

Article

Affective Policy Performance Evaluation Model: A Case of an International Trade Policy Implementation

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Abstract: Firms often superficially adopt policies because of governmental rules and regulations, so as to avoid penalties or to gain benefits. However, the evaluation and characterization of those kinds of adoptions as policy performance distorts the true level of policy performance: social sustainability. This study proposes an affective policy performance evaluation model. The attitudes of employees toward adopting a policy are characterized into genuine and superficial compliance. Their behaviors are explained through voluntary and opportunistic adoptions. In order to validate the proposed model, a survey was conducted on an international trade policy target group ($n = 216$) for the Strategic Trade Control System (STCS), in order to understand their attitudes toward adopting the policy. The survey data was analyzed by a structural equation modeling method. The measures of the factors in the proposed model are adopted and modified from existing studies. The most effective resources of policy implementation on the firms' genuine and superficial compliance and ultimately on the firms' voluntary policy adoption are revealed through the analysis. Based on the results, this study presents a strategy for allocating and managing policy implementation resources to exclusively encourage firms' trade policy adoptions.

Keywords: affective evaluation; policy performance; strategic trade control system; voluntary adoption

1. Introduction

International trade policy can make an important contribution to both the long-term sustainability and short-term welfare of the global economy (e.g., [1]). However, private firms' policy adoptions usually fall short of policy makers' expectations [2]. The level of firms' international trade policy adoptions is particularly low because firms perceive policy adoptions as extra costs contrary to their productivity- or profit-oriented notions [3]. Moreover, because firms consider trade policies as restrictions on their business operations, encouraging their policy adoptions can be challenging [4].

Therefore, firms may superficially adopt policies only to take advantage of the benefits from the authority upon policy adoptions (e.g., [5]). Firms may also superficially adopt policies only to avoid penalties from the authority upon non-adoptions [6]. However, the current policy performance evaluation methods have limitations in considering the affective dimensions and filtering out these superficial or false policy adoptions from the true policy performance. Therefore, when policy performance is measured by the empirical variables such as adoption and non-adoption, without considering the affective dimensions, both true and false policy adoptions will be included in the positive policy performance. In order to represent true policy performance, firms' genuine and superficial policy adoptions should be accurately identified and distinguished from each other.

Within this context, this study proposes an affective policy performance evaluation model that reflects the duality in firms' attitudes toward adopting policies. The proposed model will be validated

by a case of an international trade policy called the Strategic Trade Control System (STCS) [7]. Based on the validation, this study will present a strategy for allocating and managing policy implementation resources to exclusively encourage genuine policy adoptions that actualize the policies' primary objective of maintaining both long-term sustainability and short-term welfare of the global economy [8]. Moreover, the findings in this study will offer an opportunity to augment academic discussions about policy performance evaluation by demonstrating the truth and falsity of policy adoptions.

2. Literature Review

2.1. *The Dichotomy between Policy Makers and Private Firms*

Institutionalist and constructivist assume that the international trade environment is essentially inhabited by self-centered agents [9]. Hence, through trade policies, policy makers design a trade environment where firms' individuality and society's collective pluralism are in balance to protect the sustainability and wellbeing of the global economy [10]. Yet, from the private firms' perspectives, adopting trade policies is at odds with profit maximization. Trade policies impose restrictions against firms' profit- and productivity-oriented self-interests. Furthermore, firms may not understand the importance or even the existence of certain trade policies [11,12]. Moreover, they may become discouraged in carrying out the policies because of the lack of appropriate knowledge, infrastructure, and human resources [13,14].

As a case of that kind of trade policy, the United Nations Security Council adopted Resolution 1540. The Resolution requires national governments to establish controls over exporting strategic items or the raw materials that could be used for manufacturing weapons of mass destruction (WMD) [9]. As a consequence of the resolution, each national government institutes a trade policy called Strategic Trade Control System (STCS) on its commodities exporters [7]. With the purpose of regulating the proliferation of strategic items, the STCS has enforcement powers, such as requiring firms to obtain permission from a government to export strategic items.

STCS is a trade policy that well represents the dichotomy between policy makers and private firms. In collective pluralistic notions, STCS is for the greater interest of maintaining global security, but it rationally limits firms' individualism by obstructing their standard operational routines, limiting trade regions, adding costs of extra procedures, and other anti-productivity activities [15]. In other words, the substandard level of trade policy adoptions could be rooted in the dichotomy between maintaining proper respect for individualistic notions inherent in firms without losing sight of the collective pluralism implicit in governments [16] (p. 25). Those differences in intrinsic notions of individualism and collective pluralism create the dichotomy between policy makers and private firms. Because of the dichotomy, firms perceive trade policies as lofty ideals of governments that are far from their 'reality' and as a restriction on their individuality. Consequently, firms may adopt an attitude of delaying and even evading trade policy adoptions as much as possible [17].

2.2. *Resources of Trade Policy Implementation*

Scholars have taken many approaches to resolve the dichotomy between policy makers and private firms toward trade policies. Among them are scholars who pay attention to allocation and management of the resources of policy implementation to encourage firms to engage in successful policy performance (e.g., [18–21]). Based on a thorough review existing studies, we categorized various policy implementation resources into (1) promotional, (2) regulatory, and (3) operational resources.

First, policy scholars suggest promotional resource as one of the policy implementation resources. In the field of marketing, promotions refer to the activities of presenting information to consumers and other stakeholders to increase demand and to differentiate a product [22]. In a similar respect, governments use covenants, moral suasion, and partnerships as promotional activities for policies. Through these promotional activities, governments release information on the policies to society in order to increase the awareness of target groups [11,12]. Some activities are targeted to the policy

target groups but some are communications to the general public. Not only because of the extensive coverage of policies but also because of the high costs of conducting promotional advertisements to targeted audiences, government promotional activities on policies usually are targeted to raise public awareness of the policy [12]. These activities and goals could directly be applied to trade policies. The conceptual basis of these promotional resources could be understood as raising public awareness of trade policies through various promotions in order for firms to make their own decisions on trade policy adoptions.

