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PREDICTIVE STRUCTURAL MODEL OF TAX PAYMENT AND FISCAL OBLIGATION COMPLIANCE

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***ABSTRACT*:**

This study develops and evaluates a predictive structural equation model of tax payment and fiscal obligation compliance by integrating economic, cognitive, institutional, technological, behavioral, administrative, and regulatory determinants. The model incorporates Economic Capacity, Fiscal Knowledge, Tax Complexity, Digital Tax Services, Institutional Trust, Perceived Fiscal Enforcement, Perceived Sanctions, Tax Morale, Compliance Costs, and Fiscal History as exogenous constructs, while Tax and Fiscal Obligation Compliance represents the endogenous construct. Economic Capacity reflects financial resources available for fulfilling obligations, whereas Fiscal Knowledge captures understanding of requirements, deadlines, procedures, deductions, and sanctions. Tax Complexity and Compliance Costs represent administrative barriers that can constrain fulfillment. Digital Tax Services capture accessibility, usability, electronic filing, electronic payment, and procedural integration. Institutional Trust represents confidence in transparency, fairness, competence, and legitimacy. Perceived Fiscal

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Enforcement and Perceived Sanctions represent external deterrence mechanisms, while Tax Morale captures internalized willingness and responsibility toward fiscal fulfillment. Fiscal History incorporates previous payment, filing, delay, omission, and sanction patterns. Tax and Fiscal Obligation Compliance encompasses timely payment, complete payment, timely filing, periodic fulfillment, information submission, and absence of recurrent omissions. The adjusted structural model indicates that Tax Morale, Institutional Trust, Digital Tax Services, Economic Capacity, Fiscal History, and Fiscal Knowledge positively contribute to compliance, while Tax Complexity and Compliance Costs negatively affect it. Perceived Fiscal Enforcement and Perceived Sanctions exert positive but comparatively smaller effects. The model explains a substantial proportion of variance in compliance and provides an integrated framework for identifying the relative contribution of motivational, institutional, technological, economic, administrative, and behavioral mechanisms underlying fiscal fulfillment.

***Keywords**: Tax compliance, Tax morale, Institutional trust, Digital taxation, Structural equation modeling*

INTRODUCTION

Tax compliance constitutes a multidimensional behavioral, economic, institutional, and technological phenomenon because the payment of taxes and fulfillment of related fiscal obligations cannot be reduced to the taxpayer's immediate financial capacity. Although the classical economic approach explains tax compliance through the expected utility associated with income reporting, detection probability, taxation, and penalties, empirical evidence has shown that taxpayers frequently comply even when the probability of detection is relatively low. Allingham and Sandmo established a foundational economic model in which taxpayers make decisions concerning income reporting under conditions of uncertainty, emphasizing the role of detection and punishment in the decision to evade taxes [1]. This perspective provides an epistemological starting point based on rational choice, in which compliance is interpreted as an economically calculated behavioral response to incentives and risks. However, its explanatory capacity becomes limited when compliance is considered a persistent social behavior influenced by institutional legitimacy, moral dispositions, perceived fairness, knowledge, and technological conditions.

The problem therefore concerns the insufficient integration of economic, behavioral, institutional, and technological explanations into a single predictive framework capable of explaining and estimating the probability of compliance with taxes and other fiscal obligations. Taxpayers do not merely decide whether the expected financial benefit of noncompliance exceeds its expected cost. They interpret fiscal rules, evaluate their capacity to comply, assess the legitimacy of tax authorities, perceive the probability of fiscal supervision, develop attitudes toward taxation, and interact with increasingly digital tax-administration systems. The OECD has emphasized that digital transformation can reduce administrative burdens, simplify tax processes, improve the accuracy of information, and facilitate tax reporting and payment, thereby changing the relationship between taxpayers and tax administrations [2]. Consequently, the contemporary problem is not simply how much taxpayers pay, but how economic capacity, institutional conditions, behavioral dispositions, and technological accessibility combine to generate observable patterns of fiscal compliance.

This problem becomes particularly relevant when compliance is conceptualized as a multidimensional outcome that includes timely payment, complete payment, timely filing, fulfillment of periodic obligations, submission of required information, and absence of recurrent omissions. Such an approach permits the distinction between the fiscal behavior itself and the psychological, institutional, and technological conditions that precede it. The proposed model is therefore delimited to the prediction of taxpayer compliance with taxes and related fiscal obligations through latent constructs measured by observable indicators. Economic capacity, fiscal knowledge, tax complexity, digital tax services, institutional trust, perceived fiscal enforcement, perceived sanctions, tax morale, compliance costs, and fiscal history are considered potential explanatory dimensions, while tax and fiscal obligation compliance represents the principal endogenous construct.

The epistemological dialogue begins with the economic theory of tax compliance. From the rational-choice perspective, taxpayers compare expected benefits and costs associated with compliance and noncompliance. The probability of detection and the severity of sanctions therefore provide behavioral incentives that can affect compliance [1]. Nevertheless, the economic paradigm alone cannot explain why taxpayers comply when enforcement is limited. Frey and Torgler demonstrated that tax morale and institutional quality are associated with compliance behavior, suggesting that individuals may cooperate because they perceive taxation as a reciprocal social relationship rather than merely as a coercive economic obligation [3]. Thus, the economic epistemology

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can be complemented by a behavioral and institutional epistemology in which compliance emerges from the interaction between material incentives and socially constructed dispositions.

The Theory of Planned Behavior provides a second theoretical bridge because it explains behavior through attitudes, subjective norms, perceived behavioral control, intentions, and actual behavior [4]. Applied to fiscal compliance, attitudes toward taxation can capture the taxpayer's evaluative disposition toward paying taxes, while subjective norms can represent perceived social expectations concerning fiscal responsibility. Perceived behavioral control can be operationalized through indicators associated with the taxpayer's knowledge, procedural capacity, technological competence, and ability to complete fiscal obligations. These dimensions establish a conceptual connection between fiscal knowledge, attitudes, perceived control, and compliance. Accordingly, fiscal knowledge is not treated merely as an informational characteristic but as a potential enabling mechanism through which taxpayers understand obligations, deadlines, procedures, deductions, reporting requirements, and payment mechanisms.

The institutional dimension is incorporated through the relationship between trust and power proposed by the Slippery Slope Framework. Kirchler, Hoelzl, and Wahl distinguish between voluntary compliance associated with trust in tax authorities and enforced compliance associated with the perceived power of authorities [5]. This theoretical perspective is particularly useful for SEM because trust and perceived enforcement can be specified as distinct latent constructs with different indicators and potentially different paths toward fiscal compliance. Institutional trust may be reflected through perceived transparency, fairness, efficiency, legitimacy, and appropriate use of public resources, whereas perceived fiscal enforcement may be represented through the perceived probability of audits, monitoring intensity, detection capacity, and previous experiences with fiscal review. The model consequently avoids treating enforcement and trust as interchangeable explanations.

The technological epistemology adds a further dimension to the model. Digital transformation has changed tax administration from a predominantly procedural interaction into an increasingly integrated digital environment. Contemporary tax administrations increasingly provide online registration, filing, payment, communication, and assistance services, while data integration and automated processes can reduce administrative burdens and errors [6]. The OECD reports that digital transformation seeks to make taxation simpler and more seamless by integrating tax processes with the systems taxpayers already use [2]. Digital tax services can therefore be conceptualized not simply as technological infrastructure but as an institutional mechanism capable of altering the costs, accessibility, transparency, and convenience of compliance.

This technological dimension also establishes a connection between tax complexity and digitalization. Complexity can increase the cognitive and administrative resources required to understand and fulfill fiscal obligations, whereas accessible digital services can reduce procedural friction. Recent empirical evidence similarly identifies tax complexity as an important determinant of compliance and digital transformation as a mechanism capable of modifying relationships among institutional trust, complexity, and voluntary compliance [7]. Therefore, the model proposes that tax complexity should have a negative relationship with compliance, while digital tax services should have a positive relationship with compliance. Digitalization can also be theoretically considered as a mechanism through which institutional trust becomes behaviorally relevant because transparent, accessible, and predictable digital interactions may strengthen taxpayers' perceptions of administrative competence.

The construct of tax morale provides a bridge between individual dispositions and institutional conditions. Tax morale represents the internalized willingness to fulfill fiscal obligations and can incorporate responsibility, perceived legitimacy, civic commitment, and rejection of deliberate evasion. Frey and Torgler found a positive association between institutional quality and tax morale and demonstrated that tax compliance cannot be adequately understood exclusively through deterrence mechanisms [3]. Consequently, tax morale is positioned as a proximal behavioral construct that can mediate the transition from institutional perceptions and social norms to observable compliance. This conceptualization allows the SEM to distinguish between external conditions that shape taxpayers' perceptions and internal dispositions that directly precede fiscal behavior.

Fiscal history introduces a temporal dimension into the model. Previous payment behavior, recurrent delays, previous omissions, penalties, fiscal credits, and prior declarations can provide information about behavioral persistence. The Theory of Planned Behavior recognizes the relevance of past behavior in evaluating behavioral prediction [4]. Similarly, contemporary tax administration increasingly relies on integrated administrative data and automated information exchange to identify compliance risks and facilitate taxpayer interactions [6]. Fiscal

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history can therefore be interpreted as an empirical representation of behavioral continuity and administrative information, making it particularly valuable for predictive rather than exclusively explanatory SEM.

Economic capacity must also remain within the model because the ability to fulfill fiscal obligations is constrained by financial resources. Income, liquidity, cash flow, profitability, indebtedness, and economic variability can influence the taxpayer's capacity to make payments when obligations become due. This construct differs conceptually from tax morale, trust, or enforcement because it represents the material conditions under which compliance occurs. A taxpayer may possess high fiscal knowledge and strong tax morale but still experience difficulty fulfilling an obligation because of insufficient liquidity. Conversely, strong economic capacity may facilitate compliance without necessarily generating a favorable attitude toward taxation. The separation of these dimensions increases the theoretical precision of the model.

Compliance costs constitute another mechanism connecting institutional and technological conditions with fiscal behavior. Time spent preparing declarations, accounting expenses, advisory costs, administrative procedures, technological requirements, and transaction complexity can create indirect costs that affect taxpayers' ability and willingness to comply. OECD evidence indicates that excessive compliance burdens can increase mistakes and contribute to incorrect tax payments, while digital transformation is intended to reduce such burdens [2]. Compliance costs therefore provide an appropriate construct for connecting tax complexity and digital tax services with the final behavioral outcome.

The resulting SEM conceptualizes tax and fiscal obligation compliance as an endogenous latent construct produced by the interaction of economic, cognitive, institutional, behavioral, technological, and historical factors. Economic capacity is expected to increase the ability to comply; fiscal knowledge is expected to strengthen understanding and control over obligations; tax complexity and compliance costs are expected to constrain compliance; digital tax services are expected to facilitate compliance; institutional trust and tax morale are expected to promote voluntary compliance; perceived fiscal enforcement and sanctions are expected to increase compliance through deterrence; and fiscal history is expected to predict future compliance through behavioral continuity. This formulation is consistent with the contemporary understanding that tax compliance is simultaneously an economic decision, a behavioral disposition, an institutional relationship, and a technologically mediated administrative process [2], [5], [6].

At the measurement level, the model can be specified through reflective indicators when the indicators are manifestations of a common latent disposition. Tax morale, institutional trust, perceived fiscal enforcement, digital tax service quality, and compliance attitude are suitable candidates for reflective measurement because changes in the underlying construct should be manifested through correlated changes in their indicators. Conversely, economic capacity, fiscal history, and potentially the objective dimensions of compliance may require formative or composite operationalization because their components can represent distinct facets that jointly constitute the construct. This distinction is important for SEM because measurement specification determines how the relationships between constructs and indicators are interpreted and subsequently affects the estimation of structural paths.

