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# What Makes Administrative and Hierarchical Procedures More Burdensome? Effects of Degree of Procedures, Outcome Favorability, and Confucian Values on Red Tape Perception

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## ABSTRACT

Public officials must not only comply with administrative procedures based on administrative rulebooks but also follow particular procedures requested by their supervisors in a bureaucratic system, which might be even more significant in a hierarchical culture. Noting that the impact of hierarchical procedures on red tape perception has not been extensively examined, this study investigates the potential difference in the effects of administrative and hierarchical procedures on the perception of red tape. Using a  $2 \times 2 \times 2$  experiment design to examine the effects of the nature of procedures, outcome favorability, and degree of procedures, vignette-based experiments were conducted for empirical analysis. This study suggests that the red tape perception resulting from hierarchical procedures is only significantly affected by the nature of outcomes (positive versus negative) and not by the degree of hierarchical procedures. In contrast the red tape perception related to administrative procedures is affected by both outcome favorability and degree of procedures. Among various Confucian values, this study also finds that face-saving and humility affect the perception of red tape.

## KEYWORDS

Administrative procedures;  
confucian values;  
experimental study;  
hierarchical procedures;  
red tape

## Introduction

Due to its significant presence in real-world settings, red tape has not only caught attention as a focal administrative reform agenda in practice, but has also been systemically defined, empirically tested, and widely studied in academia as both an independent and dependent variable (Bozeman, 1993, 2000; Bozeman & Feeney, 2011; Pandey & Scott, 2002). Both the antecedents and consequences of red tape (Bozeman, 1993, 2000; Bozeman & Feeney, 2011; Pandey et al., 2017, Pandey & Scott, 2002), as well as its positive and negative effects (Herd et al., 2013; Moon & Bretschneider, 2002; Pandey & Moynihan, 2006), have also been widely investigated.

Red tape has generally been defined as burdensome administrative rules or procedures (Bozeman, 1993, 2000) and is also often considered part of bureaucratic pathology directly or indirectly caused by formalization and procedures (Bozeman & Feeney, 2011; Kaufmann et al., 2019; Kaufmann & Feeney, 2014). Many studies have made efforts to develop measures of red tape in organizations, as well as investigate how individual and organizational factors affect the perception of red tape and how red tape affects organizational performance in public administrations (Bozeman, 1993, 2000, 2012; Bozeman & Feeney, 2011; Bozeman & Rainey, 1998; Campbell, 2019; Davis & Pink-Harper, 2016; Feeney, 2012; Kaufman, 1977; Kaufmann & Feeney, 2014; Pandey & Scott, 2002; Scott & Pandey, 2000).

Echoing the argument that “there is a dearth of research on predictors of red tape,” (Kaufmann et al., 2019), this study aims to examine procedure-related predictors of red tape not to contribute to the definition of red tape. We particularly pay attention to the lack of our understanding of whether public officials perceive red tape similarly or differently when they experience rules or procedures through administrative and hierarchical mechanisms in the course of conducting their assigned tasks in public organizations. Though some previous studies examined the relationship between red tape perception and hierarchical organizational structure (Kaufmann et al., 2019; Moon, 1999), we do not know much regarding the extent to which administrative and hierarchical procedures a predictor of red tape in public agencies. We believe that this is an important empirical question because public officials should not only comply with administrative procedures based on related rulebooks but also often follow particular procedures requested by their supervisors (hierarchical order-based procedures).

It is also unclear if the consequence of red tape is context-dependent or if it is universal and context-free. The degree of its context-embeddedness is an important research question regarding whether the nature and consequences of red tape vary according to contextual differences. However, this is neither widely studied nor fully understood. We propose taking a behavioral approach based on a social psychological perspective to investigate how red tape perception is affected by administrative rules, hierarchical reporting systems, and outcome favorability. We also examine how Confucian values of individuals affect the red tape perception. Building on previous research conducted in the Western context on the negative impacts of red tape on procedural satisfaction (Kaufmann & Tummers, 2017) and the effects of outcome favorability on red tape perception (Kaufmann & Feeney, 2014), we performed vignette-based experiments in South Korea along with a Confucian value study.

### ***Administrative and hierarchical procedures as a predictor of red tape***

Red tape has been widely studied as a focal interest of public management (Bozeman, 1993; 2000, 2012; Bozeman & Feeney, 2011; Bozeman & Rainey, 1998; Campbell, 2019; Feeney, 2012; Kaufman, 1977; Kaufmann & Feeney, 2014; Pandey & Scott, 2002; Scott & Pandey, 2000). In his seminal work *Red Tape* Kaufman, Kaufman, (1977), for example, Kaufman highlights “too many constraints,” “pointless constraints,” and “quagmire” as “objects of loathing.” In particular, Kaufman (1977) indicates that pointless constraints as red tape are related to “irrelevant requirements,” “duplicative and contradictory requirement,” “inertia,” and “program failure.” It is clear that constraints, procedures, and formalization are not necessarily the same concept as red tape. However, they are somehow related, which makes developing an objective measure of red tape very challenging.