Second, scholars have also distinguished regulatory resources of policy implementation that address economic and legal elements [20,21,23,24]. The economic rationale for promoting policies is that target groups' attitudes and behaviors can be influenced with monetary incentives and market forces. Some examples are financial rebates, tax breaks, market rights, and other monetary gains [20]. The legal domain utilizes judicial powers to impact the target groups' attitudes and behaviors [21]. Bressers and O'Toole [18] have carefully examined the characteristics of economic and legal environments and suggested overarching polarities of expansion or limitation, incentives or directives, and provision or withdrawal. In other words, the comprehensive theme within these polarities can be established as either incentivizing firms that adopt policies to encourage adoptions or penalizing firms that delay policy adoptions, in order to discourage non-adoptions. However, it is a challenging task to determine the appropriate levels of those kinds of regulations. It is also a critical managerial question for trade policy administrators to compare the effectiveness between incentives for encouraging successful policy adoptions and penalties for preventing untimely or non-policy adoptions.

Third, operational resources to carry on implementing and practicing policies are another representative resource of policy implementation [13,14]. Establishing those operational resources is challenging for both governments and firms not only because it demands large expenditures but also the number of different policies and their varied requirements make it more challenging to customize their operational resources. Freitas and Tunzelmann [13] viewed the operational resources in two settings: central and local. Central operation refers to the facilitating conditions of policy implementation by the enforcer (i.e., governments). On the contrary, local operation refers to the policy facilitating conditions in local organizations (i.e., firms). Some of the government-based facilitating conditions are training programs, government agencies, and central information systems. Likewise, the firm-based facilitating conditions refer to the operational resources, such as human resources, internal culture toward policies, and information systems. An appropriate management of the policy facilitating conditions is critical for both governments and firms [13,14]. Thus, trade policy administrators in both governments and firms make considerable efforts in deciding the proper resource allocation and management for the facilitating conditions.

2.3. Limitations in Existing Policy Performance Evaluation

In the existing body of research, the impacts of implementation resources on policy performance have been evaluated on the empirical dimensions, such as policy adoption rate [25], crime rate [26], personnel hired [5], political preference [27], political opposition [28], level of corruption [6], total costs spent [29], and other empirical performance indicators. Scholars also suggest capturing affective dimensions, such as values, beliefs, and attitudes of the policy target group, for policy performance evaluation [29–31]. However, in reality, policy makers or the governments tend to have a biased focus on the empirical dimensions for the policy performance evaluation, since these are often more visible or tangible than the affective dimensions of policy outcomes [29].

This study focuses on the limitations arising from the policy performance evaluation biased toward the empirical dimension. The empirical dimension, for example, policy adoption rate, is often evaluated upon being constructed into adoption or non-adoption, which are single dimensional positive/negative variables. However, the single dimensional variables are limited in accurately reflecting the duality in the policy target group's attitudinal and behavioral changes.

For example, for trade policies, firms often make purported adoptions based on passive, superficial, and opportunistic attitudes. They adopt trade policies to take advantages of the incentives from the adoptions. They also pretend to adopt trade policies to get off scot-free from penalties for delayed or non-adoptions. Hence, when trade policy adoptions are measured by the single dimensional variables such as adoption and non-adoption, the purported or superficial adoptions will be included as policy performance. This miscalculation will overstate the policy adoption rate and eventually exaggerate policy performance. In order to accurately and exclusively consider genuine adoptions, the duality of firms in adoption trade policies should be accurately demonstrated and measured.

2.4. Affective Evaluation of Policy Performance

One way to evaluate trade policy performance from the affective perspective is to ask the firms' decision makers about their attitudes toward policy implementation resources. One attitude to observe is the level of perceived compliance toward trade policies [32–37]. Promotions, regulations, and operations are the resources that encourage compliance from the policy target groups. As reviewed above, the duality within firms' compliance toward trade policies needs to be precisely reflected to determine genuine adoptions. In this study, the duality in the firms' attitudes is represented through genuine compliance and superficial compliance.

Genuine compliance is indicated when key individuals from the firms report that they have a sense of moral duty and agree with the importance and purpose of the trade policy. Firms make genuine compliances in adopting trade policies when their key employees can internalize values of the given policy. In other words, genuine compliance occurs when employees genuinely appreciate the values suggested by the trade policy implementation resources based on their moral and civic values [32,34,36].

Superficial compliance, with a given trade policy, arises when calculation of the benefit from the promotional, regulatory, and operational resources exceeds the risk of adopting the trade policy [37]. Superficial compliance could also stem from the desire to earn approval and respect from the environment [32]. Potential environment for that kind of social pressure includes other firms, the community, the media, family, and friends. A superficial compliance is indicated when individuals report they are only motivated because of ego-involved reasons or contingencies on compensations upon adopting policies [33]. In other words, superficial compliance appears when the values of the given trade policy are not internalized by the key employees.

The resources of policy implementation are the external stimulations that form employees' attitudes toward trade policies. From properly managed implementation resources, firms may obtain genuine compliance toward trade policies. Furthermore, the goal of properly allocated and managed implementation resources should be to lower firms' superficial compliance toward trade policies. Jordan, Wurzel, and Zito [11] suggest that properly informed policy target groups are more likely to have positive attitudes toward adopting the policies. Victor [12] blame the lack of social awareness about policies as the cause for associates in a firm to believe that policies are a restriction that burdens their operations. If they have incomplete information, they will have difficulties visualizing how the trade policy would work and are unable to evaluate its benefits, costs, or risks [18]. Information on trade policies could be attained through raising public awareness [14]. With high public awareness of a trade policy, associates in firms are more likely to understand the purpose and importance of the policy [11]. With the understanding of purposes and consequences of the policy, associates may internalize the values of the policy and make the adoption decisions upon genuine compliance [32,34,36]. Yet, lacking high public awareness, firms may only adopt, if at all, because of superficial reasons such as following other firms' adoptions or to gain an acknowledgement from the government [32,33,37]. These arguments lead to the following hypotheses.

