied to 24 cases in the two border regions on the island of Ireland and on the Upper Rhine. On an organisational level, four ideal types are developed, i.e., (1) managers of the status quo, (2) relational innovators, (3) organisational innovators, and (4) public sector innovators in cross-border cooperation. The results reveal empirical diversity of public sector innovation in cross-border cooperation and can be regarded as a starting point for the development of a systematic and generalisable description of public sector innovation in cross-border cooperation.

1. Introduction

In cross-border cooperation studies, institution-building plays a major role (Beck 2018, 21; Chilla *et al.* 2012, 973; Blatter 2004, 545; Wassenberg 2017, 229; van Houtum & Strüver 2002, 144). Institution-building has frequently been described as innovations in regional policy and European integration (Lagana 2017, 296; Perkmann 2007, 876) due to the development of new ways of cooperation, complex governance systems, and diverse structures and organisations observable in various border regions (Beck 2022, 28; Colomb 2018, 108). However, the questions of what type of innovation that institution-building represents and which innovations

emerge in the entities built are still sparsely addressed in the literature. In order to enable and facilitate the analysis of innovation in cross-border cooperation, this article has the objective of transferring the concept of public sector innovation to a cross-border cooperation context and of identifying different types of public sector innovation in cross-border institution-building. Public sector innovation is conceptualised as “[...] a process through which new ideas, objects and practices are created, developed or reinvented, and which are new for the unit of adoption” (Walker *et al.* 2011, 96; see also Cinar *et al.* 2019, 265). It is particularly suitable

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for application due to the predominance of public actors in cross-border cooperation and the objectives of cross-border governance arrangements (Beck 2018, 11; Wassenberg 2017, 219). Indeed, here I understand public service innovation as a multi-dimensional notion and I develop a conceptualisation comprising internal features of cross-border institutions, intra-institutional innovation, as well as external features of cross-border institutions and inter-institutional innovation as outlined below. Previous literature on change and innovation has mainly focused on the inter-institutional dimension in the form of new governance arrangements and cooperation patterns (Beck 2018, 20; Scott 2000, 153; Perkmann 1999, 664). The focus on intra-institutional characteristics in this article has the potential to reveal and analyse new types of innovation. On an organisational level, four ideal types are developed, i.e., managers of the status quo, relational innovators, organisational innovators, and public sector innovators in cross-border cooperation.

The set-theoretic approach to conceptualising and analysing concepts treats them as sets or categories, allowing for cases or observations to possess varying degrees of membership in these sets. This perspective recognises the possibility of partial membership in multiple concepts, acknowledging that observations can exhibit nonzero membership in semantically related concepts (Goertz & Mahoney 2012a, 18). Within this framework, the hypothesised associations between concepts are formulated in logical terms, utilizing notions of necessity, sufficiency, and superset/subset relationships (Goertz & Mahoney 2012a, 18). Moreover, when conceptualising, it is recommended to employ ideal types, which represent the extreme ends of the underlying continuum, allowing for a clear and distinct conceptualisation (Goertz 2020, 76-77). One important consideration is the issue of aggregation, as different dimensions of a concept may carry varying levels of significance. Aggregation rules play a critical role in measuring concepts and determining the overall explanatory strategy. For instance, employing weakest link aggregation rules can significantly impact the measurement of a concept and shape the analysis (Goertz 2020, 93). To assess the fit of cases with ideal types, empirical indicators are employed to determine the set membership of each case. By separately examining each dimension of a case, its adherence to ideal types can be evaluated (Kvist 2007, 478). The dimensions are subsequently combined using logical operators, enabling a comprehensive analysis that takes into account the various aspects of a concept (Kvist 2007, 479).

The set-theoretic approach employs set membership to establish whether a case aligns with a specific concept. This method allows for the conceptual definition of qualitative differences, as sets are divided into dimensions and combined based on logical operator rules. These rules are derived from theoretical and

conceptual considerations, facilitating an analytical approach to complex conceptual structures and the formation of ideal types (Schneider & Wagemann 2012, 24-25; Hudson & Kühner 2013, 311). By adopting a set-theoretic approach, researchers can achieve a qualitatively rich framework for comparing different types of administrative innovation across regions. This approach focuses on identifying distinct types of innovation and patterns of innovation introduction, rather than quantifying the level of innovativeness within the organizations under investigation (Hudson & Kühner 2013, 311).

This work's ambition is to contribute to the literature of cross-border cooperation in several ways. It provides a conceptual contribution by introducing public sector innovation into cross-border cooperation research in order to make a part of the role of public administration in cross-border cooperation and cross-border institutions systematically visible. It is therefore a novel attempt to advance the theoretical and conceptual discussion of border and public administration research by complementing the institutional and organisational view of cross-border cooperation with a sound and applicable interdisciplinary conceptualisation as well as an empirical classification. The concept provides an empirical approximation grounded in set-theory of different types of innovation in cross-border cooperation, enabling systematic comparison across different institutions and border regions and contributing to the identified need for interregional comparison in cross-border cooperation research (Wassenberg *et al.* 2019, 201; Beck 2019, 16; Mastenbroek & Martinsen 2018, 422; Roose & Kaden 2017, 36; Payan 2014, 3). The differentiation of types of innovation is a prerequisite to understanding the antecedents and effects of innovations in cross-border cooperation, as they have different characteristics and exhibit different preconditions and outcomes (Walker 2006, 331; de Vries *et al.* 2016, 152). The proposed typology provides a framework for identifying empirical differences and shared characteristics. It is operationalised with six dimensions and applied to 24 cross-border entities in two border regions. Furthermore, empirically applying the concept of public sector innovation to cross-border cooperation allows for a more systematic assessment of their role in cross-border governance. The objective of the article is to provide a starting point for the development of a systematic and generalisable description of public sector innovation in cross-border cooperation.

The first part of this article is a review of the relevant literature and theoretical approaches for the analysis of public sector innovation in cross-border cooperation. Subsequently, the conceptual framework of public sector innovation in cross-border cooperation is developed, building on Public Administration and cross-border cooperation literature. The third section justifies the methodology and case selection before presenting the data of the study. A comparative set-theoretic was



conducted encompassing cross-border administrative entities in the border regions on the island of Ireland and on the Upper Rhine. The study uses process data analysed with a qualitative content analysis as well as a subsequent set theoretic analysis. In the fourth section, the results are presented. The two final sections discuss the results and limitations of the study as well as implications of the research approach for the field of cross-border cooperation research.

2. Conceptualising Public Sector Innovation in Cross-Border Cooperation

The conceptual discussion in border studies has intensified over the past two decades (Roose & Kaden 2017, 35). This is happening with the understanding that borders refer to political borders that separate territories from one another, whereby borders are directly associated with statehood and state sovereignty (Eigmüller 2016, 51; Mau *et al.* 2008, 123; Paasi 2005, 18; Anderson 2001, 220). The borderlands perspective considers the border as a phenomenon constituting a specific space and distinguishes the border region itself from non-border regions. This space is institutionalised, and as such has its own internal set of rules that govern behaviour, are self-perpetuating, and are resistant to change (Newman 2003, 14). The discussion in this perspective looks predominantly at these border spaces with the connotation of an encounter space with bridges and interaction entanglements, with accompanying hybridisations and mixtures through the encounter of different structures and the people from these contexts (Newman 2006, 8). Such a perspective makes it possible to examine specifics arising from the drawing of borders as well as from border crossers, i.e., a horizontal perspective on cross-border cooperation. From this perspective, it can be deduced that innovations in cross-border cooperation may have an inter-institutional character, whereby innovations have novelties in the relation between institutions—specifically regarding the perception and interpretation of institutions, mechanisms of action within different institutional contexts, and communication between institutional settings. In an interpretation less bound to territoriality, however, further dimensions of the border phenomenon are taken into account. A de-territorialisation of the concept of border in border research and attention enables borders to be understood in a broader context (Cunningham & Heyman 2004, 291). De-territorialisation is not to be understood as a detachment from territoriality, but rather in the overcoming of so-called territorial traps and the consideration that territoriality is to be regarded as disentangled (Agnew 1994, 55; Chilla *et al.* 2012, 964). From this perspective, it can be deduced that innovations in cross-border cooperation have an intra-institutional characteristic, whereby innovations have novelties of cross-border institutions regarding processes in border regions as well as cross-border policies.