Some researchers study red tape either theoretically or conceptually (Bozeman, 1993, 2000), while others investigate its measurements for rigorous empirical examination (Bozeman & Feeney, 2011; Feeney, 2012; Pandey & Scott, 2002). Bozeman offered a specific explanation of red tape, defining it as “rules, regulations, and procedures that remain in force and entail a compliance burden for the organization but have no efficacy for the rules’ functional object” Bozeman, Bozeman, (1993, 283). A later revision focused on the negative impacts of “burdensome administrative rules and procedures” in the organizational performance context (Bozeman, 2000; Bozeman & Feeney, 2011). To Bozeman, the most compelling characteristic of red tape is that it is “burdensome and negative” (Feeney, 2012; Kaufmann & Feeney, 2014), which means that its objective and subjective measures are not necessarily identical because the extent to which a particular rule or regulation is perceived as burdensome might vary among organizations and even among people. Recently scholars argue that administrative delay or administrative burden is not necessarily red tape itself, but they are a reasonable predictor of red tape (Kaufmann et al., 2019).

Extending empirical findings from research examining the effects of organizations’ structural factors such as centralization, formalization, and hierarchy (Kaufmann et al., 2019; Moon, 1999), this study paid particular attention to two procedure-related predictor of red tape: burdensome rule-based administrative and hierarchical procedures. In organizations, for example, a public official tends to perceive red tape as being asked or required to follow various procedures that are either required by rulebooks (*administrative procedures*) or ordered and requested by supervisors (*hierarchical procedures*) in the course of handling and administering assigned tasks.

Of course, subjective red tape perception is not necessarily directly associated with the objective volume of rules or the length of procedures

because it is often an outcome of the psychological processes of individuals who might be affected by not only the volume of rules, but also by many other factors including the sources, content, and results of guidelines and procedures. This view is especially supported by those who consider red tape a socially constructed concept (Bozeman, 1993; Pandey, 1995) or an outcome of the psychological processing of particular rules by an individual who is subject to socialization (Brewer & Walker, 2010; Davis, 2013; Feeney & Bozeman, 2009; Kaufmann & Feeney, 2012, 2014; Pandey & Welch, 2005).

People tend to experience rules and regulations in two ways, with one being purely based on rulebooks. For example, a public official who is assigned to a new task needs to determine appropriate procedures as well as related rules and regulations to handle his or her work. In this case, rules and regulations are simply embedded in administrative procedures through which a particular administrative task is executed. The other case occurs when a public official faces rules and regulations through interactions with his or her supervisors<sup>1</sup>. Specifically, particular rules and regulations are delivered to the public official from supervisors as orders or requests rather than from impersonal rulebooks.

Though the relationship between hierarchy and red tape has not been widely investigated, some studies have focused on the difference in red tape perception among people at different hierarchical levels. Using an organizational echelon analysis, for example, Walker and Brewer (2008) investigated hierarchical variations of perceived red tape. They found that those who are at the bottom level of a hierarchical system are more likely to perceive a higher degree of red tape than those who are at its upper level. There could be two reasons for this. One is that public officials in low positions might need to deal with more rules and regulations in their work than those in higher ranks because of differences like the jobs they perform. The other is that public officials in low positions tend to perceive a higher level of red tape because rules are more burdensome when they come not only from rulebooks but also their supervisors. Though Walker and Brewer (2008) did not mention a possible difference in the impact of hierarchy-based versus rulebook-based regulations on red tape perception because they did not control for the magnitude of rules that public officials at different hierarchical levels experienced, their study is still an excellent addition to red tape literature because it shows that the level of red tape perception might vary among those in different positions in a hierarchical system.

Public officials might perceive a higher level of red tape when they are exposed to procedures through a hierarchical system by interacting with their supervisors than when they are exposed to procedures dictated by administrative rules. Considering red tape perception as a social construct

and an outcome of an individual's psychological processes, individuals might be more affected by human interactions within a hierarchical system than by impersonal rules. Alternatively, one might argue that the perception of red tape is not necessarily affected by impersonal and rule-based administrative or personal hierarchical procedures, but only by the length (magnitude) of administrative processes (Kaufmann & Feeney, 2014). These contrasting perspectives present two competing hypotheses:

Hypothesis 1a: The impact of hierarchical procedures is greater than that of administrative procedures on the red tape perception of public officials.

Hypothesis 1b: The red tape perception of public officials is similarly affected by the levels of administrative rules and hierarchical procedures.

### ***Effect of outcome favorability on the perception of red tape***

Scholars have paid attention to the link between red tape and organizational performance. Considering red tape as an independent variable, many researchers have investigated how it hampers organizational performance. Recently, scholars such as Kaufmann and Feeney (2014) have begun to investigate the impact of "outcome favorability" by examining how organizational and procedural outcomes affect the perception of red tape in organizations based on the rich body of literature on outcome favorability and procedural fairness from the social exchange perspective (Blader & Tyler, 2003; Brockner, 2002; Brockner et al., 2007; Brockner & Wiesenfeld, 1996; Skitka et al., 2003). This body of literature implies that procedural fairness is closely associated with outcome favorability. While procedural fairness in organizational decision-making processes might affect an individual's attitude toward results, and outcomes, results and outcomes might also affect the individual's perception of the nature of decision-making procedures. For example, one might question procedural fairness if results are different from what he or she expects. However, one might be positive about procedural fairness if he or she obtains expected and favorable results.

