More than words: Experimental evidence on the negative effects of red tape on quality and procedural justice

Paper for the IRSPM Conference

Ottowa, Canada 9-11 April 2014

Panel “Research methodologies and methods in public management”

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ABSTRACT
Red tape is one of the most important concepts in public management. However, it is still unclear if red tape influences crucial procedural characteristics, or that it is mostly rhetorical in nature. In fields such as social psychology, the importance of (perceived) procedural quality and procedural justice has been established. We aim to contribute to the literature by analyzing the impact of red tape on these procedural characteristics. To test these relationships, we use an online experiment conducted in MTurk (n=141). In so doing, we move beyond correlational analysis and are able to show cause-and-effect relationships. We find that higher red tape levels result in lower perceived quality and lower procedural justice, thereby supporting our premise that red tape is more than just words. Implications for scholars and practitioners are discussed.

KEY WORDS
Red tape; rules; quality; procedural justice; psychology of public administration; experimental method
1 INTRODUCTION
Public management scholars have long been interested in the red tape concept, its antecedents, and effects (e.g., Kaufman 1977; Bozeman 1993; Walker and Brewer 2008; Pandey and Kingsley 2000; Feeney and DeHart-Davis 2009; Moynihan, Wright and Pandey 2012). Most scholars define red tape based on Bozeman (2000,12): “rules, regulations and procedures that entail a compliance burden without advancing the legitimate purposes they were intended to serve”. Put differently, red tape relates to burdensome rules whose value is questionable.

Although the red tape literature is booming (Bozeman and Feeney 2011), the over-reliance by red tape scholars on a limited number of red tape survey items has raised concerns about the validity and generalizability of much red tape research (Pandey and Scott 2002; Kaufmann and Feeney 2012; 2013). Feeney (2012), for example, shows that the wording of questionnaire items affects respondents’ assessment of red tape. This finding supports the argument that the red tape literature is characterized by a disjunction between red tape concepts and the ways in which red tape is measured (Bozeman 2012), which implies important theoretical and methodological gaps.

In this research, we aim to contribute to closing these gaps. Regarding the theoretical innovativeness, we analyze the effects of red tape on two general, yet understudied, procedural characteristics: procedural quality and procedural justice. Although the negative impact of red tape on quality has been hinted at (Gore 1993; Kaufman 1977), there is a lack of research on the subject to date. We hypothesize that the negative characteristics of red tape (Bozeman 1993) will adversely affect procedural quality.

Furthermore, procedural justice scholars argue that when people perceive procedures as fair, they will comply without much external stimulation, thereby reducing the need for (costly) strategies like intense supervision or high rewards and punishments (Tyler 2006; Van den Bos et al. 1998; Lind and Tyler 1988). Here, we posit that red tape will have a negative
effect on procedural justice, which implies that procedures which are high in red tape may require more resources in terms of compliance.

Next to the theoretical lacuna, an important methodological issue in red tape research is the over-reliance on cross-sectional survey data (Feeney 2012; Bozeman and Feeney 2011), which does not allow for inferences of cause and effect (Brewer and Brewer 2011). A limited number of red tape experiments exist (Scott and Pandey 2000; Kaufmann and Feeney 2013; Tummers et al. 2014), but not on the effects of red tape on general procedural characteristics such as procedural quality and procedural justice.

We test our hypotheses with an experimental design, using the crowdsourcing service Amazon Mechanical Turk (MTurk). Mturk is an online environment where researchers can posit experiments. Crowdsourcing studies are novel to public administration research, but increasingly common in other fields of research such as psychology and political science (Buhrmester et al. 2011; Berinsky et al. 2012). An important advantage of crowdsourcing is that it uses a more heterogeneous respondent group compared to students (Germiné et al. 2012). In their study entitled “Is the Web as good as the lab?” Germiné et al. (2012) conclude that data from Mturk is a source of high-quality data for cognitive and perceptual experiments and can provide data similar to those collected in the lab.