Hypothesis 1 (H1). *Higher public awareness on trade policies leads to higher genuine compliance with trade policies.*

Hypothesis 2 (H2). *Higher public awareness on trade policies leads to lower superficial compliance with trade policies.*

Incentives are regulatory resources that are utilized to encourage firms to adopt policies by rewarding them for successful policy performance [20,23,24]. Penalties are also regulatory resources that punish firms for untimely or non-policy adoptions [18]. Kohli and Jaworski [37] ascertain that the existence of incentives indicates to employees that they are likely to receive rewards in the future, thereby causing them to genuinely comply [32,34,36]. Similarly, penalties indicate to employees that they may expect some form of sanctions in the future because of substandard performance [38], thus they genuinely comply to perform at higher levels in order to avoid similar sanctions in subsequent periods [32,34,36]. These discourses lead to the formulation of the following hypotheses.

Hypothesis 3 (H3). *Higher incentives lead to higher genuine compliance with trade policies.*

Hypothesis 4 (H4). *Higher penalties lead to higher genuine compliance with trade policies.*

Hypothesis 5 (H5). *Higher incentives lead to lower superficial compliance with trade policies.*

Hypothesis 6 (H6). *Higher penalties lead to lower superficial compliance with trade policies.*

Freitas and Tunzelmann [13] and Howlett, Kim, and Weaver [14] pointed out that the deficiency in facilitating conditions is a stumbling block for governments and firms to effectively engage in policy performance. Many national governments, collaborating with academic institutions and private firms, founded official training and education centers for the Strategic Trade Control System (STCS), a trade policy. In the US, the Center for Trade and Security (CITS) was founded by the mutual efforts of the US Department of State and the University of Georgia to train the stakeholders of STCS from all over the world [39]. Likewise, the firm-based facilitating conditions refer to the operational resources, such as human resources, internal culture toward trade policies, and information systems, within firms to adopt trade policies. For example, SKhynix Semiconductor has an internal program to train employees and manage documentation for STCS. The program extends the training even to its subsidiaries and suppliers in both domestic and international locations [40]. From those high quality facilitating conditions, firms may perceive external and internal pressure to genuinely comply with trade policies [32,34,36]. Yet, firms may encounter deficient facilitating conditions. Without external and internal commitment, firms' compliance, if any, could only be superficial [32,33,37]. These considerations lead us to articulate the following hypotheses.

Hypothesis 7 (H7). *Higher government-based facilitating conditions lead to higher genuine compliance with trade policies.*

Hypothesis 8 (H8). *Higher firm-based facilitating conditions lead to higher genuine compliance with trade policies.*

Hypothesis 9 (H9). *Higher government-based facilitating conditions lead to lower superficial compliance with trade policies.*

Hypothesis 10 (H10). *Higher firm-based facilitating conditions of firms lead to lower superficial compliance with trade policies.*

This study refines policy performance evaluation by dividing firms' attitudes into genuine and superficial compliance. The results of firms' compliance, which is the policy adoption, could also be further refined by recognizing voluntary policy adoption. Regulatory theory predicts that voluntary policy adoptions would lead to successful policy adoptions [41]. Voluntary adoptions result in satisfying governmental, civic, and social demands on the firm [42]. Also, voluntary self-regulation is known to improve business performance [43]. However, conventional policy performance evaluations do not distinguish between voluntary and involuntary adoptions [28]. Without the distinction, firms' passive and opportunistic policy adoptions are included as policy performance, which overstates overall policy performance. Therefore, voluntary adoption should be considered as a real adoption that would exclude passive or opportunistic adoptions.

According to the attitude-behavior model by Eagly and Chaiken [43], behavior is likely to be determined by attitudes, but attitudes can best predict behavior when placing attitudes and behaviors in a similar context. In other words, when the directivity of attitudes and behaviors are the same, there is higher chance for attitudes to determine behaviors. This notion is further strengthened in the theory of the dipper and the bucket [44] that focuses on positive attitudes leading to positive behaviors. Moreover, Friedkin [45] mentioned that an individual would voluntarily engage in a behavior when the linkage between attitude and behavior is strong. In this context, genuine compliance could be seen as the positive attitude and voluntary behavior as the positive behavior toward adopting trade policies. As genuine compliance and voluntary behavior are both positive in their directivities and are conceptually closely linked, there should be a direct impact between genuine compliance toward trade policies and voluntary policy adoptions. On the other hand, the associates' superficial compliance with trade policies arises from governments mandating policy adoptions, which can lead to a negative attitude toward trade policies [32]. Superficial compliance denotes the associates' negative attitude toward trade policies, whereas voluntary adoption refers to their positive behavior toward trade policies. Furthermore, the conceptual linkage between superficial compliance and voluntary adoption is weak. Therefore, the following hypotheses are suggested.

Hypothesis 11 (H11). *Higher genuine compliance with trade policies leads to higher voluntary policy adoption.*

Hypothesis 12 (H12). *Higher superficial compliance with trade policies leads to lower voluntary policy adoption.*

3. Method

3.1. Research Model

The research model in Figure 1 summarizes the hypotheses for this study. The model includes the following constructs: public awareness, incentive, penalty, and government- and firm-based facilitating conditions showing their relationships to genuine and superficial compliances of firms toward trade policies, which predict the likelihood of voluntary adoption.

