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Organizational Readiness for Co-Creation of Public Services in the Central and Eastern European Administrative Tradition: Development of the Conceptual Multi-Attribute Decision Support Model

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Abstract

Co-creation of public services and policies is considered a promising practice of re-shaping the traditional relationship between the state and its citizens, businesses and non-governmental organizations (NGOs). Nevertheless, there are also warnings that the implementation of the process of co-creation could fail. A possible reason is that the organization is not ready or sufficiently mature to implement the process of co-creation. This paper addresses co-creation drivers and barriers identified through systematic literature review and analysis of case studies from two Central and Eastern European (CEE) countries. The aim of this paper is to provide practitioners from CEE countries with a conceptual multi-attribute decision support model for evaluating the organizational readiness for co-creation. The methodological framework consists of three steps. The first two steps, content analysis (i.e. literature review) and case-study analysis, were used to identify and analyze drivers and barriers, which are then used in the last step to develop the conceptual multi-attribute decision support model. The developed model consists of 26 attributes grouped into three categories: capacity of the organization, drivers and barriers related to internal (public organization) co-creators, and context related drivers and barriers.

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The key points for practitioners are:

- Co-creation drivers and barriers affect organizations at the beginning of their co-creation journey (i.e. in identifying the key co-creation success factor at the organizational level);

- Co-creation drivers and barriers serve as guidance to organizations that were unsuccessful in co-creation;

- The conceptual model supporting the evaluation of co-creation readiness serves as a tool to those that consider implementing co-creation;

- The model offers an insight into a possible methodology for evaluation of readiness in different areas;

- For practitioners from the CEE region, co-creation drivers and barriers, together with the conceptual multi-attribute decision support model supporting the evaluation of co-creation readiness, offer a roadmap to successful co-creation.

Keywords:
Co-creation; drivers; barriers; multi-attribute decision support model; organizational readiness; administrative tradition; CEE.

1. Introduction

The paper aims to discuss the evaluation of co-creation readiness of public organizations. It draws from the experience of two Central and Eastern European (CEE) countries, namely Slovenia and Croatia, more precisely from the drivers and barriers of co-creation identified in two promising cases from the aforesaid countries. However, a broader administrative context should be considered in such regard. Public administrations are often classified according to their societal, political and legal systems and administrative culture in particular, i.e. beliefs and values concerning the role of the state and its civil service (e.g. Pollitt and Bouckaert 2011). According to the European Commission (2017, 34), even though all public administrations in the European Union (EU) share values associated with democracy and the rule of law, the respective regional cultures in which national public administrations are embedded show clear differences. Public administrations function in distinctive and diverse contexts, i.e. cultural, political and administrative, that shape the public administration and the ways in which it works and may be changed (Ongaro 2019). According to some authors (e.g. Durose and Richardson 2016a, 2016c; Torvinen and Haukipuro 2018), a "one-size-fits-all" approach to co-creation is hence less successful in the organizations that are insensitive to the context and the corresponding administrative culture. A literature review reveals that the concept of co-creation is mostly studied in the context of Anglo-Saxon administrative traditions and rarely in the CEE administrative tradition (Jukić et al. 2019; Nemec et al. 2019) despite the fact that there are several promising co-creation cases in this

region (see for example Kempa and Kozłowski 2020; Kukučková and Bakoš 2019). In accordance with the findings that in matters of the public-administration context (Ferlie and Ongaro 2015) especially when considering successive New Public Management reforms. This observation has important consequences for the requisite work practices, skills and knowledge bases of current public managers, as they are increasingly being asked to act as strategic as well as operational manage. Cover; Half Title; Title Page; Copyright Page; Table of Contents; List of illustrations; Acknowledgements; 1. Introduction: our core arguement and overview; 1.1 The proliferation and broadening of schools of strategic management; 1.2 Narratives of public management reform: getting beyond the Weberian bureaucracy; 1.3 Strategic management in the public sector: contingent or perennial?; 1.4 Overview of the book; 2. Schools of strategic management and their implications for contemporary public services organizations: part 1 -- from structure to culture. 2.1 The design school and strategic planning2.2 The strategic positioning school; 2.3 Mintzbergian strategy: emergence, organizational learning and context; 2.4 The entrepreneurial school and (social, the development of a decision support model for the evaluation of organizational readiness for co-creation in CEE is needed. Namely, CEE countries present specific features in societal development, therefore a specific administrative tradition and characteristics are attributed to the region (Kovač and Bileišis 2017, Kuhlmann and Wollmann 2019).

Such findings correspond with the research of Parrado et al. (2013), suggesting that co-production is more easily implemented in countries with a pluralistic administrative tradition (e.g. the Anglo-Saxon tradition) and those with administrative traditions with more autonomous citizens (e.g. the Nordic tradition). According to Voorberg et al. (2017a), it depends on the administrative tradition and governance culture that characterize the public sector in specific countries whether and how co-creation is a real game changer. This raises the question of how the practice of co-creation can be implemented in other administrative governance systems with a weaker tradition of citizen participation. There are many cases of successful implementation of co-creation in different areas (e.g. Daly et al. 2019; Rexhepi et al. 2017; Röcke 2014), while some authors draw attention to the fact that collaborative interaction or co-creation between public and private actors (e.g. citizens) can also have adverse consequences and lead to co-destruction (Echeverri and Skålén 2011; Järvi et al. 2018; Plé and Cáceres 2010). Within this context, a thorough understanding of when and where to leverage co-creation has become even more important to ensure that no co-destruction takes place (Oertzen 2018). In the context of public administration, Uppström and Lönn (2017) note that when developing and evaluating e-Government initiatives, one needs to be aware of the effects of co-creation and co-destruction of all involved stakeholders. According to Pluchinotta and Ferlie (2019), there are drivers and barriers that have impact on co-creation, such as designated and skilled project managers and team coordinators, willingness to invest in the community, organize effective meetings/workshop

with (and in) the community, have meaningful interactions with the community and a better understanding of challenges and opportunities, etc. In addition to the drivers and barriers for co-creation, Järvi et al. (2018) present the reasons that can lead to co-destruction of value before, during and after collaboration with other stakeholders. These reasons include the inability to change, absence of clear expectation, absence of information, insufficient level of trust, mistakes, inability to serve, customer misbehaviour and blaming. To increase the chances of successful co-creation, public organizations should first evaluate their maturity or readiness for implementation of co-creation projects and not just simply copy the good practices of co-creation from other administrative traditions. This can be done by studying the co-creation drivers and barriers. Based on the lack of research of co-creation in CEE countries, the paper aims to identify the main drivers and barriers of co-creation in the CEE region and, based thereon, to develop a conceptual multi-attribute decision support model. We believe that the decision support model would be useful for decision makers because a hierarchical structure and transparent evaluation would make decision problems easier and help them decide whether to begin the process of co-creation or not and, consequently, reduce the possibility of co-destruction. The decision support model will help practitioners evaluate the organizational readiness for co-creation in this region.

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The paper therefore intends to answer the following research questions:

RQ1: What are the drivers and barriers that facilitate and impede co-creation in the CEE region?

RQ2: How can the identified drivers and barriers be applied to build a multi-attribute decision support model for the evaluation of co-creation organizational readiness in the CEE context?

The paper is organized as follows: the next section (2) provides the essentials of the theoretical background of co-creation, administrative traditions and

public governance models in CEE, and multi-attribute decision models. Section 3 describes the methodological approach adopted, the content analysis of Web of Science (WoS) papers and the case studies from selected countries in the CEE region. Section 4 presents the results for both cases from Slovenia and Croatia analyzed with Fuzzy Cognitive Maps. The case-study analysis and literature review from Section 4 serve as input for Section 5, where we present our conceptual decision model for the evaluation of organizational readiness for co-creation for the countries of the CEE administrative tradition. The last section summarizes the results and highlights the final remarks and research implications.

The topicality of the paper is reflected in the multidisciplinarity of the theme, as required by systemic wicked societal issues of such kind. The aim of the paper is also to provide a basis for comparison with similar countries and other systems.

2. Theoretical basis

2.1 Co-creation

Co-creation is the new buzzword promoted in response to the main problems in the aftermath of the 2008 economic crisis. The neoliberal "dictate" characterizing this period has perpetuated the demise of the welfare state and undermined the scope and quality of public services, thus gravely affecting the quality of life and wellbeing of citizens (Selloni 2017). Beside the economic consequences, the crisis has additionally alienated citizens from policy making, thus contributing to the deepening of the democratic deficit – an already endemic problem of modern democracies (Giannone 2015). This has been the context in which co-creation attracted academic and political attention as a way to break this "vicious circle" and help citizens reclaim their position in policy making.