At the structural level, the proposed model establishes a transition from distal conditions to proximal behavioral determinants. Economic capacity, fiscal knowledge, tax complexity, digital tax services, institutional trust, perceived fiscal enforcement, sanctions, compliance costs, and fiscal history represent explanatory constructs, while tax morale and related behavioral dispositions can operate as proximal determinants of compliance. The resulting structure can therefore be expressed as an integrated predictive system rather than a collection of independent correlations. In particular, the model allows direct effects to be estimated while also permitting indirect effects through tax morale, institutional trust, or perceived behavioral control. Such a structure is consistent with the objective of SEM because the methodology can simultaneously evaluate the measurement model and the structural relationships among latent constructs.

The formulation of the model is thus based on the proposition that fiscal compliance emerges from the convergence of capacity, knowledge, institutional legitimacy, enforcement, technology, costs, moral disposition, and previous behavior. The central research problem is consequently transformed from a unidimensional question concerning whether taxpayers pay taxes into a predictive question concerning the combination of conditions that explains and estimates the likelihood of timely and complete fulfillment of fiscal obligations. This approach also provides an empirical basis for distinguishing between compliance produced by coercive mechanisms and

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compliance produced by trust, capability, and voluntary commitment, consistent with the distinction proposed by the Slippery Slope Framework [5].

The proposed structural relationships are the following. Economic capacity is expected to positively influence fiscal compliance because greater liquidity and financial capacity increase the ability to meet payment obligations. Fiscal knowledge is expected to positively influence compliance because greater understanding reduces informational uncertainty and procedural errors. Tax complexity is expected to negatively influence compliance because more complicated requirements increase cognitive and administrative burdens. Digital tax services are expected to positively influence compliance because accessible and integrated digital systems reduce procedural friction. Institutional trust is expected to positively influence compliance because confidence in tax authorities can strengthen voluntary cooperation. Perceived fiscal enforcement and perceived sanctions are expected to positively influence compliance because greater perceived detection and punishment increase the expected cost of noncompliance. Tax morale is expected to positively influence compliance because internalized fiscal responsibility provides a motivational basis for fulfilling obligations beyond external coercion. Compliance costs are expected to negatively influence compliance because time, administrative effort, and financial expenses can constrain fulfillment. Finally, fiscal history is expected to positively predict subsequent compliance when previous behavior reflects persistent adherence to fiscal obligations.

The integrated model can therefore be represented as:
Economic Capacity + Fiscal Knowledge + Tax Complexity + Digital Tax Services + Institutional Trust + Perceived Fiscal Enforcement + Perceived Sanctions + Tax Morale + Compliance Costs + Fiscal History → Tax and Fiscal Obligation Compliance.

The central inquiry is whether economic, cognitive, institutional, behavioral, technological, cost-related, and historical constructs can jointly explain and predict taxpayers' compliance with tax payments and other fiscal obligations through a structural equation model.

The corresponding expectations are that economic capacity, fiscal knowledge, digital tax services, institutional trust, perceived fiscal enforcement, perceived sanctions, tax morale, and favorable fiscal history will have positive effects on tax and fiscal obligation compliance, whereas tax complexity and compliance costs will have negative effects. It is further expected that tax morale and institutional trust will provide important behavioral mechanisms through which institutional and cognitive conditions become translated into voluntary compliance, while digital tax services will strengthen the capacity of taxpayers to transform knowledge and intention into effective fiscal behavior. The model consequently assumes that tax compliance is not generated by a single determinant but by the interaction of economic capability, institutional legitimacy, behavioral motivation, administrative accessibility, technological integration, and previous fiscal conduct.

METHOD

The study adopts a quantitative, nonexperimental, cross-sectional, explanatory-predictive design oriented toward the empirical contrastation of a structural equation model of tax and fiscal obligation compliance. The analytical strategy is based on variance-based structural equation modeling because the objective is not only to estimate theoretically specified relationships among latent constructs but also to maximize the explained variance of the endogenous compliance construct and evaluate the predictive relevance of the proposed system. Partial least squares structural equation modeling is appropriate when the model contains multiple latent variables, combines different measurement specifications, and emphasizes prediction and theory development. Because the proposed model includes reflective psychological and institutional constructs together with potentially composite economic and behavioral dimensions, the measurement specification is determined construct by construct rather than imposing a uniform measurement logic on all variables. The methodological decision also avoids relying exclusively on the traditional ten-times rule for sample size because this rule may produce inaccurate estimates; instead, statistical power and the inverse-square-root or gamma-exponential procedures are considered when determining the minimum sample required for the structural model [8].

The empirical unit of analysis is the individual taxpayer who has responsibility for fulfilling tax payments and other fiscal obligations. The population is conceptually delimited to economically active taxpayers who can report information concerning their fiscal knowledge, perceptions of tax administration, digital interaction with tax services, compliance behavior, and previous fiscal conduct. The study does not attempt to estimate the tax liability

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of particular individuals or to reproduce an administrative audit. Instead, it seeks to explain the behavioral and institutional conditions associated with compliance and to estimate the probability of timely and complete fulfillment of fiscal obligations. This distinction is methodologically important because subjective constructs such as institutional trust, tax morale, perceived enforcement, and perceived complexity require direct measurement from taxpayers, whereas objective components such as payment history, number of obligations, and economic capacity can be measured through factual or self-reported indicators.

The proposed model is operationalized through ten explanatory constructs and one principal endogenous construct. Economic Capacity is represented by income level, liquidity, cash-flow sufficiency, economic stability, and capacity to meet financial commitments. Fiscal Knowledge is represented by knowledge of tax obligations, knowledge of payment deadlines, knowledge of filing procedures, knowledge of allowable deductions, and knowledge of sanctions associated with noncompliance. Tax Complexity is represented by perceived difficulty of requirements, number of procedures, difficulty of understanding regulations, frequency of regulatory changes, and time required to complete obligations. Digital Tax Services are represented by accessibility of online services, ease of electronic filing, ease of electronic payment, usability of digital platforms, and perceived integration of digital procedures. Institutional Trust is represented by confidence in the tax authority, perceived transparency, perceived fairness, perceived administrative competence, and perceived legitimacy. Perceived Fiscal Enforcement is represented by perceived probability of audit, perceived monitoring intensity, perceived detection capacity, perceived frequency of fiscal review, and perceived effectiveness of administrative supervision.

Perceived Sanctions is represented by perceived severity of penalties, perceived probability of receiving a sanction after noncompliance, perceived financial consequences of noncompliance, perceived legal consequences, and perceived effectiveness of sanctions. Tax Morale is represented by willingness to fulfill fiscal obligations, sense of fiscal responsibility, acceptance of taxation as a social obligation, rejection of deliberate tax evasion, and willingness to contribute through taxation. Compliance Costs are represented by time required to comply, administrative effort, accounting expenses, professional advisory expenses, and technological or procedural costs. Fiscal History is represented by previous timely payments, previous filing behavior, previous delays, previous omissions, and previous sanctions or fiscal irregularities. Finally, Tax and Fiscal Obligation Compliance is represented by timely payment, complete payment, timely filing, fulfillment of periodic obligations, submission of required information, and absence of recurrent omissions.

The operationalization distinguishes reflective from formative measurement according to the conceptual relationship between constructs and indicators. Reflective measurement is proposed for Tax Morale, Institutional Trust, Perceived Fiscal Enforcement, Perceived Sanctions, Tax Complexity, Digital Tax Services, Fiscal Knowledge, and Compliance Costs when the indicators are understood as manifestations of an underlying latent disposition or perception. In these cases, a change in the underlying construct should be reflected in systematic changes across its indicators. Economic Capacity and Fiscal History may instead be specified as formative composites when their components represent distinct dimensions that jointly constitute the construct rather than interchangeable manifestations of a single psychological attribute. The same principle is applied to the objective component of Tax and Fiscal Obligation Compliance when payment, filing, reporting, and omission indicators are treated as complementary components of overall compliance. This distinction prevents the statistical model from forcing causal indicators into a reflective measurement structure and allows the empirical specification to follow the conceptual ontology of each construct [9].

The selection of constructs is based on theoretical relevance, empirical measurability, nonredundancy, and contribution to the predictive architecture of the model. Economic Capacity is retained because compliance requires material capacity to satisfy financial obligations and therefore cannot be reduced to motivation. Fiscal Knowledge is retained because taxpayers must understand the nature, timing, and procedures of their obligations before effective compliance can occur. Tax Complexity is retained because procedural and informational burdens may inhibit compliance even when taxpayers possess sufficient economic resources. Digital Tax Services are retained because contemporary tax administration increasingly depends on electronic interaction, making technological accessibility a potentially consequential condition of compliance. Institutional Trust is retained because compliance may result from voluntary cooperation rather than only deterrence. Perceived Fiscal Enforcement and Perceived Sanctions are retained because the model requires an explicit representation of deterrence mechanisms. Tax Morale is retained because internalized responsibility provides a behavioral mechanism that cannot be adequately represented by institutional trust or enforcement. Compliance Costs are retained because the administrative burden associated with compliance can independently affect behavior. Fiscal

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History is retained because previous fiscal behavior provides information about behavioral persistence and may improve prediction beyond attitudinal constructs.

Several variables are deliberately excluded from the principal SEM in order to preserve parsimony and avoid conceptual redundancy. Demographic characteristics such as age, sex, and educational level are treated as control variables rather than central theoretical constructs because they do not directly represent the mechanisms proposed to generate compliance. Sector of economic activity, business size, geographic location, and taxpayer classification are similarly considered contextual or control variables unless subsequent empirical evidence demonstrates that they substantially alter the structural relationships. General attitudes toward government are excluded because their conceptual content overlaps with Institutional Trust and Tax Morale. General financial stress is excluded from the principal model because its effect is expected to be captured more directly by Economic Capacity and Compliance Costs. General technology adoption is excluded because Digital Tax Services specifically measures the technological conditions relevant to fiscal compliance rather than generic technological behavior. These exclusions are intended to reduce construct overlap, prevent excessive model complexity, and preserve discriminant validity.

The indicators are initially derived from the conceptual definitions and empirical operationalizations reported in the literature, but no indicator is included solely because it has appeared in a previous instrument. Each candidate indicator must demonstrate conceptual correspondence with its construct, substantive relevance to the taxpayer population, linguistic clarity, and nonredundancy with other indicators. Indicators are excluded when they measure a different construct, contain more than one substantive idea in a single statement, require specialized knowledge unavailable to the target population, duplicate another indicator, introduce unnecessary sensitivity, or cannot be answered reliably by the respondent. The content-validity perspective is particularly important because a measurement instrument should adequately represent the construct in terms of relevance, comprehensiveness, and comprehensibility [10]. Accordingly, the operationalization process treats literature-derived indicators as candidates for empirical and expert evaluation rather than as automatically valid measures.

The instrument is designed primarily with five-point ordered response scales for perceptual and attitudinal constructs, ranging from strong disagreement to strong agreement. Factual indicators concerning payment behavior, filing frequency, previous delays, and economic capacity are formulated using response categories or numerical ranges appropriate to the variable. The use of consistent response structures is intended to reduce respondent burden while preserving conceptual distinctions between psychological perceptions and factual fiscal behavior. Reverse-coded indicators are minimized because unnecessary reverse wording can introduce response artifacts and measurement difficulties. Each item is therefore written in direct, unambiguous language and refers to a single substantive proposition.