Cross-border cooperation is characterised by asymmetries between different systems, different organisations, different individuals, different institutions. Bridging and transmitting these asymmetries can be interpreted as novel. Cross-border cooperation can similarly be seen as a relatively new phenomenon with increasing dynamism in recent decades; this together with its possession of a low degree of pre-existing structures and processes forms a context with newly arising needs in the framework of integration and de-bordering. Consequently, innovation in cross-border cooperation encompasses institution-building to formalise cooperation, reduce complexity, facilitate and enable coordination, and promote joint strategy and policy development as well as joint actions and implementation. Furthermore, a permanent consolidation should be ensured. Public administrations innovate in cross-border cooperation both to overcome obstacles and to utilise potentials by developing and establishing new ways and forms of cooperation through transmitting existing processes, synchronising existing institutional paths, establishing cross-border paths, interfacing systems, organisations, and actors, as well as developing, introducing, and changing governance modes of interaction. Borders are dualistic in terms of potentials and hurdles with regard to innovation. Innovations are often re-combinations of the existing. In cross-border cooperation, this creates potential for innovation across the border through recombination. However, innovations must also be compatible with the existing in order to be functional and not too foreign (scripts, behaviours, existing knowledge, and competences for action) in order to be accepted.

For the analysis of public sector innovation in the specific context of cross-border cooperation, existing conceptualisations of innovation need to be broadened regarding the dimensions of interdependencies and governance. So far, research has focused on interfaces (1) between the public and the private sector; (2) between the public sector and society; (3) across governmental levels within the public sector, i.e., policy formulation, public administration, and service production; (4) across public sector levels in a vertical perspective; or (5) across policy fields (Bloch & Bugge 2013, 135). Considering multi-level interdependencies, a horizontal dimension of cross-public administration levels needs to be added for a more holistic understanding of innovation, extending the cross-public sector dimension to complement the conceptualisation. The development of administrative structures across existing spaces of governance comes hand-in-hand with innovation, since existing instruments may reach limits (Stone Sweet *et al.* 2001, 10). Cross-border administrative structures do not exist based on constitutional or public-law enactments but are established in an informal framework as novel setups. Their operating procedures and instruments constitute policy innovations (Perkmann 2007, 867). Furthermore, due to expertise and institutional learning, they function

as norm entrepreneurs to overcome border obstacles (Mastenbroek & Martinsen 2018, 430). Regardless, the literature on public sector innovation in cross-border cooperation is limited. Therefore, in the following section, I will present the conceptualisation of innovation from other contexts and further develop it for application to cross-border cooperation.

The concept of public sector innovation has been developed in distinction to private sector and technological innovation in order to analyse innovation in public administration and government-related contexts. Innovation in public administration research captures the adoption of new knowledge, new organisations, new management, and/or procedural skills resulting in organisational change (Damanpour & Evan 1984, 393; Osborne & Brown 2005, 4; Moussa *et al.* 2018, 232). The central term *new* references a distinguishing between past and present, implying change and discontinuity (Peters & Pierre 1998, 581; Bloch & Bugge 2013, 136; Osborne & Brown 2011, 1338). This includes both entirely new phenomena in the sense of previously non-existent ones as well as changes that lead to a significant change (Bloch & Bugge 2013, 143). Since innovation is a contextual concept, the novelty is to be understood as “new (1) at the time of implementation [and] (2) for the entity” (Koch & Haunke 2005, 9). It is crucial that the phenomenon represents a change of action for the organisation, i.e., for the cross-border administration, and not compared to other organisations for society as a whole. Thus, transfers and mimic takeovers are also to be interpreted as innovations if they did not exist before in the specific context of the cross-border administration.

Based on the systematic literature review by de Vries, Bekkers, and Tummers (2016), the applied definition and conceptualisation of different studies on public sector innovation can be concluded, as well as their strengths and weaknesses in terms of their applicability in the context of studying public sector innovation in cross-border cooperation. Most conceptualisations include internal administrative, often technology-driven, processes but pay less attention to other types of innovation, particularly governance and conceptual but also inter-organizational innovations (de Vries *et al.* 2016, 153, 154).

Arundel & Huber identify 18 studies on public sector innovation wherein “none of the large-scale studies cover all types of public sector organizations” (2013, 147). Furthermore, some approaches of unpacking and operationalising public sector innovation consist of single survey items of questions of the ‘introduction of new procedures’, ‘introduction of new processes’, or, more abstractly, the ‘introduction of innovations’ without further unpacking what encompasses these broad and general terms. Demircioglu & Audretsch’s study is a highly valuable contribution due to its identification of

conditions for innovation in public sector organisations (2017). However, the measurement of innovation relies on answers to the survey question “in the last 12 months, has your work group implemented any innovations?” with no further differentiation of types and dimensions of public sector innovation (Demircioglu & Audretsch 2017, 1684). Walker develops a three-dimensional conceptualisation of innovation in the public sector, covering product innovation, process innovation, and ancillary innovation encompassing new services, new governance arrangements, as well as organisation-environment boundary innovations which are “dependent on factors outside an organization’s control” (Walker 2006, 314). The explicit overlap of the three dimensions and the instance that the third dimension—ancillary innovation—overlaps with product and process innovation occurs in a way that the only distinction is the boundary-crossing nature reduces the complexity of innovation to two dimensions. Furthermore, the operationalisation of the two dimensions reveals a more technical understanding of innovation focused on services as well as technological and organisational aspects (Walker 2006, 318), underemphasising relational and interorganisational dimensions of public sector innovation. Although suitable for the research question and context of the respective study, it does not seem suitable for application in the context of cross-border cooperation due to the importance of interorganisational aspects in cross-border cooperation (Blatter 1997, 152).

In more recent publications, public sector innovation has been developed more complexly. In the following, I will rely on three influential works that opened the black box of public sector innovation, namely the works of Bloch & Bugge (2013), de Vries *et al.* (2016), and Windrum (2008b). The frameworks of these three studies are adopted for this paper for at least two reasons. On the one hand, these three studies developed a fine grained and complex conceptualisation of sub-dimensions, while other more explorative or condition- and effect-oriented works do not sufficiently define the different dimensions of public sector innovation in-depth, dimensions which are of interest in this study, namely the inter-institutional dimensions of public sector innovation. On the other hand, while using different terms and choosing different delineations of the types of innovation and different classifications, the phenomena encompassed by the frameworks are comparable and overlapping, as shown below. Through combination and small additions, the properties theorised by the authors can be captured. Table 1 provides an overview of the innovation types or dimensions that have been formed. Bloch & Bugge apply the concept as developed by Windrum (2013, 137; 2008b). However, in their measurement, the types of innovation included change slightly, so that the types of innovation included in the table correspond to the measurement and the respective definition in the appendix of their publication (Bloch & Bugge 2013, 143).

Table 1. Types or Dimensions Developed in Research.

Source: the author (based on the three publications cited in table).