Hence, in contrast to both hierarchical strategies traditionally applied in the public sector (in line with the Weberian model) and competitive strategies featuring in the private sector – which under the pressure of the New Public Management (NPM) have also been introduced in the public sector (Torfing 2019) – co-creation has emerged as a "game changer", indicating a potential paradigmatic shift towards the New Public Governance (NPG), also labelled as Good (public) Governance (GG). Differently from NPM, where citizens are recognized as customers making rational choices between different service providers, NPG has bestowed them a new role as equal partners of state institutions in the process of creation of high-quality public policies and services (Torfing and Triantafillou 2013). Thus, co-creation has emerged as an idea building on the involvement of a wide range of actors in various stages of the production process and use of their resources (experience, assets, knowledge etc.) for (co-)creation of public value (Voorberg et al. 2015; Farr 2016; Torvinen and Haukipuro 2018)(b.

As such, it has been recognized as the most promising solution to the "wicked problems" of today – a favourite "one-size-fits-all" phrase used by scholars (e.g. Torfing and Sørensen 2019) to capture all political, economic and social challenges faced by governments. At the level of public service delivery systems, co-creation is seen as the path to more effective and efficient public policies, higher user satisfaction and improved quality of public services at a lower cost (Bovaird et al. 2015; Voorberg et al. 2015; Durose and Richardson 2016b; Osborne et al. 2016). In addition, at the higher societal level, the effects of this innovative collaborative practice are recognized as decreased fiscal pressures, strengthened social cohesion, democratized public services, active citizenship, stronger ownership, and democratic legitimacy (Fledderus et al. 2014; Voorberg et al. 2015; Durose and Richardson 2016a; Osborne et al. 2016; Bryson et al. 2017; Touati and Maillet 2018; Wiid and Mora-Avila 2018).

Moreover, the enthusiasm for co-creation as a new emerging concept has also (re)shaped the political discourse at the international level (OECD 2011). The EU, for instance, has embraced this concept as a bottom-up approach that fosters a culture of experimentation and leads to tailor-made solutions, growth, and legitimacy (EU Commission 2012, 2013; European Committee of the Regions 2017). Moreover, the Union has been actively providing financial support for the diffusion of this idea – by financing the work of the Observatory of Public Sector Innovation (OPSI 2020) and five projects under the auspices of the Horizon 2020 programme explicitly referring to co-creation (Co-VAL 2018). In particular, the Observatory of Public Sector Innovation (OPSI 2020) – a forum within the framework of the OECD that gathers civil servants from different countries – bears great potential for a spill-over effect of these ideas from the international to the national level. The hopes for this are high, especially after the adoption of the OECD Declaration on Public Sector Innovation in 2019, which has been signed by 40 countries.

However, despite being recognized as a promising concept, co-creation still lacks a clear definition. This is evident in its ambiguous relationship with other related (older and better established) concepts, in particular co-production (Voorberg et al. 2015; Jukić et al. 2019). Although in reality co-creation and co-production are closely intertwined or, according to Osborne et al. (2016, 644), "co-production is intrinsic to the process of public service delivery and is linked directly to the co-creation of value both for service users and for society", for the sake of analytical clarity we will try to highlight the main points of departure between the two and thus delineate the main properties of co-creation as a separate theoretical concept.

Namely, in contrast to co-production as a process focused on the improvement of specific services (Kershaw et al. 2017), the goal of co-creation is more ambitious, leading to public value creation (Gebauer et al. 2014; Farr 2016; Putro 2016; Torvinen and Haukipuro 2018). Hence, differently from co-production, which takes place at the service level – usually at the delivery phase of the service production cycle

(Ryan 2012; Pestoff 2014; Alford 2014; Thijssen and Van Dooren 2016; Oldfield 2017; Vennik et al. 2016; Nesti 2018) –, co-creation implies the inclusion of different stakeholders and the exchange of their resources at the higher, i.e. strategic and/or policy, level of change (Sevin 2016; Edelenbos et al. 2018; Torvinen and Haukipuro 2018; Touati and Maillet 2018). In more practical terms, this means that co-creation captures citizens' involvement at the co-initiator and/or co-design level, while co-production refers to citizens' involvement at the co-implementation phase of public services (Voorberg et al. 2015, 1348). Eventually, Torfing et al. (2016) point to "innovation" as the key feature that distinguishes co-creation from co-production. Seen through this prism, co-production is a rather limited concept that implies the improvement of a particular service within its existent format, while co-creation strives to transform the very understanding of a problem and to open the door to new innovative (never before considered) possibilities for its solution.

On this basis, we recognize the definition of Torfing et al. (2016, 8) as the most comprehensive explanation of co-creation "as a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences, and ideas that enhance the production of public value in terms of visions, plans, policies, strategies, regulatory frameworks, or services, either through a continuous improvement of outputs or outcomes or through innovative step-changes that transform the understanding of the problem or task at hand and lead to new ways of solving it." Therefore, we take this definition as the basis for the development of our multi-attribute decision support model aiming to evaluate organizational readiness for co-creation in countries that belong to the CEE administrative tradition.

2.2 Administrative traditions and public governance models in CEE countries

Any administrative reform or innovative approach is inevitably determined by the context in which various changes are proposed. Therefore, reformers need to establish and take into account this context in order to achieve the desired effects. Otherwise, plans and purely imported innovations can be just a dead letter or even counterproductive. Said context is usually recognized as administrative "tradition" or administrative, political, legal "legacy" in an individual country or region. It is highly acknowledged that public administrations differ from each other; moreover, that they represent a certain persistence or an important support for the administrative system to introduce specific administrative innovations (Painter and Peters 2010; Bevir 2011; Kovač and Bileišis 2017; Kuhlmann and Wollmann 2019).

Administrative traditions incorporate various complex variables. They are based on and consist of the historical development of a country or region, its culture, and the role of the state in a society. An administrative tradition is a more or

less enduring pattern in the style and substance of public administration in a particular country or group of countries; it is seen as a composition of both ideas and structures (Painter and Peters 2010, 6ff). Traditions include values and attitudes to administrators and their attitudes to citizens, the understanding of the rule of law, the economic system and prosperity or crises, the difference in power or authoritarian vs. participative orientation towards other stakeholders, the relations between politics and professionalism, law vs. management, de/centralization of authorities, accountability relations, transition processes, etc. The CEE countries, for instance, cope with transition-related issues and are subject to EU requirements, often complementary to their rather small size and hence lack of critical structures and administrative capacity. The same goes for Slovenia and Croatia which, before gaining independence in 1991, had been part of former Yugoslavia with state-captured administrations (Vintar et al. 2013; Kovač and Jukić 2017; Koprić et al. 2014), thus facing challenges such as politicized and too legally oriented administration, lack of coordination in PA and its transparency, undeveloped participation.

There are several categorizations of administrative traditions: the administration-centred or Napoleonic tradition in the French circle, the individual-centred tradition in the Anglo-Saxon setting, the legislator-centred or *Rechtsstaat* tradition in the German circle and in the majority of CEE areas, the ombudsman-centred or Nordic/Scandinavian tradition (Statskontoret 2005, 74–76). A further distinction (Kuhlmann and Wollmann 2019, 71–131) is made between the continental European Napoleonic (French-Italian), continental European federal (German), Nordic, Anglo-Saxon, and Central Eastern with Southern European models or families. Other authors list even more categories (e.g. Painter and Peters 2010, 19–30): Anglo-American, Napoleonic, German, Scandinavian, Latin American, postcolonial South Asian and African, East Asian, Soviet, Islamicist traditions. These traditions mostly correspond to the following dominant public governance models:

- The (neo) Weberian administration, which is highly present in the *Rechtsstaat* or German-Austrian-oriented traditions;

- The (post) NPM that is characteristic of Anglo-Saxony, partly Scandinavia and the Netherlands, in the 1990s also revealed in the CEE reforms, at least in written strategies and individual projects;

- Good (public) governance (GG), including good administration, as a kind of umbrella concept striving for extracting and balancing the best features of other models, advocated by global institutions such as the World Bank and the OECD (Bevir 2011; Koprić et al. 2014; Kovač and Sever 2015; OECD 2017; Tomaževič 2019).

Various studies expose specific features of the CEE region. This is due to its mixed legacies, mainly from Germany or Austria and France from centuries ago, combined with Soviet and/or (post)communist or (post)socialist experience in the last decades, and prevailingly still ongoing democratization and modernization processes, several implementation gaps, and the like (Dunn et al. 2006; Meyer-Sah-

ling 2009; Vintar et al. 2013; Koprić et al. 2014; Kovač and Bileišis 2017; Kovač and Jukić 2017). Some authors further diversify more detailed sub/traditions or parallel traditions within a region; for example, in CEE, individual countries present Soviet-Scandinavian, Soviet-Visegrad, French-Soviet, or Austrian-Yugoslavian legacies (Kovač and Bileišis 2017, 471–488). Generally, there is a lower reproductive capacity of administrative traditions in CEE compared to Western European countries (Meyer-Sahling 2009), which inter alia explains the growing yet rather superficial introduction of NPM or GG in Eastern Europe. To analyze this framework, the main public governance models present in Central Europe are further elaborated below (Table 1).