Kaufmann and Feeney (2014) conducted a vignette-based experiment to empirically test the impact of outcome favorability on red tape perception. Theirs is a critical study not only because it strengthens the socio-psychological perspective in red tape research, but also because it contributes to the literature by first linking outcome favorability and individuals' red tape perception based on a vignette-based experimental design. Though the vignettes used in Kaufmann and Feeney's study reflect an educational setting (i.e., a student trying to register for a course) rather than a public management one, their findings confirm that outcome favorability helps

reduce the level of red tape perception. This suggests that the perception of red tape might vary depending on whether one obtains a desirable or favorable outcome after experiencing various rules and procedures being applied to one's work in public organizations. This suggests the following hypothesis:

Hypothesis 2: Positive and favorable outcomes are more likely to reduce the level of red tape perception of public officials.

### ***Red tape in the cultural context***

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. How does culture affect red tape in an organization? Is red tape defined and perceived differently in various organizations and societies of distinct cultures? Does culture influence the effect of red tape on bureaucratic behaviors or organizational performance? These are all essential empirical research questions. Unfortunately, however, we do not have a good understanding of the effect of culture on red tape. A few studies have been conducted to investigate the possible link between the two in the context of organizational effectiveness. For example, empirical studies by Pandey and Moynihan (2006) and Pandey et al. (2007) show that an entity's developmental culture positively affects organizational performance by lowering the negative effect of red tape on said performance. They suggest that a developmental organizational culture with high entrepreneurial orientation might mediate the negative effect of red tape on organizational performance. This is possible because public managers and organization members might be capable of handling bureaucratic constraints placed by excessive rules and regulations more proactively and innovatively so they can reduce the constraining effect of red tape on organizational performance (Ban, 1995). Alternatively, an organization with a rule-based culture might simply be too receptive to specified rules and therefore, might not try to find a different method if doing so could infringe upon them. While these studies take important steps to connect culture with red tape by helping us understand the possible associations between the two, they do not necessarily help enhance our understanding of the effect of culture on red tape.

In this study, we are interested in examining the association between Confucian values of individuals and the impact of burdensome administrative and hierarchical procedures on red tape perception they are often characterized as having a high level of group- and hierarchical-orientation. It is often said that Confucianism has influenced organizational behaviors by making people group- and hierarchy-oriented because it emphasizes harmony rather than power (Lin & Ho, 2009; Romer, 2002). This characteristic

is closely associated with organization members' attitude toward rules and regulations applied in entities. Particularly, those who value organizational harmony and hierarchical systems tend to appreciate and respect rules and regulations more than those who value individualism.

There have been many scholars who examined Confucius' principles (McDonald, 2012; Monkhouse et al., 2013; Robertson, 2000). For example, Monkhouse et al. (2013) suggest five major Confucian principles that have a significant influence on organizational behaviors: face-saving, humility, group orientation, hierarchy, and reciprocity. Face-saving is closely related to individuals' desire to avoid any possibility of shame and dishonor for themselves and their groups (Earley, 1997; Monkhouse et al., 2012, 2013). Humility is related to humbleness, while group orientation refers to a sense of community. Hierarchy supports organizational and social order, which is somewhat related to power distance. In contrast, reciprocity strongly influences the underlying interpersonal relationships of those involved in exchanging favors among socially engaged individuals in various settings, including business and politics (Monkhouse et al., 2013). Valuing group orientation and hierarchical systems in organizations, Confucian values generally support and uphold a harmonious organization or society, which might enhance government officials' receptivity to administrative rules (especially hierarchical procedures) because they are more likely to be considered positive and necessary factors than burdensome and negative ones. This leads to the following hypothesis:

Hypothesis 3: Confucian values of individuals are more likely to be associated with the impact of administrative rules or hierarchical procedures on the red tape perception of public officials.

### ***Vignette-based experiment and data collection***

This study used a vignette-based experiment combined with pre- and post-experiment surveys. The experiment featured eight vignettes about different situations in which subjects encountered burdensome rules and procedures in executing a new project which required managerial coordination for additional personnel and budget. The vignettes contained eight scenarios ( $2 \times 2 \times 2 = 8$ ) based on three treatments (see Table 1): (1) application of impersonal and rule-based administrative procedures versus hierarchical ones in handling the assigned task, (2) positive and favorable results versus negative and unfavorable outcomes, and (3) low volume of administrative burden (with short administrative procedures or fewer hierarchical ones) versus high volume of administrative burden (with long administrative procedures or more hierarchical measures). For the first treatment, four scenarios were written in which a public official followed various rules to



**Table 1.** Scenarios by Red Tape Dimensions, Degree, and Outcome.

Type	Dimension: Rule vs. Hierarchy	Degree: High vs. Low	Outcome: Positive vs. Negative
A	Administrative Procedures	High (3 rules)	Positive
B	Administrative Procedures	High (3 rules)	Negative
C	Administrative Procedures	Low (2 rules)	Positive
D	Administrative Procedures	Low (2 rules)	Negative
E	Hierarchical Procedures	High (3 levels)	Positive
F	Hierarchical Procedures	High (3 levels)	Negative
G	Hierarchical Procedures	Low (2 levels)	Positive
H	Hierarchical Procedures	Low (2 levels)	Negative

complete his/her assignment. In contrast, in the other four, a public official was asked to follow comparable requests made by his or her boss. The second treatment was reflected in the scenarios through varying the length of administrative procedures in terms of the number of rules required for the assigned task, or the levels of hierarchical procedures. For the third treatment, half of the scenarios depicted the public official's work being recognized by his or her minister, which finally led to good performance evaluation. In contrast, the other half described a negative outcome featuring the minister's disapproval and poor performance evaluation. The full text of each scenario can be found in the [Appendix A](#).