In the following section, we outline the literature and introduce our hypotheses related to the effect of red tape on quality and procedural justice. We then present the data and methods, followed by the results section. We conclude with a discussion of our findings, limitations, and possible extensions of our research.
2 THEORETICAL FRAMEWORK

2.1 Red tape and procedural quality
Quality concerns have not been included in existing red tape research, which is somewhat surprising given the importance of quality in other public administration literature. For example, many studies have looked at the relationship between quality and public service provision, often in the context of New Public Management (NPM) (e.g., Walsh 1991; Hoggett 1996; Denhardt and Denhardt; Schiavo 2000; Brown 2007). In this light, Currie et al. (2008, 363) note that NPM was primarily concerned with increased service efficiency and accountability, whereas post-NPM “raises the significance of service quality and effectiveness to that efficiency.”

The red tape literature, by contrast, is often criticized for its strong focus on effectiveness “while failing to account for important public administration values, such as accountability, transparency, equity, and justice” (Feeney 2012:431). In this light, Bozeman (2012) advocates a research approach with a focus on rule quality, as opposed to wholly ineffective rules. A plethora of red tape research has shown how red tape is negatively associated with a variety of other constructs like work alienation (DeHart-Davis and Pandey 2005), organizational effectiveness (Pandey et al. 2007), and public service motivation (Moynihan and Pandey 2007). We posit that red tape will have a similar negative effect on procedural quality, which leads to our first hypothesis:

H1: red tape has a negative effect on procedural quality
2.2 Red tape and procedural justice

An extensive literature, especially in social psychology, has looked at how procedural justice affects such diverse constructs as trust (Van den Bos et al. 1998), cooperation (De Cremer and Van Knippenberg 2002) and self-esteem (Koper et al. 1993). Procedural justice concerns the perceived fairness of the processes by which decision are being made (McFarlin and Sweeney 1992). As with quality, the existing red tape literature has largely ignored the role of procedural justice, although a number of studies allude to this issue. Kaufmann and Feeney (2013), for example, refer to procedural justice in their discussion of procedural outcomes and red tape. In addition, DeHart-Davis (2009) notes in her study on green tape that rules which are consistently applied (one of the green tape characteristics) convey procedural fairness, which in the end may increase compliance.

In their study on differences between public-sector and private-sector employees, Kurland and Egan (1999) find that perceptions of procedural justice are lower for public employees compared to their private counterparts. The authors argue that this finding may be linked to red tape as “modern public organizations are tyrannies of petty bureaucracy and are vastly less fair than are industry organizations, especially with respect to policies and procedures. These policies and procedures - red tape - are ends in themselves, mere facades, that do not ensure justice” (Kurland and Egan 1999, 451).

Conceptually, one could also reason that more red tape equals greater procedural justice, as elaborate written rules may act as procedural safeguards, for example. This line of reasoning mirrors the argument that “one person's red tape may be another's treasured safeguard” (Kaufman, 1977, p. 4) and has been referred to as beneficial red tape (Bozeman and Feeney 2011). However, in line with most red tape research, we argue that red tape rules are inherently pathological in nature (Bozeman and Scott 1996). As a result, rules that entail positive characteristics, such as enhancing procedural safeguards, are not considered to be red
tape. Instead, we expect that red tape will lower perceptions of procedural justice. This leads to our second hypothesis:

\[ H2: \text{red tape has a negative effect on procedural justice} \]

3 METHODS

3.1 Setting and design
The experiment involved two treatments: a low and high red tape vignette. In both treatments, participants were shown a text about an organizational promotion procedure, as shown in the Appendix. The low red tape treatment consisted of two steps and was argued to take one hour to complete, whereas the high red tape treatment consisted of eight steps and required eighteen hours to complete.

Our experimental design consists of three parts. In the first part, participants were asked to provide some general information about themselves, such as age, gender, and political views. The second part of the study asked participants to answer a number of questions regarding their personality. In part three of the study, participants were randomly assigned either the high or low red tape text about the promotion procedure, and subsequently asked to answer a number of questions about this procedure with regard to red tape, quality and procedural justice.