Table 1

Administrative traditions and governance models as a framework for co-creation

Based on tradition(s)	*Rechtsstaat* and partly Napoleonic tradition	Anglo-Saxon and Scandinavian traditions	Global institutions' concepts
Main governance models	(new) Weberian Administration	(post) New Public Management	Good (public) Governance
Prevailing timing	19th–20th century	1980s–early 2000	After 2000
Main principle(s)	Legality	Efficiency & effectiveness, service-orientation	Balancing eight principles, including participation, inclusiveness
Character of PA vs. citizens orientation	Authoritative	Service-oriented	Participative, inclusive
Administration task holders	Purely public administration	Privatization, deregulation	State thorough delegation, participation, collaboration
Interests' determination	Primarily public interest protection	Private interest realization	Balancing public and private interests
Role of PA users	Citizens	Clients	Partners

However, none of the countries in question is governed by a single tradition or governance model, since individual models have shown various benefits but also weaknesses. Dysfunctions relate to politicization and an overloading of the "ought" perspective leading to bureaucracy and formalism *per se* within Weberian concepts, a lack of constitutional state and an erosion of democracy within NPM, while GG leads all relevant stakeholders to enable collaborative governance only in a limited way and presents an outflow of democratic accountability due to networking (Kovač and Jukić 2017). Thus, in most countries, we recognize blended or hybrid and ever changing approaches, recently, for example, oriented towards the digital era. In addition, there is a strong notion of convergence in administrative reforms,

intensified through Europeanization and EU multi-level governance since the early 1990s (Koprić and Kovač 2016; Hammerschmid et al. 2016; Kovač and Jukić 2017). Yet administrative tradition specifics often represent the drivers and barriers to individual and, more so, systemic changes, such as co-creation. Consequently, administrative tradition is reflected in dominant public governance models and approaches that a given supra-, sub- or – most frequently when initiating systemic change – national authority is pursuing.

2.3 Towards a multi-attribute decision support model

From the point of view of both research and practice, policy-making is a long-term public decision-making process (Ferretti et al. 2019) presenting several complexities (e.g. De Marchi et al. 2016; Pluchinotta et al. 2019b). In this regard, decision analysts can introduce formal methods aimed to assist decision makers in improving their decision-aiding processes (Tsoukiàs 2007), thus allowing the understanding of the driving and restraining forces.

A decision support model aims at supporting (public or private) managers in taking decisions of various types. In the context of this paper, the decision support model under development aims at supporting public managers in taking the decision whether to implement co-creation or not. Specifically, the decision support model supports the evaluation of organizational readiness or maturity for the (successful) implementation of co-creation. Organizational readiness for co-creation is a complex concept that needs to be measured with various criteria (e.g. change in existing organizational structure and culture – Rutherfoord and Spurling 2016; Williams, Kang, and Johnson 2016, desire and willingness to co-create – Chaebo and Medeiros 2017; Torvinen and Haukipuro 2018, potential benefits for the organization – Kleinhans 2017, strong political will – Cepiku and Giordano 2014; Griffiths 2013; McCabe 2015, etc.). This calls for the employment of multiple-criteria decision-making methods (MCDM).

There are many different multi-attribute decision-making methods (e.g. Analytic Hierarchy Process – Saaty 1987, Multi-Attribute Utility Theory – Von Winterfeldt and Fischer 1975, Preference Ranking Organization METhod for Enrichment of Evaluations – Brans and Vincke 1985, etc.). In this paper, the DEX method (Decision EXpert) (Bohanec and Rajkovič 1990) is used due to its few main advantages that are very handy when evaluating organizations (Bohanec et al. 2017).

- DEX is hierarchical, indicating a decomposition of a decision problem into smaller, simpler sub-problems;
- DEX uses symbolic attributes instead of numeric ones;
- DEX has a finite value scale consisting of symbolic values like "low", "medium" or "high";

- DEX is rule-based. Evaluation of decision alternatives is defined in terms of decision rules.

According to Bohanec et al. (2013), a DEX model consists of the following components:

- Attributes/criteria are symbolic variables that represent the basic properties of decision alternatives;
- Scales of attributes are mostly qualitative and preferentially ordered;
- Hierarchy of attributes/criteria represents the decomposition of the complex decision problem into simpler sub-problems;
- Decision rules are utility functions represented in the form of decision tables, which determine the aggregation of lower-level attributes to higher-level ones.

According to Jereb et al. (2003), the most important feature of a successful decision support model is to help the decision maker to make a quality decision in a systematic and organized way.

Several examples of decision-aiding approaches are available (e.g. Tsoukiàs 2008). For instance, Bohanec (2006) states in his book that the process of decision-aiding follows the following steps shown in Figure 1.

Figure 1
Decision aiding steps
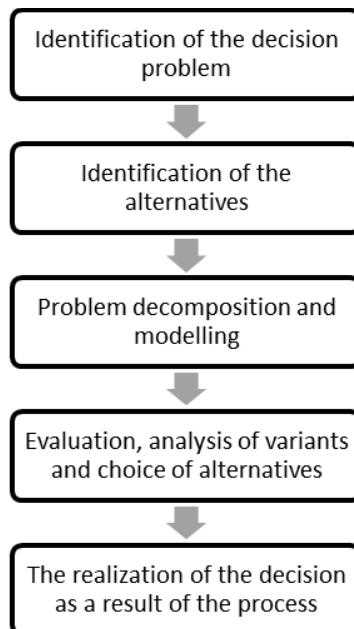
3. Methodological framework

The methodological framework of the paper consists of three steps:

1. Content analysis of WoS papers;

2. Case studies from two CEE countries (Slovenia and Croatia);

3. Development of a conceptual decision support model enabling the evaluation of organizational readiness for co-creation of public services.

The goal of the first two steps was to identify the co-creation drivers and barriers in literature (Step 1) and in practice (Step 2). The results provided inputs for Step 3, where co-creation drivers and barriers were used as attributes in the decision support model.

Each of these steps was conducted based on its own comprehensive methodological approach. In the following subsections, the methodological approaches of the three steps are presented in greater detail.

3.1 Content analysis of Web of Science papers

A content analysis[3] of WoS papers was conducted in order to identify the co-creation drivers and barriers from literature. The selection of papers in the WoS database followed four criteria: (1) time-span of the papers: 10 years (between 2009 and 2018) that (2) include the terms "co-creation" or "co-production" and (3) are classified under the WoS category: Public Administration, and (4) are written in English.

155 papers were identified based on these criteria. Content analysis was performed on 139 papers. The rest of the papers (16) did not address co-creation/co-production in the context of (core) public administration and were excluded from further analysis.

3.2 Case studies from the CEE region (Slovenia and Croatia)

A multi-step methodology for the elicitation and analysis of co-creation barriers and drivers in the context of two promising practices from the CEE region was used. Firstly, 19 semi-structured interviews in selected promising cases from two CEE countries (Slovenia and Croatia) were conducted. Secondly, case study reports were analyzed to detect the keywords of the stakeholders' argumentation and the causal connections among them.

3.2.1 Establishing a context of the case studies

Slovenia and Croatia both share political, legal and administrative legacies based on the 19th-century Austrian and the 20th-century Yugoslav heritages. Moreover, they

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3 A method frequently used in the field of public administration and other social science fields (e.g. Ropret et al. 2018; Kovač and Jukić 2017).

are both full members of the EU (Slovenia since 2004 and Croatia since 2013) and regarded as small states, still struggling with post-socialist transition. Thus, their experiences are also applicable to similar countries in the region.

The case studies analyzed originate from two Slovenian and Croatian cities: Ljubljana and Rijeka. The Slovenian administrative system is two-tiered, meaning that state administration and local self-government are separated; primacy is given to the state government, while local self-government (municipalities) has an instrumental nature (Kovač 2014). The local self-government consists of 212 municipalities, with 11 of them (including Ljubljana) having the status of an urban municipality. Regions have not been established in the Slovenian administrative system, yet. Ljubljana is also the capital of Slovenia with 295,504 residents (out of a total of 2,095,861 residents in Slovenia).

The Croatian local government system, on the other hand, consists of 21 counties, 128 towns/cities and 428 municipalities (European Committee of the Regions 2020). Furthermore, there are four urban agglomerations with seats in Zagreb, Split, Rijeka and Osijek. The urban agglomeration of Rijeka comprises four cities (including Rijeka) and six municipalities. Rijeka is the third biggest Croatian city with 128,384 residents (regionalni.weebly.com 2018).

In both cases, the local self-government entities (i.e. the urban municipality Ljubljana and the city of Rijeka) are responsible for tasks of local importance (e.g. primary health care, kindergartens, primary education, communal services, etc.).