3.2. Sample, Data Collection, and Measurement Items

A systematic test of the proposed model is based on the Strategic Trade Control System (STCS) in one national setting: South Korea. In particular, the national setting of South Korea adds more relevance because South Korean firms are fostered under a trade-oriented national strategy. However, they show strong repulsion against the STCS due to its complicated and delayed application and appraisal procedures by the government agencies [46].

The survey was conducted during STCS training sessions at the Korea Strategic Trade Institution (KOSTI). The respondents were the attendees of the training sessions and were employees who are in charge of implementing STCS and other trade policies at their respective firms. Each respondent represented a firm, which is a target firm of STCS.

Of 500 questionnaires distributed, the respondents returned 234 (46.8%). Subsequently, 27 questionnaires were dropped because of missing data, for an effective response rate of 41.4%; the final sample size was 207. The final sample size of 207 meets generalized guidelines regarding sample size requirements for structural equation modeling (SEM) including (1) a minimum sample size of 100 or 200 [47,48], (2) 5 or 10 observations per estimated parameter [49,50], (3) 200 up to 12 observed variables [51], and (4) 10 cases per variable [52]. By any of these rules, the sample size of 207 is an appropriate size considering our research model with eight observed variables.

The questionnaire was designed based on the research model (see Figure 1), which has eight constructs. A literature review identified three relevant items for each construct, for a total of 24 items. Measurement items are organized as shown in Table 1. Respondents were asked to express their agreement with the items, based on a five-point Likert-type scale with anchors ranging from ‘strongly disagree’ (=1) to ‘strongly agree’ (=5).

Measures of public awareness were developed based on the concept of public awareness in [12] and using the question structure used for measuring advertisement awareness introduced in [53,54]. Incentive was accessed by modifying questions in [55] based on the concept of the carrot in [20] and the reward and punishment theory in [56]. Penalty was accessed by modifying questions in [55] based on the concept of the stick in [21] and the reward and punishment theory in [56]. Government- and firm-based facilitating conditions were assessed by modifying questions from [57,58] based on the concept of central and local support for policy implementation from [13]. To test a firm’s genuine compliance, we modified the measurement items of affective commitment from [32] based on compliance theory in [59,60]. Also, superficial compliance was measured using questions developed from the concepts of calculated commitment in [32] and compliance theory in [59,60]. Items measuring voluntary adoption were developed from [41] based on voluntary behavior theory in [61,62].

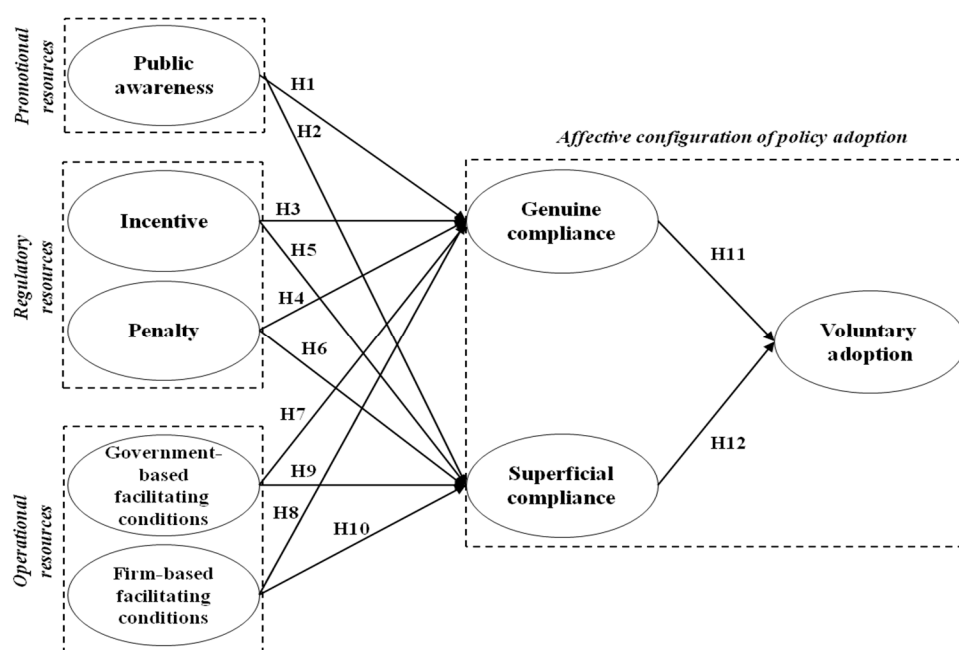


Figure 1. Affective evaluation model of policy performance.

Table 1. Constructs and measurement items.

Constructs	Measures	Researchers
Public awareness	The government has strong interest in STCS. Firms have strong interest in STCS. Consumers have strong interest in STCS.	Victor [12] Cobb-Walgren [53] Dahlen [54]
Incentive	The government offer of relaxation of export regulations upon STCS adoption is an attractive condition for my firm. The government offer of permission to export to more countries upon STCS adoption is an attractive condition for my firm. The government offer of annual awards for firms with good STCS adoption trends is an attractive condition for my firm.	Leeuw [20] Goebel et al. [55] Speedy et al. [56]
Penalty	The government enforced monetary charge upon violating STCS is a severe condition for my firm. The government enforced criminal sanction upon violating STCS is a severe condition for my firm. The government enforced export prohibition upon violating STCS is a severe condition for my firm.	Lemaire [21] Goebel et al. [55] Speedy et al. [56]
Government-based facilitating conditions	The government has provided an information system for the implementation of the STCS. The government has expert organization for the implementation of the STCS. The education program, public relations or compliance program that the government provides are helpful for a firm to implement the STCS.	Freitas and Tunzelmann [13] Kang et al. [57] Shin et al. [58]
Firm-based facilitating conditions	My firm has specialized individuals to implement the STCS. My firm has information systems to implement STCS. Employees at my firm regularly attend STCS training programs provided by the government.	
Genuine compliance	Employees at my firm believe that adopting STCS is good for society. Employees at my firm believe that adopting STCS is important for society. Employees at my firm believe that violating STCS will result in critical social problems.	Girard and Sobczak [32] Etienne [59] Chen et al. [60]
Superficial compliance	It would be too costly for my firm not to adopt STCS. My firm is under an obligation to adopt STCS. My firm takes STCS seriously because of the relationship with the government.	
Voluntary adoption	My firm will adopt STCS voluntarily. My firm will adopt STCS even if the government does not require it. My firm will adopt STCS even without the government coercion.	Lyon and Maxwell [41] Gagné [61] Nikolaeva and Bicho [62]