The experiment was first implemented in the online survey program Qualtrics. One of Qualtrics’ features is to randomly assign respondents to different treatments. This is an essential requirement for doing any type of experimental research. We used Amazon’s MTurk to administer our survey. The Qualtrics survey link was included in our MTurk assignment, which is called a human intelligence task (HIT). When posting a HIT on MTurk, requesters can select criteria that respondents (referred to as workers) must meet in order to
participate. For purposes of this study, we required workers to have a HIT approval rate of at least 95%, with a minimum of 1,000 approved HITs. Further, to avoid any cultural bias in our study, workers were required to be US based. These are standard criteria (Berinsky et al. 2012).

Workers were rewarded $0.60 for completing our study, which was said to take roughly 10 minutes (the final average completion time was 12 minutes and 34 seconds). To receive their reward, workers were given a three digit code at the end of the Qualtrics survey that had to be entered in the MTurk HIT. Again, this is common practice for MTurk studies.

### 3.2 Sample
In total, 178 MTurk users participated in our experiment. We deleted 24 participants as they did not fill out any of the dependent variables. To check if participants were paying attention during our experiment (Oppenheimer et al. 2009) we inserted the following attention check question in the survey (which was shown in a list of other items the respondents should answer to): “Please do not provide a response here. This is to control for random answers”. Including a control question in an experiment is not only an effective way to determine if respondents are actively participating in the study, but also helps increase the attention of respondents as they do not know whether a similar question will appear later on (Peer et al. 2013). As a result of this check, an additional 13 respondents were deleted from the analyses. Hence, our final sample consists of 141 respondents.

We checked the sample for homogeneity for the potentially important background variables age, gender, managerial position and political orientation that could influence perceived quality and procedural justice. As shown in Table 1, 57% of the sample consists of females. Furthermore, the average age was 34 years, 28% of the respondents had a managerial position and the political orientation on a five-point scale from very left-wing (1) to very right-wing (5) was 3 on average. The differences between the control and treatment
group on the background variables were all insignificant. This cancels out confounding effects, making it unnecessary to include these background variables when testing our hypotheses.

**Table 1 Control and treatment groups do not differ on background characteristics**

<table>
<thead>
<tr>
<th></th>
<th>% Female</th>
<th>Age</th>
<th>Political preference (1-5 scale)</th>
<th>Managerial position (yes / no)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Control group (low rule burden)</strong></td>
<td>59.09%</td>
<td>34.45</td>
<td>3.05</td>
<td>24.24%</td>
</tr>
<tr>
<td><strong>Treatment group (high rule burden)</strong></td>
<td>54.67%</td>
<td>33.28</td>
<td>2.87</td>
<td>32.00%</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>56.74%</td>
<td>33.83</td>
<td>2.95</td>
<td>28.37%</td>
</tr>
<tr>
<td><strong>Difference tests</strong></td>
<td>Chi</td>
<td>F=.420, F=.479, Chi Square=.002, p=.520 p=.479</td>
<td></td>
<td>p=.965 p=.352</td>
</tr>
</tbody>
</table>

### 3.3 Measures

Quality was based on the perceived quality construct as developed by Fornell et al. (1996) in their work on “The American Customer Satisfaction Index”. The scale consists of three items which were adapted to fit the fictitious promotion procedure used in this study. One of these items was deleted due to its low correlation with the other two items. The resulting two-item scale had a reliability of .85 and adequate factor loadings, as shown in the table below. The scale had five response categories that ranged from “very low” to “very high”. The items
Procedural justice was measured using the often-used article of McFarlin and Sweeney (1992) about procedural and distributive justice in the *Academy of Management Journal* (see also handbook of organizational measurement, Price 1997). Four questions were used to measure procedural justice in this specific context. Preceding the items was the text “The following questions ask you to indicate the quality of Organization Y's promotion procedure”. The items had a five point response scale ranging from “very unfair” to “very fair”. The four item scale had a good reliability of .90. The items and factor loadings are shown in the table below.