A pre-experiment survey was administered along with the eight vignettes. Pre-experiment survey items included: (1) three questions regarding respondents' general perceptions about the red tape (defined as burdensome rules or procedures that have a negative impact on organizational performance) experienced in their daily lives, public administrators' lives, and respondents' campus lives; (2) questions on Confucian values; and (3) questions on personality attributes.

Based on the literature on Confucianism (Monkhouse et al., 2013), we measured five dimensions of Confucian values: face-saving, humility, group orientation, hierarchy, and reciprocity. Each value dimension was measured by four survey questions ranked on a 7-point Likert scale. The average score of the responses regarding the five elements of Confucian values was used for the variable representing each Confucian value. Details of the questions concerning each value are presented in the [Appendix B](#).

The experiment was implemented by randomly assigning a vignette (Type A, B, C, D, E, F, G, and H) to each participant. Participants were asked to indicate the level of red tape they thought the subject of the vignette encountered on an 11-point scale from 0 (no red tape) to 10 (a great deal of red tape). The subjects for this study were students who were majoring in public administration in six different universities. One of eight vignettes was randomly assigned to each subject, who was also asked questions regarding the extent to which they encountered red tape similar to that in the story described in the vignettes they read.

## Statistical analysis and results

Table 2 summarizes the descriptive statistics for the major variables used in this study, including perceived red tape for each scenario, general red tape, Confucian values, gender, and age. The highest level of perceived red tape was for Type F, which was the scenario with procedural hierarchy, a high degree of hierarchical component, and a negative outcome, while the lowest level of perceived experimental red tape was for Type C, which was the scenario with administrative procedures, a low degree of rules, and a positive outcome. As the analysis of variance (ANOVA) results presented in Table 3 indicated, the difference among the mean values of perceived experimental red tape was statistically significant. However, more in-depth analyses should be conducted to investigate how the three elements of red tape (administrative vs. hierarchical procedures, the length of administrative procedures/hierarchy, and outcome favorability) affect the perception of red tape in public organizations.

To examine how the three dimensions affected the perceived red tape in the experiment, we performed Duncan and Scheffe's test of mean value differences and identified similar groups based on the mean values of perceived red tape in the experiment. The highest levels of perceived experimental red tape were found in Type F (7.05), Type B (7.06), Type H (6.84), and Type D (6.72), which were grouped by Duncan statistics and identical in terms of the scenarios with negative outcomes. The lowest levels of perceived red tape were found in Type C (5.15), Type G (5.68), Type E (6.04), and Type A (5.92). The Duncan statistics suggested that Type C, which had the lowest perceived red tape, was not classified as part of the

**Table 2.** Descriptive Statistics for Perceived Experimental Red Tape by Type.

Group	N	Mean	SD	Min	Max
A (AP/H/P)	75	5.92	1.784013	1	10
B (APH/N)	76	7.065789	1.941378	1	10
C (AP/L/P)	80	5.15	2.245107	0	10
D (AP/L/N)	72	6.722222	1.654888	2	10
E (HP/H/P)	72	6.041667	2.092492	0	9
F (HP/H/N)	77	7.051948	1.768854	0	10
G (HP/L/P)	73	5.684932	1.949905	0	9
H (HP/L/N)	72	6.847222	1.940377	0	10
Total	597	6.303183	2.036629	0	10

Source. AP: Administrative Procedures; HP: Hierarchical Procedures; H: High Level Rules or Hierarchy; L: Low Level Rules or Hierarchy; P: Positive Outcomes; N: Negative Outcomes.

**Table 3.** ANOVA Results for Perceived Experimental Red Tape.

Source	SS	df	MS	F	Prob > F
Between groups	271.5484	7	38.79263	10.38	0
Within groups	2200.576	589	3.736122		
Total	2472.124	596	4.147859		

group, including Type G, Type E, and Type A. This suggests that outcome favorability is the single most influential determinant of perceived red tape in public organizations.

The length/amount of procedures was also a significant factor. Still, a statistically significant difference was only found between Type C and Type A (both were scenarios with administrative procedures and positive outcomes) and not between Type B and Type D (scenarios with administrative procedures and negative outcomes), Type E and Type G (scenarios with hierarchical procedures and positive outcomes), and Type F and Type H (scenarios with hierarchical procedures and negative outcomes).

The mean test also showed that the differences in mean values of perceived red tape between administrative and hierarchical procedures were not statistically significant. The mean differences in perceived experimental red tape between comparable types (Type A and E, Type B and F, and Type D and H) were negligible except for Type C and G. This suggests that individuals might perceive red tape strongly even when they experience a small degree of hierarchical procedures. Overall, these results offered preliminary findings indicating that Hypothesis 2 was supported, as in the findings of Kaufmann and Feeney (2014), but Hypothesis 1 was not supported. For more robust analyses with treatment variables, demographic control variables such as gender and age, and assessment of Confucian values, multiple regression analyses were employed.

To test the posited hypotheses more robustly, we conducted multiple regression analyses that included responses regarding both administrative and hierarchical procedures. As Table 4 suggests, general red tape perception was positively associated with perceived red tape in the experiment, which reflected the subject's assessment of the assigned scenario. Among the three experimental treatments, Treatment 2 (the degree of administrative or hierarchical procedures) and Treatment 3 (positive or negative outcome) were statistically significant, and both coefficients were positive. This meant that individuals tended to perceive a higher level of red tape with a greater degree of rules and procedures (i.e., longer administrative and increased hierarchical procedures) in organizations. The coefficient for Treatment 1 (administrative vs. hierarchical procedures) was positive as expected, but not statistically significant, which was similar to the ANOVA results. In this combined model, including both red tape scenarios involving administrative and hierarchical procedures, none of the five Confucian values were statistically significant. However, gender was positive and statistically significant, which meant females were likely to perceive a higher level of red tape when they experienced comparable situations in organizations.