Hence, the two case studies were selected based on the following two criteria:

• Co-creation at the same level of governance – i.e. the local level

• Co-creation in countries that share a (more or less) similar context

One of the key goals of the local self-governance reform that CEE countries introduced after gaining independence and undergoing democratic transformation was to bring citizens closer to decision- and policy-making about the key aspects of their everyday lives. Therefore, the first criteria for the selection of the case studies originated from the presumption that innovative and promising practices of co-creation are more likely to emerge at the local level than at the "distant and alienated" national level of governance.

Moreover, Slovenia and Croatia share similar historical and cultural backgrounds. This common experience represents an important aspect that could affect the potential co-creation drivers and barriers. Hence, with the purpose of building a consistent decision support model relevant for the context in which it will be applied, we decided to base it on two cases that share (more or less) similar conditions.

The Slovenian case was based on the Service for Citizens' Initiatives in the City of Ljubljana – an interactive online tool enabling direct citizens' participation and contribution to the work of the municipality. The web portal, established in 2008,

served as a direct digital channel of communication and access for citizens' initiatives regarding local problems under municipal authority. The Service represents a collaborative innovation tool used by citizens to complement the work of the municipal administration and thus contribute to better public services. Although the Citizens' Initiative Service was officially established in 2003, it is the election of Zoran Janković for Mayor in 2006 and the establishment of the web portal in 2008 that are engraved in the collective memory of the municipal administration as the very beginnings of the Service. In 2008, a more "sophisticated", i.e. IT, solution was designed in the form of a web portal with the purpose to enable a more systematic insight and approach to the local problems raised by citizens. Since 2008, the portal had functioned for almost 10 years before its upgrade in August 2018, which was (again) initiated by the Mayor. The 2018 upgrade, however, did not introduce visible changes for citizens as it was primarily focused on the background system aiming to improve and ease the work of the municipal administration working on citizens' initiatives. The findings of the Slovenian case study derive from nine semi-structured interviews carried out in March 2019 and a qualitative analysis of official municipal acts and strategic documents published on the web page of the Municipality of Ljubljana. The interviews were conducted with civil servants directly involved in the work of the Service and its development.

The Croatian case was conducted in the cultural sector, where the Rijeka 2020 European Capital of Culture (ECoC) project was analyzed. With the Rijeka 2020 EcoC project, the City of Rijeka and the Primorje-Gorski Kotar County aimed to improve the scope and variety of the city's and region's cultural opportunities, expand accessibility and participation in culture, build capacities in the cultural sector and its ties to other sectors, and increase the international visibility as well as the city's and region's profile. The Rijeka 2020 Participatory Programme was identified as one of the most innovative areas of co-creation thanks to the comprehensive citizen participation. Organizations, NGOs, citizens and other stakeholders were included in the EcoC project. The core idea of the Participatory Programme was to actively involve citizens in creating cultural, social and environmental programmes. Specifically, the Programme consisted of two micro-funding programmes (Civil Initiatives and Green Wave), a capacity-building programme (Learning to Build Communities), a participatory decision-making body (Council of Citizens), and RiHub as a physical place for education, meetings, exchange and joint action. The present case study is based on ten semi-structured interviews with representatives of the RIJEKA 2020 LLC (the organization responsible for the implementation of the ECoC project), the City of Rijeka and other related organizations carried out between April and May 2019. In addition, several documents, calls for action, reports and websites were analyzed.

The following table summarizes the key characteristics of the two case studies presented above. Details of the methodology adopted for the interviews and the case study are presented in the deliverables D2.1 (Pluchinotta et al. 2019c) and D2.3

(Cvelić et al. n.d.; Vrbek 2019) of the COGOV project. It is worth underlining that the analysis presented in this paper represents a further step in the case-study exploration, and the mentioned reports were used as starting points for the analysis.

Table 2
Characteristics of the two case studies analyzed

Case study characteristics	Slovenia	Croatia
Case area	Open government	Culture
Case analyzed	Service for Citizens' Initiatives in the City of Ljubljana	2020 Rijeka European Capital of Culture (ECoC) project
Data-gathering approach	• 9 semi-structured interviews • Analysis of municipal acts and strategic documents	• 10 semi-structured interviews • Analysis of municipal documents, project-related websites, calls for action and reports

In order to maximize the results, an incremental stakeholder identification practice, which is referred to as "snowballing" or "referral sampling", was implemented (e.g. Reed et al. 2009). Specifically, each interviewed stakeholder suggested the involvement of other stakeholders considering their role in the case study under analysis. Hence, the case of the Service for Citizens' Initiatives relies on nine semi-structured anonymous interviews conducted in the second half of March 2019 among the civil servants from the Municipality of Ljubljana who had been directly involved in the work of the Service and its development. The case of the Rijeka 2020 ECoC project relies on ten semi-structured anonymous interviews carried out in April and May 2019 at the key managerial positions within the RIJEKA 2020 LLC, the City of Rijeka and other related organizations.

3.2.2 *From interviews and document analysis to Fuzzy Cognitive Maps*

In order to elicit and structure stakeholders' knowledge on the promising practices' drivers and barriers, Fuzzy Cognitive Maps (FCMs) were applied (for details on the methodology see Eden and Ackermann 2004; Kok 2009; Özesmi and Özesmi 2004; Pluchinotta et al. 2019). The collected knowledge (i.e. case study reports) was, hence, processed in order to obtain a FCM for each case study (for details on the translation into variables and relationships of a FCM see Giordano et al. 2020; Santoro et al. 2019) the effectiveness of flood risk management strategies is highly dependent on stakeholders' perception and attitudes, which play a critical role on how individuals and institutions act to mitigate risks. Furthermore, practitioners and policy-makers realized that grey infrastructures may not be the most suitable solution to reduce flood risk, and that a shift from grey solutions to Nature Based Solutions is required. Within this framework, the present work describes a methodology to enhance the Nature Based Solutions implementation by facilitating the

generation, acquisition and diffusion of different stakeholders' risk perceptions. It is based on the combination of Problem Structuring Methods for the elicitation of stakeholders' risk perceptions through individual Fuzzy Cognitive Maps, and Ambiguity Analysis for the investigation of differences in risk perceptions and problem framing. The outputs of the Ambiguity Analysis, used during a participatory workshop, facilitated a dialogue aligning the divergences and promoting the social acceptance of Nature Based Solutions. These results of the implementation of this multi-step methodology in the Glinščica river basin (Slovenia.

FCMs are bidirectional graphs with feedback, consisting of nodes (i.e. variables, concepts) describing the main characteristics of the system, and connections between nodes (signed and weighted). Weights of the arcs are in the interval $[-1,1]$ (Papageorgiou and Kontogianni 2012) E1 and E2 genes of hepatitis C virus (HCV. Afterwards, the FCM are transformed into adjacency matrices (Harary et al. 1965); namely, when a connection exists between two variables of the FCM, the value is coded in a squared asymmetric matrix. Following the principles of graph theory, for each variable of the FCM/matrix a Centrality Index (CI) was computed. The CI allows to identify the most important vertices within a graph, accounting for the complexity of its network of links (Özesmi and Özesmi 2004).

FCM is a well-known tool used in different fields to capture expert knowledge, allowing to identify complex interrelations among elements of the system under investigation (e.g. Ackermann et al. 2014; Olazabal et al. 2018). Within this paper, the use of FCM was mainly aimed at enhancing the potential richness and diversity of the collected knowledge on barriers and drivers of co-creation in the selected countries of the CEE region.

4. Presentation of results

4.1 Co-creation drivers and barriers from literature review

Based on the analyzed articles we identified the issues relevant for the process of co-creation. Depending on their positive or negative connotation, we identified them either as drivers (positive connotation) or as barriers (negative connotation). The identified drivers and barriers were systematically structured in five categories according to the subject they affect in the process of co-creation: 1) capacity of the organizations, 2) drivers and barriers related to the quality of the relationship between co-creators, 3) drivers and barriers related to internal (public organization) co-creators, 4) drivers and barriers related to external co-creators, and 5) context-related drivers and barriers. A detailed interpretation of those categories was made by Vrbek and Pluchinotta (2020). Such a categorization of drivers and barriers also showed that barriers are mostly opposite to drivers, which is why in the presentation of drivers and barriers only drivers and barriers without a positive counterpart among drivers are presented. This structure is the basis for developing

a decision support model. Two of those categories (2. drivers and barriers related to the quality of the relationship between co-creators and 4. drivers and barriers related to external co-creators) were not included in the decision support model for the evaluation of organizational readiness for co-creation.