Windrum (2008a, 233)	de Vries et al. (2016, 154)	Bloch & Bugge (2013, 140)
Service innovation	Process: administrative & technological innovation	Product innovation
Service delivery innovation	Product/service innovation	Process innovation
Administrative & organizational innovation	Conceptual innovation	Organisational innovation
Conceptual innovation	Governance innovation	Communication innovation
Policy innovation	Other	Innovation cooperation
Systemic innovation		

The classification of innovation types or dimensions presented in Table 1 encompasses various aspects of public sector innovation. Service/product innovation is considered a dimension of all conceptualisations. Service delivery innovation overlaps with both process innovation and administrative/organisational innovation. Furthermore, a clear distinction from service or product innovation is not always clear-cut and is largely dependent upon the exact understanding and measurement (Osborne & Brown 2005, 124). These interconnections suggest that an explicit distinction of service delivery innovation causes more demarcation problems than it offers analytical added value in the distinction (Osborne & Brown 2005, 124). For instance, it is barely possible to find a meaningful differentiation between the introduction of 'new working methods' and 'new ways of delivering services' since the latter can be interpreted as a subset of new working methods in the particular context of service delivery (de Vries *et al.* 2016, 154; Bloch & Bugge 2013, 137). Governance innovation captures governance-related aspects and also intersects with parts of systemic innovation (Windrum 2008b, 11). Conceptual innovation is present across all dimensions, while communication innovation is discussed by Bloch & Bugge in the measurement context, and is also associated with parts of systemic innovation (2013). Systemic innovation, as defined by Windrum, encompasses new or improved ways of interacting with other organizations and knowledge bases, similar to Walker's ancillary innovations (2006, 314). By differentiating governance, communication, and parts of systemic innovation, along with the inclusion of conceptual aspects, a more detailed analytical framework is established.

Drawing on these considerations of the three typologies, public sector innovation will be further developed in the following section and distinguished in a way that, on one hand, administrative innovation is to be understood in a more technical way concerning structures and instruments, as described by intra-

institutional innovation, while on the other hand, inter-institutional innovation is to be thought of as taking place in a social subsystem, encompassing strategic-conceptual and governance-related aspects (Osborne & Brown 2011, 1340; Hartley 2005, 33; Damanpour 1991, 563). The perspective of institutions encompasses institutional capacity built across borders (Beck 2018, 20), regarding cross-border institutions as the actor of interest in the concept of public sector innovation in cross-border cooperation (Beck 2018, 20). The intra-institutional sub-concept concerns internal phenomena within these institutions, while the inter-institutional sub-concept's external innovations aim to change cooperation of or with other actors in border regions.

Figure 1 graphically illustrates the underlying structure of the concepts of public sector innovation, differentiating two sub-concepts with three dimensions each. Intra-institutional innovation encompasses process innovation, product or service innovation, and policy innovation (de Vries *et al.* 2016, 153). Process innovation is the implementation of changes to internal organisational processes and management methods, new techniques, and new working methods as well as new procedures and processes, the design of procedures, new methods of service, and product delivery (Bloch & Bugge 2013, 139). Service or product innovation is related to basic work activities and encompasses the introduction of new or significantly-changed services or products as compared to existing ones (Koch & Haunkes 2005, 13). This comprehends all modifications in the attributes of service products and service designs (Windrum 2008b, 8). Service or product innovation can be motivated by the desire to meet the needs of external actors, to implement coordinated problem-solving or exploitation of potential, as well as to joint-implement policy or task-delivery (Damanpour 1991, 561; Beck 2018, 14). Policy innovation describes novelties in policies and policymaking. Policy is understood here in institutional and substantive terms, as well as internal and external

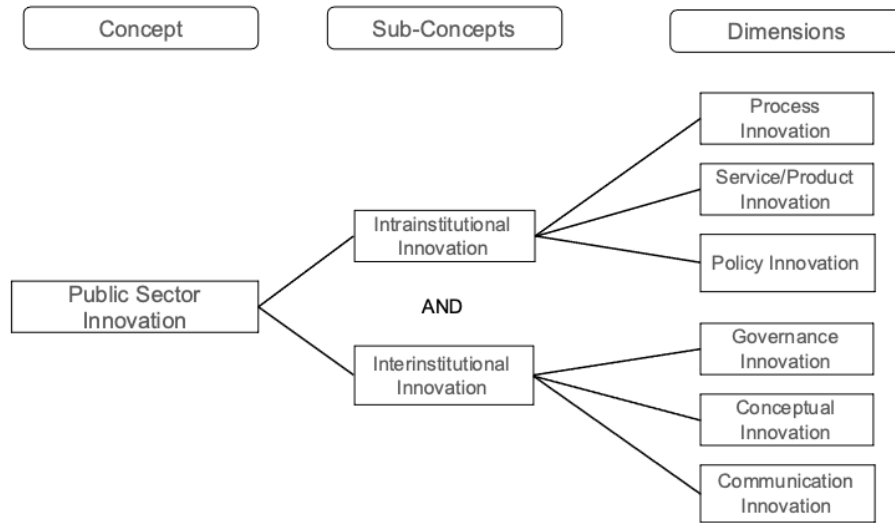


Figure 1 - The Concept of Public Sector Innovation. Source: author illustration.

scopes as conceptualised by Knill & Bauer (2016, 951). Policy innovations encompass changes in thought or behavioural intentions within a policy belief system, involving incremental or radical innovation driven by policy learning and conceptual innovation (Arundel *et al.* 2019, 792). These innovations are facilitated by learning processes related to improving policy instruments, conceptual understanding of problems and courses of action, and evolving social interactions and governance (Windrum 2008b, 10). Besides the content of policy, the usage of new policy instruments also falls under this dimension of innovation (Koch & Haunkes 2005, 13).

Inter-institutional innovation comprises governance, conceptual, and communication innovation (de Vries *et al.* 2016, 153; Hartley 2005, 28). Governance innovation aims at new forms of networking as well as establishing and maintaining partnerships with other organisations and actors (Hartley 2005, 28). Furthermore, governance practices and the development of new forms and processes for the coordination of different actors is a feature of this dimension (de Vries *et al.* 2016, 153). Conceptual innovation comprises the processes of “the development of new world views that challenge assumptions that underpin existing service products, processes and organisational forms” (Windrum 2008b, 8; see also Bloch & Bugge 2013, 137). It means a shift in the perspective of actors can be observed, which is accompanied by the adoption of novel meanings, such as the conceptualisation of what constitutes a *Grenzgänger*, or cross-border commuter. Conceptual innovation highlights a differentiation in abstract categories and typologies as well as perceptions of problems and opportunities in cross-border cooperation. Communication innovation is the implementation of new ways of promoting

the organisation or its services, or new methods of influencing cross-border cooperation of other actors, as well as first time promotions of services or products (Bloch & Bugge 2013, 139; Hartley 2005, 28).

On an organisational level, an ideal-typology can be conceptualised based on the set membership of cases in the dimensions, in the form of the following conceptual structure as summarised in Figure 2. The concept of public sector innovation in cross-border cooperation is divided in two sub-concepts: intra- and inter-institutional innovation. The sub-concepts are logically connected with the Boolean operator AND. Each sub-concept comprises three dimensions. The dimensional level is structured through a family resemblance approach, constituting a set membership in the sub-concepts with any set membership combination of either two or three of the dimensions (Oana *et al.* 2021, 54-55).

