FOSTERING COLLABORATIVE INNOVATION: THE EFFECTS OF RED TAPE AND ORGANIZATIONAL CULTURE

Charlotte Van Dijck

ABSTRACT

While red tape is commonly mentioned as a barrier in public sector innovation studies and organizational culture is often listed as a key variable for achieving innovation, the effects of these variables remain largely untested in a collaborative innovation context. This research examines the effects of four types of organizational culture on collaborative innovation, compares the effects of red tape at the organizational level and red tape related to projects, and explores the interrelationship between these variables. A survey among top managers of the Belgian federal and Flemish administrations (n=920), shows that project red tape and organizational red tape have different effects on collaborative innovation, while both a developmental and a rational culture positively affect collaborative innovation.

Keywords *- collaborative innovation, public sector innovation, red tape, organizational culture, open innovation*

INTRODUCTION

Collaborative innovation is increasingly put forward as a solution for the many wicked problems our society faces today.[1] Governments collaborate with external stakeholders such as citizens, non-profit organizations, interest groups and businesses. This can provide new ideas on policies and services. Red tape and organizational culture are known to affect public sector innovation (van Acker, Wynen, and Op de Beeck 2018; Cinar, Trott, and Simms 2019). Furthermore, recent studies have shown that both variables can affect collaboration as well, for example when rules prohibit organizations from changing partners or when organizational cultures are deemed incompatible (van de Vrande et al. 2009). Yet targeted empirical research into the effects of red tape and organizational culture on the involvement of other external stakeholders is currently lacking. Bridging this gap in the literature is important since collaborative innovation comes with specific challenges which are often not considered in the broader innovation research (Mu and Wang 2022; Van Dijck and Steen 2022b).

Corresponding Author: charlotte.vandijck@kuleuven.be

Red tape is defined as burdensome rules and procedures that negatively affect performance (Bozeman 2012). Although there are some nuances (Moon & Bretschneider, 2002; Sharma et al., 2020), red tape is shown to have negative effects on innovation (Ljungholm 2014; van Acker, Wynen, and Op de Beeck 2018). It is found to cause delays, slow down change, and thus impede an organization's ability to innovate (Van der Voet 2014). Research into its effects on collaboration is limited, but indicates that red tape hampers this aspect as well, for example by obstructing citizen involvement (van Eijk, Steen, and Torenvlied 2019).

When studying the effects of red tape, organizational culture is an important variable to consider (Chen and Williams 2007; Büschgens, Bausch, and Balkin 2013). Organizational culture is defined as the common beliefs of the people within an organization (Hofstede et al., 2005). While empirical research on how organizational culture affects the impact of red tape on collaborative innovation is lacking, multiple studies show that organizational culture, and especially a developmental culture, can mediate the effects of red tape on other variables such as performance (Moynihan and Pandey 2006; Ljungholm 2014). In addition, it has a direct effect on an organization's ability to innovate (Langer & LeRoux, 2017).

With the currently available research in mind, the goal of this study is threefold. The first aim is to test if red tape, more specifically organizational red tape and red tape in projects, affect collaborative innovation. Secondly, this research wants to examine the effects of organizational culture on collaborative innovation. Lastly, this research aims to explore the interrelationship between red tape, organizational culture and collaborative innovation. In order to answer these questions, a survey was launched among managers at the top three levels of the Belgian federal and Flemish administrations (n=920). Therefore, the literature section presents several hypotheses to be tested in this regard. Next, the methodology is outlined, followed by the results of the analysis. The article concludes with a discussion of the research results for theory and practice and a conclusion.

CONCEPTS AND CONCEPTUAL FRAMEWORK

In this section, the hypotheses for this research are presented. Yet before delving into the literature, it is important to define collaborative innovation. For the purpose of this research, it is defined as a specific kind of innovation that is a direct result of in-depth, meaningful and "networked collaboration of multiple stakeholders" and that produces "outcomes that are deemed valuable and desirable by the key stakeholders" (Sørensen & Torfing, 2011, p. 861).

Red tape and collaborative innovation

Red tape has long been an important variable in public sector innovation literature (van Acker, Wynen, and Op de Beeck 2018). Bozeman describes red tape as burdensome rules and procedures that negatively affect performance (Bozeman 2012). In recent literature, red tape is characterized by two main elements: a lack of functionality and a high level of compliance burden associated with the rules and procedures (van Loon et al. 2016; Borry 2016).

While red tape is generally found to have a negative effect on innovation (Mu & Wang, 2020; Van Dijck & Steen, 2022), Moon and Bretschneider (2002) found that red tape can be a driver for innovation as well since frustration as a result of red tape can also encourage organizations to innovate. More recently, Sharma and colleagues have confirmed that rules that lack functionality can trigger the search for innovative solutions (Sharma, Gautam, and Chaudhary 2020). Nevertheless, these studies are exceptions. The academic consensus remains that red tape generally affects innovation in a negative way. It is found to cause delays and decrease flexibility (Chen & Williams, 2007; Ljungholm, 2014). Moreover, administrative burden is found to increase transaction costs (Andersen and Jakobsen 2018; Ljungholm 2014).

In collaborative innovation research, few studies consider red tape. Still, red tape is related to decreased autonomy and increased legal restrictions, which both hamper collaborative innovation (Lopes & Farias, 2020; Van Dijck & Steen, 2022). An additional challenge presented in collaborative arrangements is that red tape can hamper collaboration with stakeholders (van Eijk, Steen, and Torenvlied 2019; van de Vrande et al. 2009). In addition, red tape negatively influences public administrators' attitudes toward intersectoral collaboration (Yu and Feng 2009).

Therefore, while studies linking red tape to collaborative innovation are scarce, research does find that the effects of red tape on both innovation and collaboration are mainly negative. The research is limited to the effects of organizational red tape which are "rules, regulations and procedures that remain in force and entail a compliance burden for the organization but make no contribution to achieving the rules' functional objectives'' (Bozeman 1993, 283).

Most empirical research studying innovation treats red tape as a one-dimensional concept, as organisational red tape (Bozeman 2012). Nevertheless, the realization is growing that red tape in one aspect (e.g. personnel matters) does not equal red tape in another (e.g. procurement matters). In addition, different red tape dimensions may have different effects on performance and innovation (Blom, Borst, and Voorn 2021; Van Dijck and Steen 2022b). External red tape, for example, pertains to administrative rules and procedures that hinder stakeholders from interacting freely with public organizations, yet its effects on innovation were not measured (Walker and Brewer 2009).

More recently, van Eijk and colleagues (2019) found that "co-production red tape" or the administrative burden associated with co-production negatively affects the engagement of professional service providers in co-production. Research by Vento and Kuokkanen (2020) studied red tape perceptions in collaborative public projects. However, they focus on what shapes red tape perceptions in projects, rather than the effects of project red tape. In the context of collaborative innovations including both public and private sector stakeholders, Van de Vrande and colleagues (2009) find that rules and procedures can limit the ability to change partners in a project. In addition, they find rules preventing a dysfunctional project from being ended prematurely, and procedures hampering sustained subsidies for a project to be among the most frequently mentioned administration-related challenges to innovation (van de Vrande et al. 2009).