This decision followed a thorough analysis of their relevance for the organizational capacity and properties of a public organization. Only drivers and barriers recognized to embed the organizational aspects that a public organization should have to be able to conduct co-creation were included in the model. Precisely, the "drivers and barriers related to external co-creators" were excluded for referring to intrinsic features and perceptions of external co-creators (e.g. citizens and third-sector organizations), which are impossible to assess by public servants – the prime users of this model. Moreover, the "drivers and barriers related to the quality of the relationship between co-creators" did not relate to the organizational aspects of a public institution, but to the relationship developed among (external and internal) co-creators in the context of a specific act of co-creation. As such, this "relationship" captured the activities undertaken and the perceptions among co-creators during a specific act of co-creation, rather than the organizational properties and the capacity of the organization under which the process took place (i.e. the prime focus of the model).

The drivers and barriers within the category "capacity of the organization" refer to the structural characteristics of the organization, communication between the public organization and stakeholders, strategic orientation of the organization, and available resources. A key driver identified within this category is "readiness for change of existing institutional structure and culture" (Rutherfoord and Spurling 2016; Williams et al. 2016). On that note, a multi-stakeholder, decentralized and polycentric governance featuring less centralized and highly connected structures is suggested (Cepiku and Giordano 2014; Durose and Richardson 2016c), as this kind of governance structure and environment stimulates collaboration over competition and citizen empowerment, which enables a high degree of freedom of action and autonomy of the decision-making required for successful co-creation (Surva et al. 2016; Lindsay et al. 2018a). Collaboration can be successful if a continuous two-way channel of communication exists, as it provides regular and direct interaction with external stakeholders (Barbera et al. 2016; Tu 2016). The relationship between the public organization and citizens should be built on trust and equality (Saha 2012; Burall and Hughes 2016; Cho et al. 2016; Sicilia et al. 2016; Tu 2016; Andersen et al. 2017; Kane and Boulle 2018; Lindsay et al. 2018a, 2018c; Wiid and Mora-Avila 2018), and rely on mutual understanding and constructive interaction (Surva et al. 2016; Edelenbos et al. 2018; Kane and Boulle 2018), where all parties involved clearly identify the expected outcomes and each other's goals and effectively understand and value each other's wants (Fledderus et al. 2014; Isett and Miranda 2015; Putro 2016; Tu 2016; Tuurnas 2016). According to several authors (e.g. Dunston et al. 2009; Pill and Bailey 2012; Sicilia et al. 2016; Surva et al. 2016), public organiza-

tions will be able to co-create if they not only have appropriate financial and human resources, but are also willing to invest in capacity-building and training. Unfortunately, the lack of evidence within the public organization that co-creation has a positive effect, the misalignment of resources, and the use of productivity targets instead of quality ones can have a negative impact on the process (Baker and Irving 2016; Bovaird and Loeffler 2016; Martin 2018).

The category of drivers and barriers related to internal (public organization) co-creators refers to the competences, mind-set and autonomy of public-organization employees. The main barriers in this category are the fear that they would have an increased workload (Nesti 2018) and that the process of co-creation could reveal the existing structural/organizational flaws (Meričkova et al. 2015). Regardless of that, public servants should change their perception about citizens as they change from passive subject to active agents (Dunston et al. 2009; Griffiths 2015), where all participants work toward a common goal (Lam and Wang 2014; Ostling 2017; Lindsay et al. 2018a). The change of perception relates to how public-organization co-creators understand co-creation beyond mere consultation and formal participation and whether they are aware of the benefits that collaboration with the public might have. Moreover, they should also have the skills to participate and experiment in such a process and be open to surprises (Dunston et al. 2009; Duijn et al. 2010; Strokosch and Osborne 2016; Durose and Richardson 2016c). As public servants should be open to surprises, they also need to enjoy a certain level of flexibility and autonomy in terms of taking decisions during the process of co-creation (Lindsay et al. 2018b). As there are plenty of participators in co-creation, a skilled/trained facilitator should also be included, who can guide participants to better articulate their positions, manage conflict, reconcile different needs/desires, and achieve mutual agreements (Duijn et al. 2010; Meričkova et al. 2015; Howell and Wilkinson 2016; Jones et al. 2016; Rose 2016; Sicilia et al. 2016; Oldfield 2017; Kane and Boulle 2018). An important driver in the context of working toward a common goal is the desire to enhance the public image of the organization (Vennik et al. 2016). Finally, the public image can be enhanced also if high-profile public servants take up the role of advocates of co-creation (Griffiths 2015; Strokosch and Osborne 2016).

The last category, represented by context related drivers and barriers, refers to the political support, legislation and regulation, and wider collaborative environment and international support. According to several authors (e.g. Burall and Hughes 2016; Voorberg et al. 2017a), less defined policy areas, where neither the government nor other actors have clear solutions, are more suitable for co-creation. The implementation of co-creation will also be easier if there is a strong political will at the highest political level (Griffiths 2015; Cepiku and Giordano 2014; Burall and Hughes 2016; McCabe 2015; Strokosch and Osborne 2016), if co-creation is already introduced at some level in the system, and if the idea enjoys strong international support (Dunston et al. 2009; Kekez 2018). According to Voorberg et al. (2017b), the type of administrative tradition in the country will also have an impact

on the acceptance of co-creation because some are more favourable for the process of co-creation than others. On the other hand, there are some barriers that can affect successful co-creation, such as cold fiscal climate, i.e. budgetary restrictions and austerity measures implemented at the national level (Lum et al. 2016; Martin 2018; Pearson et al. 2018).

4.2 FCM Maps

The following section presents the analysis of the barriers and drivers of co-creation elicited from the two case studies from the CEE region.

4.2.1 Case study from Slovenia

Figure 2 shows FCM variables and relationships according to the stakeholders' understanding. Table 3 lists the variables, each variable's unique ID, and the related centrality index (CI).

Several drivers of the Service for Citizens' Initiatives in Ljubljana were mentioned by the interviewees. The main one was "Long term community-oriented objectives" (A5) (high CI) caused by the "Strong leadership of the Mayor" (A7), the "Awareness among Civil Servants of the importance of their work" (A8), and the "Willingness to invest in the Service" (A6), highlighting the importance of the role of the Mayor. Furthermore, the "Negative image of the Municipality" (A11) and the related "Motivation among civil servants to support the reform" (A9) and (A8) were considered key drivers to the "Improvement of the Service".

According to the respondents in the Slovenian case study, the variable "workload" (A16) represented the main barrier. It was described as an increased workload related to the 2018 upgrade of the Service for Citizens' Initiatives in Ljubljana and symbolized the fear of an additional burden for the municipal employees. It is interesting to observe that, although the barrier "Suitable internal organizational structure" (A15) causes the same effects (i.e. "Inconsistent and contradictory responses to same/similar citizens' initiatives" (A12), "Delayed answers" (A13) and "Lost and unanswered initiatives" (A14)) as the key barrier (A16), the respondents did not consider it similarly important (low CI). Other barriers with lower CI are: "Adaptation period to the new system" (A4) and "Service's cost" (A17).

Figure 2
Drivers and barriers of co-creation for the Service for Citizens' Initiatives in the City of Ljubljana (Slovenia)
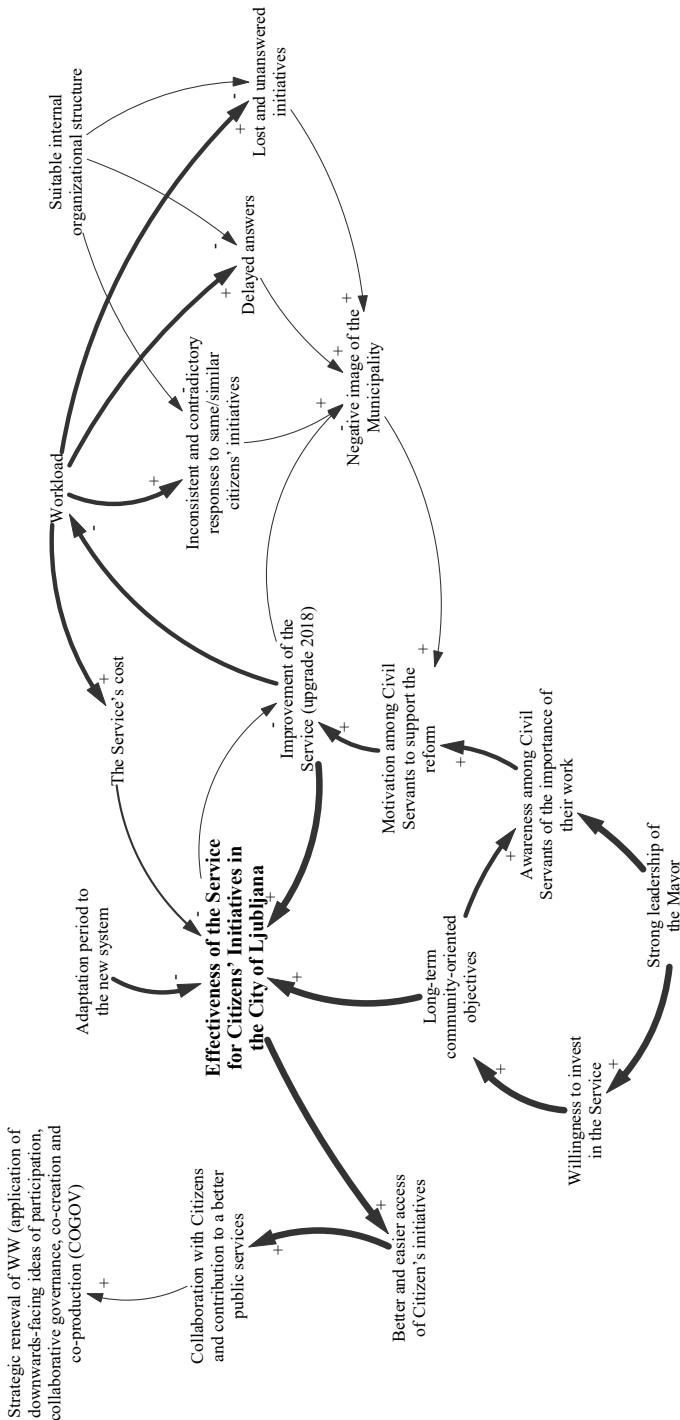
Table 3
List of drivers and barriers of the Slovenian case study and related CI