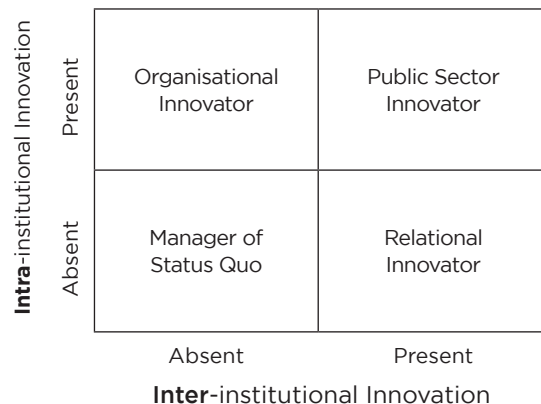


Figure 2. Four Ideal Types of Cross-Border Entities. Source: author illustration.

Besides different types of administrative innovation, typologies differentiate according to the degree of novelty. Incremental innovation in the following section describes innovation as based on the identification and definition of border-related problems and the solving of these problems through innovation, specifically by transferring existing solutions into new contexts, which can be related to isomorphism (Meyer & Rowan 1977, 346; DiMaggio & Powell 1983; de Vries *et al.* 2016, 156). Generic innovation on the other hand is the radical introduction of formerly non-existent innovations that are developed through or on the basis of research and are always implemented in projects due to their novelty. In this study, this distinction is not relevant, as the types of innovation are of interest, not the degree of novelty. However, both degrees of novelty—incremental and radical innovations—are included in the analysis as innovations.

3. Case Selection, Methods, and Data

From an epistemological point of view, extreme cases that are close to ideal types are particularly suitable for a qualitative research design (Goertz & Mahoney 2012b, 214). Consequently, the case selection is based on a most likely approach regarding the identification of different types of public sector innovation in cross-border cooperation. The research questions will be explored through a comparative analysis of cross-border cooperation institutions on the island of Ireland and on the Upper Rhine. Both border regions are described in the literature as highly integrated and institutionalised in comparison to other European border regions, and the cross-border institutions have been identified as important in various perspectives (Tannam 2018, 251, 2011, 1214; Beck 2018, 20; Wassenberg 2016, 316; Badariotti 1997, 221; Graf 2021, 10; Kaucic & Sohn 2021, 16; Nagelschmidt 2005, 151). Furthermore, the research objectives share basic characteristics such as their set up by multilateral agreements and their possession of technical, managerial, or scientific functions. The policy fields in which the objects of study are specialised are similar in both border regions (i.e., education, public health, transport, regional economic policy, agriculture, environment, language/culture). The basic political and strategic goals of the superordinate institutional structures are identical (peace-building, reconciliation, integration), as are the specific fields of work, i.e., exchanging information, identifying and boosting common interests, overcoming disagreement, and contributing to solidarity between authorities (Wassenberg 2017, 229; Beck 2019, 14, 2018, 8). However, the given diversity by different degrees of institutionalisation, both within and across the two regions, makes the occurrence of different types of innovation likely.

The present study comprises 91 public sector innovations in 24 organisations of the regional level of the island of Ireland and the Upper Rhine, i.e., six implementation

bodies and six areas of cooperation of the North-South Ministerial Council (NSMC) and 12 working groups and their respective expert groups of the Upper Rhine Conference (URC). For the empirical investigation, process-produced data was collected and subsequently analysed with a qualitative content analysis (Salheiser 2019, 1120). In other analyses of comparable study designs and research interests, corporate publications and official documents used as data sources—along with the technique of a textual analysis—were identified as appropriate and purposeful for answering the research questions raised (see Bauer & Ege 2016, 1028; Svensson 2020, 7; Harguindéguy & Sánchez Sánchez 2017, 252; Liguori *et al.* 2018, 308). A total of 195 publications—predominantly corporate publications, including reports of the administrations on their activities, publications of the institutions as well as press releases and contents of the websites of the respective organisations—were processed and analysed. All corporate publications, official papers, joint communiqués, and charters as well as research and policy publications between 2015 and 2021 (as available on the institutions' websites) were taken into account in the analysis. 54 documents did not contain any information relevant to this study, making the volume of the corpus 141 documents. With regard to the data, it should be noted that the Implementation Bodies have a more extensive database compared to the Areas of Cooperation of the NSMC and the working groups of the URC, and thus there are limitations in the comparability of the data. This is due to the institutional design and the associated different reporting obligations. Furthermore, constituent legal regulations and agreements were included in the set of data. The sources of data are suitable for gathering information for a subsequent analysis which is interested in cross-border administrative innovation on an organisational level. The documents used are written communications that are transparently accessible to the public. This data is particularly suitable for the investigation of organisational framework conditions (Meyermann *et al.* 2019, 1333). On the one hand, it is a non-reactive method (Schnell *et al.* 2011, 398), meaning it can be repeated at will and is therefore easily verifiable (Geißler 2013, 493). Compared to the survey of interview data, process data has a particular methodological advantage regarding interpretation biases. The notion of innovation is relatively new in the context of the public sector, which may also lead to different interpretations of the terminology. This is difficult to confirm based on the survey results, but could be examined through cognitive testing (Bloch & Bugge 2013, 141).

The collected documents were analysed using the technique of a structuring qualitative content analysis (Mayring & Fenzl 2014). Through a systematic extraction, the analysis aims to “filter out particular aspects of the material [...] according pre-determined ordering criteria” and “to assess the material according to certain criteria” (Mayring 2014, 64). The coding followed the underlying rules of qualitative content analysis. Codes

were related to the described conditions, outcomes and developed indicators. The aim of the present social science qualitative content analysis is to infer patterns of interaction as well as institutional contexts of action from manifest textual content to latent social contexts (Mayring & Fenzl 2019, 633). In order to enable an examination of these latent properties, an exact and theory-based determination of the category scheme is highly relevant. All characteristics to be recorded must be clearly assignable to a category. The assignment of data to a category and thus to an indicator is done interpretatively in the sense of qualitative work. Categories and coding rules were defined for each deductively developed category, determining the assignment to a certain category (Mayring 2000, 15). Further detailed outline of the coding and calibration procedure, the codebook, and a list of the sources can be found in the supplementary appendix.

Activities stated in multiple publications were referenced once with a citation of the first source of appearance during the analysis. The search for relevant statements was carried out both by an automated search for the keywords and a manual review of the documents. The codebook, i.e., the coding rules, was refined in several stages following content analysis and coding development techniques. First, a limited number of documents—from the institutions under research but from time frames not included in the main analysis—were analysed in order to pre-test the codebook and coding rules as well as to identify ambiguities and to verify whether the wording and differentiation of the categories were appropriate; minor changes to the rules were made.

4. Results

The results of the empirical analysis identifying 91 public sector innovations are presented in the following section. Based on the conceptualisation and measurement presented above, dimensions of public sector innovation are identified, and the 24 cases of cross-border entities are categorised alongside the ideal typology developed above. The qualitative data points are assigned to the qualitative content analysis according to the calibration rules of set membership. The subsequent aggregation is concept-based on the logical AND as well as family resemblance relationships. In the following, anchor examples of the six dimensions of public sector innovation are presented and the coding is exemplarily described and justified. In total, 41 intra-institutional innovations, 20 process, 11 product/service and 10 policy innovations as well as 71 inter-institutional innovations—of which there were 33 governance, 19 conceptual, and 19 communicational innovations—were coded. The total of 91 cases is exceeded by the codified types since some innovations represent more than one type of innovation. Firstly, coded innovations of the three dimensions of the intra-institutional sub-concept

are outlined. Exemplary examples are presented in more detail for each dimension. Secondly, the results of the ideal type analysis are presented.