4. Results

4.1. Sample Characteristics

First, we performed analysis of variance (ANOVA) to check for differences in annual revenue and number of employees between respondents ($n_1 = 234$) and non-respondents ($n_2 = 266$) to measure non-response bias [63]. The ANOVA results indicate no significance difference between the two groups in annual revenue ($p = 0.88$) and number of employees ($p = 0.94$). Consequently, we concluded that non-response bias is not a potential threat for the sample used in this study [63]. Also, there is a potential for common method bias because the same respondent answered both exogenous and endogenous variables in this study. As suggested by existing studies, we performed Harmon's one-factor analysis [64]. The analysis results revealed that there was no one common factor that

represents the measured variables in this study. Consequently, we concluded that common-method bias was not a likely threat for dataset used in this study [64].

The final sample of 207 respondents represented 61 firms with over 1000 employees (29.5%), 52 with 50–149 employees (25.1%), 45 with fewer than 50 employees (21.7%), and 42 with 150–299 employees (20.3%). This is a good representation of the spectrum of registered STCS target firm sizes as KOSTI reports that target firms range from small and medium sized enterprises such as software ventures to multinational corporations such as Samsung Electronics, SKHynix, Hanwha, etc. [65]. The respondents were asked to report the major exporting items of their firms. The majority (153) of participating firms were dealing with dual-use items (73.9%) and 43 with defense software (20.8%). Respondents were also asked to report their organizational positions: 25 were representatives (12.1%), 77 were general managers (37.2%), 44 were managers (21.3%), and 61 were assistant managers (29.4%). The details are presented in Table 2.

Table 2. Demographic characteristics.

Firm and Personnel Characteristics		Frequency	Ratio
Firm size (the number of employees) <i>n</i> = 207	Under 50	45	21.7%
	50–149	52	25.1%
	150–299	42	20.3%
	300–999	7	3.4%
	Over 1000	61	29.5%
Strategic items <i>n</i> = 207	Dual-use items	153	73.9%
	Defense software	43	20.8%
	Nuclear technology	4	1.9%
	Other items	7	3.4%
Organizational positions <i>n</i> = 207	Representatives	25	12.1%
	General managers	77	37.2%
	Managers	44	21.3%
	Assistant managers	61	29.4%
Trade region (cross responses)	Asia	131	42.0%
	Middle East	45	14.4%
	Europe	52	16.7%
	North America	63	20.2%
	Central and South America	12	3.8%
	Africa	7	2.2%
	Oceania	2	0.7%

The correlation matrix appears in Table 3. Of mean values among each construct, genuine compliance was the highest (3.60) and government-based facilitating conditions was the lowest (2.58). Public awareness shows the highest correlation with voluntary adoption (0.47) and the lowest correlation with incentive (0.17). Also, we tested discriminant validity using a method suggested by Fornell and Larcker [66]. Under this test, discriminant validity is indicated when the average variance extracted (AVE) for each construct is higher than the squared correlation between that construct and any other. This test held as the lowest Average Variance Extracted (AVE) (for superficial compliance) was 0.62, while the highest squared correlation (between genuine compliance and voluntary adoption) was 0.36 (see Table 3).

Table 3. Correlations among constructs.

	PBAW	INCT	PENT	GOVT	FIRM	GCMP	SCMP	VOLU
PBAW	0.65							
INCT	0.35 ** (0.12)	0.69						
PENT	0.06 (0.01)	0.17 * (0.03)	0.83					
GOVT	0.21 ** (0.04)	0.30 ** (0.09)	0.03 (0.01)	0.80				
FIRM	0.43 ** (0.18)	0.28 ** (0.08)	0.09 (0.01)	0.33 ** (0.11)	0.72			
GCMP	0.42 ** (0.18)	0.58 ** (0.03)	0.23 ** (0.10)	0.33 ** (0.11)	0.35 ** (0.12)	0.75		
SCMP	−0.30 ** (0.09)	−0.26 ** (0.07)	0.18 ** (0.03)	−0.31 ** (0.10)	−0.35 ** (0.12)	−0.21 ** (0.04)	0.62	
VOLU	0.47 ** (0.22)	0.40 ** (0.16)	0.18 ** (0.03)	0.26 ** (0.10)	0.38 ** (0.14)	0.60 ** (0.36)	−0.23 ** (0.10)	0.82
Mean	3.38	3.45	3.54	2.58	2.99	3.60	2.90	3.57
Std. dev.	0.84	0.79	0.87	0.98	0.89	0.75	0.77	0.75

Note: PBAW: public awareness, INCT: incentive, PENT: penalty, GOVT: government-based facilitating condition, FIRM: firm-based facilitating condition, GCMP: genuine compliance, SCMP: superficial compliance, and VOLU: voluntary adoption; values in bold typeface along the diagonal line represent AVE; values in () represent squared correlations. ** $p < 0.01$, * $p < 0.05$.