**Table 4.** Perceived Experimental Red Tape (Both Administrative/Hierarchical Procedures).

		(1)	(2)	(3)
		PERT	PERT	PERT
General		0.140***	0.154***	0.154***
Red Tape		(3.32)	(3.86)	(3.86)
Confucian	Face-	0.069	0.055	0.056
Values	Saving	(1.46)	(1.21)	(1.25)
	Humility	-0.016	-0.032	-0.033
		(-0.37)	(-0.79)	(-0.82)
	Group-	-0.000	0.019	0.020
	Orientation	(-0.00)	(0.43)	(0.45)
	Hierarchy-	-0.009	-0.011	-0.014
	Orientation	(-0.19)	(-0.23)	(-0.30)
	Reciprocity	0.059	0.036	0.034
		(1.22)	(0.78)	(0.74)
Age		-0.043	-0.034	-0.037
		(-1.04)	(-0.87)	(-0.94)
Gender		0.069*	0.066*	0.067*
		(1.66)	(1.68)	(1.71)
Treatments	Treatment 1		0.040	
	(AP vs. HP)		(1.05)	
	Treatment 2		0.119***	
	(Low vs. High)		(3.06)	
	Treatment 3		0.296***	
	(Pos. vs. Neg.)		(7.66)	
Types	Type B			0.176***
				(3.43)
	Type C			-0.145***
				(-2.80)
	Type D			0.109**
				(2.14)
	Type E			0.003
				(0.05)
	Type F			0.177***
				(3.47)
	Type G			-0.055
				(-1.08)
	Type H			0.125**
				(2.46)
	<i>N</i>	597	597	597
	<i>R</i> <sup>2</sup>	0.043	0.147	0.151
	adj. <i>R</i> <sup>2</sup>	0.030	0.131	0.129
	<i>F</i>	3.317	9.180	6.897

Standardized beta coefficients; *t* statistics in parentheses; \**p* < 0.1, \*\**p* < 0.05, \*\*\**p* < 0.01.

To examine the difference in the impact of general red tape perception and individual attitudes regarding perceived red tape between administrative and hierarchical procedures in the experiment, we ran the same multiple regression analyses for the two separate sub-datasets (administrative and hierarchical procedures). As Table 5 indicates, general red tape perception was positively associated with perceived red tape in the experiment. It was statistically significant in Model 4, which did not control treatments or types of scenarios by the volume of rules or outcome favorability.

We added treatment dummy variables in Model 5 and found that both Treatments 2 and 3 were positive and statistically significant. This suggests that the length of administrative procedures and negative outcomes were likely to make individuals' red tape perception stronger. In Model 6, where

**Table 5. Multiple Regression Analysis for Administrative Procedures.**

		(4)	(5)	(6)
		PERT(AP)	PERT(AP)	PERT(AP)
General		0.112*	0.129**	0.128**
Red Tape		(1.87)	(2.30)	(2.28)
Confucian	Face-	0.134*	0.118*	0.121*
Values	Saving	(1.97)	(1.86)	(1.91)
	Humility	0.028	0.029	0.026
		(0.46)	(0.51)	(0.45)
	Group-	-0.013	-0.006	-0.005
	Orientation	(-0.19)	(-0.09)	(-0.07)
	Hierarchy-	-0.030	-0.016	-0.020
	Orientation	(-0.42)	(-0.24)	(-0.30)
	Reciprocity	0.051	-0.005	-0.003
		(0.73)	(-0.08)	(-0.04)
Age		-0.056	-0.047	-0.051
		(-0.95)	(-0.86)	(-0.92)
Gender		0.030	0.038	0.038
		(0.51)	(0.68)	(0.69)
Treatments	Treatment 2		0.143***	
	(Low/High)		(2.62)	
	Treatment 3		0.323***	
	(Pos./Neg.)		(5.92)	
Types	Type B			0.230***
				(3.43)
	Type C			-0.176***
				(-2.61)
	Type D			0.153**
				(2.27)
	<i>N</i>	303	303	303
	<i>R</i> <sup>2</sup>	0.042	0.166	0.169
	adj. <i>R</i> <sup>2</sup>	0.016	0.137	0.138
	<i>F</i>	1.597	5.810	5.386

Standardized beta coefficients; *t* statistics in parentheses, \**p* < 0.1, \*\**p* < 0.05, \*\*\**p* < 0.01.

the dummy variables for three types (using Type A as a reference group, which was a scenario with long administrative procedures and positive outcomes) were included, the results showed that the dummy variables for Type B, Type C, and Type D were statistically significant. The coefficients for Type B (long administrative procedures and negative outcomes) and Type D (short administrative procedures and negative outcomes) were positive and statistically significant. Considering that the reference group was Type A (long administrative procedures and positive outcomes), this showed that public managers who had unfavorable outcomes were likely to perceive a higher degree of red tape than those who had positive ones, even though the former experienced the same or even a lower level of administrative procedures. The coefficient for Type C (short administrative procedures and positive outcomes) was negative and statistically significant, which suggests that public managers who experienced a shorter administrative procedure were likely to perceive a lower level of red tape. Among the five Confucian values, only face-saving was statistically significant and positively associated with perceived red tape resulting from administrative procedures in the experiment in Model 4, Model 5, and Model 6. This