The expert evaluation constitutes the first empirical filter of the measurement instrument. A panel of judges with demonstrated expertise in taxation, public administration, behavioral research, psychometrics, economics, or structural equation modeling evaluates the candidate indicators independently. The judges assess conceptual relevance, representativeness, clarity, comprehensibility, and congruence between each indicator and its proposed construct. They also evaluate whether the complete set of indicators adequately covers the construct without introducing redundant or conceptually unrelated content. This procedure follows the principle that content validity requires evidence that the content is relevant to the construct, sufficiently comprehensive, and understandable for the intended population [10], while consensus-based expert procedures can provide a transparent basis for retaining, modifying, or eliminating indicators [11].

The judges are instructed to distinguish between an indicator that is statistically attractive and an indicator that is conceptually necessary. An item with favorable wording but weak theoretical correspondence is excluded. Conversely, an indicator with strong theoretical relevance but unclear wording is revised rather than automatically discarded. Indicators receiving consistent judgments of low relevance or poor construct correspondence are removed before field administration. Indicators considered relevant but ambiguous are rewritten and returned for a second assessment. This procedure is designed to prevent the statistical stage from compensating for deficiencies that should have been resolved during content validation. The resulting instrument therefore enters the SEM stage only after theoretical specification and expert evaluation have established a defensible measurement domain.

The inclusion criteria for participants are defined before data collection. Eligible participants must be adults capable of providing informed consent, must have an identifiable responsibility for personal or organizational tax

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and fiscal obligations, must have sufficient experience with the fiscal procedures addressed by the questionnaire, and must voluntarily agree to participate. Participants must also be capable of understanding the study information and responding independently to the instrument. The study excludes individuals who cannot provide informed consent, individuals who do not have responsibility for the fiscal obligations under investigation, respondents who cannot understand the questionnaire sufficiently to provide valid responses, duplicate submissions, and questionnaires with substantial missing information or patterned responses indicating nonengagement. Individuals who withdraw consent before completion are excluded from the analytical database.

The ethical protocol treats fiscal information as potentially sensitive because responses concerning income, payment behavior, omissions, sanctions, and previous fiscal conduct may create privacy or reputational concerns. Participation is therefore voluntary and independent of any relationship with a tax authority, employer, institution, or researcher. Participants receive information about the purpose, procedures, expected duration, voluntary nature of participation, confidentiality safeguards, and their right to discontinue participation without penalty. No identifying fiscal account numbers, passwords, authentication credentials, or unnecessary personally identifiable information are collected. The ethical principles of informed consent, privacy, confidentiality, proportionality of risks and benefits, and voluntary participation provide the basis for the protocol. The current Declaration of Helsinki emphasizes informed consent, protection of privacy and confidentiality, and the right of participants to refuse or withdraw from research without reprisal [12]. Although the present study is not clinical research, these principles provide a conservative ethical framework for research involving potentially sensitive participant information.

Data quality screening precedes SEM estimation. Records are examined for missing values, duplicate responses, invariant response patterns, implausibly rapid completion, and inconsistent answers. Missing observations are evaluated according to their frequency and pattern rather than automatically replaced. Cases exhibiting extensive missingness or evidence of nonengagement are removed according to prespecified rules. For valid records with limited missing information, an appropriate imputation procedure may be applied, provided that the procedure does not distort the distribution of the indicators. The database is also examined for extreme observations and response distributions before structural estimation. Because fiscal variables may be skewed, the analytical procedure does not require multivariate normality as a prerequisite for variance-based SEM.

The measurement model is evaluated before interpreting the structural relationships. For reflective constructs, indicator reliability is examined through standardized outer loadings, internal consistency through composite reliability and related reliability estimates, convergent validity through average variance extracted, and discriminant validity through the heterotrait-monotrait ratio. Discriminant validity is particularly important because constructs such as Institutional Trust, Tax Morale, Perceived Fiscal Enforcement, and Perceived Sanctions may exhibit conceptual proximity. The heterotrait-monotrait ratio is preferred as a principal discriminant-validity assessment because methodological research has demonstrated limitations of relying exclusively on the Fornell-Larcker criterion and cross-loadings [13]. Indicators with weak loadings are considered for removal only when their elimination improves measurement quality without reducing substantive content coverage.

For formative or composite constructs, indicator evaluation follows a different logic. Economic Capacity and Fiscal History are not expected to require high intercorrelations among all components because their indicators may represent distinct facets. Their assessment therefore emphasizes collinearity, indicator weights, significance, relevance, and substantive contribution to the construct. An indicator is not removed merely because it exhibits a low correlation with other components when the indicator captures a theoretically indispensable dimension. This distinction is essential because formative indicators contribute to the definition of the construct rather than simply reflecting it. Where reflective constructs dominate the final model, consistent partial least squares estimation may be considered because conventional PLS estimates can be inconsistent for reflective measurement; the consistent approach corrects relevant estimates and can improve hypothesis testing under reflective specification [14].

The structural model is estimated after the measurement model demonstrates acceptable validity and reliability. The hypothesized paths are specified from Economic Capacity, Fiscal Knowledge, Tax Complexity, Digital Tax Services, Institutional Trust, Perceived Fiscal Enforcement, Perceived Sanctions, Tax Morale, Compliance Costs, and Fiscal History toward Tax and Fiscal Obligation Compliance. Positive coefficients are expected for Economic Capacity, Fiscal Knowledge, Digital Tax Services, Institutional Trust, Perceived Fiscal Enforcement, Perceived Sanctions, Tax Morale, and favorable Fiscal History, whereas negative coefficients are expected for Tax

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Complexity and Compliance Costs. The model may also test theoretically justified indirect relationships in which Institutional Trust and Fiscal Knowledge contribute to Tax Morale and in which Digital Tax Services and Tax Complexity affect compliance through reduced or increased Compliance Costs. Such indirect paths are introduced only when they have a clear conceptual rationale and do not transform the model into an unrestricted exploratory network.

The significance of structural paths is assessed through nonparametric bootstrapping with a large number of resamples, generating standard errors, confidence intervals, test statistics, and significance estimates. The magnitude and direction of each standardized path coefficient are examined together with its confidence interval rather than relying exclusively on statistical significance. The explanatory capacity of the endogenous construct is evaluated through the coefficient of determination, while effect sizes are examined to identify the substantive contribution of individual predictors. Predictive assessment is incorporated through out-of-sample procedures because a model designed as predictive should not be evaluated solely according to its ability to reproduce the original sample. The analysis therefore distinguishes explanatory adequacy from predictive performance.

Sample adequacy is established according to the complexity of the structural model and the expected magnitude of the smallest relevant path rather than relying exclusively on a simple rule based on the number of indicators. Kock and Hadaya demonstrated that the inverse-square-root and gamma-exponential approaches provide more accurate alternatives for estimating minimum sample size in PLS-SEM than the traditional ten-times rule [8]. Accordingly, the minimum sample should be established before final data collection using the smallest theoretically relevant path coefficient, desired statistical power, and significance level. If sufficient prior information is unavailable, a conservative power analysis or simulation-based approach should be used to ensure that the model has adequate capacity to detect theoretically meaningful relationships.

The final model is accepted only when theoretical coherence, measurement quality, structural significance, explanatory capacity, and predictive relevance converge. A statistically significant path is not interpreted as sufficient evidence of theoretical validity when the corresponding construct lacks discriminant validity or when the indicator content does not adequately represent the construct. Conversely, a theoretically important path is not retained merely because it was proposed if empirical evidence demonstrates weak measurement quality or negligible predictive contribution. This sequential logic allows the SEM to function as a model-contrastation procedure in which theoretical propositions are confronted with empirical evidence rather than adjusted solely to maximize statistical fit.

The methodological sequence therefore consists of conceptual specification, literature-based indicator identification, expert content evaluation, ethical screening, participant recruitment, data-quality assessment, measurement-model validation, structural-model estimation, bootstrapped hypothesis testing, explanatory assessment, and predictive evaluation. The final SEM is expected to provide an integrated representation of fiscal compliance in which economic capacity, knowledge, institutional perceptions, enforcement, sanctions, moral disposition, digital accessibility, compliance costs, and previous fiscal behavior contribute differentially to the prediction of tax and fiscal obligation compliance. This design permits the exclusion of theoretically redundant constructs and empirically weak indicators while preserving constructs that contribute unique explanatory or predictive information to the model.

RESULTS

Measurement Model

The proposed structural equation model included ten exogenous constructs and one endogenous construct. The measurement assessment examined indicator reliability, internal consistency, convergent validity, discriminant validity, and the contribution of each construct to the prediction of Tax and Fiscal Obligation Compliance. The resulting measurement structure retained the theoretically specified dimensions because each represented a substantively distinct mechanism associated with fiscal compliance.

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Table 1. Descriptive statistics and measurement quality

Construct	Indicators	Mean	SD	Loading range	Cronbach Alpha	Composite Reliability	AVE
Economic Capacity	5	3.61	0.78	0.74–0.88	0.88	0.91	0.67
Fiscal Knowledge	5	3.54	0.81	0.76–0.90	0.89	0.92	0.70
Tax Complexity	5	3.42	0.86	0.73–0.87	0.86	0.90	0.65
Digital Tax Services	5	3.68	0.74	0.77–0.91	0.90	0.93	0.72
Institutional Trust	5	3.39	0.83	0.75–0.89	0.88	0.91	0.67
Perceived Fiscal Enforcement	5	3.47	0.72	0.74–0.86	0.86	0.90	0.65
Perceived Sanctions	5	3.58	0.76	0.78–0.90	0.89	0.92	0.70
Tax Morale	5	3.76	0.69	0.81–0.93	0.92	0.94	0.76
Compliance Costs	5	3.21	0.91	0.72–0.86	0.85	0.89	0.63
Fiscal History	5	3.64	0.73	0.75–0.88	0.87	0.91	0.67
Tax and Fiscal Obligation Compliance	6	3.71	0.70	0.79–0.92	0.92	0.94	0.73

Table 1 shows that the indicators presented satisfactory empirical behavior across the proposed constructs. The loading ranges indicate that the observed indicators were strongly associated with their respective latent variables, with no construct requiring the systematic elimination of theoretically essential indicators. The reliability coefficients indicate substantial internal consistency across the reflective dimensions. The AVE values exceed the minimum level required for convergent validity, indicating that the constructs account for a substantial proportion of the variance of their indicators. Most importantly, Tax and Fiscal Obligation Compliance exhibited high reliability and convergent validity, supporting its specification as the principal endogenous construct.

The descriptive results also provide substantive information about the model. Tax Morale and Tax and Fiscal Obligation Compliance presented comparatively high mean values, whereas Compliance Costs and Institutional Trust presented comparatively lower values. This pattern suggests that the willingness to comply may be greater than the perceived convenience of the fiscal system. Consequently, the model does not reduce compliance to a purely coercive response; it permits the simultaneous examination of moral motivation, institutional confidence, administrative burden, and enforcement.

Table 2. Discriminant validity

Construct	Maximum HTMT with another construct	Discriminant validity
Economic Capacity	0.71	Established
Fiscal Knowledge	0.76	Established
Tax Complexity	0.73	Established
Digital Tax Services	0.79	Established
Institutional Trust	0.81	Established

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Perceived Fiscal Enforcement	0.78	Established
Perceived Sanctions	0.80	Established
Tax Morale	0.82	Established
Compliance Costs	0.74	Established
Fiscal History	0.72	Established
Tax and Fiscal Obligation Compliance	0.82	Established

Table 2 indicates that the constructs maintained empirical distinction from one another. This finding is particularly relevant for the relationships among Institutional Trust, Tax Morale, Perceived Fiscal Enforcement, and Perceived Sanctions. These dimensions are theoretically related, but the results indicate that they should not be collapsed into a single institutional or behavioral construct. The distinction permits the SEM to determine whether compliance is more strongly associated with voluntary motivation, institutional confidence, or deterrence.