4.2. Measure Validation

SEM was used for statistical analysis in this study. SEM includes two parts of first, the latent variables and their relative observed variables. Second, the relationships among the latent variables [52]. Thus, SEM allows analysis of structures describing complex multiple relationships among variables [67]. The research model presented in this study has eight latent variables with interrelated relationships requiring the SEM method. SEM analysis requires constructs to be assessed rigorously by confirmatory data to examine convergent and discriminant validity. Confirmatory Factor Analysis (CFA) results were obtained using the software package AMOS. Item reliability denotes the amount of variance in an item because of its underlying construct. Table 4 shows that t -values for all the standardized factor loadings of items are significant at $p < 0.01$, thereby indicating item reliability. Table 4 also shows construct reliability and AVE figures. Reliability is a necessary condition for evaluating convergent validity. Construct reliability estimates range from 0.83 to 0.92, and all are greater than the recommended minimum of 0.70 [67]. The AVEs, which should meet at least a 0.50 standard [67], fall between 0.62 and 0.83, thereby indicating convergent validity.

Table 4 shows that the AVE figures all exceed the squared correlations between the eight constructs, the highest of which is 0.35, thereby confirming discriminant validity of the proposed constructs. Thus, the eight constructs possess adequate convergent and discriminant validity for further SEM analysis.

Table 4. Confirmatory Factor Analysis (CFA) results.

Latent Variable	Item	Factor Loading	Std. Errors	Std. Loading	t -Value	CR	AVE
Public awareness	PBAW1	1	-	0.93	-		
	PBAW2	0.63	0.08	0.47	7.02 **	0.84	0.65
	PBAW3	1.01	0.07	0.92	13.87 **		
Incentive	INCT1	1	-	0.78	-		
	INCT2	1.15	0.1	0.89	11.94 **	0.88	0.69
	INCT3	0.83	0.09	0.76	10.31 **		
Penalty	PENT1	1	-	0.86	-		
	PENT2	1.09	0.07	0.95	19.62 **	0.92	0.83
	PENT3	1.02	0.06	0.86	16.44 **		
Government-based facilitating condition	GOVT1	1	-	0.88	-		
	GOVT2	1.17	0.06	0.95	18.93 **	0.91	0.8
	GOVT3	1.1	0.05	0.87	17.05 **		

Table 4. Cont.

Latent Variable	Item	Factor Loading	Std. Errors	Std. Loading	t-Value	CR	AVE
Firm-based facilitating condition	FIRM1	1	-	0.84	-	0.88	0.72
	FIRM2	1	0.07	0.89	14.61 **		
	FIRM3	0.95	0.08	0.83	13.74 **		
Genuine compliance	GCMP1	1	-	0.77	-	0.89	0.75
	GCMP2	1.01	0.09	0.81	11.33 **		
	GCMP3	1.02	0.09	0.82	11.52 **		
Superficial compliance	SCMP1	1	-	0.84	-	0.83	0.62
	SCMP2	0.96	0.08	0.78	10.48 **		
	SCMP3	0.87	0.08	0.71	9.41 **		
Voluntary adoption	VOLU1	1	-	0.85	-	0.92	0.82
	VOLU2	1.01	0.07	0.85	14.75 **		
	VOLU3	0.94	0.07	0.84	14.52 **		

** $p < 0.01$.

4.3. Hypothesis Test Results

Structural equation modeling (SEM) was used to validate the research model. Prior to the analyses, the following tests were conducted: goodness-of-fit (GFI) and adjusted goodness-of-fit-index (AGFI) of the models with chi-square tests, root mean square error of approximation (RMSEA), the non-norm fit index (NNFI), incremental fit index (IFI), and comparative fit index (CFI).

Satisfactory model fits are indicated if the χ^2 -value divided by degrees of freedom is less than 3; GFI, NNFI, CFI and IFI values ≥ 0.90 ; AGFI values ≥ 0.80 ; and RMSEA values between 0.05 and 0.08. SEM analysis was performed and results shown in Figure 2 are: $\chi^2 = 391.2$ ($p = 0.01$), $df = 242$, GFI = 0.88, AGFI = 0.83, NNFI = 0.96, CFI = 0.97, IFI = 0.96, and RMSEA = 0.05. The χ^2 of 391.2, with 242 degrees of freedom, showed a 1.62 to degrees of freedom ratio, which is less than the recommended 3:1. The fit indices are acceptable and, it can be stated that the model shown in Figure 2 is statistically valid.

This section presents the results with regard to the effect of the resources of policy implementation on the firms' genuine and superficial compliance and ultimately on the firms' voluntary policy adoption. The outcomes of the structural model analyses are shown in Figure 2. Although in reverse order of the suggested hypotheses, it is conceptually clearer to explain the relationships between variables from dependent to mediating variables and mediating variables to independent variables.

H12, which suggests a negative relationship between superficial compliance and voluntary adoption, is supported in the proposed research model with a coefficient of -0.17 ($p < 0.01$). Furthermore, H11, the positive influence of genuine compliance on voluntary adoption, is strongly supported with a coefficient of 0.58 ($p < 0.01$). These results explicitly present the limitations in considering compliance as a single dimensional concept without distinguishing compliance based on its inherent characteristics. In other words, these results support this study's main claim: the duality in firms' attitudes toward trade policies. This was possible through illustrating different influences of compliance depending on its affective dimensions on voluntary adoption. In addition, as genuine compliance has approximately a three-times stronger correlation with voluntary adoption than superficial compliance has, increasing genuine compliance is comparatively more effective than decreasing superficial compliance in encouraging voluntary adoption.

