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Determinants of Customs Tax Compliance: The Moderating Role of Voluntary Disclosure Programs

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Abstract
This study aims to examine the empirical effects of customs service quality, regulatory complexity, customs audits, and administrative sanctions on taxpayer compliance, and to analyze the mediating role of the Voluntary Disclosure Program (VDP). Using a quantitative approach, a survey was conducted with 103 importing companies that participated in the VDVP mechanism between 2021 and 2025. The data were analyzed by multiple linear regression based on Baron and Kenny's causal steps approach, and the Sobel test was used to test the significance of the indirect mediation effects. The empirical results show that customs service quality (t=3.168, p=0.002), customs audits (t=2.736, p=0.007), and administrative sanctions (t=5.181, p=0.000) significantly increase VDP participation, while regulatory complexity does not have a significant effect (t=1.119, p=0.233). Importantly, all determinants, along with VDP (t = 5.120, p = 0.000), have strong positive direct effects on taxpayer compliance. Furthermore, the causal steps and Sobel test mediation analysis show that VDP significantly mediates the relationships of customs service quality (t = 2.693, p = 0.007), customs audits (t = 2.413, p = 0.015), and administrative sanctions (t = 3.641, p = 0.000) on taxpayer compliance, but does not mediate the effect of regulatory complexity. These findings contribute to the Theory of Planned Behavior by confirming that voluntary disclosure programs can successfully link institutional enforcement and services to long-term compliance outcomes. This study is important in practical terms, as it offers policy implications for customs administrations to develop frameworks that balance voluntary compliance initiatives with robust enforcement tools.
Keywords: **Voluntary Disclosure Program, Tax Compliance, Policy Complexity, Customs Service Quality, Customs Administrative Sanctions, Customs Audit**

Abstrak
Penelitian ini bertujuan untuk mengkaji pengaruh empiris kualitas layanan kepabeanan, kompleksitas regulasi, audit kepabeanan, dan sanksi administratif terhadap kepatuhan wajib pajak, serta menganalisis peran mediasi Program Pengungkapan Sukarela (PPS). Dengan menggunakan metode kuantitatif, dilakukan survei terhadap 103 perusahaan pengimpor yang mengikuti mekanisme VDVP antara tahun 2021 sampai dengan 2025. Data dianalisis menggunakan regresi linier ganda berdasarkan pendekatan langkah kausal Baron dan Kenny, dan uji Sobel digunakan untuk menguji signifikansi efek mediasi tidak langsung. Hasil empiris menunjukkan bahwa kualitas layanan kepabeanan (t=3,168, p=0,002), audit kepabeanan (t=2,736, p=0,007), dan sanksi administratif (t=5,181, p=0,000) secara signifikan meningkatkan partisipasi VDP, sedangkan kompleksitas regulasi tidak memiliki efek yang signifikan (t=1,119, p=0,233). Yang penting, semua penentu bersama dengan VDP (t = 5,120, p = 0,000) memiliki efek langsung positif yang kuat terhadap kepatuhan wajib pajak. Selanjutnya, langkah-langkah kausal dan analisis mediasi uji Sobel menunjukkan bahwa VDP secara signifikan memediasi hubungan antara kualitas layanan kepabeanan (t = 2,693, p = 0,007), audit kepabeanan (t = 2,413, p = 0,015), dan sanksi administratif (t = 3,641, p = 0,000) terhadap kepatuhan wajib pajak, tetapi tidak memediasi efek kompleksitas peraturan. Temuan ini berkontribusi pada Teori Perilaku Terencana dengan mengonfirmasi bahwa program pengungkapan sukarela dapat berhasil menghubungkan penegakan dan layanan kelembagaan dengan hasil kepatuhan jangka panjang. Studi ini penting dalam konteks praktis karena menawarkan implikasi kebijakan yang penting bagi administrasi bea cukai dalam mengembangkan kerangka kerja yang menyeimbangkan inisiatif kepatuhan sukarela dengan instrumen penegakan yang kuat.
Kata Kunci: Program Pengungkapan Sukarela, Kepatuhan Pajak, Kompleksitas Kebijakan, Kualitas Layanan Kepabeanan, Sanksi Administrasi Kepabeanan, Audit Kepabeanan

INTRODUCTION

In Indonesia, taxes remain the main source of state revenue, funding national development across sectors such as infrastructure, education, health, and other public services. Therefore, the effectiveness of tax and customs administration greatly determines the state's capacity to maintain revenue, support public services, and strengthen economic competitiveness. In the context of international trade, customs authorities not only collect

import duties and taxes but also manage trade facilitation, supervision, and compliance by business actors (Grainger, 2014).

However, tax compliance is not limited to individual taxpayers but also extends to the corporate sector engaged in import activities (Yubiwini & Patunru, 2018). The literature shows that non-compliance in the import sector is not always born from the intention to avoid taxes, but also from weak technical understanding, low data quality, complicated procedures, and not yet fully effective interactions between business actors and customs authorities (Chisale & Maluwa, 2021; Morini et al., 2024; Probowulan & Zulkarnnaeni, 2022). In the study of import compliance in Malaysia, psychological, structural, and institutional factors—including the complexity of procedures and the quality of tax assessment services—proved significant in explaining compliance intent, so compliance cannot be understood from a law-enforcement perspective alone (Mohamed, 2016).

Several studies have also shown that the quality of customs services affects compliance behavior, but the findings are inconsistent (Firmansyah & Layli, 2022; Gojali & Tarmidi, 2023; Maina et al., 2024; Putri & Sulistyawati, 2024). Good, transparent, reliable, and inter-agency coordination support increases the satisfaction of customs service users, with the trust dimension as the strongest factor in tax payment services in the customs sector (Aquino et al., 2020; Maina et al., 2024; Putri & Sulistyawati, 2024). Training and socialization from authorities have also been shown to help customs agents understand the rules and improve import compliance (Chisale & Maluwa, 2021). However, other studies have shown that strategies that emphasize sanctions alone, without improving service quality and facilitation, do not necessarily optimize compliance and acceptance (Firmansyah & Layli, 2022; Gojali & Tarmidi, 2023; Mohamed, 2016).

The findings on the complexity of regulations also show unresolved problems. The complexity of the tax system increases the difficulty of companies in understanding and fulfilling their tax obligations (Firmansyah & Layli, 2022; Setyadi & Armaini, 2025). At the cross-border level, the complexity of corporate taxes is greatly influenced by interpretive ambiguity, documentation requirements, rule changes, and the audit process (Hoppe et al., 2023). In the context of customs, the complexity of technical terminology and customs assessment methods makes it difficult for business actors to comply correctly, which can encourage both administrative and substantive non-compliance (Chisale & Maluwa, 2021).