**Table 3 Measurement of procedural justice**

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>How fair is this promotion procedure overall?</td>
<td>.914</td>
</tr>
<tr>
<td>How fair is this promotion procedure for evaluating employee performance?</td>
<td>.911</td>
</tr>
<tr>
<td>How fair is this promotion procedure for determining whether an employee of Organization Y would be promoted?</td>
<td>.912</td>
</tr>
<tr>
<td>How fair is this promotion procedure for communicating performance feedback to employees of Organization Y?</td>
<td>.832</td>
</tr>
</tbody>
</table>
3.4 Manipulation check

Before discussing the results, we need to confirm that participants assigned to the high red tape treatment (manipulation) perceived higher levels of red tape than our control group (who were assigned the low red tape vignette). To this end, we measured red tape in two ways. First, we used the often applied one-item general red tape scale of Rainey et al. (1995), which was applied to the situation of the promotion procedure and read: “If red tape is defined as "burdensome administrative rules and procedures that have negative effects on an organization's effectiveness", how would you assess the level of red tape in Organization Y’s promotion procedure?” In line with existing red tape research (e.g., Bozeman and Feeney 2011), we used a scale ranging from 0 (with the label “almost no red tape”) to 10 (“great deal of red tape”).

Given the potential problems with this general red tape item (Feeney 2012), we also used another item to measure the degree of red tape. Given that our procedure is in fact a promotion procedure that relates to all employees, we adapted the personnel red tape item about promotion from Rainey et al. (1995, 574), which read: “This promotion procedure makes it hard for a good employee to move up faster than a poor one in Organization Y.” We used a five point Likert-scale with response categories that ranged from “strongly disagree” to “strongly agree”.

ANOVA tests showed that the manipulation was successful. Respondents in the treatment group indeed reported a significantly higher degree of general red tape than respondents in the treatment group ($M_{\text{Treatment}}=7.44$, $SD=2.22$; $M_{\text{Control}}=3.48$, $SD=2.52$; $F=98.00$, $p<.001$). Furthermore, the treatment group reported higher personnel red tape (focused on promotion) than the control group ($M_{\text{Treatment}}=3.15$, $SD=1.21$; $M_{\text{Control}}=2.44$, $SD=1.05$; $F=13.48$, $p<.001$).
4 RESULTS

Our first hypothesis is that higher rule tape leads to a lower degree of perceived quality of the procedure. Respondents confronted with a high red tape promotion procedure indeed rated the quality of the procedure as significantly lower as compared to the control group ($M_{\text{Treatment}}=3.53$, $SD=.76$; $M_{\text{Control}}=2.80$, $SD=1.03$; $F=21.66$, $p<.001$, 1-5 scale), as shown in Figure 1.

**Figure 1 Red tape lowers perceived quality of the procedure**

Second, we hypothesized that rule burden negatively affect perceived procedural justice. The respondents in the control group (low red tape) assessed the procedural justice of the promotion procedure with a mean of 3.71 ($SD=.78$) on a 1-5 scale. By contrast, the treatment group (high red tape) rated a lower level of quality, with an average of 3.21 ($SD=.96$). This difference is highly significant ($F=11.76$, $p<.001$), although the differences are less pronounced than with quality ($F=21.66$). Hence, our second hypothesis is also
confirmed. The difference in perceived procedural justice between the treatment and control groups is shown graphically in Figure 2.

**Figure 2 Red tape lowers procedural justice perceptions**

![Graph showing the difference in perceived procedural justice between the treatment and control groups.](image)

5 CONCLUSION

This study uses an experimental design to test the effect of red tape on procedural quality and procedural justice. In so doing, we move beyond existing red tape research with a cross-sectional focus on red tape conceptualizations and associations. In line with our expectations, we find that red tape has a negative effect on both our dependent variables. That is, more red tape results in lower perceived procedural quality, and lower procedural justice. Taken together, these findings imply that red tape has a general negative effect on procedural characteristics that is not limited to the researcher’s specific operationalization of red tape.

Our second contribution is methodological, as we show how the crowdsourcing service Amazon’s MTurk can be used effectively for experimental public administration research. Using a relatively small budget, we were able to get a diverse sample of participants
for our study. We hope that this study will serve as a steppingstone for future crowdsourcing studies in public administration research.