In sum, a limited amount of studies recognize the existence of specific rules and procedures related to collaborative projects (van de Vrande et al. 2009; van Eijk, Steen, and Torenvlied 2019; Vento and Kuokkanen 2022). In this article, such rules and procedures will be referred to as 'project red tape'. Based on the available research, we see project red tape as burdensome rules and procedures that hinder organizations in selecting the best partners for a project, changing partners during a project, committing themselves to the project and shutting down the project early in case of failure. We hypothesize that:

H1. Organizational red tape has a negative effect on collaborative innovation.

H2. Project red tape has a negative effect on collaborative innovation.

Organizational culture and collaborative innovation

Organizational culture presents itself in specific forms of employee interaction that define the values which an organization prioritizes (Imran et al. 2021). Various authors write about the ideal characteristics of an organizational culture, for it to foster (collaborative) innovation or collaborative governance. Wynen and colleagues (2014) write that an "innovation culture" should encompass both the intention to be innovative and should create a climate that is supportive of innovation (Wynen et al. 2014). Tuurnas and colleagues (2019) studied a "collaborative development culture". They conclude that such a culture should promote openness and should have development-driven management and leadership in addition to stakeholder engagement. Lastly, Aflaki and Lindh (2021) researched how first-line managers can move towards a "co-creation culture" and empathised that emotional well-being, situational awareness, flexibility and communication are key elements of such a culture.

The cultures that foster collaborative innovation coexist next to other types of organizational cultures. Quinn and Rohrbaugh (1983) bring them together in their Competing Values Culture Framework. According to this framework, organizations deal with competing values which they have to balance. First of all, organizations can be either control-focused (strong hierarchy, top-down structure) or flexible (employee autonomy). Secondly, they can be either internally focused (oriented towards their own processes and dynamics) or have an external focus (oriented towards their environment, e.g. their users) (Quinn and Rohrbaugh 1983). The combination of these competing values leads to four different types of organizational culture: a developmental, group, rational and hierarchical culture.

This framework is used in both private sector (Büschgens, Bausch, and Balkin 2013; Naranjo-Valencia, Jiménez-Jiménez, and Sanz-Valle 2016) and public sector innovation research (Moynihan and Pandey 2010; Langer and LeRoux 2017). Still, most research only considers the effects of a developmental and hierarchical culture (Mu & Wang, 2020; Pandey & Marlowe, 2015; Tuurnas et al., 2019).

Developmental culture

A culture marked by flexibility and an external orientation is referred to as a developmental culture. This culture promotes learning and adaptation (Büschgens, Bausch, and Balkin 2013). There are strong similarities between a developmental culture and an 'innovation culture'. Creativity and flexibility are key characteristics in an 'innovation culture',

and a 'co-creation culture', just as in a 'developmental culture' (Aflaki & Lindh, 2021; Wynen et al., 2014). Furthermore, openness towards potential partners is a defining element of both these cultures as well (Kim and Yoon 2015). Previous studies have found a developmental culture promotes innovation by giving staff the flexibility to try out new ideas and by promoting the attitude of looking outside the organization (Chen and Williams 2007). With regard to effects on collaborative innovation specifically, studies add that stressing the shared responsibility of all stakeholders is especially important and that a developmental culture is instrumental in this (Tian et al. 2018). Furthermore, a developmental culture may help organizations to be more effective at boundary-spanning activities crucial for collaborative innovation (Langer and LeRoux 2017).

We hypothesize that:

H3. The presence of a developmental culture has a positive effect on collaborative innovation.

Hierarchical culture

In a hierarchical culture, the emphasis is put on maintaining the systems that are in place and continuing to provide public services in a stable way. The culture is marked by an internal focus combined with a high degree of control (Büschgens, Bausch, and Balkin 2013). This culture is assumed to be the least conducive to innovation. When an organization is too receptive to rules, employees might be unwilling to try a different method if doing so could infringe upon the rules (Jung, 2018; Moon et al., 2020). A strong focus on stability and procedures also limits creativity and idea stimulation (Moon et al., 2020). Another issue is the resistance to experimentation and the risk-aversion among employees who work within a hierarchical culture (Tian et al. 2018; Cinar, Trott, and Simms 2019; Mu and Wang 2022; Torvinen and Jansson 2022). Research linking a hierarchical culture to any type of collaborative arrangement is limited, yet in a hierarchical culture, sharing and gathering of information required to collaborate are more difficult (Moon et al., 2020; Mu & Wang, 2020). Lastly, a hierarchical culture can make certain collaborative arrangements impossible to implement strict organizational procedures (Lahat and Sher-Hadar 2021). Therefore, we hypothesize that:

H4. The presence of a hierarchical culture has a negative effect on collaborative innovation.

Group culture

This is a culture where employees have close and personal relationships within the work environment. It is marked by an internal focus and a high degree (Büschgens, Bausch, and Balkin 2013). Innovation research rarely considers the potential effects of a group culture, especially in public-sector research. Key elements of a group culture, such as the high level of personnel management autonomy are found to have no significant effect on innovation (Wynen et al. 2014). Private sector research argues that whether a group culture fosters innovation or not depends on the objectives of the organization (Naranjo-Valencia, Jiménez-Jiménez, and Sanz-Valle 2016). However, in the context of innovation in the public sector, multiple studies see flexibility as a vital element (Lopes and Farias 2022; Kim and Yoon 2015). Mu and Wang (2020) describe that it is especially important

for open innovation because it ensures better negotiation between stakeholders and a greater long-term viability of the project. In light of this research, we hypothesize that:

H5. The presence of a group culture has a positive effect on collaborative innovation.

Rational culture

A high degree of control combined with an external focus is referred to as a rational or result-driven culture. In such a culture; deliverables, deadlines and targets are considered to be the most important (Büschgens, Bausch, and Balkin 2013). In public sector research, the effects of a rational culture on innovation have not been studied yet. Still, result control, typical for a rational culture, is assumed to have a positive effect on innovation within public sector organizations (Wynen et al. 2014). Yet private sector research points out that an emphasis on results is not equal to fostering the creation of something new. Naranjo-Valencia and colleagues (2016) found that this type of culture does not affect innovation. However, an external focus makes innovations more adaptive to their environment if innovation does occur. This is why Büschgens and colleagues (2013) assume that apart from a developmental culture, a rational culture is most likely to promote innovative outcomes. Furthermore, an external focus is known to benefit co-creation and other types of collaboration (Aflaki & Lindh, 2021). We hypothesize that:

H6. The presence of a rational culture has a positive effect on collaborative innovation.

Organizational culture, red tape and collaborative innovation

While organizational culture cannot directly change rules, it can frame how individuals understand and respond to the rules and thus mediate the effects of red tape (Moynihan, Wright, and Pandey 2012). Moon and colleagues write that "despite a rich body of literature on red tape in public administration, there is a lack of research on how culture is associated with red tape" (2020, p. 1242). They theorize that the effects of red tape on organizational performance might be mediated by a developmental culture. Public managers might be capable of handling bureaucratic constraints more proactively and innovatively in a developmental culture, so they can reduce their constraining effects. This assumption has not been researched empirically, however.