Meanwhile, customs audits and administrative sanctions are commonly positioned as instruments of deterrence to improve compliance, but the empirical results are not uniform. Several studies have found that audits and sanctions are positively associated with compliance (Gojali & Tarmidi, 2023; S. M. S. Putra et al., 2023; Yuniarwati et al., 2024). However, other studies show that not all types of audits are effective; even the interaction between certain audits and sanctions can have a negative impact on compliance, especially if the audit is conducted randomly or audits on a small scale (desk audit) (Bergman & Nevarez, 2006; Kotsogiannis et al., 2024). In the context of customs, enforcement that relies too heavily on sanctions is also considered inadequate without the support of improved procedures, training, and risk management (Junior et al., 2026; Mohamed, 2016).

At the same time, the Voluntary Disclosure Program (VDP) is increasingly seen as a policy instrument that can bridge service and enforcement approaches. Systematic studies show that voluntary disclosure and tax amnesty are important for compliance and acceptance, but their impact varies with policy design and jurisdictional context (Gojali & Tarmidi, 2023; L. A.

Putra et al., 2023; S. M. S. Putra et al., 2023; Syahrial et al., 2025). Evidence from Uganda also shows that the effectiveness of VDP is largely determined by clarity of rules, procedural certainty, policy communication, and fair treatment of various forms of non-compliance (Rukundo, 2020). In Indonesia, voluntary disclosure programs promote a sense of security, ease of reporting, and voluntary compliance, but other evidence suggests that tax amnesty and VDP do not necessarily strengthen long-term compliance without complementary policies and follow-up.

In the Indonesian customs sector, one of the VDP forms is the Voluntary Declaration and Voluntary Payment mechanism, as regulated in the Minister of Finance Regulation (PMK) Number 201/PMK.04/2020. The VDP program is one of the Tax amnesty mechanisms that provide facilities for importers to voluntarily notify and pay for the shortfall in payment of Import Duty (BM) and Import Tax (PDRI) arising from cost components that are only known or billed after the goods are removed from the customs area. The main advantage of this mechanism is that participating importers will not be subject to fines or administrative sanctions for such payment shortcomings. This is because, normatively, each importer is obliged to declare the customs value accurately in order to determine the amount of import duties and Taxes in the Context of Imports (PDRI). However, at the implementation level, structural constraints arise regarding components of certain costs that should be included in the customs value but billed to importers only after goods leave the customs area (post-import) (Palupiningrum & Rosid, 2024). This condition technically triggers a notification of a lower value (undervaluation), resulting in a deficit in the payment of import duties and taxes.

Based on this study, several research gaps remain unanswered. First, there is a theoretical gap, as previous studies have tended to separate service perspectives, regulatory complexity, and deterrence. In contrast, importer compliance is more likely to be shaped by the simultaneous interaction of facilitative and coercive factors. Second, there is an empirical gap, as the influence of service quality, audits, and sanctions on compliance remains inconsistent across studies. Third, there is a contextual gap: most VDP and tax compliance studies address general taxpayers or direct taxes, whereas studies that specifically examine importers within the customs regime are limited.

Thus, this study aims to analyze the influence of customs service quality, regulatory complexity, customs audits, and administrative sanctions on the tax compliance of importing companies, and to examine whether the Voluntary Disclosure Program strengthens or weakens these relationships.

LITERATURE REVIEW

Tax compliance was initially largely explained through the economic deterrence model, which views taxpayers as rational actors who compare the benefits of avoidance with the probability of detection and the amount of sanctions (Bani-Khalid et al., 2022; Garg et al., 2024). However, empirical findings indicate that compliance behavior cannot be fully explained by deterrence logic, as taxpayers' intentions and behaviors are also influenced by psychological, social, and institutional factors (Bani-Khalid et al., 2022; Garg et al., 2024; Nasri & Yusoff, 2025).

On that basis, this study uses the Theory of Planned Behavior (TPB) as the main framework for behavior. TPB posits that compliance intentions are shaped by attitudes toward the behavior, subjective norms, and perceived behavioral control (Hikmah et al., 2021; Paulus, 2025; Taing & Chang, 2021). In tax compliance studies, these three constructs have proven

relevant to explain compliance intentions and behaviors. However, the magnitude of each construct's influence can vary depending on the country context, the type of taxpayer, and the design of tax administration (Bani-Khalid et al., 2022; Djajanti et al., 2026; Shaharuddin et al., 2023).

In this model, the quality of customs services is positioned as an antecedent to attitude formation because responsive, clear, and fair services influence taxpayers' evaluations of the benefits and consequences of compliant behavior (Garg et al., 2024; Paulus, 2025). The complexity of regulation is identified as a factor shaping perceived behavioral control, as it reflects obstacles that increase the perceived difficulty of fulfilling obligations correctly (Bani-Khalid et al., 2022; Owusu et al., 2023; Shaharuddin et al., 2023). Administrative sanctions are positioned as external controls that affect perceived behavioral control through the perceived severity of violations (Harinurdin et al., 2024; Khristy et al., 2022). Meanwhile, customs audits are placed primarily within the framework of deterrence as an instrument that increases the perception of detection probability, which can further strengthen the intention to comply (Bani-Khalid et al., 2022; Garg et al., 2024).

The Voluntary Disclosure Program (VDP), including the implementation of customs through the Voluntary Declaration and Voluntary Payment (VDVP) program in accordance with the Minister of Finance Regulation number PMK-201/PMK.04/2020, complements both approaches. From a policy perspective, voluntary disclosure is a mechanism that provides taxpayers with the opportunity to correct non-compliance at lower compliance costs and with reduced exposure to disputes (Razali et al., 2025). In terms of behavior, this program can strengthen the influence of services, audits, and sanctions on compliance, as taxpayers not only face formal controls but also gain more feasible administrative channels to return to compliance (Gojali & Tarmidi, 2023; Syahrial et al., 2025; Yuniarwati et al., 2024). This is because VDP offers an easy and low-cost solution to address problems of value that importers cannot yet assess, thereby reducing concerns about the imposition of sanctions and violations of regulations and encouraging tax compliance (Gojali & Tarmidi, 2023; Yuniarwati et al., 2024).