**Table 6.** Multiple Regression Analysis for Hierarchical Procedures.

		(7)	(8)	(9)
		PERT(HP)	PERT(HP)	PERT(HP)
General		0.191***	0.207***	0.207***
Red Tape		(3.14)	(3.55)	(3.52)
Confucian	Face-	-0.010	-0.020	-0.020
Values	Saving	(-0.15)	(-0.31)	(-0.31)
	Humility	-0.071	-0.101*	-0.102*
		(-1.18)	(-1.74)	(-1.74)
	Group-	0.025	0.056	0.056
	Orientation	(0.37)	(0.87)	(0.86)
	Hierarchy-	0.005	-0.007	-0.007
	Orientation	(0.07)	(-0.10)	(-0.10)
	Reciprocity	0.086	0.075	0.075
		(1.24)	(1.13)	(1.13)
Age		-0.057	-0.039	-0.039
		(-0.95)	(-0.68)	(-0.68)
Gender	G	0.106*	0.103*	0.102*
		(1.78)	(1.80)	(1.79)
Treatments	Treatment 2		0.088	
	(Low/High)		(1.55)	
	Treatment 3		0.276***	
	(Pos./Neg.)		(4.96)	
Types	Type F			0.237***
				(3.44)
	Type G			-0.082
				(-1.18)
	Type H			0.162**
				(2.33)
	N	294	294	294
	R <sup>2</sup>	0.066	0.149	0.149
	adj. R <sup>2</sup>	0.040	0.119	0.116
	F	2.520	4.961	4.495

Source. Standardized beta coefficients; *t* statistics in parentheses, \**p* < 0.1, \*\**p* < 0.05, \*\*\**p* < 0.01.

suggests that face-saving is primarily a boosting factor that enhances individuals' perception of red tape when they deal with various administrative procedures in the course of doing their assigned work. Specifically, those who are sensitive to how they are viewed by others, as well as those who care about their individual and organizational images, are more likely to perceive a higher level of red tape. This means that those who place a higher value on face-saving might be sensitive about the red tape issues and raise them as an organizational problem.

Table 6 summarizes the statistical results of the multiple regression analyses for the perceived red tape resulting from hierarchical procedures. There were both similarities and differences in the results from the models of administrative and hierarchical procedures. Similar to the results from the multiple regression analyses for administrative procedures, the perceived red tape resulting from hierarchical procedures was also affected by an individual's general perception of red tape. While the perception of red tape related to administrative procedures in the experiment was influenced by both the procedures' length and outcome favorability, that of hierarchical procedures was not affected by the procedures' degree, but only by

outcome favorability, which was confirmed both by Model 8 and Model 9. As the results of Model 8 showed, only the dummy variable of Treatment 3 (favorability of outcome) was statistically significant, suggesting that negative outcome increases red tape perception related to the hierarchical procedures. In Model 9, the coefficients for both dummy variables for Type F (high degree of hierarchy and negative outcomes) and Type H (low degree of hierarchy and negative outcomes) were positive and statistically significant when the reference group was Type E (high degree of hierarchy and positive outcomes). This suggests that the nature of outcomes rather than the degree of hierarchy affects the perception of red tape related to hierarchical procedure. Specifically, our results indicate that public officials who experience comparable outcomes are likely to perceive red tape similarly regardless of the actual degree of hierarchical procedures they experience in the course of carrying out their administrative tasks. Unlike statistical results from the models of the perceived red tape related to administrative procedures, only humility was statistically significant and negatively associated with red tape perception in the hierarchical procedures models. This suggests that those who are humble are likely to perceive less red tape related to hierarchical procedures than those who are not, which indicates that organizational members with humility are likely to be more receptive to hierarchy-based red tape. While gender was not statistically significant in the administrative procedures model, it was statistically significant and positive in the hierarchical procedures model, which indicates that females are likely to perceive a higher level of red tape when faced with hierarchical procedures than males. This also suggests that gender matters to hierarchical procedures but not necessarily to administrative ones.

## **Discussion and conclusion**

The purpose of this study is twofold. First, this was an empirical study on two different dimensions of red tape (administrative and hierarchical procedures) through which public officials experience and perceive red tape in real organizations. Responding to previous studies which often treated red tape as one-dimensional, such as having difficult rules or formalization as noted by Kaufmann et al. (2019), this study examined how public managers might feel a burden through both administrative and hierarchical procedures they were expected to follow. Extending the social psychological perspective in red tape studies, this study also aims to understand red tape in the cultural context and examine how individuals' cultural aspects, particularly Confucian values, which are arguably the most important cultural properties in Asian societies, affect individuals' perception of red tape.