The Special EU Programmes Body (SEUPB) introduced an online applications procedure. There is a newly established opportunity for all applicants to apply online. “Applicants will be able to review the status of their application online. [...] Lead partners will have access to up-to-date monitoring and financial information on-line” (Special EU Programmes Body 2018b, 95). The introduction of online applications constitutes a process innovation and service innovation, since the introduction of online application possibilities for all applicants is a process innovation based on the usage of technology. In the policy field of public health, a toolbox for the management of cross-border health projects was developed and published online. The toolbox for managing cross-border health projects provides actors with practical assistance, checklists, and methods for the individual project phases (project definition, planning, implementation, and evaluation). It also highlights problems that typically arise in cross-border health projects (TRISAN 2022). The introduction of a new toolbox is a service innovation, since this is a previously non-existent tool for use by cross-border actors in the policy field of public health. InterTradelreland’s All-Island Seedcorn Investor Readiness Competition is a policy innovation offering a cash prize fund. “Seedcorn is primarily a way to help make your business investor ready and provides advice to significantly improve your chances of securing venture funding” (InterTradelreland 2019c, 2).

Regarding inter-institutional innovation, a cross-border fund for the implementation of cross-border youth events and programmes has been established in the Upper Rhine Region. The German-French-Swiss Upper Rhine Conference promotes cross-border cooperation in various areas such as economy, transport, environment, culture, and youth in the Upper Rhine (Deutsch-Französisch-Schweizerische Oberrheinkonferenz 2018c). The fund is a new instrument to change the self-organisation of the network in the field of cultural policy. In order to realise cross-border encounters and joint projects, funding is needed. The aim of the project fund is to bring German, French, and Swiss young people from the Upper Rhine region closer together (Deutsch-Französisch-Schweizerische Oberrheinkonferenz 2020d). It aims to facilitate networking of other groups in the field of youth work (Deutsch-Französisch-Schweizerische Oberrheinkonferenz Arbeitsgruppe Jugend 2016, 2). Conceptual innovation in the form of a new research approach in the analysis of international trade patterns uncovers and conceptualises the concentrated nature of trade: “as referred to throughout the article, there has been a shift in research focus in recent years away from country-level analysis of international trade patterns towards more empirical analysis of how

firms engage in trade. This work has uncovered the extremely concentrated nature of trade, driven by a small number of firms who are typically larger, more capital-intensive, more skills-intensive, more productive and pay higher wages than firms that do not either export or import” (IntertradeIreland 2019b, 30). On the other hand, regarding communication, the creation of award-winning digital campaigns has capitalised connections with Game of Thrones and Star Wars, with the innovation goal of reaching new audiences across the world. “Campaigns with the major air and sea carriers serving the island of Ireland, and with traditional and on-line tour operators, leverage significant funding each year from the commercial sector—encouraged also by investment by Irish Ferries and Stena Line in last few years” (Tourism Ireland 2018b, 5). This is coded as a communication innovation, since the focus lies on the promotion of tourism on a cross-border and all-island basis, as well as the services provided by the institution. The award recognises innovation in the field of communication, i.e., campaigning.

Regarding public sector innovation on an organisational level, Table 2 shows the empirical results for the analysis of the ideal types of public sector innovation based on dichotomous set memberships of the cases. The coding of 1, i.e., presence, is labelled based on the finding of at least one innovation of this type. If the dimension is absent, it is coded with 0. The coding of intra- and inter-institutional innovation is based on the presence and absence of the respective dimensions and the logical connection in form of a family resemblance approach, constituting a set membership in the sub-concepts with any set membership combination of either two or three of the dimensions.

Based on the results, the 24 cross-border entities can be typified alongside the above developed formation of ideal types, illustrated in Figure 3: eleven administrations appear as managers of status quo (46 percent of the sample), three are organisation innovators (13 percent), six relation innovators (25 percent), and four public sector innovators (17 percent). Intertrade Ireland, Tourism

Table 2. Type of Public Sector Innovation on an Organisational Level.

Source: the author (based on Ege 2017, 564).

	pro	serv	pol	intra	gov	con	comm	inter	Type
ITI	1	1	1	1	1	1	0	1	Public Sector Innovator
PH	1	1	0	1	1	1	1	1	Public Sector Innovator
SEUPB	1	1	0	1	1	0	1	1	Public Sector Innovator
TI	1	0	1	1	1	1	1	1	Public Sector Innovator
DR	0	0	0	0	1	1	0	1	Relational Innovator
EduVoc	0	0	0	0	1	0	1	1	Relational Innovator
EnvURC	0	0	0	0	1	1	0	1	Relational Innovator
RP	0	0	0	0	1	0	1	1	Relational Innovator
ST	0	0	0	0	1	0	1	1	Relational Innovator
E&L	0	0	0	0	1	1	1	1	Relational Innovator
FSPB	1	1	0	1	1	0	0	0	Organisational Innovator
NSLB	0	1	1	1	0	0	1	0	Organisational Innovator
WI	1	1	0	1	0	0	1	0	Organisational Innovator
AgriNSMC	0	0	0	0	1	0	0	0	Manager of Status Quo
AgriURC	0	0	0	0	1	0	0	0	Manager of Status Quo
Cult	0	0	0	0	1	0	0	0	Manager of Status Quo
EDU	0	0	0	0	1	0	0	0	Manager of Status Quo
EnvNSMC	0	0	0	0	1	0	0	0	Manager of Status Quo
HNSMC	0	0	0	0	1	0	0	0	Manager of Status Quo
LA	1	0	0	0	1	0	0	0	Manager of Status Quo
RTP	0	0	0	0	1	0	0	0	Manager of Status Quo
SP	0	0	0	0	1	0	0	0	Manager of Status Quo
Trans	0	0	0	0	0	0	1	0	Manager of Status Quo
YP	0	0	0	0	1	0	0	0	Manager of Status Quo

Organisational Innovation	Present	Organisational Innovator <i>WI, FSPB, NSLB</i>	Public Sector Innovator <i>ITI, SEUPB, TI, PH</i>
	Absent	Manager of Status Quo <i>LA, AgriNSMC, EDU, EnvNSMC, HNSMC, Trans, YP, Cult, RTP, AgriURC, SP</i>	Relational Innovator <i>EduVoc, DR, RP, EnvURC, E&L, ST</i>
		Absent	Present
		Relational Innovation	

Figure 3. Typification of 24 cross-border entities.
Source: author illustration.

Ireland, the SEUPB and Public Health/TRISAN show different dimensions of public sector innovation capturing both the organisational and relational dimensions. The contextual framework given by the two border regions seems to have an influence, likely due to the clustering of organisations in the membership of type sets, however, it does not appear as a deterministic condition but is rather to be interpreted as an intervening factor.

5. Discussion

As most studies, this illustrative and preliminary analysis in the area of public sector innovation in cross-border cooperation comes with limitations. This study can only be understood as a first preliminary study in several respects. Conceptually, further work is needed to achieve a better theoretical understanding of institutional characteristics in cross-border cooperation. In this context, Beck's suggestion of linking to the research of the EAS and the IPA should be followed, as conceptually illustrated by Heyduk (2019; 2021). The concept of public sector innovation represents a promising direction for theory and practice. Methodologically, the prerequisites and possibilities of set theoretic and configurational approaches in cross-border cooperation should be further discussed. Furthermore, the cross-case analysis approach applied in this article should be complemented by within-case studies to unravel more characteristics as well as effects and determinants of public sector innovation in cross-border cooperation. Regarding the exemplary empirical study, first, the size and scope have limitations. In terms of the size, the selection of 24 cross-border entities and 91 innovations represents a small number of cases. As for the scope, the number of two border

regions and the focus on the regional level does not allow generalisation beyond the population selected. The conceptual scope is related to cross-border entities on a subnational, i.e., regional, level in border regions. The measurement is particularly case-specific, so that it is not assumed to be mappable across levels and geographics; the measurement also needs to be revised regarding travelling to other cross-border cooperation arrangements. Generalisation to other levels, such as local level, cannot be drawn without further research and analysis; empirical generalisation is limited to the cases in the two border regions. More comparative research and additional empirical data from other border regions is necessary in order to be able to generalise across regions.