METHODS

This study uses a quantitative approach with an explanatory *cross-sectional survey* design. This design was chosen because data were collected over time through a questionnaire to test the relationships among customs service quality, regulatory complexity, customs audits, and administrative sanctions and taxpayer compliance, as well as to test the role of the Voluntary Disclosure Program (VDP) as a mediating variable. Thus, the design of this study is more appropriately categorized as an explanatory survey than a causal-comparative study, because it does not compare naturally formed groups but rather analyzes the relationship between variables using a regression model.

The research population comprises all importing companies that use the VDP mechanism in accordance with the Minister of Finance Regulation Number 201/PMK.04/2020, as recorded in the CEISA 4.0 Customs database for the 2021–2025 period, totaling 899 companies. Based on the results of the calculation with a significance level in the determination of the research sample of 10 percent (α=10%), the minimum number of samples in this study is 89.99 (rounded to 90) companies needed to fill out the research questionnaire. From the questionnaire distribution process, 103 questionnaires were obtained for analysis, exceeding the minimum required sample size.

Data collection was carried out using a structured questionnaire compiled based on the operational indicators for each research variable. All items were measured using a 4-point

Likert scale, with response categories: 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. The dependent variable in this study is taxpayer compliance, while the independent variables are the quality of customs services**,** regulatory complexity**,** customs audits, and administrative sanctions. The Voluntary Disclosure Program (VDP) is positioned as a mediating variable.

The variables for the quality of customs services are measured using four indicators: the services provided by Customs and Excise officers, the ease of obtaining information, the assistance officers provide in resolving obstacles, and the speed of officers' responses. Regulatory complexity is measured by respondents' perceptions of the ease of understanding regulations, the complexity of procedures, the clarity of guidelines or documents, and the need for third-party assistance to understand applicable provisions. Customs audit variables are measured through perceptions of the fairness and transparency of the audit process, the clarity of language in the delivery of audit results, the timeliness and transparency of communication of audit findings, and the contribution of audit result clarity to improving understanding of tax obligations and encouraging compliance. The variables of administrative sanctions were measured through respondents' knowledge of the existence of customs administrative sanctions, perceptions of the firmness of sanctions in encouraging the implementation of voluntary payments, concerns about sanctions as a driver of participation in voluntary declarations and voluntary payments, and the suitability of sanctions with violations committed.

The Voluntary Disclosure Program variables were measured through respondents' perceptions of the legal certainty and protection provided by the program, changes in compliance behavior after following the *voluntary declaration* and *voluntary payment mechanism*, the effectiveness of the program in improving compliance with correct information reporting, and respondents' willingness to recommend the program to other parties. Meanwhile, the taxpayer compliance variable is measured through the company's timeliness in reporting and paying Import Duties and PDRI, the ease of carrying out administrative and reporting processes according to the provisions, compliance due to the possibility of audits and sanctions, and the belief that the tax funds paid are used transparently and are beneficial to the wider community.

Before hypothesis testing, the research instrument is first tested for validity and reliability. The validity test is conducted using Pearson Product-Moment correlation, with the criterion that an item is declared valid if the item-total correlation exceeds the critical value or has a significance level of less than 0.05. Reliability tests were conducted using Cronbach's Alpha, with a minimum acceptance limit of 0.70. In addition, before regression analysis is performed, the data are tested using classical assumption tests, including normality, heteroscedasticity, multicollinearity, and autocorrelation tests, to ensure that the regression model meets statistical requirements.

Data analysis was performed using multiple linear regression in IBM SPSS Statistics 25. Multiple linear regression was used to test the direct influence of independent variables on taxpayer compliance. Meanwhile, mediation testing was carried out using the causal steps approach (path analysis) as proposed by Baron and Kenny, followed by the Sobel Test to assess the significance of the indirect effect. In this approach, testing is done through three main regression equations. The first model regresses an independent variable on a dependent variable to test for the presence of an initial direct influence. The second model regresses independent variables on mediation variables to test the influence of independent variables on mediators. The third model regresses independent and mediated variables simultaneously on dependent

variables to assess whether the mediating variables channel the influence of independent variables on dependent variables.

Mathematically, the equation model used in this study can be written as follows:

Model 1: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

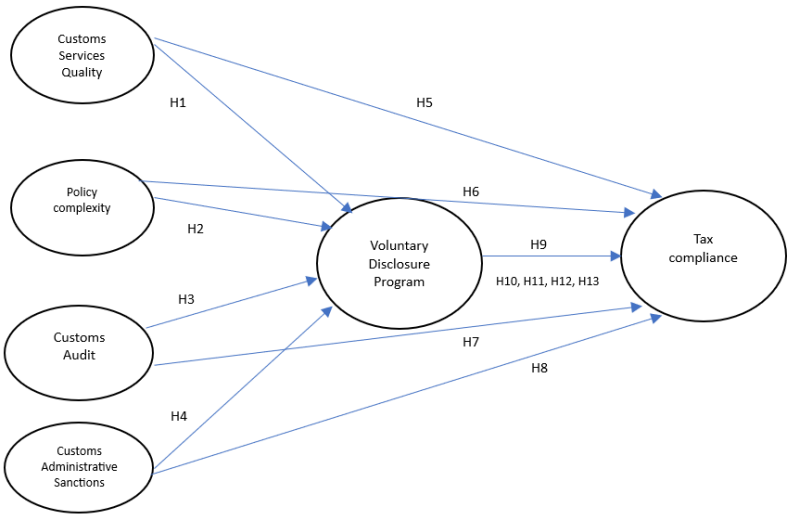
Model 2: $M = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Model 3: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 M + \varepsilon$

Description: (Y) is taxpayer compliance, (M) is the Voluntary Disclosure Program, (X_1) is the quality of customs services, (X_2) is regulatory complexity, (X_3) is customs audit, and (X_4) is administrative sanction. The role of mediation is established if the independent variable has a significant effect on the mediation variable, the mediation variable has a significant effect on the dependent variable, and the direct effect of the independent variable on the dependent variable decreases after the mediation variable is included in the model. Furthermore, the significance of the influence was not directly confirmed through the Sobel Test**.**

The conceptual framework of this study is illustrated in the following diagram.