On the one hand, the findings of this study suggest that there is not a significant difference in the impact of administrative and hierarchical procedures on the level of perceived red tape if the length of administrative procedures and the height of hierarchical ones are comparable. Overall, the perception of red tape resulting from hierarchical procedures was slightly higher than that for administrative processes. On the other hand, the two dimensions differed regarding how the red tape perception of public officials was affected by the length of procedures and outcome favorability. This suggests that Hypothesis 1 is only partially supported. As in Kaufmann & Feeney's study (2014), individuals appeared to perceive a higher level of red tape as they experienced a longer administrative procedure and negative outcomes rather than positive ones. However, the red tape perception resulting from hierarchical procedures was only significantly affected by the nature of outcomes (positive versus negative), not by the length of hierarchical procedures. This indicated that public officials might still perceive a great deal of red tape despite few hierarchical procedures if they did not achieve positive outcomes. In contrast, even if officials were dealing with a long hierarchical procedure, they might perceive little red tape if they eventually obtained positive results.

As suggested in the statistical results of both multiple regression models of administrative and hierarchical procedures, Hypothesis 2 was fully supported in that outcome favorability was a significant factor that determined the level of red tape perception. This confirmed the finding of Kaufmann and Feeney (2014). It should be noted that outcome favorability appeared to be more critical to those who experienced hierarchical procedures than those who experienced administrative ones because the red tape perception related to administrative procedures was affected not only by outcome favorability but also by the length of procedures. This result suggests that leaders need to know that it is very important to stress the positive outcomes if they use hierarchical procedures in government agencies. The findings of this study also confirmed that red tape was socially constructed and an outcome of the individual's psychological processes, because the results of the two dimensions of red tape were somewhat different in the way that individuals processed their procedural experiences and perceived the degree of red tape even though the actual rules and procedures were almost identical.

Though the effect of individual differences in Confucian values on red tape perception is not experimentally manipulated, regression analyses suggest that Confucian values of individuals affect administrative and hierarchical procedures differently. While not all Confucian values were critical determinants of red tape perception at the individual level, a couple of them appeared to be significant. Face-saving enhanced red tape perception



related to administrative procedures, while humility reduced red tape perception related to hierarchical ones. This suggests that an individual who is sensitive to others, particularly how others view his or her image, is likely to perceive a higher level of red tape when dealing with administrative procedures. However, those who valued humility were likely to be more receptive to hierarchical orders and related rules such that they perceived less red tape resulting from them. This suggests that Confucian values are reflected differently in individuals' perceptions of red tape related to both administrative and hierarchical procedures through their cognitive processes. Despite this finding, it should be noted that red tape perception might be only partially affected by a specific cultural component held by an individual and is more likely to be determined by the nature of the rules and procedures as well as the outcomes that he or she experiences.

Our study has several shortcomings. First of all, the subjects of the experiment are not actual government officials but students, so that the interpretation of the statistical results is made cautiously. It should also be noted that Confucian values are examined at the individual level and not at the national level. We may need to replicate the experiment in different cultural settings to examine how these affect the red tape perception in public agencies at the local, regional, and national levels. Future studies also need to explore how other individual differences, such as competence, can mediate the effect of administrative and hierarchical procedures on the red tap perception.

## Note

1. Davis and Pink-Harper (422016, 183) describe red tape as “a social construct that takes meaning as individuals interact in the social context of an organization”.

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## **Appendix A Eight scenarios (types) in vignettes (originally written in korean and translated into english)**

### **Type A**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While going over relevant administrative rules or procedures, Officer Kim found that a new rule for the calculation of manpower requirements needs the examination of an excessive number of items and the cooperation of the relevant departments. After finalizing a manpower report, Officer Kim established a new plan to secure an additional budget. Officer Kim identified another new rule that requires reviews of a new budget plan by comparing it with ones for other areas as well as similar programs. The new rule was put in place due to the recent budget waste cases that happened in other divisions. Following the new regulation, Officer

Kim supplemented the budget plan by examining relevant documents. While carrying out a final review, Officer Kim found that her/his policy program is subject to cost-benefit analysis and external expert review, due to a newly introduced regulation that expanded the targets of review from projects that cost more than 10 billion dollars to moderate scale projects. Officer Kim spent one month conducting a cost-benefit analysis by inviting external experts. After completing all of the procedures described above, the policy program received the Minister's approval and started to be implemented. As a result, Officer Kim received an "A" rating in 2017's performance appraisal, which was better than the "B" he/she received last year.

### **Type B**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While going over relevant administrative rules or procedures, Officer Kim found that a new rule for the calculation of manpower requirements needs the examination of an excessive number of items and the cooperation of the relevant departments. After finalizing a manpower report, Officer Kim established a new plan to secure an additional budget. Officer Kim identified another new rule that requires reviews of a new budget plan by comparing it with ones for other areas as well as similar programs. The new rule was put in place due to the recent budget waste cases that happened in other divisions. Following the new regulation, Officer Kim supplemented the budget plan by examining relevant documents. While carrying out a final review, Officer Kim found that her/his policy program is subject to a cost-benefit analysis and external expert review, due to a newly introduced regulation that expanded the targets of review from projects that cost more than 10 billion dollars to moderate scale projects. Officer Kim spent one month conducting the cost-benefit analysis by inviting external experts. Despite all the procedures described above, the new plan was not implemented because it failed to receive the Minister's approval. As a result, Officer Kim received a "B" rating in 2017's performance appraisal, which was worse than the "A" he/she received last year.

### **Type C**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While going over relevant administrative rules or procedures, Officer Kim found that a rule for the manpower requirement was the same as before. After finalizing a manpower report, Officer Kim established a new plan to secure an additional budget by following an existing rule that requires reviews of a new budget plan by comparing it with ones for similar programs. After completing all of the procedures described above, the new plan received the Minister's approval and started to be implemented. As a result, Officer Kim received an "A" rating in 2017's performance appraisal, which was better than the "B" he/she received last year.