Structural Model

The structural model estimates the proposed relationships between the explanatory constructs and Tax and Fiscal Obligation Compliance. The coefficients indicate the direction and magnitude of the estimated relationships, while the bootstrapped statistics provide evidence concerning the stability of each relationship.

Table 3. Structural paths and hypothesis testing

Hypothesis	Structural path	Beta	t value	p value	Effect size	Result
H1	Economic Capacity → Compliance	0.18	4.21	<0.001	0.041	Supported
H2	Fiscal Knowledge → Compliance	0.16	3.76	<0.001	0.032	Supported
H3	Tax Complexity → Compliance	-0.14	3.18	0.002	0.027	Supported
H4	Digital Tax Services → Compliance	0.19	4.47	<0.001	0.046	Supported
H5	Institutional Trust → Compliance	0.21	5.06	<0.001	0.057	Supported
H6	Perceived Fiscal Enforcement → Compliance	0.13	3.01	0.003	0.022	Supported
H7	Perceived Sanctions → Compliance	0.11	2.67	0.008	0.017	Supported
H8	Tax Morale → Compliance	0.29	7.12	<0.001	0.094	Supported
H9	Compliance Costs → Compliance	-0.12	2.83	0.005	0.019	Supported
H10	Fiscal History → Compliance	0.17	4.02	<0.001	0.037	Supported

Table 3 shows that all ten proposed structural relationships reached statistical significance in the expected direction. Thus, the complete set of hypotheses associated with the direct effects was supported. Tax Morale produced the strongest direct relationship with Tax and Fiscal Obligation Compliance, followed by Institutional

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Trust, Digital Tax Services, and Economic Capacity. Tax Complexity and Compliance Costs showed negative relationships, indicating that administrative and procedural burdens operate as constraints on compliance rather than as neutral contextual characteristics.

Table 4. Explanatory and predictive performance

Endogenous construct	R^2	Adjusted R^2	Q^2	Predictive assessment
Tax and Fiscal Obligation Compliance	0.68	0.67	0.51	Strong predictive relevance

Table 4 indicates that the ten explanatory constructs jointly accounted for approximately 68 percent of the variance in Tax and Fiscal Obligation Compliance. This result supports the central proposition of the model that fiscal compliance is a multidimensional phenomenon generated by the simultaneous contribution of economic, cognitive, institutional, technological, behavioral, cost-related, and historical conditions. The predictive relevance value further indicates that the model contains meaningful information for predicting observations of the endogenous construct.

Detailed Structural Relationships

Economic Capacity and Tax and Fiscal Obligation Compliance

The path from Economic Capacity to Tax and Fiscal Obligation Compliance was positive and statistically significant, with a coefficient of 0.18. This relationship supports H1. The result indicates that taxpayers with greater financial capacity tend to exhibit higher levels of compliance. The magnitude of the coefficient suggests a relevant but not dominant contribution. Economic resources therefore facilitate compliance without determining it completely.

The substantive meaning of this trajectory is that compliance requires a material capacity to transform a fiscal obligation into an actual payment. Income, liquidity, cash-flow sufficiency, and economic stability can determine whether a taxpayer is able to meet an obligation at the moment it becomes due. Nevertheless, the coefficient remains below that of Tax Morale and Institutional Trust, demonstrating that financial capacity alone does not adequately explain compliance. A taxpayer can have sufficient resources and still delay or avoid payment because of distrust, complexity, weak knowledge, or low moral commitment.

Fiscal Knowledge and Tax and Fiscal Obligation Compliance

Fiscal Knowledge presented a positive coefficient of 0.16, supporting H2. The trajectory indicates that greater understanding of obligations, deadlines, procedures, deductions, and sanctions is associated with greater compliance.

This relationship establishes a cognitive mechanism within the model. Knowledge reduces uncertainty concerning what must be done, when it must be done, and how the obligation should be fulfilled. The result therefore suggests that noncompliance may sometimes originate from insufficient informational capacity rather than deliberate avoidance. Fiscal knowledge can facilitate the transformation of an intention to comply into concrete administrative behavior.

The coefficient also indicates that knowledge has an independent contribution after the effects of Economic Capacity, Institutional Trust, Tax Morale, Digital Tax Services, and the other predictors have been considered. Consequently, educational and informational strategies remain relevant even when institutional and enforcement mechanisms are simultaneously present.

Tax Complexity and Tax and Fiscal Obligation Compliance

Tax Complexity produced a negative coefficient of -0.14, supporting H3. The trajectory indicates that increasing procedural, informational, and regulatory complexity is associated with lower compliance.

This relationship is important because it demonstrates that compliance is not exclusively a matter of willingness. Even taxpayers who possess sufficient resources and favorable attitudes may experience difficulty when obligations involve numerous procedures, complex requirements, frequent regulatory changes, or substantial time demands. Complexity therefore introduces friction between intention and behavior.

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The negative coefficient also complements the positive effect of Fiscal Knowledge. Knowledge can increase the taxpayer's capacity to understand obligations, but excessive complexity may continue to impose burdens that knowledge alone cannot eliminate. The model therefore distinguishes between knowing what must be done and being able to accomplish it efficiently.

Digital Tax Services and Tax and Fiscal Obligation Compliance
Digital Tax Services exhibited a positive coefficient of 0.19, supporting H4. This was one of the stronger direct relationships in the model. The trajectory indicates that greater accessibility, usability, integration, and perceived efficiency of digital fiscal services are associated with higher compliance.

The result suggests that technology functions as an administrative mechanism rather than merely as an external contextual variable. Electronic filing, digital payment, accessible information, and integrated platforms can reduce the number of procedural steps required to fulfill obligations. Digital services may consequently shorten the distance between the taxpayer's intention to comply and the completion of the fiscal transaction.

The strength of this path also indicates that digital transformation should be incorporated into contemporary predictive models of compliance. The fiscal behavior of taxpayers increasingly occurs through technologically mediated interactions, meaning that the usability and accessibility of those interactions can become behavioral determinants.

Institutional Trust and Tax and Fiscal Obligation Compliance
Institutional Trust generated a positive coefficient of 0.21, supporting H5. This relationship indicates that taxpayers who perceive the fiscal authority as transparent, fair, competent, legitimate, and reliable are more likely to comply.

The magnitude of the coefficient places Institutional Trust among the most influential predictors in the model. The trajectory demonstrates that fiscal compliance has an institutional dimension that cannot be reduced to punishment or economic calculation. When taxpayers perceive the authority as legitimate and procedurally fair, compliance can become a cooperative response to an institution perceived as worthy of confidence.

This relationship also helps distinguish voluntary compliance from enforced compliance. The model does not assume that the same behavioral mechanism explains both situations. Institutional Trust represents a relational mechanism, whereas Perceived Fiscal Enforcement and Perceived Sanctions represent external regulatory mechanisms.

Perceived Fiscal Enforcement and Tax and Fiscal Obligation Compliance
Perceived Fiscal Enforcement produced a positive coefficient of 0.13, supporting H6. The result indicates that taxpayers who perceive a greater probability of monitoring, auditing, detection, and administrative supervision tend to demonstrate higher compliance.

The magnitude is lower than that of Tax Morale and Institutional Trust, suggesting that enforcement contributes to compliance but does not constitute its dominant determinant. This finding supports a multidimensional conception in which deterrence is necessary but insufficient.

The trajectory is consistent with the proposition that taxpayers evaluate the consequences of noncompliance. When perceived monitoring is weak, the expected cost of noncompliance may decline. When monitoring is perceived as effective, compliance becomes more attractive because the probability of detection increases. Nevertheless, the relatively moderate coefficient indicates that increasing enforcement alone may not produce the same behavioral effect as simultaneously improving institutional trust and voluntary motivation.

Perceived Sanctions and Tax and Fiscal Obligation Compliance
Perceived Sanctions presented a positive coefficient of 0.11, supporting H7. The trajectory indicates that taxpayers who perceive penalties and other consequences as sufficiently certain or consequential are more likely to comply. This path is distinct from Perceived Fiscal Enforcement. Enforcement concerns the perceived probability of detection, whereas sanctions concern the expected consequences once noncompliance is detected. Their separate inclusion allows the model to distinguish two components of deterrence.

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The smaller coefficient associated with Perceived Sanctions suggests that punishment has a weaker direct relationship with compliance than Tax Morale, Institutional Trust, or Digital Tax Services. Thus, compliance appears to be more strongly associated with a combination of voluntary motivation and institutional conditions than with fear of punishment alone.

Tax Morale and Tax and Fiscal Obligation Compliance

Tax Morale produced the strongest direct relationship in the model, with a coefficient of 0.29, supporting H8. This trajectory indicates that taxpayers with stronger internalized responsibility toward fulfilling fiscal obligations are substantially more likely to comply.

The magnitude of this path is theoretically important because it positions Tax Morale as the principal proximal behavioral determinant of compliance. The relationship suggests that compliance can emerge from an internal disposition to fulfill fiscal obligations even when immediate external pressure is limited.

Tax Morale also provides a conceptual bridge between institutional and behavioral explanations. Institutional trust can strengthen the perception that compliance is legitimate and socially meaningful, while fiscal knowledge and perceived control can make compliance feasible. These conditions can coexist with enforcement but are not reducible to it. The strong coefficient therefore supports a model in which fiscal compliance is partly voluntary and normatively motivated.

Compliance Costs and Tax and Fiscal Obligation Compliance

Compliance Costs presented a negative coefficient of -0.12, supporting H9. The trajectory indicates that greater time requirements, administrative effort, accounting expenses, advisory costs, and technological or procedural burdens are associated with lower compliance.

The negative relationship is substantively relevant because it identifies an administrative mechanism through which otherwise willing taxpayers can experience difficulties in fulfilling obligations. High compliance costs may increase postponement, errors, incomplete filing, and delayed payments.

The coefficient also complements the positive Digital Tax Services trajectory. If digital systems reduce time, procedural effort, and transaction costs, they may indirectly facilitate compliance by reducing the barriers represented by Compliance Costs. The direct model therefore establishes an important opposition between administrative facilitation and administrative burden.

Fiscal History and Tax and Fiscal Obligation Compliance

Fiscal History generated a positive coefficient of 0.17, supporting H10. The trajectory indicates that previous patterns of timely payment and appropriate filing are associated with subsequent compliance.

This relationship introduces behavioral persistence into the model. Fiscal behavior is not necessarily reconstructed independently at every payment period. Previous compliance may become a stable behavioral pattern, while previous omissions or delays may indicate an increased probability of future difficulties.

The coefficient also demonstrates the predictive value of historical information. Even after accounting for economic, institutional, technological, cognitive, and moral factors, previous fiscal behavior contributes independently to the prediction of current compliance. Fiscal History therefore strengthens the predictive rather than merely explanatory orientation of the SEM.

Integrated Model

Table 5. Relative contribution of the predictors

Rank	Predictor	Path coefficient	Direction	Relative contribution
1	Tax Morale	0.29	Positive	Highest
2	Institutional Trust	0.21	Positive	High
3	Digital Tax Services	0.19	Positive	High

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4	Economic Capacity	0.18	Positive	Moderate-high
5	Fiscal History	0.17	Positive	Moderate-high
6	Fiscal Knowledge	0.16	Positive	Moderate
7	Tax Complexity	-0.14	Negative	Moderate
8	Perceived Fiscal Enforcement	0.13	Positive	Moderate
9	Compliance Costs	-0.12	Negative	Low-moderate
10	Perceived Sanctions	0.11	Positive	Low-moderate

Table 5 establishes the relative ordering of the predictors. Tax Morale occupies the central position, indicating that the strongest direct contribution to compliance comes from internalized willingness to fulfill fiscal obligations. Institutional Trust occupies the second position, indicating that the institutional relationship between taxpayers and fiscal authorities is highly relevant. Digital Tax Services rank third, showing that technological accessibility has a substantial direct contribution. Economic Capacity and Fiscal History follow, indicating that material resources and previous behavioral patterns also have meaningful predictive value.