Figure 1. Research Framework



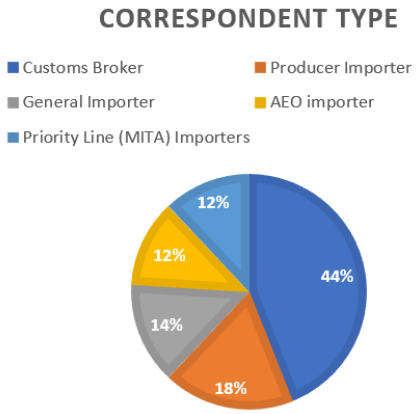
Source: Processed Author (2026)

RESULTS AND DISCUSSION

Respondent Demographics

In this study, the sample comprises companies that use the Voluntary Declaration. The sample in the study comprised 103 companies, consisting of 44% Customs Brokers (PPJK), 18% producer importers, 14% general importers, 12% Authorized Economic Operators (AEO) importers, and 12% Priority line (MITA) importers.

Figure 2. Respondent Demographics by Company Type



Source: Processed Author (2026)

Validity and Reliability Tests

The validity test is used to determine the accuracy and feasibility of each question in the questionnaire, thereby identifying variables. Validity testing is performed using Pearson correlation. The decision rule for testing validity in this study is that if the r_{cal} is greater than r_{table}, the statement item or indicator is declared valid. The r_{table} value in this study was $r_{0.05;\ 101} = 0.1937$. Meanwhile, a reliability test was conducted to assess the consistency of respondents' responses to the statement items. The reliability test for a variable is conducted using Cronbach's alpha. If Cronbach's Alpha value > 0.7, it means that a variable has sufficient reliability, while if Cronbach's Alpha > 0.8, then a variable has strong reliability. The results of the validity test of each indicator and the reliability for each variable are presented in Table 1.

Table 1. Validity and Reliability Test Results

Variabel	Question Items	r	Category Validitas	Cronbach's Alpha	Category
Customs services quality	KLP.1	0,871	Valid	0,914	excellent
	KLP.2	0,880	Valid		
	KLP.3	0,889	Valid		
	KLP.4	0,912	Valid		
Policy Complexity	KK.1	0.842	Valid	0,645	acceptable
	KK.2	0.813	Valid		
	KK.3	0.772	Valid		
	KK.4	0.487	Valid		
Customs Audit	AK.1	0.875	Valid	0,918	excellent
	AK.2	0.921	Valid		
	AK.3	0.924	Valid		
	AK.4	0.870	Valid		
Customs Administrative Sanctions	SA.1	0.912	Valid	0,919	excellent
	SA.2	0.906	Valid		
	SA.3	0.937	Valid		
	SA.4	0.808	Valid		
Voluntary Disclosure Program	VDP.1	0.899	Valid	0,949	excellent
	VDP.2	0.934	Valid		
	VDP.3	0.950	Valid		
	VDP.4	0.941	Valid		
Tax	KP.1	0.740	Valid	0,732	Good

Compliance	KP.2	0.750	Valid
	KP.3	0.740	Valid
	KP.4	0.747	Valid

Source: Processed by the author (2026)

Based on Table 1, all statement items for the variables Customs Service Quality, Policy Complexity, Customs Audit, Administrative Sanctions, Voluntary Disclosure Program, and Tax Compliance were declared valid because they had r values $\geq 0{,}1937$.

In addition, almost all research variables were in the "excellent" reliability category; only the Policy Complexity variable was in the "acceptable" category, and the Tax Compliance variable was in the "good" category. This shows that all variables are reliable, meaning that items or indicators have produced consistent values when measured repeatedly. Thus, all variables can be used in subsequent analysis.

Classic Assumption Testing

In conducting regression analysis, several classical assumptions must be met, including normality of the residuals, homoscedasticity, independence of the residuals, and the absence of multicollinearity among the predictors.

a. **Normality Test**

The residual normality test was conducted to assess whether the residuals from the regression model were normally distributed. Residual normality testing in this study was carried out using the Kolmogorov-Smirnov test. The level of significance used in this residual normality test is as follows: $\alpha = 0{,}05$.

H_0: Residual is normally distributed.

H_1: Residual is not normally distributed.

Table 2. Residual Normality Test Results

Criteria	Value
KS statistic	0.110
P-Value	0.166

Source: processed by the author (2026)

Based on Table 2, the KS_{cal} value was 0.11, and the significance value (p-value) was 0.166. The KS_{cal} value obtained < KS_{table} (0.133), and the significance value (p-value) obtained $>\alpha = 0{,}05$ so that the H0 decision was not rejected, which means the residual is normally distributed.

b. **Heteroscedasticity Test**

The heteroscedasticity test was used to assess whether the regression model's variance differed across observations. A good regression model has homoscedasticity, meaning the variance of the residuals across observations is equal or constant. Residual heteroscedasticity is assessed in the Glejser test by regressing the absolute value of the residuals on all existing independent variables. If the partial test results indicate that the independent variables do not have a significant effect, heteroscedasticity (homoscedasticity) does not occur. The hypotheses in the residual homoscedasticity test (identical residual assumptions) are as follows:

H_0: Identical Residual (No heteroscedasticity)

H_1: Residual Not Identical (Heteroscedasticity occurs)

Table 3. Glejser Test Results

Variabel	Unstandardized Coefficients		t	P-Value
	B	Std. Error		
(Constant)	0.609	0.213	2.855	0.005
KLP	0.109	0.109	1.001	0.319
KK	-0.078	0.079	-0.994	0.323
AK	0.106	0.114	0.929	0.355
SA	-0.126	0.092	-1.377	0.172
VDP	-0.092	0.120	-0.760	0.449

Source: processed by the author (2026)

From Table 3, the significance value (p-value) for the KLP variable was 0.319, the KK variable was 0.323, the AK variable was 0.355, the SA variable was 0.172, and the VDP variable was 0.449. The significance value (p-value) for the three variables is greater than α = 0.05, so the null hypothesis (H_0) was not rejected, which means that the variables KLP, KK, AK, SA, and VDP did not have a significant effect on Y (absresidual). Thus, we conclude that there is no evidence of heteroscedasticity (i.e., that the residuals are identically distributed).

c. **Autocorrelation Test**

Testing for residual independence or autocorrelation was conducted to assess whether the residuals correlate across observations. The test of independent residual assumptions is carried out using the Durbin-Watson test. The decision-making criterion in the Durbin-Watson test is H_0 minus (there is an autocorrelation in the residual or non-independent residuals) when $dw < d_{L;\alpha;k;n}$ or $dw > \left(4 - d_{L;\alpha;k;n}\right)$, H_0 fails to subtract (there is no autocorrelation in the residual, or the residual is independent) when $d_{U;\alpha;k;n} < dw < 4 - d_{U;\alpha;k;n}$, and testing cannot be decided when $d_{L;\alpha;k;n} \leq dw \leq d_{U;\alpha;k;n}$ or $4 - d_{U;\alpha;k;n} \leq dw \leq 4 - d_{L;\alpha;k;n}$. The hypothesis tested for the independence of residuals is as follows.