In addition, the current research into specific red tape dimensions and a developmental culture (or any other organizational culture) is extremely limited. The few studies available have found that specific dimensions such as external red tape (Brewer and Walker 2010) and personnel red tape (Pandey & Moynihan, 2006) also affect the extent to which there is a developmental culture (Chen & Williams, 2007; Pandey & Moynihan, 2006). However, no research has been conducted in a collaborative innovation context in this regard.

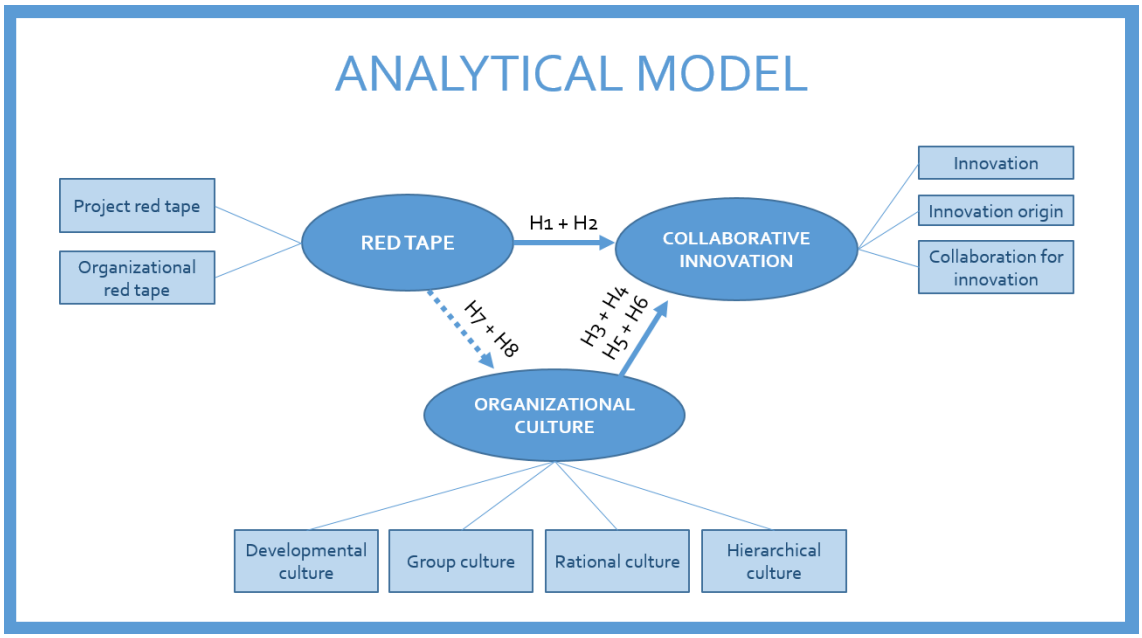
In conclusion, the available research is scarce but does indicate that a developmental culture can present as a mediator for the effects of red tape. Therefore, we hypothesize that:

H7. A developmental culture mediates the effects of organizational red tape on collaborative innovation.

H8. A developmental culture mediates the effects of project red tape on collaborative innovation.

As studies into the three other culture types are much more scarce, there are no currently available studies into the role of other types of organizational culture and their mediating effect on red tape's effects on collaborative innovation. Therefore, no hypotheses are presented in this regard, but their potentially mediating effect will be tested in both directions in the analysis. Figure 1 visualizes the basic analytical model used to test our hypotheses.

Figure 1: Full Analytical model



In short, this study includes six independent variables: project red tape, organizational red tape, and developmental, group, rational and hierarchical culture. It measures their effects on the dependant variable collaboration for innovation. Since this field of research is relatively new, the effects on innovation in general are measured to compare the data to the existing body of literature. In addition, the origin of innovations is measured to examine whether the independent variables affect what share of the innovations is developed collaboratively. Finally, in addition to studying the direct effects of organizational culture on collaborative innovation, it is verified whether organizational culture has a mediating effect on red tape's effects on collaborative innovation.

METHODOLOGY

The survey is conducted in the Belgian public sector, at the federal and regional levels. Belgium has a federalized system, whereas Flanders is an autonomous region with equivalent legislative and executive powers. Both the federal and Flemish governments have their own public administration. Nevertheless, there are also important differences. Both levels of government are able to draw up their own rules of governance for their proper policy domains. As a result, federal and Flemish public sector organizations have diverged over the years, especially in terms of their structures, processes, and culture which makes comparing the two public administrations all the more interesting. From previous research, we know that both participate in various collaborations that focus on innovation (Dockx et al. 2022b; Van Dijck and Steen 2022a).

Survey Questionnaire and Sample

The data gathering took place from September to December 2019 through an online survey of public managers at the first and second management levels of all Belgian federal and Flemish public sector organizations. In line with earlier organizational performance research (Pandey & Moynihan, 2006), these senior managers function as key informants, uniquely qualified to provide accurate information on their organization and its collaborative innovation endeavours.

In total, 869 managers from 104 organizations were invited to take part. The response rate was 51%. The representativeness of our data was tested and confirmed by using Chi-square goodness-of-fit tests with which we compared the federal and Flemish samples against their respective population of senior public managers, based on the type of organization and their management level. No significant differences were found in any of these tests, which suggests that our sample is representative. The dataset was also examined to determine if multicollinearity was an issue, VIF statistics and tolerance statistics were well within the acceptable range (Rogerson, 2019, p. 304).

Measures

Dependant variables

Innovation is measured by asking managers to indicate on a scale of 1–7 to what extent new policies, technologies, services and/or processes were developed by their organization or unit in the last three years (alone or in collaboration) (cf. De Vries, Bekkers, and Tummers 2016). Next, the respondents are asked about the origin of the developed innovations to uncover what share of the organization's innovations were developed collaboratively by asking them: "What share of the innovations developed in the last three years were: developed in your own organization (percentage), developed based on contributions from other actors, developed in collaborative arrangements with external actors". This way, the managers report on the relative amount of collaborative innovation compared to the level of innovation in general within their organization. Then, collaboration for innovation is measured by asking managers to indicate on a scale of 1–7 to what extent their organization or unit had collaborated intensively with external actors in the last three

years on innovations. A value of 1 indicates that no or very little collaboration for innovation happened, whereas 7 indicates that the organization or unit had participated significantly in such collaborations (cf. Dockx et al. 2022).

Independent variables

To measure organizational red tape, we use 5 items on a 1-7 scale adapted from Pandey, Coursey and Moynihan (2007), validated and used in related studies (Chen and Williams 2007). These items ask respondents about their perceived level of red tape in five key dimensions of their work (personnel, budget, procurement, information and communication matters). For the measurement of project red tape, we created four items based on the validated items by Pandey and others (2007). The practice of adapting these items to measure other red tape dimensions has been used in related studies (van Eijk, Steen, and Torenvlied 2019; Vento and Kuokkanen 2022). The first part of each of the four items "The rules which apply to my organization make it hard" is directly taken from the personnel/procurement red tape items by Pandey and colleagues (2007). The second part of our items is a specific example of red tape, in line with how the items for other red tape dimensions are constructed (e.g.: The rules which apply to my organization make it hard to select the best partner for a project). Organizational culture is measured by using two validated items per culture type, following the competing values framework (Chen and Williams 2007). All items are included in the appendix.