Analytical generalisation can be drawn regarding the multidimensional conceptualisation of public sector innovation in cross-border cooperation as well as the typology developed. The analysis of ideal types concerns the identification of patterns and regularities and is consequently about analytical generalisation. However, context particularities need to be considered (Goertz & Mahoney 2010, 314). Cross-border cooperation on the island of Ireland and on the Upper Rhine has been considered as comparatively highly institutionalised and has particular socio-economic and political context conditions (Koukoutsaki-Monnier 2015, 220; Coakley & O'Dowd 2007, 878; Bew & Meehan 1994, 98). Their influence on public sector innovation in cross-border cooperation needs to be analysed before modest generalisations can be drawn. Besides, the process data used is appropriate for an explorative study of cross-border administrative innovation and has the potential for results that can help build hypotheses and function as an *attention dirigiste* for further research on necessary and also sufficient conditions of cross-border administrative innovation. Nevertheless, further data needs to be collected, particularly through questionnaires, but also through qualitative interviews, in order to analyse public sector innovation more comprehensively as well as the causes and effects of the objects studied and the extension of the study to other border regions. Similar results in other studies would increase confidence for the typology of public sector innovation in cross-border cooperation. Moreover, triangulation is necessary to ensure that the study is not biased by measurement errors.

6. Conclusion and Outlook

Based on the need for more interregional comparative research identified by cross-border cooperation scholars, this article has proposed a research approach that places the analysis of ideal types in cross-border cooperation at the centre of the research interest. This approach has the advantage of reducing complexity, which is particularly high in the interdisciplinary, intercultural, and interregional field of cross-border cooperation research,



and therefore needs to be taken into account. Using a technique developed specifically for this purpose, a set theoretic approach, it could be shown that this is a promising approach that complements previously existing methodologies (Goertz & Mahoney 2012a, 18). These results not only provide preliminary empirical insights for innovation in cross-border cooperation but also go beyond existing perspectives by deploying a more fine-grained analysis of different types of public sector innovation. By comparing different border regions, generalisation, theory-building, mutual learning between researchers, and the transfer of concepts and research approaches from one region to another have the potential to lead to new insights. The identification of types in an interregional view can make an important contribution to this. This identification of additional similarities and differences is a main reason why more interregional comparative research is necessary for a more comprehensive understanding of cross-border cooperation.

In this study, both, inter- and intra-institutional innovations were identified in addition to different types of public sector innovation, demonstrating that the approach of this analysis offers a fruitful framework for the identification of key characteristics of cross-border cooperation. The article has provided an illustration of the possibility of measuring innovation in cross-border cooperation through transferring the concept of public sector innovation. However, particularities of the context of cross-border cooperation need to be integrated. In particular, these are the two sub-concepts comprising an organisational and relational perspective. The relational one seems to be more dominant in the analysis. However, most entities under investigation show only a limited diversity of public sector innovations, indicating that further empirical analyses are necessary. Further research should focus on the identification of factors for the types of innovation, particularly if institutional and formal characteristics play a role. Here, research regarding Open Government and Administrative Entrepreneurship are promising links to the ongoing discussion in scientific and practitioner communities (Beck 2022; Heyduk 2021).

Works Cited

- Agnew, John. 1994. "The Territorial Trap: The Geographical Assumptions of International Relations Theory" *Review of International Political Economy* 1(1): 53–80. <https://doi.org/10.1080/09692299408434268>
- Anderson, James. 2001. "Towards a Theory of Borders: States, Political Economy and Democracy" *Annales, Series Historia et Sociologia* 2(26): 219–232.
- Arundel, Anthony, Carter Bloch, and Barry Ferguson. 2019. "Advancing Innovation in the Public Sector: Aligning Innovation Measurement with Policy Goals" *Research Policy* 48(3): 789–798. <https://doi.org/10.1016/j.respol.2018.12.001>
- Arundel, Anthony, and Dorothea Huber. 2013. "From Too Little to Too Much Innovation? Issues in Measuring Innovation in the Public Sector" *Structural Change and Economic Dynamics* 27: 146–159. <https://doi.org/10.1016/j.strueco.2013.06.009>
- Badariotti, Dominique. 1997. "Fronts D'hier, Frontières : Le Rhin Supérieur" *Revue de géographie de Lyon* 72(3): 213–222. <https://doi.org/10.3406/geoca.1997.4695>
- Bauer, Michael W., and Jörn Ege. 2016. "Bureaucratic Autonomy of International Organizations' Secretariats" *Journal of European Public Policy* 23(7): 1019–1037. <https://doi.org/10.1080/13501763.2016.1162833>
- Baur, Nina, and Jörg Blasius (eds.). 2019. *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer Fachmedien Wiesbaden.
- Beck, Joachim. 2018. "Territorial Institutionalism—Capturing a Horizontal Dimension of the European Administrative Space" *Journal of Borderlands Studies* 8(2): 1–27. <https://doi.org/10.1080/08865655.2018.1530608>
- Beck, J. 2019. "Cross-Border Cooperation in Europe as an Object in Transdisciplinary Research. An Introduction." in J. Beck (ed.) *Transdisciplinary Discourses on Cross-Border Cooperation in Europe*. Brussels: Peter Lang. 13–23.
- Beck, Joachim (ed.). 2019. *Transdisciplinary Discourses on Cross-Border Cooperation in Europe*. Brussels: Peter Lang.
- Beck, Joachim. 2022. *Horizontal Integration: An Administrative Science Perspective on Cross-Border Cooperation in Europe*. Baden-Baden: Nomos. <https://directory.doabooks.org/handle/20.500.12854/91967>
- Bew, Paul, and Elizabeth Meehan. 1994. "Regions and Borders: Controversies in Northern Ireland About the European Union" *Journal of European Public Policy* 1(1): 95–113. <https://doi.org/10.1080/13501769408406949>
- Blatter, Joachim. 1997. "Explaining Crossborder Cooperation: A Border-focused and Border-external Approach" *Journal of Borderlands Studies* 12(1–2): 151–174. <https://doi.org/10.1080/08865655.1997.9695502>
- Blatter, Joachim. 2004. "From 'Spaces of Place' to 'Spaces of Flows'? Territorial and Functional Governance in Cross-Border Regions in Europe and North America" *International Journal of Urban and Regional Research* 28(3): 530–548. <https://doi.org/10.1111/j.0309-1317.2004.00534.x>
- Bloch, Carter, and Markus M. Bugge. 2013. "Public Sector Innovation—from Theory to Measurement" *Structural Change and Economic Dynamics* 27: 133–145. <https://doi.org/10.1016/j.strueco.2013.06.008>
- Chilla, Tobias, Estelle Evrard, and Christian Schulz. 2012. "On the Territoriality of Cross-Border Cooperation: 'Institutional Mapping' in a Multi-Level Context" *European Planning Studies* 20(6): 961–980. <https://doi.org/10.1080/09654313.2012.673563>
- Cinar, Emre, Paul Trott, and Christopher Simms. 2019. "A Systematic Review of Barriers to Public Sector Innovation Process" *Public Management Review* 21(2): 264–290. <https://doi.org/10.1080/14719037.2018.1473477>
- Coakley, John, and Liam O'Dowd. 2007. "The Transformation of the Irish Border" *Political Geography* 26(8): 877–885. <https://doi.org/10.1016/j.polgeo.2007.10.003>
- Colomb, Claire. 2018. "A European Perspective on Anglo-Scottish Cross-Border Cooperation: Lessons from EU-Funded Territorial Cooperation Programs" *Journal of Borderlands Studies* 33(1): 103–122. <https://doi.org/10.1080/08865655.2016.1267585>