H_0: Independent Residual (No autocorrelation in residuals)

H_1: Non-Independent Residual (There is an autocorrelation in the residual)

Table 4. Durbin-Watson Test Result

DW Statistics	DW Table		Decision
	$d_{L;0,05;5;103}$	$d_{U;0,05;5;103}$	
2,034	1,5788	1,7818	H_0 Failed to Reject

Source: processed by the author (2026)

From Table 4, the Durbin-Watson test statistic is 2,034. The statistical value of the Durbin-Watson test is among the $d_{U;0,05;5;103}$ (1,7818) and $4 - d_{U;0,05;5;103}$ (2,2182), so that the decision was to fail to reject H_0. Thus, it was concluded that the residuals were independent or that there was no autocorrelation in the residuals.

d. **Multicollinearity Test**

The multicollinearity test was conducted to assess whether the independent variables in the regression model were correlated. A good regression model is one with no multicollinearity. Multicollinearity testing in the regression model was conducted by examining the VIFs for each independent variable. If the VIF is ≥ 10 or the tolerance is ≤ 0.1, multicollinearity is present in the regression model. The results of the multicollinearity test on the regression model are presented in Table 5.

Table 5. Multicollinearity Test Results

	Collinearity Statistics	
Variabel	**Tolerance**	**VIF**
(Constant)	-	-
KLP	0,244	4,096
KK	0,494	2,023
AK	0,227	4,409
SA	0,368	2,719
VDP	0,188	5,328

Source: processed by the author (2026)

From Table 5, the VIF values for each independent variable are less than 10, and the tolerance values are> 0.1. Thus, it is concluded that there is no multicollinearity in the regression model.

Results of Direct and Indirect Influence Test Analysis

The direct effect test was used to determine the influence of independent variables on dependent variables in the absence of mediating variables. Meanwhile, an indirect effect test was conducted to assess the influence of the independent variables on the dependent variables and to test for the presence of mediating variables. The analysis of direct and indirect influences is based on the path coefficient or the t-value. The path coefficient measures the magnitude (strength) and direction of the relationship between variables; the greater the path coefficient, the stronger the relationship. The sign of the path coefficient indicates the direction of the relationship (positive or negative), and its magnitude indicates how strong the influence is (Chin, 1998). The significance of the coefficient is tested using a t-test, which produces either a t-value or a p-value. The T-value obtained will be compared with the t-distribution table at the significance level α and with the degrees of freedom (n-1). The influence between variables is significant when the value of $t > t_{\alpha,(n-1)}$ or $p < 0{,}05$ for a significance level of 5% (Hair et al., 2017). The results of the direct and indirect influence test are presented in Table 6.

Table 6. Direct and Indirect Influence Test Results

Correlation	Path Coefficients	t-value	p-value	Conclusion
Customs services quality → Voluntary Disclosure Program	0,252	3,168	0,002	Significant
Policy Complexity → Voluntary Disclosure Program	0,115	1,119	0,233	Insignificant
Customs Audit → Voluntary Disclosure Program	0,219	2,736	0,007	Significant
Administrative Sanctions → Voluntary Disclosure Program	0,436	5,181	0,000	Significant
Customs services quality → Tax Compliance	0,151	3,046	0,003	Significant
Policy Complexity → Tax Compliance	0,308	5,374	0,000	Significant
Customs Audit → Tax Compliance	0,139	2,811	0,006	Significant
Administrative Sanctions → Tax Compliance	0,164	2,920	0,004	Significant
Voluntary Disclosure Program→ Tax Compliance	0,307	5,120	0,000	Significant

Customs services quality → Voluntary Disclosure Program→ Tax Compliance	0,077	2,693	0,007	Significant
Policy Complexity → Voluntary Disclosure Program→ Tax Compliance	0,035	1,093	0,274	Insignificant
Customs Audit → Voluntary Disclosure Program→ Tax Compliance	0,067	2,413	0,015	Significant
Administrative Sanctions → Voluntary Disclosure Program→ Tax Compliance	0,134	3,641	0,000	Significant

Source: processed by the author (2026)

Based on Table 6, the relationship between the independent variables and the mediator variables was examined, indicating that Tax Service Quality, Customs Audit, and Administrative Sanctions significantly influence the Voluntary Disclosure Program variables. This is because the resulting p-value is < 0.05 and the t-value is > 1.984. Meanwhile, the Policy Complexity variable had no significant influence on the Voluntary Disclosure Program, as the p-value was > 0.05 and the t-value was < 1.984. In addition, the independent and mediator variables had significant effects on the dependent variable (Tax Compliance). This is because the resulting p-value is < 0.05 and the t-value is > 1.984.

The quality of Tax Services had a direct positive effect on the Voluntary Disclosure Program (0.252) and on Tax Compliance (0.151). In addition, the indirect effect of Tax Service Quality on Tax Compliance through the Voluntary Disclosure Program was 0.077, with a t-value of 2.693 and a p-value of 0.007, indicating that mediation was significant. These findings suggest that improving the quality of tax services is not only directly related to increased tax compliance but also indirectly related to increased participation in, or the effectiveness of, the Voluntary Disclosure Program.

Policy complexity shows a different pattern. Although Policy Complexity had a positive and significant effect on Tax Compliance (coefficient = 0.308), the effect on the Voluntary Disclosure Program was not significant (coefficient = 0.115, t-value = 1.119, p-value = 0.233). As a result, the indirect effect of Policy Complexity on Tax Compliance through the Voluntary Disclosure Program was also insignificant, with a coefficient of 0.035, a t-value of 1.093, and a p-value of 0.274. In the context of mediation, findings such as these suggest that the relationship between Policy Complexity and Tax Compliance is more appropriately understood as a direct influence rather than one mediated by a third party.

Customs Audit had a direct positive effect on the Voluntary Disclosure Program of 0.219 and on Tax Compliance of 0.139. The indirect effect on Tax Compliance through the Voluntary Disclosure Program was 0.067, with a t-value of 2.413 and a p-value of 0.015, indicating significant mediation. These results show that Customs Audits are associated with increased Tax Compliance, both directly and through the Voluntary Disclosure Program, indicating a combination of direct and indirect influences.