ID	VARIABLE	CLUSTER	CI
A3	Effectiveness of the Service for Citizens' Initiatives in the City of Ljubljana	Main Objective	3.20
A16	Workload	Barrier	2.50
A10	Improvement of the Service (upgrade 2018)	Objective	2.30
A5	Long term community-oriented objectives	Driver	1.90
A8	Awareness among Civil Servants of the importance of their work	Driver	1.70
A11	Negative image of the Municipality	Driver	1.50
A2	Better and easier access of Citizen's initiatives	Objective	1.40
A6	Willingness to invest in the Service	Driver	1.40
A7	Strong leadership of the Mayor	Driver	1.40
A9	Motivation among Civil Servants to support the reform	Driver	1.30
A12	Inconsistent and contradictory responses to same/similar citizens' initiatives	Barrier	1.10
A13	Delayed answers	Barrier	1.10
A14	Lost and unanswered initiatives	Barrier	1.10
A15	Suitable internal organizational structure	Barrier	0.90
A17	The Service's cost	Barrier	0.80
A1	Collaboration with Citizens and contribution to a better public service	Objective	0.70
A4	Adaptation period to the new system	Barrier	0.50

4.2.2 Case study from Croatia

The following FCM represents the drivers and barriers identified among the stake-holders during the interviews. The related CI for each variable and its unique ID is reported in Table 4, together with a graphical representation of their relationships (Figure 3).

According to the respondents, the main barriers in the implementation of the Rijeka 2020 ECoC project were generally related to any kind of "Difficulties in cooperation" (A10), for example "between citizens and a municipality" (A13) and "Cooperation between involved public professionals" (A11). "Mistrust and scepticism towards public organizations and their work" (A14) and the "Resistance of public professionals" (A12) were mentioned as the main causes. The barrier "De-motivation of engaged professionals" (A4) was also considered a key element influencing the ECoC Programme. Other key barriers influencing the effectiveness

Figure 3
Drivers and barriers of co-creation for the Rijeka 2020 ECoC project (Croatia)
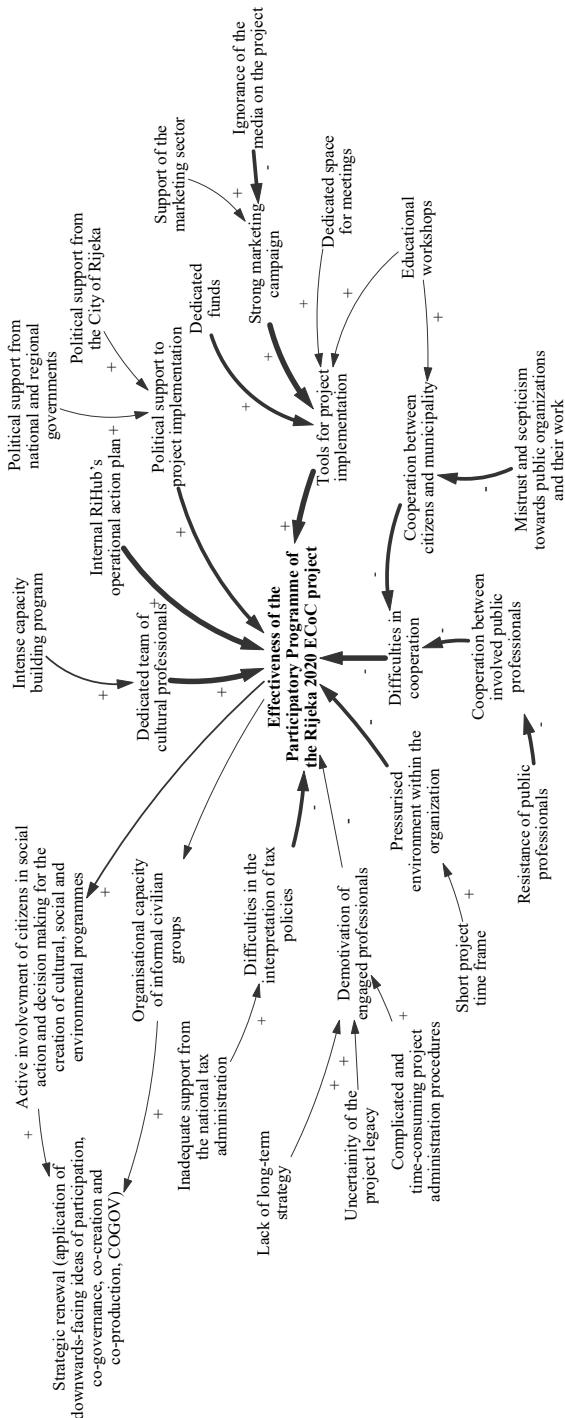
Table 4

List of drivers and barriers of the Rijeka 2020 ECoC project and related CI

ID	VARIABLE	CLUSTER	CI
A1	Effectiveness of the Participatory Programme of the Rijeka 2020 ECoC project	Main Objective	4.90
A16	Tools for project implementation	Driver	2.50
A10	Difficulties in cooperation	Barrier	1.70
A18	Strong marketing campaign	Driver	1.50
A13	Cooperation between citizens and municipality	Driver	1.30
A4	Demotivation of engaged professionals	Barrier	1.20
A22	Political support to project implementation	Driver	1.10
A11	Cooperation between involved public professionals	Driver	1.00
A26	Dedicated team of cultural professionals	Driver	1.00
A8	Pressurized environment within the organization	Barrier	0.80
A25	Internal RiHub's operational action plan	Driver	0.70
A15	Educational workshops	Driver	0.60
A2	Difficulties in the interpretation of tax policies	Barrier	0.50
A12	Resistance of public professionals	Barrier	0.50
A14	Mistrust and scepticism towards public organizations and their work	Barrier	0.50
A19	Dedicated funds	Driver	0.50
A20	Ignorance of the media on the project	Barrier	0.50
A3	Inadequate support from the national tax administration	Barrier	0.30
A5	Lack of long-term strategy	Barrier	0.30
A6	Uncertainty of the project legacy	Barrier	0.30
A7	Complicated and time-consuming project administration procedures	Barrier	0.30
A9	Short project time frame	Barrier	0.30
A17	Dedicated space for meetings	Driver	0.30
A21	Support of the marketing sector	Driver	0.30
A23	Political support from the City of Rijeka	Driver	0.30
A24	Political support from national and regional governments	Driver	0.30
A27	Intense capacity building programme	Driver	0.30

of the Programme were "Demotivation of engaged professionals" (A4) (caused by "Lack of long-term strategy", "Uncertainty of the project legacy" and "Complicated and time-consuming project administration procedures") and "Ignorance of the media on the project" (A20).

On the other side, the "Tools for project implementation" (A16) was indicated as the key driver of the ECoC Programme implementation. Moreover, "Political support to project implementation" (A22) and the presence of the "Internal RiHub's operational action plan" till 2021 (A25) were mentioned as beneficial aspects of the promising practice. Lastly, the participants stated that the ECoC Programme relied on a "Strong marketing campaign" (A18), "Dedicated funds" (A19), and "Dedicated space for meetings" (A17).

5. Multi-attribute decision model

Based on a detailed analysis of two case studies from the CEE region (Slovenia and Croatia) and content analysis of WoS papers, co-creation drivers and barriers were identified. These drivers and barriers were used as criteria for a multi-attribute decision support model for the evaluation of organizational readiness for co-creation of the organizations in the CEE region.