Before discussing the implications of this research, it is important to also note some limitations of the current study at this point. First, the experimental design consisted of a single vignette. Other studies may want to test whether our findings are generalizable to other experimental research settings as well (e.g., other vignettes, or a participatory experiment). Second, we have not incorporated a stakeholder red tape perspective in the current study. It could be worthwhile to analyze if perceptions of procedural quality and procedural justice differ between stakeholder groups. Third, as with all experimental studies, additional research is required to verify that our experimental design captures real life red tape examples.

The findings of this research show that integrating concepts from fields such as social psychology can help broaden the depth and scope of red tape research. Other potential important psychological effects of red tape which can be analyzed further include work and organizational psychology concepts such as vitality (Kark and Carmeli 2009), work engagement (Schaufeli et al. 2006), and flow (Csikszentmihalyi 1997; Salanova et al. 2006). The concept of work engagement seems especially interesting, as some research argues that work engagement leads to lower red tape (Torenvlied and Akkerman 2012), while others suggest that red tape leads to lower work engagement (Bakker et al. 2007). Experimental research could help shed light on such questions about direction and causality. Furthermore, other theoretical concepts from psychology related to specific procedures and regulations, such as distributive justice (Folger and Konovsky, 1989), compliance to regulations (Tyler and Blader 2005) and resistance to regulations (Tummers 2011) should be explored to answer important questions in public administration (Stritch and Christensen 2014; Tummers 2013; Grimmelikhuijsen and Meijer 2014).
Concluding, our findings emphasize the importance of red tape, as our research shows that red tape has negative effects on important procedural characteristics, such as quality and procedural justice. Further researching the concept of red tape in a broader procedural context should prove to be a timely and productive endeavor for researchers and practitioners alike.

REFERENCES


APPENDIX: TEXT OF RED TAPE VIGNETTES

Low Red Tape

Organization Y has introduced a new promotion procedure.

The procedure consists of a number of steps. These steps relate to the promotion procedure of a single employee. We will present these steps to you below.

Hereafter, you will be asked some questions about what you think of this procedure.

Step 1: Draft of Yearly Development Plan

At the start of the year, the employee writes down a number of goals for the following year in a Yearly Development Plan and sends this Plan to his / her supervisor. The supervisor may add new goals or adjust the goals formulated by the employee.

This step takes half an hour

Step 2: Evaluation of Yearly Development Plan

At the end of the year, the employee and supervisor discuss to what extent the goals outlined in the Yearly Development Plan have been achieved during a face-to-face meeting. After the meeting, the supervisor decides whether or not to promote the employee.

This step takes half an hour

High Red Tape

Organization Y has introduced a new promotion procedure.

The procedure consists of a number of steps. These steps relate to the promotion procedure of a single employee. We will present these steps to you below.

Hereafter, you will be asked some questions about what you think of this procedure.

Start of the year

Step 1: First draft of Yearly Development Plan

At the start of the year, the employee submits a first draft of the Yearly Development Plan, describing the employee’s general development goals (1,000-1,500 words in total).

This step takes two hours

Step 2: First draft of Project Development Plans

In addition to the Yearly Development Plan, the employee also has to fill out Project
Development Plans. These specify goals for the employee's three most important projects (1,000-1,500 words in total).

This step takes two hours

Step 3: Discussion of Plans

The employee discusses the Yearly Development Plan and Project Development Plans with his / her supervisor.

This step takes two hours

Step 4: Finalizing Plans

Based on the outcomes of the meeting with his / her supervisor, the employee submits final versions of the Yearly Development Plan and Project Task Development Plans.

This step takes two hours

End of the year

Step 5: Self-evaluation of Yearly Development Plan

The employee rates his / her performance for all goals outlined in the Yearly Development Plan (500-1,000 words in total).

This step takes two hours

Step 6: Self-evaluation of Project Task Development Plans

The employee rates his / her performance for all goals outlined in the Project Task Development Plans (500-1,000 words in total).

This step takes two hours

Step 7: Supervisor evaluation of Plans

The supervisor rates the employee’s performance for all goals outlined in the Yearly Development Plan and Project Development Plans (1,000-1,500 words in total).

This step takes four hours

Step 8: Promotion decision

All evaluations are sent to an internal promotion committee. This committee, which consists of three directors from divisions other than the employee's own division, reviews the Plans and their evaluations and decide on promotion.

This step takes two hours