Administrative sanctions showed the most prominent contribution to the mediator, with a coefficient of 0.436, t-value of 5.181, and p-value of 0.000. On Tax Compliance, Administrative Sanctions also had a positive and significant effect, with a coefficient of 0.164, while the indirect effect through the Voluntary Disclosure Program was 0.134, with a t-value of 3.641 and a p-value of 0.000. Because the direct and indirect influences are equally

significant, this relationship suggests that the Voluntary Disclosure Program channeled part of the influence of Administrative Sanctions on Tax Compliance, rather than completely replacing it.

Overall, the Voluntary Disclosure Program itself has a positive and significant effect on Tax Compliance, with a coefficient of 0.307, t-value of 5.120, and p-value of 0.000. This confirms that mediators play a substantive role in the model, as significant mediators of the dependent variables after controlling for independent variables are an important element in the interpretation of regression-based mediation.

Summary of Research Hypothesis Test Results

The results of hypothesis testing for the 13 hypotheses in this study showed that 11 were supported by empirical data, and 2 were not. Hypotheses supported by empirical data include H_1, H_3, H_4, H_5, H_6, H_7, H_8, H_9, H_{10}, H_{12}, and H_{13}, while hypotheses that are not supported by empirical data are H_2 and H_{11}. Table 7 summarizes the hypothesis-testing results in this study.

Table 7. Research Hypothesis Test Results

Code	Hipotesis	t-value	p-value	Conclusion
H_1	KLP → VDP	3,168	0,002	Accepted
H_2	KK → VDP	1,119	0,233	Not Accepted
H_3	AK → VDP	2,736	0,007	Accepted
H_4	SA → VDP	5,181	0,000	Accepted
H_5	KLP → KP	3,046	0,003	Accepted
H_6	KK → KP	5,374	0,000	Accepted
H_7	AK → KP	2,811	0,006	Accepted
H_8	SA → KP	2,920	0,004	Accepted
H_9	VDP → KP	5,120	0,000	Accepted
H_{10}	KLP→ VDP → KP	2,693	0,007	Accepted
H_{11}	KK→ VDP → KP	1,093	0,274	Not accepted
H_{12}	AK→ VDP → KP	2,413	0,015	Accepted
H_{13}	SA→ VDP → KP	3,641	0,000	Accepted

Source: Processed by the author (2026)

Discussion

The results of the study show that Hypothesis 1 (H1) is accepted, namely the Quality of Tax Services has a positive and significant effect on the Voluntary Disclosure Programme (VDP). These findings not only show the existence of statistical relationships, but also indicate relevant behavioral mechanisms in the customs context. In the perspective of the Slippery Slope Framework, the quality of service reflects the trust in authority dimension, which is a condition in which taxpayers or importers view the authority not solely as a law enforcer, but also as an institution that helps fulfill obligations in a clear, responsive, and predictable manner. In this context, improving the quality of DJBC's services through the provision of more understandable information, digitization of procedures, and responsive technical guidance lowers compliance uncertainty and increases the willingness of importers to make voluntary disclosures. Thus, these findings broaden the meaning of the VDP, not only as an instrument of fiscal correction, but also as a result of increased confidence in the administrative capacity of the authority.

Contextually, this relationship can also be understood from the characteristics of Indonesian customs which are highly dependent on the accuracy of customs value notifications, classifications, and tariffs. In such a situation, service quality does not only function administratively, but also serves as a reduction in regulatory ambiguity. Importers who gain

access to adequate explanations tend to view the VDP as a legitimate and rational corrective mechanism, rather than as an acknowledgment of a violation. Therefore, these findings are not only consistent with previous research, but also show that in the customs regime, the quality of service can shift the orientation of the state-business relationship from a purely coercive pattern to a more cooperative pattern.

Hypothesis 2 (H2) is not accepted, so Policy Complexity has not been shown to have a significant effect on VDP. These findings are important because they show that the complexity of policy is not always a determining factor in the decision to make voluntary disclosure. In the framework of the Theory of Planned Behavior, the complexity of rules can be understood as a factor that has the potential to reduce perceived behavioral control (perception of ease of action). However, the results of this study show that in the context of VDP, perceptions of program benefits appear to be more dominant than procedural barriers. In other words, even though the rules are perceived to be complex, importers can still choose to participate in the VDP if the program provides legal certainty and reduces the risk of sanctions in the future.

This condition can also be explained through the characteristics of the import business environment which is used to dealing with detailed and rapidly changing technical regulations. For importers, policy complexity may have been perceived as an inherent part of business risk, so it is no longer a major differentiating factor in decision-making related to VDP. In the Indonesian context, these findings suggest that the effectiveness of VDP is determined more by the structure of incentives and disincentives that accompany it than by the degree of simplicity of its regulation. Therefore, the insignificance of this relationship does not mean that complexity is not important, but rather suggests that its effects are masked by more direct considerations of risk and benefit.

The results of the study also show that Hypothesis 3 (H3) is accepted, namely that Customs Audit has a positive and significant effect on VDP. These findings can be strongly explained through Deterrence Theory, which emphasizes that compliance increases when the probability of detection of a violation is perceived to be high. A transparent, structured, and predictable customs audit creates a signal that import data inconsistencies have the potential to be found at the inspection stage. In such conditions, the VDP is a rational choice because it provides an opportunity for the importer to make corrections before the violation is officially identified by the authorities. These findings show that the audit function does not stop as a detection tool, but also works as an instrument for shaping preventive behavior.

In the context of Indonesian customs, the influence of audits on VDP can also be read as a response to high post-clearance risk exposure. Importers not only consider the possibility of finding errors, but also take into account reputational costs, administrative costs, and operational disruptions that may arise from the audit process. Therefore, the decision to follow the VDP can be understood as a compliance risk management strategy. These findings enrich the theoretical reading that the deterrence effect does not necessarily result in passive or coerced compliance, but can also encourage anticipatory compliance through the use of voluntary disclosure instruments.

Furthermore, Hypothesis 4 (H4) is accepted, namely that Administrative Sanctions have a positive and significant effect on VDP. From the perspective of Deterrence Theory and the power of authority dimension in the Slippery Slope Framework, these results show that the coercive force of authority remains an important determinant of obedience behavior. When sanctions are perceived to be strict and have severe economic consequences, importers are more likely to choose a path that can minimize exposure to such penalties. In this context, the VDP

is seen as a risk mitigation instrument that allows corrections to be carried out in a more controlled manner before dealing with formal enforcement actions.