The proposed decision model takes into account the categorization of drivers and barriers from the content analysis and case studies with few adjustments. We excluded two categories related to "quality of the relationship between co-creators" and "external co-creators" as they do not relate to the organizational aspects of a public institution or cannot be evaluated by the end-users. The category "quality of the relationship between co-creators" relates to a specific relationship developed among external and internal co-creators, while the category "external co-creators" refers to intrinsic features and perceptions of external co-creators (e.g. citizens and third-sector organizations). As we wish to ensure a universal application of the model across CEE administrative traditions, drivers and barriers should not be exclusive to a specific national context and related to a specific project.

On this basis, the decision support model for the evaluation of organizational readiness for co-creation of the organizations in the CEE region was developed as a hierarchical, tree-like structure embedding the drivers and barriers divided into three main categories: capacity of the organization, drivers/barriers related to internal (public-organization) co-creators, and context-related drivers and barriers. The structure of the decision support model is shown in Figure 4.

From Figure 4 we can deduce which attributes are basic and which are derived attributes. An example of a basic attribute is "Collaborative culture" (1.1.3) since it represents the final node or leaf. The decision maker is required to enter the values for those attributes. Other attributes are derived as they are aggregated nodes of the model. Based on decision rules or utility functions, which are represented in

Figure 4

Structure of the decision support model
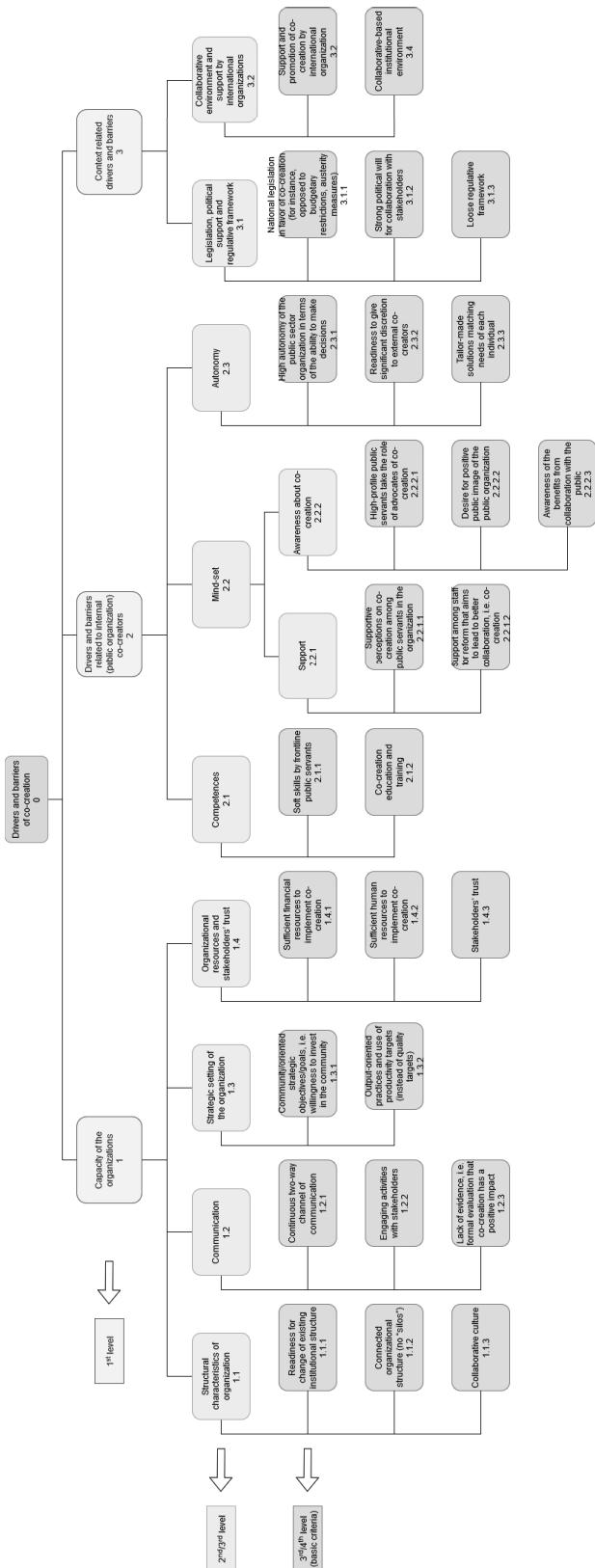
decision tables, we can aggregate the values from the basic attributes to the highest attribute, which represents the final evaluation of the organizational readiness for co-creation of the organizations in the CEE region.

In the next few tables, we will present whether the criteria were identified through the content analysis of WoS papers or through the detailed analysis of two cases from the CEE region.

Table 5 presents the criteria in the aggregated attribute "Structural characteristics of organization" 1.1.

Table 5

Aggregated attribute "Structural characteristics of organization"

Criteria	Source
Readiness for change of existing institutional structure 1.1.1	Case study (Slovenia) and literature
Connected organizational structure (no "silos") 1.1.2	Case study (Slovenia) and literature
Collaborative culture 1.1.3	Literature

Table 6 shows the criteria in the aggregated attribute "Communication" 1.2.

Table 6

Aggregated attribute "Communication"

Criteria	Source
Continuous two-way channel of communication 1.2.1	Literature
Engaging activities with stakeholders 1.2.2	Case study (Croatia), Literature
Lack of evidence, i.e. formal evaluation that co-creation has a positive impact 1.2.3	Literature

Table 7 shows the criteria in the aggregated attribute "Strategic setting of the organization" 1.3.

Table 7

Aggregated attribute "Strategic setting of the organization"

Criteria	Source
Community/oriented strategic objectives/goals, i.e. willingness to invest in the community 1.3.1	Case study (Slovenia, Croatia), Literature
Output-oriented practices and use of productivity targets (instead of quality targets) 1.3.2	Literature

Table 8 shows the criteria in the aggregated attribute "Organizational resources and stakeholders' trust" 1.4.

Table 8
Aggregated attribute "Organizational resources and stakeholders' trust"

Criteria	Source
Sufficient financial resources to implement co-creation 1.4.1	Case study (Slovenia, Croatia), Literature
Sufficient human resources to implement co-creation 1.4.2	Case study (Slovenia, Croatia), Literature
Stakeholders' trust 1.4.3	Case study (Croatia),

Table 9 shows the criteria in the aggregated attribute "Competences" 2.1.

Table 9
Aggregated attribute "Competences"

Criteria	Source
Soft skills by frontline public servant 2.1.1	Literature
Co-creation education and training 2.1.2	Literature

Table 10 shows the criteria in the aggregated attributes "Support" 2.2.1 and "Awareness about co-creation" 2.2.2, which are part of the aggregated attribute "Mind-set" 2.2. Those criteria are aggregated in another aggregated attribute because of DEX limits (too many decision rules because we have 5 criteria with 3 choices – 35 = 243 decision rules)

Table 10
Aggregated attribute "Mind-set"

Criteria	Source
Supportive perceptions on co-creation among public servants in the organization 2.2.1.1	Case study (Croatia), Literature
Support among staff for reform that aims to lead to better collaboration, i.e. co-creation 2.2.1.2	Case study (Slovenia)
High-profile public servants take the role of advocates of co-creation 2.2.2.1	Literature
Desire for positive public image of the public organization 2.2.2.2	Case study (Slovenia, Croatia), Literature
Awareness of the benefits from collaboration with the public 2.2.2.3	Case study (Slovenia), Literature

Table 11 shows the criteria in the aggregated attribute "Autonomy" 2.3.

Table 11
Aggregated attribute "Autonomy"

Criteria	Source
High autonomy of the public–sector organization in terms of the ability to make decisions 2.3.1	Literature
Readiness to give significant discretion to external co-creators 2.3.2	Literature
Tailor-made solutions matching needs of each individual 2.3.3	Literature

Table 12 shows the criteria in the aggregated attribute "Legislation, political support and regulative framework" 3.1 and "Collaborative environment and support by international organizations" 3.2, which are part of the aggregated attribute "Context-related drivers and barriers" 3. Those criteria are also aggregated because of DEX limits (too many decision rules because we have 5 criteria with 3 choices).

Table 12
Aggregated attribute "Context-related drivers and barriers"

Criteria	Source
National legislation in favour of co-creation (for instance opposed to budgetary restrictions, austerity measures) 3.1.1	Case study (Croatia)
Strong political will for collaboration with stakeholder 3.1.2	Case study (Slovenia, Croatia), Literature
Loose regulative framework 3.1.3	Case study (Croatia), Literature
Collaborative-based institutional environment 3.2.1	Literature
Support and promotion of co-creation by international organization 3.2.2	Literature

For each of the basic criteria presented, a question was defined to be answered with No, Partially or Yes. The aggregated attributes on the first level or main categories have a five-point scale (Poor, Average, Good, Very good and Excellent), while other aggregated attributes have a three-point scale (Poor, Average and Good). Higher levels of the decision tree must have a bigger scale.