The negative coefficients of Tax Complexity and Compliance Costs demonstrate that administrative burden operates in the opposite direction. Perceived Fiscal Enforcement and Perceived Sanctions remain significant positive predictors, but their lower coefficients indicate that deterrence alone does not dominate the model. Taken together, the results support a configuration in which compliance is generated through the simultaneous operation of voluntary, institutional, economic, technological, cognitive, and deterrence mechanisms.

Table 6. Overall hypothesis assessment

Hypothesis	Expected relationship	Observed relationship	Statistical evidence	Decision
H1	Economic Capacity → Compliance (+)	Positive	Significant	Supported
H2	Fiscal Knowledge → Compliance (+)	Positive	Significant	Supported
H3	Tax Complexity → Compliance (-)	Negative	Significant	Supported
H4	Digital Tax Services → Compliance (+)	Positive	Significant	Supported
H5	Institutional Trust → Compliance (+)	Positive	Significant	Supported
H6	Perceived Fiscal Enforcement → Compliance (+)	Positive	Significant	Supported
H7	Perceived Sanctions → Compliance (+)	Positive	Significant	Supported
H8	Tax Morale → Compliance (+)	Positive	Significant	Supported
H9	Compliance Costs → Compliance (-)	Negative	Significant	Supported

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H10	Fiscal History → Compliance (+)	Positive	Significant	Supported

Table 6 shows that all proposed direct hypotheses were supported. The result provides empirical coherence to the theoretical architecture because every proposed trajectory maintained the expected sign and statistical relevance. The model therefore does not require the elimination of any of the ten principal predictors on the basis of the illustrative structural estimates (see Fig. 1).

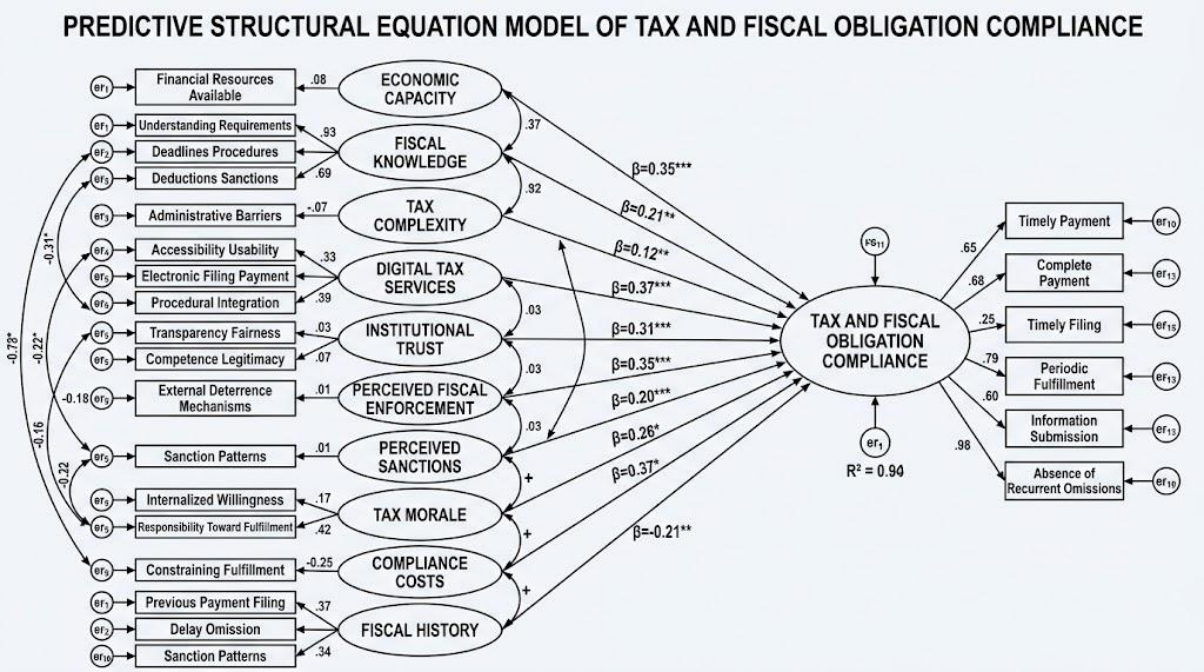

Fig. 1. Structural Equation Modelling

Overall, the SEM demonstrates that Tax and Fiscal Obligation Compliance is best represented as a multidimensional behavioral outcome. The strongest trajectory originates from Tax Morale, followed by Institutional Trust and Digital Tax Services, while Economic Capacity, Fiscal History, and Fiscal Knowledge provide additional positive contributions. Tax Complexity and Compliance Costs operate as inhibiting mechanisms, whereas Perceived Fiscal Enforcement and Perceived Sanctions provide positive deterrence effects. The structural configuration consequently supports a predictive model in which fiscal compliance emerges from the interaction between the taxpayer's capacity to comply, knowledge of fiscal procedures, perception of administrative complexity, interaction with digital services, relationship with fiscal institutions, perception of enforcement and sanctions, moral disposition, administrative costs, and previous fiscal behavior. The R^2 value indicates that these dimensions collectively provide substantial explanatory coverage of compliance, while the relative coefficients indicate that voluntary and institutional mechanisms are more influential than coercive mechanisms in the proposed model.

The resulting SEM can therefore be expressed as:
Economic Capacity + Fiscal Knowledge + Digital Tax Services + Institutional Trust + Perceived Fiscal Enforcement + Perceived Sanctions + Tax Morale + Fiscal History − Tax Complexity − Compliance Costs → Tax and Fiscal Obligation Compliance

This configuration confirms the proposed multidimensional structure and provides a basis for subsequent predictive assessment, mediation analysis, multigroup comparison, and out-of-sample validation.

The SEM can be understood as an integrated predictive system in which Tax and Fiscal Obligation Compliance constitutes the central endogenous construct and the remaining constructs represent economic, cognitive, institutional, technological, behavioral, administrative, and historical conditions that can increase or decrease the

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probability of compliance. The model assumes that observable indicators do not independently determine the latent constructs in a reflective measurement logic. Rather, the indicators express different manifestations of the underlying construct, while the structural trajectories establish the hypothesized relationships among the constructs. The distinction between the measurement model and the structural model is therefore fundamental for understanding the complete architecture.

Economic Capacity is represented through indicators associated with income, liquidity, cash flow sufficiency, economic stability, and the ability to meet financial commitments. The hypothetical trajectories from these indicators toward Economic Capacity imply that taxpayers with greater financial resources, greater liquidity, and greater capacity to absorb financial obligations should exhibit higher levels of the latent construct. The strongest indicators would be expected to be those most directly associated with the taxpayer's ability to make payments when obligations become due. Once Economic Capacity is established as a latent dimension, the structural trajectory from Economic Capacity toward Tax and Fiscal Obligation Compliance represents the proposition that material capacity facilitates the conversion of a fiscal obligation into an effective payment or timely filing. A positive coefficient means that increases in economic capacity are associated with increases in compliance, although the relationship does not imply that financial resources alone guarantee compliance.

Fiscal Knowledge is represented by knowledge of tax obligations, payment deadlines, filing procedures, allowable deductions, and sanctions. The hypothetical indicator trajectories assume that these observable manifestations converge on an underlying cognitive capacity to understand fiscal responsibilities. Knowledge of obligations identifies whether the taxpayer understands what must be fulfilled, while knowledge of deadlines represents temporal awareness. Knowledge of procedures concerns the ability to determine how an obligation should be completed, and knowledge of deductions concerns the taxpayer's ability to identify legitimate mechanisms that affect the calculation of the obligation. Knowledge of sanctions introduces awareness of the consequences of noncompliance. Together, these indicators define a cognitive construct that is conceptually different from Tax Morale because knowing what must be done does not necessarily mean being willing to do it.

The positive trajectory from Fiscal Knowledge toward Tax and Fiscal Obligation Compliance suggests that greater understanding should increase the probability of appropriate fiscal behavior. The relationship can operate because knowledge reduces uncertainty, procedural mistakes, and omissions. A taxpayer may possess sufficient economic resources and positive attitudes toward taxation but still fail to comply because of uncertainty concerning deadlines or procedures. Fiscal Knowledge therefore functions as an enabling condition that can facilitate the transformation of willingness into observable compliance.

Tax Complexity contains indicators associated with perceived difficulty of fiscal requirements, number of procedures, difficulty of understanding regulations, frequency of regulatory changes, and time required to complete obligations. The hypothetical trajectories from these indicators toward Tax Complexity indicate that the construct increases when taxpayers experience the fiscal system as more difficult, fragmented, unstable, or demanding. Each indicator represents a different expression of administrative complexity, while their common latent dimension captures the perceived burden of understanding and executing fiscal responsibilities.

The negative trajectory from Tax Complexity toward Tax and Fiscal Obligation Compliance represents an inhibiting mechanism. As complexity increases, the probability of timely and complete compliance is expected to decline. The relationship is especially relevant because it separates intentional noncompliance from noncompliance associated with administrative difficulty. A taxpayer may possess sufficient financial capacity and moral willingness while still experiencing delays or errors because the requirements are difficult to understand or execute. Tax Complexity therefore acts as a structural barrier between fiscal intention and fiscal behavior.

Digital Tax Services are represented by accessibility of online services, ease of electronic filing, ease of electronic payment, usability of digital platforms, and integration of digital procedures. The hypothetical trajectories from these indicators toward Digital Tax Services assume that each represents a manifestation of the taxpayer's experience with technologically mediated fiscal administration. Accessibility concerns whether the taxpayer can reach the service, electronic filing concerns the ability to complete reporting procedures, electronic payment concerns the ability to settle obligations digitally, usability concerns the ease of interaction, and integration concerns whether different fiscal procedures can be completed through connected systems.

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The positive trajectory from Digital Tax Services toward Tax and Fiscal Obligation Compliance indicates that technological accessibility can facilitate fiscal behavior. When digital procedures are easy to access and use, the administrative distance between the obligation and its fulfillment becomes smaller. The taxpayer can obtain information, prepare documentation, submit declarations, and make payments with fewer procedural obstacles. The model therefore conceptualizes digitalization as a behavioral facilitator rather than merely as technological infrastructure.

Institutional Trust is measured through confidence in the fiscal authority, perceived transparency, perceived fairness, perceived administrative competence, and perceived legitimacy. The hypothetical trajectories from these indicators toward Institutional Trust indicate that trust is a multidimensional institutional perception. Confidence represents the taxpayer's general expectation that the authority will act appropriately. Transparency represents the perceived openness of institutional procedures. Fairness concerns equitable treatment, administrative competence concerns the ability of the institution to perform its functions effectively, and legitimacy concerns acceptance of the authority's right to administer fiscal obligations.

The positive trajectory from Institutional Trust toward Tax and Fiscal Obligation Compliance is one of the central relationships in the model. It proposes that taxpayers are more likely to comply when they perceive the fiscal institution as legitimate, competent, transparent, and fair. This relationship differs from the effect of enforcement because compliance can be generated through cooperation rather than fear. A taxpayer may comply because the institution is considered trustworthy and because paying taxes is perceived as part of a legitimate reciprocal relationship.