Nevertheless, these findings should not be read narrowly as evidence that obedience is only built through fear. In the context of this study, the effect of sanctions on VDP actually shows that an effective compliance mechanism can be formed through a combination of the threat of sanctions and the availability of legitimate correction channels. This means that authorities not only need the capacity to coerce, but also need to provide institutional channels that allow business actors to respond to these threats legally and administratively. Thus, the contribution of these findings lies in the explanation that coercive power becomes more effective when combined with policy design that provides room for voluntary correction.

In Hypothesis 5 (H5), the Quality of Tax Services is proven to have a positive and significant effect on Tax Compliance. Theoretically, these findings reaffirm the relevance of the Slippery Slope Framework, specifically the argument that compliance is born not only from enforcement power, but also from trust in authority. Good service quality lowers compliance costs, clarifies obligations, and reduces psychological barriers in interacting with authorities. Within the framework of the Theory of Planned Behavior, this condition can also increase perceived behavioral control because taxpayers feel that fulfilling obligations is within their capacity.

In the context of customs, the implications are crucial because compliance often depends on the ability of business actors to understand procedural and technical details. Therefore, good service not only improves administrative convenience, but also plays a direct role in shaping substantive compliance. These findings suggest that a service-based approach deserves to be positioned as a long-term compliance strategy, especially in complex and high-risk sectors such as customs.

In Hypothesis 6 (H6), Policy Complexity is proven to have a positive and significant effect on Tax Compliance. These results appear to differ from the general view that places complexity as a barrier to compliance, so they need to be interpreted more carefully. In the context of this study, complexity does not appear to work as a factor that weakens compliance, but as a trigger for higher alertness. Companies dealing with complex rules tend to increase administrative rigor to avoid reporting errors that could potentially lead to sanctions. Thus, complexity can produce disciplinary effects when present in an environment that is also characterized by credible supervision and sanctions.

These findings suggest that the influence of complexity is contextual. On the one hand, complexity can increase the burden of compliance; On the other hand, in systems where enforcement is strong, complexity can actually encourage more cautious behavior. In the context of Indonesian customs, these results indicate that companies do not always respond to complex rules by evading them, but can instead adopt greater administrative prudence. Therefore, the theoretical contribution of these findings is to show that the relationship between policy complexity and compliance is not linear, but rather depends on how business actors assess the consequences of compliance errors.

The results of the study show that Hypothesis 7 (H7) is accepted, namely Customs Audit has a positive and significant effect on Tax Compliance. These findings suggest that customs audits not only serve as an administrative instrument to check compliance, but also as a behavior control mechanism that encourages companies to act more cautiously in meeting their tax obligations. From the perspective of Deterrence Theory, audits increase the perceived

likelihood of detection of errors or non-compliance, encouraging companies to improve reporting accuracy and administrative compliance. In the context of Indonesian customs, where the Customs and Excise authorities have strong legal authority and extensive discretion over customs values, classifications, and tariffs, audits are perceived as a real business risk. Therefore, companies tend to respond to audits by increasing prudence and compliance, not just because of formal pressures, but also because of the financial and operational consequences that can arise if nonconformities are found.

The results of the study also show that Hypothesis 8 (H8) is accepted, namely that Administrative Sanctions have a positive and significant effect on Tax Compliance. These findings confirm that administrative sanctions still function as an effective control instrument in shaping compliance behavior. Within the framework of Deterrence Theory, companies will compare the potential benefits of non-compliance with the costs that must be incurred if a breach is detected. When sanctions are perceived as severe, the company's economic rationality will tend to lead to compliance. From the perspective of the Theory of Planned Behavior, the condition can also be understood as a reinforcement of perceived behavioral control, as companies become more aware that non-compliance has real and costly consequences. The difference in results with some previous studies can be explained by differences in sector context. In the context of Indonesian customs, exposure to administrative sanctions is often directly related to the burden of import costs, disruption of the flow of goods, and the risk of follow-up audits, so that the deterrent effect of sanctions tends to be stronger than in other sectors with different risk structures.

Furthermore, Hypothesis 9 (H9) is accepted: the Voluntary Disclosure Program (VDP) has a positive and significant effect on Tax Compliance. These findings suggest that the VDP serves not only as a disclosure program, but also as a transitional mechanism that directs taxpayers from corrective behavior toward more stable compliance. From the perspective of the Theory of Planned Behavior, VDP can be understood as an instrument that increases perceived behavioral control or the perception of ease of acting obediently, because this program provides a legal, clear, and relatively safe path to correct mistakes that have occurred. From the perspective of the Slippery Slope Framework, the VDP also reflects a combination of the power of authority and trust in authority. This program is effective not only because of the potential for sanctions if errors are found, but also because the state provides a legitimate room for correction for taxpayers. In the context of Indonesian customs, this function becomes important because errors in import notifications are not always born from evasion intentions, but can also stem from the technical complexity of cross-border transactions. Therefore, VDPs can strengthen compliance by lowering correction barriers and increasing legal certainty.

The results showed that Hypothesis 10 (H10) is accepted, which means that the Voluntary Disclosure Program mediated the influence of Tax Service Quality on Tax Compliance. These findings show that service quality does not stop at the formation of a positive perception of authority, but also translates into compliance behavior through a concrete policy mechanism, namely VDP. Within the framework of the Theory of Planned Behavior, good service quality can form a positive attitude towards compliance and increase the perception that tax obligations can be fulfilled more easily. However, a change of intention into action usually requires an operational institutional channel. In this case, the VDP provides such a means by providing procedural certainty, correction space, and a reduction of psychological barriers for taxpayers. The difference in results with previous research can be explained by the characteristics of the program design and the context of its implementation. In the context of Indonesian customs, when DJBC services become increasingly responsive and the VDP

program is positioned as a credible corrective instrument, the quality of service is more likely to translate into actual compliance through VDP mediation.

Instead, Hypothesis 11 (H11) is rejected, so the Voluntary Disclosure Program was not proven to mediate the influence of Policy Complexity on Tax Compliance. These results show that the existence of VDP is not enough to channel the impact of regulatory complexity into increased compliance. Theoretically, within the Theory of Planned Behavior, obedience is influenced by the perception that obedient actions can be performed in a controlled and understandable manner. When policy complexity is too high, companies can face cognitive ambiguity, which is the difficulty of understanding exactly what needs to be done to be compliant. Under these conditions, the VDP can indeed provide a correction mechanism, but it does not necessarily eliminate the root cause of the problem, namely the complexity of the rules themselves. In the context of Indonesian customs, this can happen because importers still face uncertainty in interpreting customs values, classifying goods, and fulfilling other administrative obligations. Hence, the benefits of VDP are not sufficient to offset the effects of complexity. These findings suggest that the effectiveness of VDPs as mediators depends on the level of understanding of the underlying regulations.