An example of decision rules for the category aggregated attribute "Structural characteristics of organization" is shown in Figure 5. Exemplary rules show that an organization would score Good for this aggregated attribute only if two basic attri-

Figure 5

Decision rules for the aggregated attribute "Structural characteristics of organization"

Readiness for change of existing institutional structure 33%	Connected organizational structure (no "silos") 33%	Collaborative culture 33%	Structural characteristics of organization
1 No	No	<=Partially	Poor
2 No	<=Partially	No	Poor
3 <=Partially	No	No	Poor
4 No	*	Yes	Average
5 <=Partially	<=Partially	Yes	Average
6 *	No	Yes	Average
7 No	>=Partially	>=Partially	Average
8 <=Partially	Partially	>=Partially	Average
9 <=Partially	>=Partially	Partially	Average
10 *	Partially	Partially	Average
11 No	Yes	*	Average
12 <=Partially	Yes	<=Partially	Average
13 *	Yes	No	Average
14 Partially	<=Partially	>=Partially	Average
15 Partially	*	Partially	Average
16 >=Partially	No	>=Partially	Average
17 >=Partially	<=Partially	Partially	Average
18 Partially	Partially	*	Average
19 Partially	>=Partially	<=Partially	Average
20 >=Partially	Partially	<=Partially	Average
21 >=Partially	>=Partially	No	Average
22 Yes	No	*	Average
23 Yes	<=Partially	<=Partially	Average
24 Yes	*	No	Average
25 >=Partially	Yes	Yes	Good
26 Yes	>=Partially	Yes	Good
27 Yes	Yes	>=Partially	Good

butes scored Yes and the third one scored at least Partially. An organization would score Poor only if two basic attributes scored No and the third attribute scored Partially or No. In all other cases, an organization would score Average.

Figure 6
Evaluation of two examples

Option	Selected organization 1	Selected organization 2
. Drivers and barriers of co-creation	Average	Good
.. Capacity of the organizations	Good	Average
... Structural characteristics of organization	Average	Average
.... Readiness for change of existing institutional structure	Yes	Partially
.... Connected organizational structure (no "silos")	Yes	No
.... Collaborative culture	No	Yes
... Communication	Poor	Average
.... Continuous two-way channel of communication	No	No
.... Engaging activities with stakeholders	No	Partially
.... Lack of evidence, i.e. formal evaluation that co-creation has a positive impact	No	Partially
... Strategic setting of the organization	Good	Poor
.... Community/oriented strategic objectives/goals, i.e. willingness to invest in the community	Partially	Partially
.... Output-oriented practices and use of productivity targets (instead of quality targets)	Yes	No
... Organizational resources and stakeholders' trust	Average	Average
.... Sufficient financial resources to implement co-creation	Yes	Yes
.... Sufficient human resources to implement co-creation	Yes	No
.... Stakeholders' trust	No	No
.. Drivers and barriers related to internal (public organization) co-creators	Average	Good
... Competences	Average	Average
.... Soft skills by frontline public servants	Yes	Yes
.... Co-creation education and training	No	No
... Mind-set	Average	Average
.... Support	Poor	Average
..... Supportive perceptions on co-creation among public servants in the organization	No	No
..... Support among staff for reform that aims to lead to better collaboration, i.e. co-creation	Partially	Yes
.... Awareness about co-creation	Good	Average
..... High-profile public servants take the role of advocates of co-creation	Yes	Partially
..... Desire for positive public image of the public organization	Partially	Yes
..... Awareness of the benefits from collaboration with the public	Yes	Partially
... Autonomy	Poor	Average
.... High autonomy of the public sector organization in terms of the ability to make decisions	No	Partially
.... Readiness to give significant discretion to external co-creators	No	No
.... Tailor-made solutions matching needs of each individual	Partially	Partially
.. Context related drivers and barriers	Average	Very good
... Legislation, political support and regulative framework	Poor	Good
.... National legislation in favor of co-creation (for instance opposed to budgetary restrictions, austerity measures)	Partially	Yes
.... Strong political will for collaboration with stakeholders	No	Partially
.... Loose regulative framework	No	Yes
... Collaborative environment and support by international organizations	Average	Average
.... Collaborative-based institutional environment	Yes	No
... Support and promotion of co-creation by international organization	No	Yes

Figure 6 shows the evaluation based on two synthetic examples. The values for the basic criteria were randomly selected using the random generator. We can see that Selected organization 2 has a higher final score (Good) than Selected organization 1 (Average) because the aggregated criteria on the first level score higher. Selected organization 2 scores Average (Capacity of the organizations), Good (Drivers and barriers related to internal (public-organization) co-creators) and Very good (Context-related drivers and barriers), while Selected organization 1 scores Good (Capacity of organization), Average (Drivers and barriers related to internal (public-organization) co-creators) and Average (Context-related drivers and barriers).

The decision model does not only enable decision makers to see their final score for organizational readiness for co-creation, but also enables others to compare different alternatives (organizations) over selected criteria. For example, if

there was a need to choose the most suitable organization according to organizational readiness for co-creation, the end-user would be able to choose the right alternative.

6. Conclusions

Co-creation has a potential to re-shape the traditional relationship between the state and its stakeholders (i.e. citizens, businesses and NGOs). It is often perceived to likely overcome the societal challenges (environmental, health/ageing, social). Thus, it is not surprising that this concept has gained considerable political and academic interest in the last decade. However, when implementing new methods in the PA environment, the context (i.e. its administrative tradition) should be considered first, rather than just copying methods proved to be successful in the Anglo-Saxon and Scandinavian administrative contexts into the environments with a *Rechtsstaat* background (CEE region), for example. It is for this reason that organizational maturity/readiness is to be evaluated before testing new governance methods. This holds true for co-creation as well, as it has mainly been exercised in Anglo-Saxon and Nordic administrative traditions with a stronger tradition of citizen participation/collaboration compared to the CEE region.

This was the main motivation for the analysis of co-creation drivers and barriers in the CEE region in this paper. The research presented was guided by two research questions:

RQ1: What are the drivers and barriers that facilitate and impede co-creation in the CEE region?

RQ2: How can the identified drivers and barriers be applied to build a multi-attribute decision support model for the evaluation of co-creation organizational readiness in the CEE context?

In searching for the answer to RQ1, we managed to identify three main groups of co-creation drivers and barriers based on an in-depth content analysis of WoS papers and on the two case studies performed in two CEE countries (Slovenia and Croatia): (1) Capacity of the organization, (2) Drivers and barriers related to internal (public organization) co-creators, and (3) Context related drivers and barriers. Each of these groups has its own set of drivers and barriers related to the main group. This led us to the answer to RQ2. Being able to categorize co-creation drivers and barriers in the CEE region into three main groups in a hierarchical manner, we decided to develop a conceptual multi-attribute decision support model supporting the evaluation of organizational readiness for co-creation based on the DEX method. The latter is based on the decomposition of a complex problem (in our case, co-creation readiness at the organizational level) into a simpler problem – in our example, three levels of co-creation drivers and barriers organized hierarchically in

a way that each lower level contributes to the evaluation of the corresponding higher level. The scale used to measure each driver/barrier (i.e. attribute in the decision support model) is qualitative and unified for all attributes (yes/no/partially).

While the presented case studies originate from open government and culture areas, the drivers and barriers identified are similar to those extracted in the fields of education, housing and health in other CEE countries (Nemec et al. 2019; Murray Svidronova et al. 2019) from a style of delivery dominated by the public sector to a more efficient, more effective mixed system, characterised by variations in ownership and sources of financing. Concepts such as public-private-civil sector mix, partnerships, co-operation, and co-creation have emerged as ways of organising public-services production and delivery. Our case deals with co-production via the involvement of the third sector in welfare services. The goal of this paper is to map the real relations between public bodies and the non-governmental sector in the co-production of welfare services in two newer EU member countries – Hungary and Slovakia. The information obtained suggests that the examples of good practice exist, but at a global level the quality of partnership between the government and the non-governmental sector is problematic. The study also highlights important drivers and barriers determining the quality of collaboration and the results of projects – limited resources (mostly financial. This gives an additional validation of the model.

Before the practical implementation of the model, its attributes need to have defined weights, as not every co-creation driver/barrier is equally relevant in the final evaluation of co-creation readiness. This is part of our plan for future research. Nevertheless, the model presented in this paper still offers a great starting point for public managers in the CEE region when considering the implementation of co-creation with external stakeholders in their organizations.

We believe that there is a potential for future research to address various co-creation points of view through the lenses of administrative tradition in which co-creation (or any other method) is studied and/or implemented. Nevertheless, future research (and practice) should focus on the digital tools supporting co-creation – not only the measurement of co-creation readiness, but also other stages following the readiness evaluation, for example: (1) supporting the selection of services suitable for renewal based on co-creation principles; (2) supporting the whole interactive process of co-creation, and (3) evaluation of the co-creation process.

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