Control variables

In each regression analysis, we control for several potentially confounding variables: the type of organization respondents work at[2] organizational size, the average tenure the organizational managers are in position (recoded into four categories), the educational level of respondents, their gender and the language in which they fill out the survey.

Measuring dependant and independent variables in the same survey creates the risk of common source bias (George and Pandey 2017). To reduce this risk, the dependant and independent variables were presented in different batteries and different parts of the survey. In addition, the order of the items within the batteries was randomised and some items were reversed to prevent habituation (Podsakoff, MacKenzie, and Podsakoff 2012).

Data analysis

Conform with related research (Pandey and Moynihan, 2006), we aggregate responses by organization and use the median score derived from all responses from a given organization since it is less affected by potential outliers. Lincoln and Zeitz (1980, as cited in Pandey and Moynihan, 2006) have demonstrated that such measures, based on individual self-reports, act as valid indicators of organizational properties).

To test for mediation, the Sobel test is used (Sobel, 1990). Exploratory factor analyses were conducted for the independent variables in order to construct aggregated variables that combine multiple items. The internal consistency was tested for all variable constructs. For the descriptive parts; bar charts, probability graphs and descriptive tables were assessed for each individually measured item as well as for the aggregated variables to

investigate multiple statistical parameters of centrality and dispersion (standard deviation and interquartile range).

Table 1: Summary Statistics for the Variables in the Analysis

	Items in scale	**Cronbach's Alpha**	**MINIMUM**	**MAXIMUM**	**Mean**	**Standard deviation**
Project red tape	4	0,85	4	22	14,64	3,26
Organisational red tape	5	0,80	6	28	19,32	4,04
Developmental culture	2	0,73	5	14	9,20	1,73
Group culture	2	0,38	6	13	9,00	1,34
Rational culture	2	0,88	5	14	10,38	1,54
Hierarchical culture	2	0,78	2	12	8,16	1,76
Innovation	4	0,86	8	28	17,08	3,68
Collaboration for innovation	1		2	7	4,74	1,107
% innovations Developed in own organization	1		0	83	30,75	13,87
% innovations Developed based on contributions from other actors	1		0	70	29,79	10,20
% innovations Developed with external actors	1		10	80	39,47	13,84

The analysis shows that all data are normally distributed. The number of outliers in the study is limited, and the internal consistency of all constructs is good, except for 'group culture'. Interview data from the same research project shows that the first group culture item "the organization is a very personal place" was difficult to understand for some respondents. Therefore, the first item was dropped from the analysis. This choice implies that group culture is suboptimally measured, which is important to take into account when interpreting the results.

Table 2 provides the descriptive statistics for the survey. It shows that the new measure constructed for this study, project red tape, scores highly in terms of consistency with a Cronbach's Alpha of 0,85 (see appendix for the principal component matrix).

The outliers are very limited for project red tape, and the standard deviation is lower than that of organizational red tape. Lastly, the correlation between the two red tape measures is significant at the 0,01 level. The correlation coefficients are included in the appendix.

RESULTS

To test the hypotheses, a series of ordinary least squares regression models are performed with robust standard errors. For each of the independent variables, two models are presented. The first model presents the results for the independent variables, testing the hypotheses. Model 2 adds control variables to test the robustness of effects when introducing potentially confounding variables. Three analyses are performed. The first analysis, on innovation in general, serves as a baseline. Since several studies have measured the effects of organizational red tape and developmental culture on innovation, we can use this analysis to see if we obtain similar results with our data. The second analysis looks at whether the red tape and organizational culture variables affect how the innovations are developed (origin): within the own organization, based on contributions from other actors or in collaborative arrangements with externals. Lastly, the third analysis concentrates on the extent of collaboration for innovation in an organization in order to test our hypotheses.

Innovation

In line with earlier research, Table 2 shows that the presence of a developmental culture has a significant positive effect on the development of innovations (Chen and Williams 2007; Langer and LeRoux 2017). Contrary to what we expected, however, we find a significant positive effect of organizational red tape on the development of innovations. Delving into some additional data showed that while there appears to be a positive effect on the development of innovations, organization red tape is negatively correlated with the implementation of the innovations that are developed. This effect is not significant, however.

Our analysis of project red tape leads to different results. Contrary to organizational red tape, project red tape has a strong negative effect on the extent to which innovations are developed in organizations. Furthermore, there is a positive relationship between the presence of a developmental culture or a rational culture and the extent to which innovations are developed. In addition, the analysis confirms the findings by Moon and colleagues (2020) that a hierarchical culture has a negative effect on the development of innovations.

Table 2: Innovation: Results of OLS Regression

	B	S.E.	T	P-value	B	S.E.	T	p-value
EXPLANATORY VARIABLES								
Organisational red tape	,186	,106	1,602	,113	,481	,094	4,68	**<,001**
Project red tape	-,320	,120	-3,011	**,003**	-,286	,099	-3,26	**,002**
Developmental culture	,278	,286	2,085	**,040**	,269	,234	2,47	**,016**
Rational culture	,195	,271	1,715	,090	,199	,233	2,04	**,044**
Group culture	,011	,497	,098	,922	,037	,424	0,40	,691
Hierarchical culture	-,050	,205	-,505	,615	-,212	,177	-2,50	**,014**
CONTROL VARIABLES								
Language					,149	1,122	1,56	,122
Organizational type					,408	,178	3,77	**<,001**
Organizational size					-,369	,665	-3,17	,600
Gender					-,087	,599	-1,15	,996
Education					,043	,908	0,53	**,002**
Tenure					,000	,359	0,00	,255
R^2	0,28				0,58			

Innovation origin

Concerning the origin of the innovations that are developed within the organizations (Tables 3 and 4), we observe a positive relationship between project red tape and the extent to which innovations are developed based on contributions from others outside the organization. There is no significant effect of either red tape variable on the extent to which innovations are developed in collaborative arrangements with external partners.

Table 3: Innovation Origin (based on contributions of others): Results of OLS Regression

	B	S.E.	T	P-value	B	S.E.	T	p-value
EXPLANATORY VARIABLES								
Organisational red tape	-,090	,299	-,759	,450	-,038	,336	-,286	,776
Project red tape	,001	,807	,007	,994	,055	,838	,388	,699
Developmental culture	,247	,764	2,126	,036	,170	,833	1,339	,184

Rational culture	-,307	1,402	-2,773	,007	-,269	1,515	-2,246	**,027**
Group culture	-,452	,578	-4,500	<,001	-,453	,634	-4,106	**<,001**
Hierarchical culture	,001	,807	,007	,994	,055	,838	,388	,699
CONTROL VARIABLES								
Language					,066	4,012	,533	,596
Organizational type					,014	,636	,103	,918
Organizational size					-,007	2,142	-,074	,941
Gender					-,192	3,245	-1,827	,071
Education					-,014	1,283	-,136	,892
Tenure					-,074	2,377	-,488	,626
R^2	0,25				0,29			

Focusing on organizational culture, both a group culture and a hierarchical culture have a significant negative effect on the extent to which innovations are developed based on contributions from others (see Table 3). Apart from this, a rational culture has a significant negative effect on the extent to which innovations are developed in collaborative arrangements with external partners (see Table 4). Lastly, a hierarchical culture has a significant positive effect on the extent to which innovations are developed within the own organization (without contributions or the involvement of externals). This effect is significant at the 0,01 level (see Appendix).