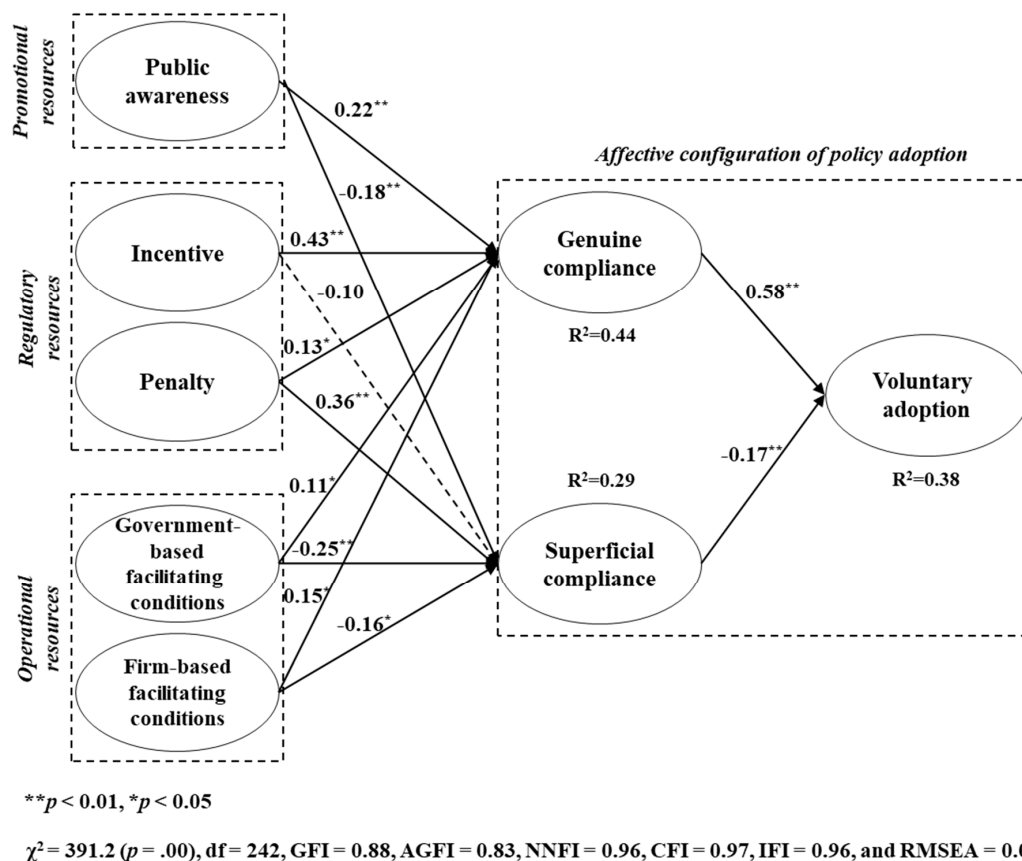


Figure 2. Causal effects among constructs.

The hypotheses, which suggest positive links between the resources of policy implementation and genuine compliance, are all supported in the research model. In particular, the relationship of incentive to genuine compliance (H4) is the strongest with a coefficient of 0.43 ($p < 0.01$). Another noteworthy strong relationship is found in H1, between public awareness and genuine compliance, with a coefficient of 0.22 ($p < 0.01$). Therefore, among the resources of policy implementation, increasing incentives to raise firms' genuine compliance is most effective in encouraging firms' voluntary policy adoptions. Furthermore, from the strong impact of public awareness, it can be inferred that the mutual effort of governments and firms on the engagement of trade policy administration is important for successful trade policy performance.

The results between the resources of policy implementation and superficial compliance represented interesting psychological implications. First, the hypothesized negative influence of penalty on superficial compliance in H7 is revealed to be a strong positive influence with a coefficient of 0.36 ($p < 0.01$). It can be inferred from this result that intention to avoid penalties is operating as a strong external motivation leading to superficial compliance [68]. Second, H5, which suggests a negative relationship between incentive and superficial compliance, is not supported in the research model. As noted above, the results revealed a strong influence of incentive on genuine compliance. However, incentive does not have a significant relationship with superficial compliance, which is the counterpart of genuine compliance in this study. This suggests that providing incentives as a form of regulation could arouse firms' positive attitudes but is limited in lowering their negative attitudes toward trade policies. However, the relationship of government-based facilitating conditions and superficial compliance (H3) is supported with a coefficient of -0.25 ($p < 0.01$). This inverse link offers an important insight into the governments' role as the principal agent of trade policies. In other words, if governments do not show sincerity toward trade policies, then firms may only be passive or superficial toward trade policies.

5. Discussion and Conclusions

5.1. Theoretical Implication

This study developed and tested an affective evaluation model of trade policy performance. The model reveals the importance of dualities in policy adopters' attitudes and behaviors for understanding true policy performance for the social sustainability. Most prior policy evaluation work (e.g., [5]) in the behavioral perspective has viewed policy performance through empirical dimensions, such as: "Are firms 'positive' or 'negative' toward adopting policies?" However, the reality of trade policy is that firms often purport to have positive attitudes and behaviors toward trade policies only to take advantage of adopting policies or to avoid the disadvantages of delaying policy adoptions. For an accurate policy performance evaluation, these professed or hypocritical attitudes and behaviors should be disregarded. However, using the empirical perspective, the pseudo-performance will be viewed as positive performance and thereby lead to a distortion of the overall policy performance evaluation.

Therefore, the research model presented here was designed to represent genuine and superficial compliance as the duality in firms' attitudes. Furthermore, voluntary policy adoptions are interpreted as real adoptions that result in successful policy performance leading to the sustainability of the global economy. This study revealed that superficial compliance decreases voluntary policy adoption. This finding clearly demonstrates the falsity in firms' trade policy adoptions stemming from their passive, superficial, and opportunistic attitudes toward trade policies. Moreover, by displaying the positive relationship between firms' genuine compliance and voluntary policy adoptions, this study distinguished real policy adoptions, as opposed to pseudo-adoptions based on superficial compliance. By reflecting the duality in the attitudes and behaviors of firms' associates, this model allows us to distinguish true from pseudo-policy performance in order to accurately evaluate policy performance for the social sustainability.