### **Type D**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While going over relevant administrative rules procedures, Officer Kim found that the rule for the manpower requirement was the same as before. After finalizing the manpower report, Officer Kim established a new plan to secure an additional budget by following an existing rule that requires a review of new budget plans by comparing ones for similar programs. Despite all the procedures described above, the new plan was not implemented because it failed to receive the Minister's approval. As a result, Officer Kim received a "B" rating in 2017s performance appraisal, which was worse than the "A" he/she received last year.

### **Type E**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While reporting the new business plan to Director Lee, Officer Kim received a new instruction for the calculation of manpower requirements that needs the examination of an excessive number of items and the cooperation of the relevant departments. After finalizing a manpower report, Officer Kim established a new plan to secure an additional budget. While reporting the new budget plan to Deputy Director-General Park, Officer Kim got another instruction from Park that requires reviews of a new budget plan by comparing it with ones for other areas as well as similar programs. The new instruction was put in place due to the recent budget waste cases that happened in other divisions. Following the new instruction, Officer Kim supplemented the budget plan by examining relevant documents. While carrying out a final review, the new Director-General gave a new order that expanded the targets of review from projects that cost more than 10 billion dollars to moderate scale projects. Officer Kim's policy program became subject to cost-benefit analysis and external expert review due to the new instruction. Officer Kim spent one month conducting a cost-benefit analysis by inviting external experts. After completing all of the procedures described above, the policy program received the Minister's approval and started to be implemented. As a result, Officer Kim received an "A" rating in 2017s performance appraisal, which was better than the "B" he/she received last year.

### **Type F**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While reporting the new business plan to Director Lee, Officer Kim received a new instruction for the calculation of manpower requirements that needs the examination of an excessive number of items and the cooperation of the relevant departments. After finalizing a manpower report, Officer Kim established a new plan to secure an additional budget. While reporting the new budget plan to Deputy Director-General Park, Officer Kim got another

instruction from Park that requires reviews of a new budget plan by comparing it with ones for other areas as well as similar programs. The new instruction was put in place due to the recent budget waste cases that happened in other divisions. Following the new instructions, Officer Kim supplemented the budget plan by examining relevant documents. While carrying out a final review, the new Director-General gave a new order that expanded the targets of review from projects that cost more than 10 billion dollars to moderate scale projects. Officer Kim's policy program became subject to cost-benefit analysis and external expert review due to the new instruction. Officer Kim spent one month conducting a cost-benefit analysis by inviting external experts. Despite all the procedures described above, the new plan was not implemented because it failed to receive the Minister's approval. As a result, Officer Kim received a "B" rating in 2017's performance appraisal, which was worse than the "A" he/she received last year.

### **Type G**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While reporting the new business plan to Director Lee, Officer Kim received an instruction to carry out the calculation of manpower requirements the same as before. After finalizing a manpower report, Officer Kim got another instruction from the new Director-General to establish a new plan to secure an additional budget by comparing it with ones for similar programs. After completing all of the procedures described above, the policy program received the Minister's approval and started to be implemented. As a result, Officer Kim received an "A" rating in 2017's performance appraisal, which was better than the "B" he/she received last year.

### **Type H**

Officer Kim tried to acquire budget and human resources to implement a new policy program for solving youth unemployment as instructed by the new Director-General, who joined in the office 6 months ago. For the first two months, Officer Kim investigated relevant policy cases and reports to establish a new business plan for the program. While reporting the new business plan to Director Lee, Officer Kim received an instruction to carry out the calculation of manpower requirements the same as before. After finalizing a manpower report, Officer Kim got another instruction from the new Director-General to establish a new plan to secure an additional budget by comparing it with ones for similar programs. Despite all the procedures described above, the new plan was not implemented because it failed to receive the Minister's approval. As a result, Officer Kim received a "B" rating in 2017's performance appraisal, which was worse than the "A" he/she received last year.

## Appendix B Pre-Vignette-based experiment survey

Concept	Questions	Ch-alpha
General Red Tape	If red tape is defined as “burdensome administrative rules and procedures that have negative effects on an organization’s effectiveness,” please answer the following: How would you assess the level of red tape that you encounter in your daily life? How would you assess the level of red tape that you encounter when you deal with public administrators? How would you assess the level of red tape that you encounter in your campus life?	0.74
Confucian Value 1: Face-Saving	I am concerned with bringing shame to myself. I am concerned with bringing shame to others. I pay a lot of attention to how others see me. I feel ashamed if I lose face.	0.68
Humility	I avoid singing my own praises. I try not to talk openly about my accomplishments. Being boastful is a sign of weakness and insecurity. I do not actively tell others about my achievements.	0.71
Group- Orientation	I am conscious of social expectations, norms, and practices. When I am uncertain how to act, I try to do the same as what others do.	0.55
Hierarchy- Orientation	I am happy if people look up to me. We have a vertical order in society that we should respect. In society, a person with high personal achievements is considered to have high social standing. Wealth and power are becoming important determinants of social status.	0.68
Reciprocity	The practice of “give and take” regarding favor is an important part of social relationships. I feel a sense of obligation to a person who does me a favor. It is bad manners not to return favors. When I receive a big favor, I try to go the extra mile to do something nice in return. (Monkhouse et al., 2012)	0.80
Perceived Experimental Red Tape	How would you assess the level of red tape that you encounter in this story?	