Table 4: Innovation Origin (developed in collaborative arrangements with externals): Results of OLS Regression

	B	**S.E.**	**T**	**P-value**	**B**	**S.E.**	**T**	**p-value**
EXPLANATORY VARIABLES								
Organisational red tape	-,022	,447	-,170	,866	,089	,493	,614	,541
Project red tape	-,182	,505	-1,517	,133	-,156	,520	-1,263	,210
Developmental culture	,066	1,205	,440	,661	,065	1,227	,424	,673
Rational culture	-,293	1,142	-2,291	**,024**	-,265	1,220	-1,933	**,056**
Group culture	,049	2,094	,401	,690	,131	2,220	1,014	,313
Hierarchical culture	,032	,863	,290	,773	,009	,928	,078	,938
CONTROL VARIABLES								
Language					-,133	5,877	-,997	,321
Organizational type					,110	,932	,723	,472
Organizational size					-,031	3,481	-,193	,848

Gender	,186	3,138	1,747	,084
Education	,027	4,754	,236	,814
Tenure	-,048	1,879	-,422	,674
R^2	0,09	0,17		

Collaboration for innovation

Since collaboration for innovation is the main dependant variable, three models are presented in Table 5. The first model only presents the effects of the red tape variables on collaboration for innovation. In the second model, the organizational culture variables are included in the model. Model 3 adds control variables to test the robustness of effects when introducing potentially confounding variables.

Contrary to our first hypothesis, we observe a significant positive relationship between organisational red tape and the extent to which organizations engage in collaboration for innovation. Therefore, H1 is rejected. Regarding project red tape, we see a significant negative effect on collaboration for innovation in the first model. Yet this significant effect disappears when organizational culture and the control variables are added in models 2 and 3. Therefore, H2 cannot be confirmed. H3 finds support in the empirical data since the presence of a developmental culture has a significant positive effect on collaboration for innovation. H4 is also corroborated in the data. Still, the presence of a hierarchical culture only has a negative effect on collaboration for innovation significant at the 0,1 level. For a rational culture and a group culture, the results are not significant. Therefore, H5 and H6 cannot be confirmed.

Table 5: Collaboration for Innovation: Results of OLS Regression

	B	**S.E.**	**T**	**P - value**	**B**	**S.E.**	**T**	**P- value**	**B**	**S.E.**	**t**	**P- value**
EXPLANA-TORY VARIABLES												
Organisational red tape	-,09	,03	-,77	,44	,15	,03	1,26	,21	,29	,03	2,47	**,02**
Project red tape	-,25	,04	-2,21	**,03**	-,15	,04	-1,39	,17	-,04	,03	-,40	,69
Developmental culture					,40	,09	2,91	**,01**	,29	,08	2,33	**,02**
Rational culture					,06	,08	,49	,62	,16	,08	1,43	,16
Group culture					,08	,15	,71	,48	,09	,15	,86	,40
Hierarchical culture					-,09	,06	-,87	,39	-,17	,06	-1,80	**,08**
CONTROL VARIABLES												

Language	-,01	,38	-,12	,90
Organizational type	,28	,06	2,24	**,03**
Organizational size	-,13	,23	-1,01	,32
Gender	-,00	,21	-,034	,97
Education	,34	,31	3,65	**<,001**
Tenure	-,13	,12	-1,46	,15
R^2	0,10	0,26	0,45	

The Sobel Test for the significance of mediation shows that the effects of red tape on collaborative innovation outcomes are mediated by organizational culture. Specifically, a developmental culture mediates the effects of project red tape and organizational red tape on collaboration for innovation (both significant at the 0,001 level). This confirms H7 and H8. In addition, a hierarchical culture mediates the effects of red tape on collaboration for innovation (significant at the 0,1 level). A rational culture and a group culture do not act as a mediator for either of the red tape constructs. It is noteworthy that for each of the mediator effects, project red tape and organizational red tape are affected in the same way.

Additional findings

Regarding the control variables, respondents' level of education has a significant positive effect on both the extent to which innovations are developed within an organization and the extent to which an organization engage in collaboration for innovation. In practice, this means that in organizations where the level of education of senior managers is higher, a greater degree of (collaborative) innovation is reported. The type of organization plays a significant role in (collaborative) innovation outcomes. The organizational types with a higher degree of autonomy, report a higher level of development of innovations and a greater extent to which they engage in collaboration for innovation.

DISCUSSION

The objective of this research was to shed light on how collaborative innovation is affected by red tape and organizational culture. In doing so, the study looked beyond the most commonly included dimensions of both variables and included an additional red tape dimension (project red tape) and three additional organizational cultures (hierarchical, rational and group culture).

While both organizational red tape and project red tape had a significant effect on the extent to which innovations were developed, this effect was only negative for project red tape. A high extent of organizational red tape led to the development of more innovations, which contradicted our expectations. A potential explanation is given by Moon and

Bretschneider (2002) who suggest that frustration with red tape can cause organizations to look for innovative solutions and thus spur on innovation. In line with their research, it was notable that while organizational red tape was positively correlated with the development of innovations, it was negatively related to the implementation of said innovations. This shows that organizational red tape cannot be discarded as a barrier to innovation.

Project red tape had a different impact and was negatively related to both the development and the implementation of developed innovations, a result we hypothesized for both red tape variables (cf. Andersen & Jakobsen, 2018; Ljungholm, 2014). Furthermore, it appeared to lead to a significantly lower proportion of the developed innovations being based on contributions from others. Project red tape was also strongly negatively correlated with collaborative innovation, although the statistical significance of this effect disappeared in models that included organizational culture. This difference could potentially be explained because organizational red tape can lead to frustrations that make people look for a way out (e.g. collaboration) (cf. Moon & Bretschneider, 2002), while project red tape explicitly hampers this way out.

These findings highlight the argument that red tape should not be treated as a one-dimensional construct, since different red tape dimensions can have a radically different effect on (collaborative) innovation (cf. Blom et al., 2020; Moon et al., 2020; Van Dijck & Steen, 2022). Project red tape should be further explored as a separate red tape dimension since it affects collaborative innovation in a different way than organizational red tape does.