- Cunningham, Hilary, and Josiah Heyman. 2004. "Introduction: Mobilities and Enclosures at Borders" *Identities* 11(3): 289–302. <https://doi.org/10.1080/10702890490493509>
- Damanpour, Fariborz. 1991. "Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators" *Academy of Management Journal* 34(3): 555–590. <https://doi.org/10.5465/256406>
- Damanpour, Fariborz, and William M. Evan. 1984. "Organizational Innovation and Performance: The Problem of 'Organizational Lag'" *Administrative Science Quarterly* 29(3): 392–402. <https://doi.org/10.2307/2393031>
- de Vries, Hanna, Victor Bekkers, and Lars Tummers. 2016. "Innovation in the Public Sector: A Systematic Review and Future Research Agenda" *Public Administration* 94(1): 146–166. <https://doi.org/10.1111/padm.12209>
- Demircioglu, Mehmet A., and David B. Audretsch. 2017. "Conditions for Innovation in Public Sector Organizations" *Research Policy* 46(9): 1681–1691. <https://doi.org/10.1016/j.respol.2017.08.004>
- DiMaggio, Paul J., and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields" *American Sociological Review* 48(2): 147–160. <https://doi.org/10.2307/2095101>
- Ege, Jörn. 2017. "Comparing the Autonomy of International Public Administrations: An Ideal-Type Approach" *Public Administration* 95(3): 555–570. <https://doi.org/10.1111/padm.12326>
- Eigmüller, Monika. 2016. "Der duale Charakter der Grenze" in Monika Eigmüller and Georg Vobruba (eds.) *Grenzsoziologie*. Wiesbaden: Springer VS. 49–68.
- Geißler, René. 2013. "Neue Steuerungsinstrumente in Den Landesverwaltungen" der moderne staat—Zeitschrift für Public Policy, Recht und Management 6(2): 485–506.
- Goertz, Gary. 2020. *Social Science Concepts and Measurements*. Princeton: Princeton University Press.
- Goertz, Gary, and James Mahoney. 2010. "Scope in Case Study Research" in David Byrne and Charles C. Ragin (eds.) *The Sage Handbook of Case-based Methods*. Los Angeles: SAGE. 307–317.
- Goertz, Gary, and James Mahoney. 2012a. *A Tale of Two Cultures: Qualitative and Quantitative Research in the Social Sciences*. Princeton, N.J.: Princeton University Press. <http://www.jstor.org/stable/10.2307/j.cttq94gh>
- Goertz, Gary, and James Mahoney. 2012b. "Concepts and Measurement: Ontology and Epistemology" *Social Science Information* 51(2): 205–216. <https://doi.org/10.1177/0539018412437108>
- Graf, Lukas. 2021. "Leveraging Regional Differences and Cross-border Collective Institutions: The Case of Skill Formation and Employment in the Border Region of France, Germany, and Switzerland" *Swiss Political Science Review* 3(2): 1–21. <https://doi.org/10.1111/spsr.12442>
- Harguindéguy, Jean-Baptiste, and Almudena Sánchez Sánchez. 2017. "European Cross-Border Regions as Policy-Makers: A Comparative Approach" *Journal of Borderlands Studies* 32(2): 249–265. <https://doi.org/10.1080/08865655.2016.1195706>
- Hartley, Jean. 2005. "Innovation in Governance and Public Services: Past and Present" *Public money and management* 25(1): 27–34. <https://dx.doi.org/10.1111/j.1467-9302.2005.00447.x>
- Heyduk, Tobias. 2021. "Why and How Does the Horizontal Dimension of the European Administrative Space Matter in the Context of the Aachen Treaty?" in J. Beck (ed.) *Grenzüberschreitende Zusammenarbeit nach der Pandemie/ La coopération transfrontalière après la pandémie*. Brussels, Berlin, Bern, New York, Oxford, Warszawa: Peter Lang. 105–160.
- Hudson, John, and Stefan Kühner. 2013. "Beyond Indices: The Potential of Fuzzy Set Ideal Type Analysis for Cross-National Analysis of Policy Outcomes" *Policy and Society* 32(4): 303–317. <https://doi.org/10.1016/j.polsoc.2013.10.003>
- Kaucic, Jiannis, and Christophe Sohn. 2021. "Mapping the Cross-Border Cooperation 'Galaxy': An Exploration of Scalar Arrangements in Europe" *European Planning Studies* 1: 1–21. <https://doi.org/10.1080/09654313.2021.1923667>
- Knill, Christoph, and Michael W. Bauer. 2016. "Policy-Making by International Public Administrations: Concepts, Causes and Consequences" *Journal of European Public Policy* 23(7): 949–959. <https://doi.org/10.1080/13501763.2016.1168979>
- Koch, Per M., and Johan Haunkes. 2005. "On Innovation in the Public Sector—Today and Beyond" *Publin Report D20*. <https://nifu.brage.unit.no/nifu-xmlui/bitstream/handle/11250/226573/d20-innovation.pdf?sequence=1>
- Koukoutsaki-Monnier, Angeliki. 2015. "Towards a Trans-Border Identity in the Upper Rhine Area? Regional Cohesion in the Grip of the Nation-State" *Studies in Ethnicity and Nationalism* 15(2): 213–229. <https://doi.org/10.1111/sena.12139>
- Kvist, Jon. 2007. "Fuzzy Set Ideal Type Analysis" *Journal of Business Research* 60(5): 474–481. <https://doi.org/10.1016/j.jbusres.2007.01.005>
- Lagana, Giada. 2017. "A Preliminary Investigation on the Genesis of EU Cross-Border Cooperation on the Island of Ireland" *Space and Polity* 21(3): 289–302. <https://doi.org/10.1080/13562576.2017.1379928>
- Liguori, Mariannunziata, Ileana Steccolini, and Silvia Rota. 2018. "Studying Administrative Reforms Through Textual Analysis: The Case of Italian Central Government Accounting" *International Review of Administrative Sciences* 84(2): 308–333. <https://doi.org/10.1177/0020852315619023>
- Mastenbroek, Ellen, and Dorte S. Martinsen. 2018. "Filling the Gap in the European Administrative Space: The Role of Administrative Networks in EU Implementation and Enforcement" *Journal of European Public Policy* 25(3): 422–435. <https://doi.org/10.1080/13501763.2017.1298147>
- Mau, Steffen, Lena Laube, Christof Roos, and Sonja Wrobel. 2008. "Grenzen in der globalisierten Welt. Selektivität, Internationalisierung, Exterritorialisierung" *Leviathan* 36(1): 123–148. <https://doi.org/10.1007/s11578-008-0008-z>
- Mayring, Philipp. 2000. "Qualitative Content Analysis [28 Paragraphs]" *Forum: Qualitative Social Research* 1(2). <http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204>
- Mayring, Philipp. 2014. *Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution*. Klagenfurt: Beltz.
- Mayring, Philipp, and Thomas Fenzl. 2014. "Qualitative Inhaltsanalyse" in Nina Baur and Jörg Blasius (eds.) *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer VS. 543–556.
- Mayring, Philipp, and Thomas Fenzl. 2019. "Qualitative Inhaltsanalyse" in Nina Baur and Jörg Blasius (eds.) *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer Fachmedien Wiesbaden. 633–648.