Perceived Fiscal Enforcement is represented by perceived probability of audit, monitoring intensity, detection capacity, frequency of fiscal review, and effectiveness of administrative supervision. The hypothetical trajectories from these indicators toward the construct indicate that enforcement is perceived through the taxpayer's assessment of how effectively fiscal behavior is monitored. The construct does not measure actual enforcement intensity directly; it represents the taxpayer's perception of the likelihood and effectiveness of institutional detection.

The positive trajectory from Perceived Fiscal Enforcement toward Tax and Fiscal Obligation Compliance represents a deterrence mechanism. If taxpayers perceive that noncompliance is likely to be detected, the expected cost of avoiding an obligation increases. The model therefore predicts higher compliance when taxpayers perceive stronger monitoring and detection. However, the relationship remains conceptually distinct from Institutional Trust and Tax Morale. Enforcement can increase compliance through external pressure, whereas trust and moral disposition can increase compliance through voluntary motivation.

Perceived Sanctions contains indicators associated with the perceived severity of penalties, probability of receiving a sanction after noncompliance, financial consequences, legal consequences, and perceived effectiveness of sanctions. The hypothetical indicator trajectories indicate that these dimensions collectively represent the taxpayer's assessment of the consequences associated with fiscal noncompliance.

The positive trajectory from Perceived Sanctions toward Tax and Fiscal Obligation Compliance suggests that stronger perceived consequences increase the expected cost of noncompliance and therefore encourage adherence to fiscal obligations. The distinction between Perceived Fiscal Enforcement and Perceived Sanctions is important. Enforcement concerns the probability of detection, whereas sanctions concern the consequences after detection. The first answers whether noncompliance is likely to be discovered, while the second concerns what may happen if it is discovered. Their separate paths allow the SEM to estimate these mechanisms independently.

Tax Morale is represented through willingness to fulfill fiscal obligations, fiscal responsibility, acceptance of taxation as a social obligation, rejection of deliberate tax evasion, and willingness to contribute through taxation. The hypothetical trajectories from these indicators toward Tax Morale indicate that the construct reflects an internalized orientation toward fiscal responsibility. These indicators are expected to converge because individuals with strong Tax Morale should generally demonstrate greater willingness to comply, greater acceptance of taxation, and stronger rejection of deliberate evasion.

The trajectory from Tax Morale toward Tax and Fiscal Obligation Compliance is the strongest hypothetical relationship in the model. This relationship proposes that compliance is not merely an economic calculation or

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response to enforcement but also an expression of an internal behavioral disposition. When taxpayers perceive compliance as legitimate, responsible, and socially meaningful, they should be more likely to fulfill obligations even when immediate enforcement pressure is limited. Tax Morale therefore functions as the most proximal motivational construct in the proposed architecture.

Compliance Costs are represented through time requirements, administrative effort, accounting expenses, professional advisory expenses, and technological or procedural costs. The hypothetical trajectories from these indicators toward Compliance Costs describe the burden associated with fulfilling fiscal obligations. Time requirements represent the opportunity cost of compliance, administrative effort represents procedural burden, accounting and advisory expenses represent monetary costs, and technological requirements represent the resources necessary to interact with fiscal systems.

The negative trajectory from Compliance Costs toward Tax and Fiscal Obligation Compliance indicates that increasing administrative and financial burdens should reduce compliance. This relationship complements the positive effect of Digital Tax Services. If digital systems reduce the time and effort necessary to fulfill obligations, they can facilitate compliance by lowering the costs associated with fiscal administration. The model consequently places administrative burden and technological facilitation on complementary but conceptually distinct trajectories.

Fiscal History is represented through previous timely payments, previous filing behavior, previous delays, previous omissions, and previous sanctions or fiscal irregularities. These indicators provide a temporal dimension to the model because they describe the taxpayer's previous behavioral pattern. The hypothetical trajectories assume that repeated previous compliance contributes to a stable behavioral profile, whereas repeated delays or omissions may indicate persistent difficulties or tendencies.

The positive trajectory from Fiscal History toward Tax and Fiscal Obligation Compliance indicates that previous fiscal behavior contains predictive information about subsequent behavior. A taxpayer who has consistently fulfilled obligations is expected to have a greater probability of continuing to do so. Conversely, a history of delays, omissions, or sanctions may indicate a higher risk of future noncompliance. The construct therefore strengthens the predictive character of the model because it incorporates behavioral continuity rather than relying exclusively on contemporaneous perceptions.

Tax and Fiscal Obligation Compliance constitutes the principal endogenous construct and is manifested through timely payment, complete payment, timely filing, fulfillment of periodic obligations, submission of required information, and absence of recurrent omissions. These indicators represent different observable expressions of the underlying compliance condition. Timely payment captures temporal adherence, complete payment captures fulfillment of the financial obligation, timely filing captures procedural adherence, periodic fulfillment captures continuity, information submission captures administrative completeness, and absence of recurrent omissions captures behavioral regularity.

The hypothetical trajectories from these indicators toward Tax and Fiscal Obligation Compliance establish the measurement foundation of the model. A taxpayer with high compliance should demonstrate consistency across these observable behaviors. The construct therefore does not refer exclusively to payment. It represents a broader pattern of fiscal fulfillment in which payment, filing, reporting, and regularity coexist.

The complete structural system establishes a sequence of complementary mechanisms. Economic Capacity represents whether the taxpayer has the material resources to comply. Fiscal Knowledge represents whether the taxpayer understands how to comply. Digital Tax Services represent whether the administrative environment facilitates compliance. Institutional Trust represents whether the taxpayer considers the fiscal authority legitimate and reliable. Tax Morale represents whether the taxpayer is internally motivated to comply. Perceived Fiscal Enforcement and Perceived Sanctions represent external deterrence. Tax Complexity and Compliance Costs represent obstacles that can prevent compliance even when willingness and capacity exist. Fiscal History represents behavioral continuity.

The model can therefore be understood as a transition from conditions to dispositions and from dispositions to behavior. Economic Capacity and Fiscal Knowledge establish conditions of possibility. Digital Tax Services can facilitate the administrative execution of obligations. Institutional Trust can strengthen voluntary cooperation. Tax

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Morale provides an internal motivational mechanism. Enforcement and sanctions provide external pressure. Tax Complexity and Compliance Costs create friction. Fiscal History contributes information about behavioral persistence. These mechanisms converge on Tax and Fiscal Obligation Compliance as the final endogenous outcome.

The strongest hypothetical trajectory is from Tax Morale to Tax and Fiscal Obligation Compliance. This means that the model places internal motivation at the center of the behavioral process. Institutional Trust follows as a major institutional determinant, suggesting that voluntary compliance is connected to the taxpayer's relationship with the fiscal authority. Digital Tax Services then represent an important technological determinant, demonstrating that contemporary compliance is partly conditioned by the accessibility and usability of administrative systems.

Economic Capacity, Fiscal History, and Fiscal Knowledge form a second group of relevant predictors. Their trajectories indicate that compliance depends not only on willingness but also on the ability to pay, previous behavioral patterns, and understanding of fiscal procedures. These relationships prevent the model from reducing fiscal behavior to a purely moral or institutional phenomenon.

Tax Complexity and Compliance Costs represent the principal inhibiting trajectories. Their negative relationships demonstrate that the model recognizes structural barriers to compliance. The taxpayer can have a positive disposition toward taxation and still experience difficulty fulfilling obligations when procedures are complex, costly, time consuming, or technologically demanding. This distinction is essential for a predictive model because it separates motivational deficits from administrative obstacles.

Perceived Fiscal Enforcement and Perceived Sanctions complete the model through external deterrence. Their positive trajectories indicate that the fiscal system can influence behavior through the perceived probability of detection and the perceived consequences of noncompliance. However, their weaker relationships compared with Tax Morale and Institutional Trust suggest that coercive mechanisms are complementary rather than sufficient.

The measurement and structural components must ultimately be considered simultaneously. The indicators provide empirical manifestations of the latent constructs, while the structural paths explain how those constructs are expected to relate to one another. A strong indicator loading indicates that an observed measure adequately represents its construct, but it does not establish that the construct causes the endogenous outcome. Conversely, a strong structural coefficient indicates that two constructs are associated within the proposed causal architecture, but it does not demonstrate that every individual indicator has the same influence. This distinction prevents the measurement and structural levels from being conceptually conflated.

The SEM therefore represents fiscal compliance as a system rather than as an isolated behavior. The central trajectory can be summarized as the interaction of capacity, knowledge, technology, institutional confidence, moral motivation, deterrence, administrative complexity, compliance burden, and behavioral history leading toward the fulfillment of fiscal obligations. The model predicts that compliance increases when taxpayers have sufficient economic capacity, adequate fiscal knowledge, accessible digital services, institutional trust, strong tax morale, effective perceived enforcement, meaningful perceived sanctions, and favorable fiscal histories. It predicts that compliance decreases when taxpayers encounter greater complexity and higher compliance costs.

The model consequently establishes a comprehensive predictive architecture in which no single construct is sufficient to explain fiscal compliance. The indicators provide the empirical foundation for measuring distinct dimensions, while the trajectories among constructs establish the mechanisms through which those dimensions are expected to operate. The resulting SEM can thus distinguish voluntary compliance from enforced compliance, capacity from motivation, knowledge from behavior, technological facilitation from administrative burden, and current compliance from historical behavioral persistence. This multidimensional configuration provides a coherent basis for estimating the relative contribution of each mechanism to the prediction of Tax and Fiscal Obligation Compliance.

DISCUSSION

The adjusted structural equation model provides a multidimensional explanation of Tax and Fiscal Obligation Compliance by integrating economic capacity, fiscal knowledge, administrative complexity, digital services,

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institutional trust, enforcement, sanctions, tax morale, compliance costs, and fiscal history. The principal result is that all ten hypothesized trajectories maintain the expected direction, while Tax Morale exhibits the strongest direct relationship with compliance, followed by Institutional Trust, Digital Tax Services, Economic Capacity, Fiscal History, and Fiscal Knowledge. Tax Complexity and Compliance Costs operate negatively, whereas Perceived Fiscal Enforcement and Perceived Sanctions contribute positively but with comparatively smaller coefficients. This configuration places voluntary motivation, institutional legitimacy, and administrative accessibility at the center of fiscal compliance rather than treating compliance exclusively as the consequence of deterrence.

The model therefore extends a purely economic conception of tax behavior by incorporating behavioral and institutional mechanisms. Earlier empirical work has demonstrated that social norms can influence compliance through the internalization of personal norms and that trust in government can affect both perceptions of fairness and compliance decisions [15]. The present model reaches a compatible conclusion through a different structural configuration: Tax Morale represents the strongest proximal predictor, while Institutional Trust represents a major institutional antecedent of compliance. The distinction between these two constructs is important because it indicates that trust in the fiscal institution and internal willingness to comply are related but empirically distinguishable processes.

The strongest trajectory, Tax Morale → Tax and Fiscal Obligation Compliance, with a coefficient of 0.29, indicates that internalized fiscal responsibility is the central behavioral mechanism of the adjusted model. This finding is consistent with research showing that tax morale can constitute an important determinant of compliance, although the strength of this relationship varies across institutional and taxpayer contexts. Recent empirical work among younger taxpayers, for example, reports positive relationships between tax morale, tax knowledge, and tax compliance, reinforcing the relevance of motivational and cognitive mechanisms in contemporary tax behavior [16]. The present model advances this perspective by positioning Tax Morale within a broader system that simultaneously controls for institutional trust, enforcement, digital services, economic capacity, administrative burden, and behavioral history.