In terms of organizational culture, a developmental culture appears to positively affect both the development of innovations and the extent to which organizations engage in collaborative innovation. While this was not empirically researched for collaborative innovation specifically before, it confirms findings in the broader innovation literature (Langer and LeRoux 2017; Chen and Williams 2007). In addition, our research confirms that a hierarchical culture negatively affects both the development of innovations and the extent to which organizations engage in collaborative innovation. This finding confirms our fourth hypothesis (Mu and Wang 2022; Cinar, Trott, and Simms 2019), but also implies a highly valuable contribution to the literature, since empirical research linking a hierarchical culture to any kind of innovation in the public sector is scarce (Moon et al., 2020).

It is interesting to note that a rational culture appears to lead to more innovations being developed and a higher percentage of these innovations being developed in collaboration with externals. Interpreting these results in the context of the Competing Values Model (Quinn and Rohrbaugh 1983) shows that in order to develop innovations, an external focus appears to be the most important cultural characteristic, even more so than a high degree of flexibility.

Furthermore, an emphasis on results appears to be what drives organizations to collaborative arrangements. While with a developmental culture, a higher extent of innovations based on contributions of others is observed, but not a higher percentage of innovations developed in collaborative arrangements. An explanation could be that the external focus

in a developmental culture can make an organization more open to contributions from stakeholders outside the organization (cf. Langer & LeRoux, 2017), yet in-depth collaboration in collaborative arrangements requires more than this. An in-depth collaboration could further require elements such as trust among partners, well-being, situational awareness of the partners involved… This would be in line with the findings by Aflaki and Lindh (2021). Organizational culture has no significant effect on the implementation of innovations.

Finally, the red tape dimensions studied not only affect innovation and collaborative innovation directly but also impact both through organizational culture. The results from the Sobel test indicated that both organizational red tape and project red tape affect the culture of organizations and that this in turn affects (collaborative) innovation which implies that the main barrier to overcome to engage in collaborative innovation is red tape.

CONCLUSIONS

While there have been studies linking organizational red tape and a developmental culture to public sector innovation (Chen and Williams 2007; Brewer and Walker 2010), such research barely exists in the context of collaborative innovation. Moreover, multiple authors have argued that red tape is a multi-dimensional construct and research should consider a red tape dimension specifically concerned with burdensome rules and procedures related to the engagement of externals in the public sector (van Eijk et al., 2019; Van Dijck & Steen, 2022); such research is extremely limited. Our research aimed to bridge this gap in the literature by conducting a survey among senior managers in Belgian Federal and Flemish government organizations.

First, we distinguished between project red tape and organizational red tape. We found that these have different effects on (collaborative) innovation. The unexpected positive correlation between organizational red tape and innovation could indicate that innovations are often developed in response to frustrations with burdensome rules and procedures (cf. Moon & Bretschneider, 2002). While organizational red tape is positively correlated with innovations being developed in the organization, it is negatively correlated with the implementation of those innovations. This emphasizes the importance of looking at the phases in the innovation cycle separately, rather than assuming that the development and implementation of collaborative innovation face the same barriers (cf. Cinar et al., 2019).

Project red tape appears to hamper innovation earlier in the innovation process, however, and is negatively correlated with the development of innovations as well as their implementation. It is unclear whether high levels of project red tape hamper the development of innovations itself or stop civil servants from attempting to develop innovations in the first place. Yet based on our data, this type of red tape forms a greater threat to the development of innovations than organizational red tape does. This is an element to be further explored in future research. Moreover, the analysis shows that high levels of project red

Charlotte Van Dijck is Postdoctoral Researcher at KU Leuven, Public Governance Institute, Belgium. E-mail: charlotte.vandijck@kuleuven.be.

tape result in less of the developed innovations being based on contributions from others. From an academic perspective, our study emphasises the importance of treating red tape as a multi-dimensional construct and focusing on specific relevant red tape dimensions (such as project red tape in terms of collaborative innovation). For practitioners, our study can help the development of guidelines in dealing with red tape. According to our results, 'burdensome rules and procedures' should not be treated as a whole, since different types of burdensome rules and procedures have different effects.

With regard to organizational culture, the results confirm our hypothesis that a developmental culture positively affects both innovation and collaboration for innovation. Its positive impact on the development of innovations was already shown in various other studies (Chen & Williams, 2007) and is reaffirmed by our data. Furthermore, our study shows that a hierarchical culture negatively affects the development of innovations, the organizational engagement in collaborative innovation, and the percentage of innovations that are developed based on contributions from others, which is a new finding in collaborative innovation research. In addition, our study sheds light on the impact of a rational culture, which is rarely studied in public-sector innovation research. We found that apart from a developmental culture, a rational culture also has a positive effect on the extent to which innovations are developed within an organization, indicating the importance of an external focus as a cultural characteristic of organizations.

An important implication of this study for practitioners is that not all red tape appears to be equally burdensome to collaborative innovation, it seems most useful to cut project red tape especially. In terms of organizational culture, while a developmental culture seems most conducive to collaborative innovation, a result-driven culture may positively affect the engagement of externals in collaborative arrangements as well. This shows that the external focus of an organization, in particular, fosters collaborative innovations.

A limitation of our study is the suboptimal measurement of group culture, therefore we cannot make statements in this regard. Yet we believe that overall, the findings from our research are highly valuable to the collaborative innovation literature since they shed light on previously untested relationships. As other studies have pointed out, the research linking both red tape and organizational culture to (collaborative) innovation in the public sector is extremely limited, despite the proven effect of both variables separately (Van Dijck & Steen, 2022; Moon et al., 2020). We hope that this research can provide a start for future research in this respect.

NOTES

[1] Acknowledgements: The author would like to thank Trui Steen for supervising and advising the research and Koen Verhoest for his coordination of the PSI-CO project. In addition, the author would like to thank all project partners of PSI-CO for their help in developing and conducting the survey. In addition, a special thanks goes out to Emmanuel Dockx and Tom Langbroek.

Finance: This work was supported by the Belgian Federal Science Policy Office (grant number BR/154/A4/PSI-CO) and the Research Foundation Flanders (FWO: 11F8721N 166495).

[2] Both the Flemish and Federal level have four different types of organizations, each with their own level of organizational autonomy (Federal public services and planning services, Federal scientific institutions, Federal institutions of public utility, Federal public social security institutions, Flemish organizations without legal personality, Flemish organizations with legal personality under public law, Flemish organizations with legal personality under private law and Flemish departments).

REFERENCES

Acker, Wouter van, Jan Wynen, and Sophie Op de Beeck. 2018. "Illuminating the Gender Divide in Public Sector Innovation: Evidence From the Australian Public Service:" *Https://Doi-Org.Kuleuven.e-Bronnen.Be/10.1177/0091026017747299* 47 (2): 175–94. https://doi.org/10.1177/0091026017747299.

Aflaki, N. Inga, and Magnus Lindh. 2021. "Empowering First-Line Managers as Change Leaders towards Co-Creation Culture: The Role of Facilitated Sensemaking." *Public Money & Management* ? (?): 1–10. https://doi.org/10.1080/09540962.2021.2007636.

Andersen, Simon Calmar, and Mads Leth Jakobsen. 2018. "Political Pressure, Conformity Pressure, and Performance Information as Drivers of Public Sector Innovation Adoption." *International Public Management Journal* 21 (2): 213–42. https://doi.org/10.1080/10967494.2018.1425227.