- Meyer, John W., and Brian Rowan. 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony" *American Journal of Sociology* 83(2): 340-363. <https://doi.org/10.1086/226550>
- Meyermann, Alexia, Tobias Gebel, and Stefan Liebig. 2019. "Organisationsdaten" in Nina Baur and Jörg Blasius (eds.) *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer Fachmedien Wiesbaden. 1321-1336.
- Moussa, Mahmoud, Adela McMurray, and Nuttawuth Muenjohn. 2018. "A Conceptual Framework of the Factors Influencing Innovation in Public Sector Organizations" *Journal of Developing Areas* 52(3): 231-240. <https://doi.org/10.1353/jda.2018.0048>
- Nagelschmidt, Martin. 2005. *Das oberrheinische Mehrebenensystem: Institutionelle Bedingungen und funktionale Herausforderungen grenzübergreifender Zusammenarbeit in Europa*. Basel: Schwabe.
- Newman, David. 2003. "On Borders and Power: A Theoretical Framework" *Journal of Borderlands Studies* 18(1): 13-25. <https://doi.org/10.1080/08865655.2003.9695598>
- Newman, David. 2006. "The Lines That Continue to Separate Us: Borders in Our 'Borderless' World" *Progress in Human Geography* 30(2): 1-19. <https://doi.org/10.1191/0309132506ph599xx>
- Oana, Ioana-Elena, Carsten Q. Schneider, and Eva Thomann. 2021. *Qualitative Comparative Analysis Using R: A Beginner's Guide*. Cambridge: Cambridge University Press.
- Osborne, Stephen P., and Kerry Brown. 2005. *Managing Change and Innovation in Public Service Organizations*. London, New York: Routledge.
- Osborne, Stephen P., and Louise Brown. 2011. "Innovation, Public Policy and Public Services Delivery in the UK. The Word That Would Be King?" *Public Administration* 89(4): 1335-1350. <https://doi.org/10.1111/j.1467-9299.2011.01932.x>
- Paasi, Anssi. 2005. "The Changing Discourses on Political Boundaries: Mapping the Backgrounds, Contexts and Contents" in Henk van Houtum, Olivier Kramsch, and Wolfgang Zierhofer (eds.) *B/ordering Space*. Burlington: Ashgate Publishing. 17-31.
- Payan, Tony. 2014. "Theory-Building in Border Studies: The View from North America" *Eurasia Border Review* 5(1): 1-18. <https://scholarship.rice.edu/handle/1911/92502>
- Perkmann, Markus. 1999. "Building Governance Institutions Across European Borders" *Regional Studies* 33(7): 657-667. <https://doi.org/10.1080/00343409950078693>
- Perkmann, Markus. 2007. "Policy Entrepreneurship and Multilevel Governance: A Comparative Study of European Cross-Border Regions" *Environment and Planning C: Government and Policy* 25(6): 861-879. <https://doi.org/10.1068/c60m>
- Peters, Guy B., and John Pierre. 1998. "Institutions and Time: Problems of Conceptualization and Explanation" *Journal of Public Administration Research and Theory* 8(4): 565-583. <https://doi.org/10.1093/oxfordjournals.jpart.a024396>
- Roose, Jochen, and Ulrike Kaden. 2017. "Three Perspectives in Borderland Research. How Borderland Studies Could Exploit Its Potential" in Zbigniew Kurcz, Elzbieta Opilowska, and Jochen Roose (eds.) *Advances in European Borderlands Studies*. Baden-Baden: Nomos. 35-45.
- Salheiser, Axel. 2019. "Natürliche Daten: Dokumente" in Nina Baur and Jörg Blasius (eds.) *Handbuch Methoden der empirischen Sozialforschung*. Wiesbaden: Springer Fachmedien Wiesbaden. 1119-1134.
- Schneider, Carsten Q., and Claudius Wagemann. 2012. *Set-Theoretic Methods for the Social Sciences: A Guide to Qualitative Comparative Analysis*. Cambridge University Press.
- Schnell, Rainer, Paul B. Hill, and Elke Esser. 2011. *Methoden der empirischen Sozialforschung*. München: Oldenbourg.
- Scott, James W. 2000. "Transboundary Cooperation on Germany's Borders: Strategic Regionalism Through Multilevel Governance" *Journal of Borderlands Studies* 15(1): 143-167. <https://doi.org/10.1080/08865655.2000.9695545>
- Stone Sweet, Alec, Neil Fligstein, and Wayne Sandholtz. 2001. "The Institutionalization of European Space" in Alec Stone Sweet, Wayne Sandholtz, and Neil Fligstein (eds.) *The Institutionalization of Europe*. Oxford University Press. 1-28.
- Svensson, Sara. 2020. "Resistance or Acceptance? The Voice of Local Cross-Border Organizations in Times of Re-Bordering" *Journal of Borderlands Studies* 2(4): 1-20. <https://doi.org/10.1080/08865655.2020.1787190>
- Tannam, Etain. 2011. "Explaining British-Irish Cooperation" *Review of International Studies* 37(3): 1191-1214. www.jstor.org/stable/23025416
- Tannam, Etain. 2018. "Intergovernmental and Cross-Border Civil Service Cooperation: The Good Friday Agreement and Brexit" *Ethnopolitics* 17(3): 243-262. <https://doi.org/10.1080/17449057.2018.1472422>
- van Houtum, Henk, and Anke Strüver. 2002. "Borders, Strangers, Doors and Bridges" *Space and Polity* 6(2): 141-146. <https://doi.org/10.1080/135625702200003590>
- Walker, R. M. 2006. "Innovation Type and Diffusion: An Empirical Analysis of Local Government" *Public Administration* 84(2): 311-335. <https://doi.org/10.1111/j.1467-9299.2006.00004.x>
- Walker, Richard M., Claudia N. Avellaneda, and Frances S. Berry. 2011. "Exploring the Diffusion of Innovation Among High and Low Innovative Localities" *Public Management Review* 13(1): 95-125. <https://doi.org/10.1080/14719037.2010.501616>
- Wassenberg, Birte. 2016. "La coopération transfrontalière dans l'espace du Rhin supérieur : un modèle de réconciliation franco-allemande ?" in Nicolae Paun and Sylvain Schirmann (eds.) *Borders, Identities, Communities*. Baden-Baden: Nomos. 295-316.
- Wassenberg, Birte. 2017. "Secondary Foreign Policy as a Peace-Building Tool: A European Model? The Contribution of Cross-Border Cooperation to Reconciliation and Stability in Europe" *Regional & Federal Studies* 27(3): 219-237. <https://doi.org/10.1080/13597566.2017.1343720>
- Wassenberg, Birte, Martine Camiade, and Katarzyna Stokłosa. 2019. "Borders, Objects of Historical Studies: Case-Studies from the Upper Rhine and Catalan Region in the West and from Central and Eastern Europe" in Joachim Beck (ed.) *Transdisciplinary Discourses on Cross-Border Cooperation in Europe*. Brussels: Peter Lang. 173-210.
- Windrum, Paul. 2008a. "Conclusions: Public Innovation and Entrepreneurship" in Paul Windrum and Per M. Koch (eds.) *Innovation in Public Sector Services*. Cheltenham, UK, Northampton, MA: Edward Elgar. 228-243.
- Windrum, Paul. 2008b. "Innovation and Entrepreneurship in Public Services" in Paul Windrum and Per M. Koch (eds.) *Innovation in Public Sector Services*. Cheltenham, UK, Northampton, MA: Edward Elgar. 3-20.
- Windrum, Paul, and Per M. Koch (eds.). 2008. *Innovation in Public Sector Services: Entrepreneurship, Creativity and Management*. Cheltenham, UK, Northampton, MA: Edward Elgar.