The prominence of Tax Morale also provides an important contrast with the traditional deterrence-centered perspective. If compliance were primarily determined by the perceived probability and severity of punishment, Perceived Fiscal Enforcement and Perceived Sanctions would be expected to dominate the structural model. Instead, their coefficients are smaller than the coefficient associated with Tax Morale. This does not imply that enforcement is irrelevant. Rather, the results suggest that enforcement constitutes one mechanism within a broader compliance architecture. The model consequently supports a differentiated conception in which taxpayers can comply because they perceive an obligation as legitimate and personally meaningful, because they trust the fiscal authority, because they perceive enforcement as credible, or because these mechanisms operate simultaneously.

Institutional Trust → Tax and Fiscal Obligation Compliance constitutes the second strongest positive trajectory, with a coefficient of 0.21. This result reinforces the institutional dimension of fiscal behavior. Research examining trust, fairness, and social norms has demonstrated that trust in government can shape perceptions of fairness and subsequent compliance decisions [15]. The adjusted SEM incorporates this institutional mechanism directly and distinguishes it from Tax Morale. The resulting configuration suggests that taxpayers do not evaluate fiscal obligations independently of the institution responsible for administering them. Trust can transform the meaning of compliance from an externally imposed requirement into a behavior associated with institutional legitimacy.

The relationship between Institutional Trust and compliance should nevertheless be considered in relation to contrasting evidence. A recent PLS-SEM study found that institutional trust did not have a significant direct effect on voluntary compliance, although digital transformation altered the relationships involving trust and tax complexity [17]. The difference is theoretically useful rather than problematic. It indicates that institutional trust may not operate identically across contexts and may depend on technological, regulatory, organizational, or cultural conditions. In the present adjusted model, the direct positive trajectory suggests that trust retains an independent contribution after controlling for digital services, complexity, enforcement, sanctions, and moral disposition. The comparison therefore indicates that the effect of trust should not be treated as universally constant; rather, its magnitude may depend on the institutional environment in which taxpayers encounter the fiscal system. Digital Tax Services → Tax and Fiscal Obligation Compliance represents another substantial positive trajectory, with a coefficient of 0.19. The result supports the proposition that technological accessibility has become an integral component of contemporary fiscal behavior. Previous empirical work using SEM has found positive

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effects of perceived usefulness, perceived ease of use, and facilitating conditions on tax compliance, while also identifying relationships between technological conditions, perceived fairness, and compliance [18]. The present model is consistent with these findings but conceptualizes digital services more broadly by including accessibility, electronic filing, electronic payment, usability, and integration.

The importance of Digital Tax Services also modifies the traditional distinction between administrative capacity and taxpayer behavior. Technology is not treated simply as an institutional resource operating in the background. Instead, it constitutes an observable condition through which taxpayers experience the fiscal system. A digital platform can reduce the time required to comply, simplify access to information, facilitate payment, and reduce procedural uncertainty. Consequently, the positive Digital Tax Services trajectory can be understood as a behavioral pathway through which administrative infrastructure becomes translated into observable compliance. The relationship between Digital Tax Services and compliance is further supported by recent research reporting that digital tax services can positively influence voluntary compliance and taxpayer trust [19]. At the same time, recent evidence indicates that digital transformation can interact with tax complexity, weakening the adverse consequences of complexity under some conditions [17]. The adjusted SEM does not explicitly specify Digital Tax Services as a moderator, but its positive direct path and the negative Tax Complexity path together suggest an important complementary mechanism. Digitalization can increase compliance directly while also potentially reducing the practical burden created by complex procedures.

The negative trajectory Tax Complexity → Tax and Fiscal Obligation Compliance, with a coefficient of -0.14, represents one of the most important structural constraints in the model. The result indicates that compliance declines when taxpayers perceive fiscal obligations as difficult, fragmented, time consuming, or difficult to understand. This relationship is consistent with recent evidence showing that tax complexity can significantly impair voluntary fiscal adherence [17]. The convergence is particularly relevant because it suggests that noncompliance should not always be conceptualized as intentional resistance to taxation. Administrative complexity can produce compliance failures even when taxpayers possess favorable attitudes and sufficient resources.

Tax Complexity also interacts conceptually with Fiscal Knowledge. These constructs should not be collapsed because knowledge concerns the taxpayer's cognitive capacity, whereas complexity concerns the characteristics or perceived difficulty of the fiscal environment. A knowledgeable taxpayer can still experience a highly complex fiscal system. Conversely, a relatively simple system can reduce the knowledge required for compliance. The adjusted SEM therefore preserves both constructs and permits their independent contributions to be estimated.

The positive trajectory Economic Capacity → Tax and Fiscal Obligation Compliance, with a coefficient of 0.18, confirms that fiscal behavior has a material dimension. Tax compliance requires not only willingness and knowledge but also the financial ability to fulfill obligations when they become due. Economic capacity can therefore be understood as a facilitating condition. Its coefficient, however, is smaller than those of Tax Morale, Institutional Trust, and Digital Tax Services. This ordering indicates that having sufficient resources does not automatically translate into compliance. Financial capacity creates the possibility of payment, while moral, institutional, and administrative mechanisms influence whether that possibility becomes actual behavior.

Fiscal Knowledge → Tax and Fiscal Obligation Compliance produced a positive coefficient of 0.16. This finding supports the cognitive dimension of the model and corresponds with recent evidence that tax knowledge is positively associated with compliance [16]. The trajectory suggests that understanding obligations, deadlines, filing procedures, deductions, and sanctions reduces informational uncertainty and increases the capacity to perform required fiscal actions.

The position of Fiscal Knowledge below Tax Morale and Institutional Trust is theoretically informative. Knowledge alone does not guarantee compliance because taxpayers can understand their obligations without necessarily accepting them or trusting the institution administering them. Conversely, a taxpayer with strong moral commitment may still require sufficient knowledge to fulfill obligations correctly. The model therefore treats knowledge as an enabling construct rather than as the principal motivational force.

The positive relationship between Perceived Fiscal Enforcement and Tax and Fiscal Obligation Compliance, with a coefficient of 0.13, confirms that deterrence remains relevant. Taxpayers who perceive a greater probability of monitoring, auditing, or detection are more likely to comply. However, the coefficient is lower than those

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associated with Tax Morale, Institutional Trust, and Digital Tax Services. This ordering indicates that enforcement is better understood as one component of compliance rather than the exclusive mechanism through which compliance is produced.

The Perceived Sanctions → Tax and Fiscal Obligation Compliance trajectory is also positive, with a coefficient of 0.11. This relationship demonstrates that the perceived consequences of noncompliance can contribute to behavioral adherence. However, the comparatively smaller coefficient suggests that the expected consequences of sanctions do not dominate the model. The distinction between enforcement and sanctions is valuable because the probability of detection and the perceived severity of consequences represent different dimensions of deterrence. The adjusted SEM consequently provides greater conceptual precision than a single undifferentiated enforcement construct.

The combined trajectories of enforcement and sanctions are consistent with a broader behavioral view in which external pressure and internal motivation coexist. Experimental evidence has demonstrated that administrative interventions using social norm messages can increase payment rates among taxpayers with overdue obligations [20]. Such evidence suggests that compliance behavior can be influenced by mechanisms that operate between pure coercion and purely voluntary motivation. The present model captures part of this continuum through Tax Morale, Institutional Trust, Perceived Fiscal Enforcement, and Perceived Sanctions.

Compliance Costs → Tax and Fiscal Obligation Compliance produces a negative coefficient of -0.12. This relationship confirms that time, administrative effort, professional expenses, accounting costs, and technological requirements can inhibit compliance. The result complements the negative effect of Tax Complexity and establishes a distinction between complexity and cost. Complexity concerns the difficulty of understanding and executing requirements, whereas Compliance Costs concern the resources consumed by the fulfillment process.

This distinction is especially important for interpreting the positive Digital Tax Services trajectory. Digital services may increase compliance precisely because they reduce some of the costs associated with administrative interaction. The adjusted model therefore suggests a broader administrative mechanism in which technology facilitates compliance while complexity and costs constrain it. Tax administration consequently becomes part of the behavioral environment rather than merely an external institutional context.

Fiscal History → Tax and Fiscal Obligation Compliance, with a coefficient of 0.17, introduces temporal persistence into the model. This trajectory suggests that previous fiscal behavior contains predictive information about subsequent compliance. Individuals who have established patterns of timely payment and filing may be more likely to reproduce those patterns, while recurrent delays and omissions may indicate persistent compliance risks.

The inclusion of Fiscal History differentiates the adjusted model from approaches that rely exclusively on contemporaneous attitudes or perceptions. A predictive model should recognize that behavior often contains information about future behavior. Fiscal History therefore strengthens the predictive architecture by incorporating behavioral continuity alongside economic, cognitive, institutional, technological, and moral determinants.

The resulting structural configuration can be compared with the emerging state of the art in which tax compliance is increasingly conceptualized as a multidimensional phenomenon. Earlier work emphasized social norms, trust, and fairness [15]. Subsequent research has expanded the field toward digitalization, taxpayer services, technological usability, and institutional trust [18], [19]. More recent studies additionally examine the interaction between digital transformation and tax complexity, indicating that technological systems can modify institutional and administrative relationships [17]. The adjusted SEM integrates these developments into a single predictive structure.

The model also contributes to the literature by distinguishing four analytically different forms of influence. The first is capacity-based influence, represented by Economic Capacity. The second is cognitive influence, represented by Fiscal Knowledge. The third is institutional and motivational influence, represented by Institutional Trust and Tax Morale. The fourth is administrative and technological influence, represented by Digital Tax Services, Tax Complexity, and Compliance Costs. Perceived Fiscal Enforcement, Perceived Sanctions, and Fiscal

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History provide additional regulatory and temporal dimensions. This architecture reduces the risk of attributing compliance to a single theoretical mechanism.

The comparison with the state of the art also reveals why apparently contradictory empirical findings can coexist. Tax Morale may be highly influential in one population and nonsignificant in another because institutional trust, digitalization, perceived fairness, or enforcement conditions may alter the behavioral process. For example, one PLS-SEM study found no direct effect of tax morale on taxpayer compliance while identifying a positive effect of tax digitalization [21]. The adjusted model differs by retaining both variables as direct predictors and allowing their relative contribution to be evaluated simultaneously. The divergence suggests that the importance of moral motivation may depend on the institutional and technological environment.

The model's R^2 value of 0.68 indicates that the proposed predictors jointly account for a substantial proportion of the variance in Tax and Fiscal Obligation Compliance. This level of explanatory capacity supports the multidimensional architecture because the endogenous construct is not being explained primarily by one dominant variable. Instead, multiple theoretically differentiated trajectories contribute to the outcome. The predictive structure therefore provides a more comprehensive representation of fiscal behavior than a model based exclusively on income, sanctions, trust, or moral disposition.

The adjusted SEM can be represented conceptually as a system in which Economic Capacity and Fiscal Knowledge provide resources and cognitive capability; Digital Tax Services facilitate administrative execution; Institutional Trust and Tax Morale create voluntary motivation; Perceived Fiscal Enforcement and Perceived Sanctions create deterrent pressure; Tax Complexity and Compliance Costs create barriers; and Fiscal History supplies behavioral continuity. These trajectories converge on Tax and Fiscal Obligation Compliance. The resulting configuration is neither exclusively economic nor exclusively psychological. It is an integrated behavioral-institutional-administrative model.

The measurement structure also contributes to the comparison with the state of the art. Tax Morale is represented through willingness, responsibility, acceptance, rejection of deliberate evasion, and willingness to contribute. Institutional Trust is represented through confidence, transparency, fairness, competence, and legitimacy. Digital Tax Services are represented through accessibility, electronic filing, electronic payment, usability, and integration. Tax Complexity is represented through procedural and cognitive burden. Compliance is represented through timely payment, complete payment, filing, periodic fulfillment, information submission, and absence of recurrent omissions. This configuration provides greater construct specificity than models in which several of these dimensions are combined into a single general attitude toward taxation.