In addition, the two positive relationships revealed in this study, (1) between incentive and genuine compliance, and (2) between penalty and superficial compliance, confirm the different psychological functions of reward and of punishment. Reward places its justification in development while punishment focuses on deterrence [69]. Both reward and punishment are external stimuli [69], but according to the relationship (1), reward internally motivates the firm by challenging it not to stay in its current status but to develop itself to be able to obtain the reward. It is an internal motivation since reward, while it stimulates company's desire for well-being, offers it the choice of staying in its current status [70]. On the other hand, according to the relationship (2), punishment externally motivates firms as there is no choice but to follow since no action would deteriorate the company's current status [71].

5.2. Managerial Implication

The study results also have several practical implications. The positive relationship found in voluntary adoption and genuine compliance, as well as the negative relationship with superficial compliance, suggest that trade policy administrators at government agencies and firms may need to give greater attention to the development of firms' genuine compliance toward trade policies.

Then, the next issue trade policy administrators may raise is how to increase firms' genuine compliance toward trade policies. This study revealed incentives and public awareness as the major resources of policy implementation that stimulate firms' genuine compliance. The positive influence of incentives is consistent with the theory of the dipper and the bucket [44] that focuses on a positive outlook leading to positive results. In other words, from the governments' utilization of positive regulations, firms gain a positive outlook and embrace genuine compliance toward adopting trade policies, thereby leading to voluntary policy adoptions. For example, the Taiwanese government has been successfully encouraging firms' STCS adoptions by using incentives, such as utilizing tax exemption, recognition as an exemplary STCS adopter, simplified administrative procedures, and other

positive regulations [7]. Therefore, governments should focus on elements that lead firms to recognize incentives from the regulatory resources.

In addition, the positive relationship between public awareness and genuine compliance offers important insights into successful policy performance. To increase public awareness on trade policies, governments should utilize press releases on trade policies for the media and publish brochures, newsletters, and annual reports [72]. Also, social media outlets, such as blogs, micro-blogs, and social network services should be effectively utilized to engage in two-way communication, and receive immediate feedback from trade policy stakeholders [73]. Other important source of enhancing public awareness about trade policies are some of the non-governmental conditions, such as firms' understanding of corporate social responsibility, employees' commitments toward pluralistic notions, and the demands from social organizations. The importance of public awareness on genuine compliance points to an obvious but often overlooked insight that trade policy performance is a cooperative mission involving the public, private, and social sectors.

Penalties are designed to discourage firms from violating or evading trade policies [18,19]. However, the results reveal that firms only show superficial compliance with the intention to avoid penalties. Such superficial compliance only leads to false adoptions misleadingly augmenting policy performance. Policy administrators who are being evaluated by policy performance or vote-oriented politicians may console themselves by such false policy performance but it does not accomplish the original purpose of the trade policy of global commercial sustainability. This result provides insights for governments to reevaluate actual functions of current penalties and reconsider even the use of penalties for decreasing firms' superficial compliance.

Finally, this study notes the importance of the government's role as the principal agent of trade policy enforcement. In general, governments are the enforcers of trade policies and firms are the doers of trade policies [74]. In those circumstances, attitudes and behaviors toward trade policies are largely influenced by the governments' commitment toward trade policies [75]. Government-based facilitating conditions reflect governments' commitments toward trade policies. The negative relationship between government-based facilitating conditions and superficial compliance revealed in this study represents that firms cannot help but to have superficial compliance toward trade policies when governments do not demonstrate sincerity toward trade policies because of deficient facilitating conditions. Therefore, if governments pay close attention to not only the general infrastructure for assisting firms' policy adoptions, but also the front-line service quality where actual personal transactions occur between firms and governments, then a decrease in firms' superficial compliance is expected.

5.3. Limitations and Future Research

Although the data generally support the proposed model, it is necessary to mention some limitations of the study. First, this study examined the resources of policy implementation that influence policy performance. However, there are many other possible resources, such as governmental communication, economic conditions, and firm types, among others.

Second, this study successfully distinguished genuine from superficial compliance. However, only the relationship between the two compliances on voluntary policy adoption was observed because of insufficient data. It would be meaningful to split policy adoption into two dichotomous behavior patterns: voluntary and opportunistic policy adoptions. It can be expected that superficial compliance will have a much higher impact on opportunistic adoption than genuine compliance. If future research reveals the expected results, then the general thesis of this research, which views successful policy performance as genuine compliance on voluntary adoption, could be strengthened.

Third, within the constraints of time, this study utilized a case of STCS in South Korea. Since STCS implementation is in its initial stage, it shows only a cross-sectional view of firms' trade policy adoption behavior in one country. After some time, with longitudinal data, comparing the adoption of a policy from its initial stage to its maturation stage would be a meaningful future study.

Despite its limitations, this research was conducted in a real business context with a highly relevant domain of a trade policy (STCS), while simultaneously attempting to maximize internal validity. Although caution has to be exercised to avoid over-generalizing the findings, this research has also advanced the understanding of trade policy adopters' attitudes and behaviors. We hope researchers adopt the effective perspective for suggesting more practical solutions for protecting the long-term sustainability and short-term welfare of the global economy through reducing the dichotomy between firms and the government toward trade policies and tailoring to the heterogeneity existing between and inside countries [76]. Therefore, it is very important to tailor general policies in specific ones for each different context.

We expect this study to provide useful research materials for governments and related agencies, and more varied and detached approaches in academic discourses.

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