The results of the study further showed that Hypothesis 12 (H12) is accepted, namely, the Voluntary Disclosure Program mediated the influence of Customs Audit on Tax Compliance. These findings are important because they show that audits work not only directly through the effects of scrutiny but also indirectly by creating incentives to use voluntary disclosure mechanisms. From the perspective of Deterrence Theory, audits increase the probability of detection. At the same time, in the Theory of Planned Behavior, the condition can strengthen behavioral impulses to avoid the risk of non-compliance. However, without a corrective channel in place, the pressure of audits can stop at fear alone. The VDP converts that pressure into a structured corrective action. Thus, audits and VDPs work in a complementary manner: audits create risk awareness, while VDPs provide a legitimate outlet to respond to those risks. In the context of Indonesian customs, this combination is particularly relevant because companies face significant financial and administrative consequences if non-conformities are found in post-import audits.

Finally, Hypothesis 13 (H13) is also accepted, indicating that the Voluntary Disclosure Program mediates the effect of Administrative Sanctions on Tax Compliance. These findings suggest that administrative sanctions not only encourage direct compliance, but also encourage the use of voluntary correction mechanisms that ultimately strengthen compliance. Within the framework of Deterrence Theory, sanctions create a deterrent effect by increasing the costs of non-compliance. However, the results of this study show that these effects become more effective when accompanied by policy instruments such as VDP. From the perspective of the Theory of Planned Behavior, VDP can improve the perception of behavioral control because taxpayers are not only faced with the threat of punishment, but also with legal options to correct wrongs. Thus, the relationship between sanctions and compliance in this study is not solely repressive, but also corrective and institutional. In the context of Indonesian customs, these findings indicate that compliance is easier to achieve when a strict sanctions regime is combined with policies that offer businesses opportunities to make voluntary corrections.

CONCLUSION AND SUGGESTION

Conclusion

Based on the analysis, this study concludes that Tax Service Quality, Customs Audit, Administrative Sanctions, and the Voluntary Disclosure Program (VDP) have a positive and

significant effect on Tax Compliance among importing companies in Indonesia. In addition, the Quality of Tax Services, Customs Audits, and Administrative Sanctions also have a positive and significant effect on the VDP, while the Complexity of the Policy does not have a significant effect on the VDP. Nevertheless, Policy Complexity has been shown to have a positive and significant effect on Tax Compliance. In mediation testing, VDP was shown to mediate the effects of Tax Service Quality, Customs Audit, and Administrative Sanctions on Tax Compliance, but not the effect of Policy Complexity on Tax Compliance.

Theoretically, these findings contribute to the development of the tax compliance literature by showing that compliance in the customs context is shaped not only by the dimension of trust in authority, as described in the Slippery Slope Framework, but also by the dimension of authority power, through audits and sanctions, as described in Deterrence Theory. On the other hand, the findings regarding the role of VDP as a mediating variable show that institutional mechanisms can bridge the influence of service and enforcement factors into actual compliance behaviors, which is in line with the Theory of Planned Behavior. Thus, this study confirms that tax compliance among importing companies is better understood as the result of the interaction between the facilitative and coercive approaches.

The novelty of this study lies in the placement of VDP as a mediating variable in the relationship between Tax Service Quality, Customs Audit, Administrative Sanctions, and Tax Compliance in the context of importing companies in Indonesia. This research also shows that in the customs regime, the VDP functions not only as an instrument of voluntary disclosure but also as an institutional mechanism that channels the influence of policy and enforcement into compliance actions. Therefore, the resulting implications are not only practically relevant for customs authorities but also enrich academic studies of the relationship between services, enforcement, and compliance in the context of tax and customs administration.

Practically, the results of this study show that increasing tax compliance in the import sector is not enough to rely solely on law enforcement. Compliance also requires good quality of service, procedural certainty, and a credible voluntary correction mechanism. Thus, compliance improvement strategies will be more effective if strict audits and sanctions are balanced with responsive services and VDP optimization as a voluntary correction channel.

However, the results of this study need to be understood within certain limits. First, this study was only conducted on importing companies in Indonesia related to the VDP/VDVP mechanism, so the findings cannot be generalized directly to all taxpayers, other business sectors, or other countries' jurisdictions. Second, this study uses a quantitative research design with a focus on direct and indirect relationships between constructs, so it has not fully captured other factors such as company characteristics, compliance culture, perception of fairness, or sectoral dynamics. Third, this study is contextual and not designed to observe long-term changes in compliance behavior. Therefore, the conclusions of this study must be read in the specific context of Indonesian customs, particularly for importing companies involved in the VDP mechanism.

Suggestions

For the Customs and Excise authorities, the VDP needs to be optimized as a voluntary correction instrument integrated with the customs supervision system. This optimization can be achieved by preparing more detailed technical guidelines, establishing simpler disclosure procedures, and strengthening socialization that specifically targets importers with a high level of compliance risk. With this step, the VDP not only functions as a temporary program, but as a policy instrument that operationally supports compliance improvement.

In addition, the government needs to simplify regulations related to customs values, classification of goods, and voluntary disclosure procedures. The findings of the study show that VDP has not been able to mediate the influence of Policy Complexity on Tax Compliance, so simplifying regulations is an important step so that the benefits of VDP can be felt more effectively. The simplification can be directed at reducing the ambiguity of norms, harmonizing technical provisions, and providing interpretive guidelines that are easier for business actors to understand.

For administrative authorities, improving the quality of digital services also needs to be a priority. The development of digital-based services that are transparent, informative, and responsive can help importers understand customs obligations more accurately and reduce administrative barriers in the use of VDP. At the same time, customs audits and administrative sanctions still need to be enforced consistently to strike a balance between a persuasive and a coercive approach in the compliance system.

For further research, several development agendas can be pursued. First, future research is suggested to break down Policy Complexity into more specific dimensions, such as procedural complexity, administrative complexity, and interpretive complexity, in order to identify which dimensions most affect VDP compliance and effectiveness. Second, the research can be extended to other contexts, such as non-importer taxpayers, the domestic tax sector, or cross-industry studies, to test the consistency of the model in different regulatory environments. Third, further research is recommended using a longitudinal design to capture changes in compliance behavior before, during, and after the implementation of VDP. Fourth, future research could also employ additional analytical approaches, such as multiple mediation analysis, moderation analysis, or intergroup comparison models, to deepen understanding of tax compliance mechanisms in the context of customs.

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