Blom, Rutger, Rick T. Borst, and Bart Voorn. 2021. "Pathology or Inconvenience? A Meta-Analysis of the Impact of Red Tape on People and Organizations." *Review of Public Personnel Administration* 41 (4): 623–50. https://doi.org/10.1177/0734371X20924117.

Borry, Erin L. 2016. "A New Measure of Red Tape: Introducing the Three-Item Red Tape (TIRT) Scale." *International Public Management Journal* 19 (4): 573–93. https://doi.org/10.1080/10967494.2016.1143421.

Bøtcher, Christian, Jacobsen Mads, and Leth Jakobsen. 2017. "Perceived Organizational Red Tape and Organizational Performance in Public Services." *Public Administration Review* 78 (1): 24–36. https://doi.org/10.1111/puar.12817.

Bozeman, Barry. 2012. "Multidimensional Red Tape: A Theory Coda." *International Public Management Journal* 15 (3): 245–65. https://doi.org/10.1080/10967494.2012.725283.

Brewer, Gene A., and Richard M. Walker. 2010. "Explaining Variation in Perceptions of Red Tape: A Professionalism-Marketization Model." *Public Administration* 88 (2): 418–38. https://doi.org/10.1111/j.1467-9299.2010.01827.x.

Büschgens, Thorsten, Andreas Bausch, and David B. Balkin. 2013. "Organizational Culture and Innovation: A Meta-Analytic Review." *Journal of Product Innovation Management* 30 (4): 763–81. https://doi.org/10.1111/jpim.12021.

Chen, Greg, and Daniel W. Williams. 2007. "How Political Support Influences Red Tape through Developmental Culture." *Policy Studies Journal* 35 (3): 419–36. https://doi.org/10.1111/j.1541-0072.2007.00231.x.

Cinar, Emre, Paul Trott, and Christopher Simms. 2019. "A Systematic Review of Barriers to Public Sector Innovation Process." *Public Management Review* 21 (2): 264–90. https://doi.org/10.1080/14719037.2018.1473477.

Dijck, Charlotte Van, and Trui Steen. 2022a. "Hidden Pressure: The Effects of Politicians on Projects of Collaborative Innovation." *International Review of Administrative Sciences*. https://doi.org/10.1177/00208523221094778.

———. 2022b. "Collaborating for Innovation: A Systematic Review of the Red Tape Effects at Play." *International Journal of Public Administration*, May, 1–12. https://doi.org/10.1080/01900692.2022.2062382.

Dockx, Emmanuel, Koen Verhoest, Tom Langbroek, and Jan Wynen. 2022a. "Bringing Together Unlikely Innovators: Do Connective and Learning Capacities Impact Collaboration for Innovation and Diversity of Actors?" *Public Management Review* 25 (6): 1104–27. https://doi.org/10.1080/14719037.2021.2005328.

———. 2022b. "Public Management Review ISSN: (Print) (Online) Journal Homepage: Https://Www.Tandfonline.Com/Loi/Rpxm20 Bringing Together Unlikely Innovators: Do Connective and Learning Capacities Impact Collaboration for Innovation and Diversity of Actors?" https://doi.org/10.1080/14719037.2021.2005328.

Eijk, Carola van, Trui Steen, and René Torenvlied. 2019. "Public Professionals' Engagement in Coproduction: The Impact of the Work Environment on Elderly Care Managers' Perceptions on Collaboration With Client Councils:" *Https://Doi-Org.Kuleuven.e-Bronnen.Be/10.1177/0275074019840759* 49 (6): 733–48. https://doi.org/10.1177/0275074019840759.

George, Bert, and Sanjay K. Pandey. 2017. "We Know the Yin—But Where Is the Yang? Toward a Balanced Approach on Common Source Bias in Public Administration Scholarship." *Review of Public Personnel Administration* 37 (2): 245–70. https://doi.org/10.1177/0734371X17698189.

Hofstede, Geert, Hofstede, Gert Jan, and Minkov, Michael. 2005. Cultures and organizations: Software of the mind (Vol. 2). Mcgraw-hill.

Imran, Muhammad, Fadillah Ismail, Imran Arshad, Faheem Zeb, and Hasan Zahid. 2021. "The Mediating Role of Innovation in the Relationship between Organizational Culture and Organizational Performance in Pakistan's Banking Sector." *Journal of Public Affairs* ? (?): 1–15. https://doi.org/10.1002/pa.2717.

Jung, Chan Su. 2018. "Current-Ideal Culture Incongruence , Hierarchical Position , and Job Satisfaction in Government Agencies." *International Public Management Journal* 21 (3): 432–60. https://doi.org/10.1080/10967494.2016.1276492.

Kim, Soonhee, and Gyunsoo Yoon. 2015. "An Innovation-Driven Culture in Local Government: Do Senior Manager's Transformational Leadership and the Climate for Creativity Matter?" *Public Personnel Management* 44 (2): 147–68. https://doi.org/10.1177/0091026014568896.

Lahat, Lihi, and Neta Sher-Hadar. 2021. "A Threefold Perspective: Conditions for Collaborative Governance." In *Collaborative Governance,* 77–99. Springer.

Langer, Julie, and Kelly LeRoux. 2017. "Developmental Culture and Effectiveness in Nonprofit Organizations." *Public Performance and Management Review* 40 (3): 457–79. https://doi.org/10.1080/15309576.2016.1273124.

Ljungholm, Doina Popescu. 2014. "The Pervasiveness of Red Tape in Public Organizations." *Geopolitics, History, and International Relations* 6 (1): 117–22.

Loon, Nina M. van, Peter L.M. Leisink, Eva Knies, and Gene A. Brewer. 2016. "Red Tape: Developing and Validating a New Job-Centered Measure." *Public Administration Review* 76 (4): 662–73. https://doi.org/10.1111/puar.12569.

Lopes, André Vaz, and Josivania Silva Farias. 2022. "How Can Governance Support Collaborative Innovation in the Public Sector? A Systematic Review of the Literature." *International Review of Administrative Sciences* 88 (1): 114–30. https://doi.org/10.1177/0020852319893444.

Moon, M. Jae, Jungsook Kim, Sehee Jung, and Beomgeun Cho. 2020. "What Makes Administrative and Hierarchical Procedures More Burdensome? Effects of Degree of Procedures, Outcome Favorability, and Confucian Values on Red Tape Perception." *Public Performance and Management Review* 43 (6): 1237–59. https://doi.org/10.1080/15309576.2020.1760113.

Moon, M, and S Bretschneider. 2002. "Does the Perception of Red Tape Constrain IT Innovativeness in Organizations? Unexpected Results from a Simultaneous Equation Model and Implications." *Journal of Public Administration Research and Theory* 12: 273–91.

Moussa, Mahmoud, Adela McMurray, and Nuttawuth Muenjohn. 2018. "A Conceptual Framework of the Factors Influencing Innovation in Public Sector Organizations." *The Journal of Developing Areas* 52 (3): 231–40. https://doi.org/10.1353/jda.2018.0048.

Moynihan, Donald P., and Sanjay K. Pandey. 2010. "The Big Question for Performance Management: Why Do Managers Use Performance Information?" *Journal of Public Administration Research and Theory* 20 (4): 849–66. https://doi.org/10.1093/jopart/muq004.

Moynihan, Donald P., Bradley E. Wright, and Sanjay K. Pandey. 2012. "Working Within Constraints: Can Transformational Leaders Alter the Experience of Red Tape?" *International Public Management Journal* 15 (3): 315–36. https://doi.org/10.1080/10967494.2012.725318.

Moynihan, Donald P, and Sanjay K Pandey. 2006. "Creating Desirable Organizational Characteristics: How Organizations Create a Focus on Results and Managerial Authority." *Public Management Review* 8 (1): 119–40.

Mu, Rui, and Huanming Wang. 2022. "A Systematic Literature Review of Open Innovation in the Public Sector: Comparing Barriers and Governance Strategies of Digital and Non-Digital Open Innovation." *Public Management Review* 24 (4): 489–511. https://doi.org/10.1080/14719037.2020.1838787.

Naranjo-Valencia, Julia C, Daniel Jiménez-Jiménez, and Raquel Sanz-Valle. 2016. "Revista Latinoamericana de Psicología Studying the Links between Organizational Culture, Innovation, and Performance in Spanish Companies." *Revista Latinoamericana de Psicología* 48: 30–41. https://doi.org/10.1016/j.rlp.2015.09.009.

Pandey, Sanjay, David Coursey, and Donald Moynihan. 2007. "Organizational Effectiveness and Bureaucratic Red Tape: A Multimethod Study." *Public Performance & Management Review* 30 (3): 398–425. https://doi.org/10.2753/pmr1530-9576300305.

Pandey, Sanjay K., and Justin Marlowe. 2015. "Assessing Survey-Based Measurement of Personnel Red Tape With Anchoring Vignettes." *Review of Public Personnel Administration* 35 (3): 215–37. https://doi.org/10.1177/0734371X14531988.

Pandey, Sanjay K., and Donald Moynihan. 2006. "Bureaucratic Red Tape and Organizational Performance: Testing the Moderating Role of Culture and Political Support." *Public Service Performance: Perspectives on Measurement and Management*, 130–51. https://doi.org/10.1017/CBO9780511488511.008.

Podsakoff, Philip M., Scott B. MacKenzie, and Nathan P Podsakoff. 2012. "Sources of Method Bias in Social Science Research and Recommendations on How to Control It." *Annual Review of Psychology*. https://doi.org/10.1146/annurev-psych-120710-100452.

Quinn, Robert E., and John Rohrbaugh. 1983. "Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach To Organizational Analysis." *Management Science*. https://doi.org/10.1287/mnsc.29.3.363.

Sharma, Angel, Hemant Gautam, and Richa Chaudhary. 2020. "Red Tape and Ambidexterity in Government Units." *International Journal of Public Administration* 43 (8): 736–43. https://doi.org/10.1080/01900692.2019.1652314.

Sørensen, Eva, and Jacob Torfing. 2011. "Enhancing Collaborative Innovation in the Public Sector." *Administration and Society* 43 (8): 842–68. https://doi.org/10.1177/0095399711418768.

Tian, Mu, Ping Deng, Yingying Zhang, and Maria Paz Salmador. 2018. "How Does Culture Influence Innovation? A Systematic Literature Review." *Management Decision* 56 (5): 1088–1107. https://doi.org/10.1108/MD-05-2017-0462.

Torvinen, Hannu, and Kaisu Jansson. 2022. "Public Health Care Innovation Lab Tackling the Barriers of Public Sector Innovation." *Public Management Review* ? (?): 1–23. https://doi.org/10.1080/14719037.2022.2029107.

Tuurnas, Sanna, Jari Stenvall, Petri Juhani Virtanen, Elias Pekkola, and Kaisa Kurkela. 2019. "Towards Collaborative Development Culture in Local Government Organisations." *International Journal of Public Sector Management* 32 (6): 582–99. https://doi.org/10.1108/IJPSM-05-2018-0119.

Vento, Isak, and Kanerva Kuokkanen. 2022. "Mapping the Post-Bureaucratic Landscape: Project Managers' Perception of Bureaucracy in European Union Cohesion Policy Projects." *International Review of Administrative Sciences* 88 (2): 587–604. https://doi.org/10.1177/0020852320969801.

Voet, Joris Van der. 2014. "The Effectiveness and Specificity of Change Management in a Public Organization: Transformational Leadership and a Bureaucratic Organizational Structure." *European Management Journal* 32 (3): 373–82. https://doi.org/10.1016/j.emj.2013.10.001.

Vrande, Vareska van de, Jeroen P.J. de Jong, Wim Vanhaverbeke, and Maurice de Rochemont. 2009. "Open Innovation in SMEs: Trends, Motives and Management Challenges." *Technovation* 29 (6–7): 423–37. https://doi.org/10.1016/j.technovation.2008.10.001.

Vries, Hanna De, Victor Bekkers, and Lars Tummers. 2016. "Innovation in the Public Sector: A Systematic Review and Future Research Agenda." *Public Administration* 94 (1): 146–66. https://doi.org/10.1111/padm.12209.

Walker, Richard M., and Gene A. Brewer. 2009. "Can Management Strategy Minimize the Impact of Red Tape on Organizational Performance?" *Administration and Society* 41 (4): 423–48. https://doi.org/10.1177/0095399709338027.

Wynen, Jan, Koen Verhoest, Edoardo Ongaro, and Sandra van Thiel. 2014. "Innovation-Oriented Culture in the Public Sector: Do Managerial Autonomy and Result Control Lead to Innovation?" *Public Management Review* 16 (1): 45–66. https://doi.org/10.1080/14719037.2013.790273.

Yu, Wenxuan, and Chun Feng. 2009. "Organizational Environment, Organizational Characteristics and Personal Characteristics: Exploring the Determinants of Public Administrator's Attitude toward Intersectoral Collaboration." In *PROCEEDINGS OF 2009 INTERNATIONAL CONFERENCE ON PUBLIC ADMINISTRATION (5TH), VOL II*, edited by X N Zhu, 167–84.

About IPMR

IPMR The International Public Management Review (IPMR) is the electronic journal of the International Public Management Network (IPMN). All work published in IPMR is double blind reviewed according to standard academic journal procedures.

The purpose of the International Public Management Review is to publish manuscripts reporting original, creative research in the field of public management. Theoretical, empirical and applied work including case studies of individual nations and governments, and comparative studies are given equal weight for publication consideration.

IPMN The mission of the International Public Management Network is to provide a forum for sharing ideas, concepts and results of research and practice in the field of public management, and to stimulate critical thinking about alternative approaches to problem solving and decision making in the public sector.

IPMN includes over 1300 members representing about one hundred different countries, both practitioners and scholars, working in all aspects of public management. IPMN is a voluntary non-profit network and membership is free.

ISSN 1662-1387