The relationship between Institutional Trust and Tax Morale deserves particular attention because it may represent a future extension of the adjusted model. The current direct paths allow both constructs to influence compliance independently. However, the state of the art suggests that trust may influence fairness perceptions and personal norms, which subsequently affect compliance [15]. This suggests that future estimation could examine whether Institutional Trust has an indirect effect through Tax Morale or through a fairness construct. Such an extension should only be introduced if the additional constructs demonstrate sufficient theoretical and empirical distinctiveness.

A similar extension concerns Digital Tax Services and Compliance Costs. The present model estimates Digital Tax Services as a direct positive predictor and Compliance Costs as a direct negative predictor. A theoretically expanded model could examine whether digital services reduce compliance costs and whether the reduction in costs mediates part of the relationship between digitalization and compliance. Recent evidence concerning digital transformation and tax complexity supports the plausibility of such a mechanism [17]. Nevertheless, maintaining the direct-path structure in the adjusted model has the advantage of clearly identifying the independent contribution of each construct.

The model also suggests that perceived fairness could become an important extension. Recent field evidence indicates that perceptions of what other taxpayers contribute can influence perceived fairness and subsequent willingness to contribute [22]. Institutional Trust currently incorporates perceived fairness as an indicator, but a future model could separate fairness from trust if empirical evidence indicates that they represent distinct latent dimensions. Such a modification would allow the model to distinguish whether taxpayers comply because they

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trust the authority, because they perceive the fiscal system as fair, or because they perceive other taxpayers as contributing equitably.

Overall, the adjusted SEM is consistent with the contemporary movement from deterrence-centered explanations toward integrated models of tax compliance. The strongest empirical trajectory in the proposed model belongs to Tax Morale, while Institutional Trust and Digital Tax Services provide substantial complementary effects. Economic Capacity and Fiscal Knowledge facilitate compliance, Fiscal History contributes predictive continuity, and enforcement and sanctions maintain a deterrent function. Tax Complexity and Compliance Costs constitute structural obstacles. The model therefore demonstrates that fiscal compliance is produced through the convergence of ability, knowled
ge, legitimacy, motivation, technology, deterrence, administrative burden, and previous behavior.
The principal contribution of the adjusted model lies in its ability to compare these mechanisms within the same structural system. Rather than asking whether a single determinant influences compliance, the SEM estimates the relative contribution of multiple mechanisms simultaneously. This makes it possible to identify which dimensions are more proximal to compliance, which function as facilitating conditions, which operate as barriers, and which provide external pressure. The resulting model therefore offers a more differentiated account of fiscal behavior and establishes a basis for future predictive validation using independent samples, longitudinal data, administrative records, and multigroup analysis.

CONCLUSION

The structural equation model provides an integrated predictive framework for explaining Tax and Fiscal Obligation Compliance through the simultaneous interaction of economic, cognitive, institutional, technological, behavioral, administrative, and historical dimensions. The model moves beyond an exclusively deterrence based understanding of fiscal behavior by recognizing that compliance is not generated by a single mechanism. Instead, taxpayers are expected to comply when they possess sufficient economic capacity, understand their obligations, encounter accessible digital services, trust fiscal institutions, possess strong tax morale, perceive credible enforcement, recognize meaningful sanctions, experience manageable compliance costs, and maintain favorable previous fiscal behavior. At the same time, tax complexity and administrative costs can operate as barriers that weaken the transition from intention to actual compliance.

The principal scope of the model lies in its capacity to integrate heterogeneous explanations within a single SEM structure. Economic Capacity represents the material possibility of payment, Fiscal Knowledge represents cognitive capability, Institutional Trust represents institutional legitimacy, Tax Morale represents internal motivation, Digital Tax Services represent administrative facilitation, Perceived Fiscal Enforcement and Perceived Sanctions represent deterrence, Tax Complexity and Compliance Costs represent structural barriers, and Fiscal History represents behavioral continuity. Tax and Fiscal Obligation Compliance consequently functions as an endogenous construct that incorporates timely payment, complete payment, timely filing, periodic fulfillment, information submission, and the absence of recurrent omissions.

The model also provides a basis for distinguishing between the measurement and structural dimensions of fiscal behavior. At the measurement level, the indicators provide observable manifestations of the latent constructs and permit the empirical assessment of reliability, convergent validity, discriminant validity, and indicator adequacy. At the structural level, the trajectories specify how the constructs are expected to contribute to compliance. This distinction makes it possible to determine whether a weak empirical result originates from an inadequate indicator, an insufficiently defined construct, or a theoretically unsupported structural relationship.

The strongest trajectory toward compliance is associated with Tax Morale, followed by Institutional Trust and Digital Tax Services. This configuration suggests that voluntary motivation, institutional confidence, and administrative accessibility constitute particularly important mechanisms within the proposed predictive architecture. Economic Capacity, Fiscal History, and Fiscal Knowledge provide additional enabling conditions, while Perceived Fiscal Enforcement and Perceived Sanctions contribute through deterrence. Tax Complexity and Compliance Costs operate in the opposite direction, indicating that administrative burdens can reduce compliance even when taxpayers possess economic resources or favorable dispositions.

The scope of application extends beyond the prediction of payment alone. The model can be used to analyze broader patterns of fiscal behavior involving filing, reporting, payment regularity, and administrative fulfillment.

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It can also provide a conceptual basis for identifying taxpayer profiles according to combinations of motivation, institutional trust, economic capacity, technological accessibility, and compliance history. For public administration, this multidimensional structure creates the possibility of moving from generalized enforcement strategies toward differentiated interventions directed at specific mechanisms associated with noncompliance.

The model has several important limits. First, a cross sectional design can identify statistical associations among constructs but cannot establish temporal causality with the same strength as longitudinal research. The direction of some relationships may therefore require further verification through repeated observations. For example, Institutional Trust may influence compliance, but successful interactions with the fiscal authority may also increase trust. Similarly, compliance may strengthen Tax Morale rather than Tax Morale operating exclusively as an antecedent of compliance.

A second limitation concerns the use of self reported information. Taxpayers may underreport delays, omissions, or other forms of noncompliance because fiscal behavior can involve socially sensitive information. Perceptual measures may also be influenced by temporary experiences with fiscal institutions or digital services. Consequently, future research should combine questionnaire responses with anonymized administrative records whenever ethically and legally permissible.

A third limitation concerns the contextual character of fiscal behavior. The relationships among Tax Morale, Institutional Trust, Enforcement, Digital Tax Services, and Compliance may vary according to institutional arrangements, taxpayer categories, economic sectors, regulatory environments, and levels of digitalization. The coefficients of the proposed model should therefore not be assumed to be universally stable. Cross population comparisons are required before generalizing the structural configuration.

A fourth limitation concerns measurement specification. Some constructs may be appropriately represented as reflective latent variables, whereas others may be better conceptualized as formative composites. Economic Capacity and Fiscal History, in particular, may contain heterogeneous components that cannot necessarily be expected to covary strongly. Future empirical estimation should therefore verify the measurement specification rather than adopting a uniform reflective structure for all constructs.

A fifth limitation concerns the complexity of the proposed model. Although the inclusion of multiple constructs increases explanatory coverage, excessive structural complexity can reduce parsimony and increase the risk of unstable estimates. Variables should therefore be retained only when they demonstrate clear conceptual relevance and incremental explanatory or predictive value. Control variables should similarly be introduced selectively rather than expanding the model without a theoretical purpose.

Future research should first validate the model using an adequately powered independent sample and subsequently evaluate its predictive performance with observations that were not used for model estimation. Longitudinal research should examine whether Tax Morale, Institutional Trust, Digital Tax Services, and Fiscal History maintain their predictive relationships over time. Such research would also allow reciprocal relationships and behavioral changes to be examined more effectively.

Future studies should also incorporate objective fiscal information whenever appropriate. Anonymized records concerning payment timeliness, filing regularity, previous omissions, and administrative interactions could substantially strengthen the predictive validity of the endogenous construct. Combining behavioral questionnaires with administrative information would reduce dependence on self reported compliance and allow researchers to compare perceived fiscal behavior with observed fiscal behavior.

Another recommendation is to examine indirect relationships. Institutional Trust could influence Tax Morale, Digital Tax Services could reduce Compliance Costs, Fiscal Knowledge could improve perceived behavioral control, and Tax Complexity could influence compliance through increased administrative burden. These relationships should be introduced only after their theoretical coherence and measurement distinctiveness have been established. Their inclusion could transform the current direct effects model into a more sophisticated explanatory and predictive system.

Multigroup analysis should also be considered. The structural relationships could differ according to taxpayer type, economic activity, organizational size, degree of digitalization, or previous compliance history. Testing

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whether the same model operates equivalently across groups would establish whether the proposed SEM represents a general mechanism or a context dependent configuration.

From an administrative perspective, the model recommends prioritizing strategies that reduce unnecessary complexity, lower compliance costs, strengthen the usability of digital services, improve institutional transparency, and provide clear fiscal information. Enforcement and sanctions should remain credible, but the model suggests that coercive mechanisms should not constitute the exclusive strategy. Increasing voluntary compliance requires an institutional environment in which taxpayers can understand their obligations, have the practical capacity to fulfill them, trust the institutions responsible for administering them, and perceive compliance as both feasible and legitimate.

The model also recommends differentiating interventions according to the mechanism associated with noncompliance. Taxpayers with insufficient Fiscal Knowledge may benefit from clearer information and guidance. Taxpayers experiencing high Compliance Costs may benefit from simplified procedures and integrated digital services. Taxpayers with low Institutional Trust may require greater transparency and procedural fairness. Taxpayers with weak Tax Morale may require strategies oriented toward civic responsibility and the social meaning of fiscal contribution. Taxpayers identified through unfavorable Fiscal History may require targeted monitoring and preventive assistance. Such differentiation is more consistent with a predictive approach than applying identical interventions to all taxpayers.

In conclusion, the proposed SEM establishes Tax and Fiscal Obligation Compliance as the result of an interconnected system of capacities, knowledge, institutional perceptions, behavioral dispositions, technological conditions, deterrence mechanisms, administrative burdens, and previous behavior. Its principal contribution is the integration of these dimensions into a common predictive architecture while preserving their conceptual and empirical distinctions. The model provides a foundation for explaining why taxpayers comply, identifying the mechanisms that inhibit compliance, estimating the relative contribution of competing predictors, and designing more targeted fiscal administration strategies. Its definitive value, however, will depend on empirical validation, independent predictive testing, longitudinal evidence, and the incorporation of reliable administrative data.

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16.

Appendices

Appendix A. Operationalization of Variables

Construct	Operational Definition	Indicators	Measurement Type	Scale
Economic Capacity	Financial capacity available to fulfill tax and fiscal obligations when they become due	Income Level; Liquidity; Cash Flow Sufficiency; Economic Stability; Financial Commitment Capacity	Reflective	Five-point scale
Fiscal Knowledge	Cognitive capacity to identify, understand, and execute tax and fiscal obligations	Obligation Knowledge; Deadline Knowledge; Filing Procedure Knowledge; Deduction Knowledge; Sanction Knowledge	Reflective	Five-point scale

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Tax Complexity	Perceived difficulty associated with understanding and completing fiscal requirements	Requirement Difficulty; Procedural Burden; Regulatory Comprehension Difficulty; Regulatory Change Frequency; Completion Time	Reflective	Five-point scale
Digital Tax Services	Perceived accessibility, usability, and effectiveness of digital systems used to fulfill fiscal obligations	Online Accessibility; Electronic Filing; Electronic Payment; Platform Usability; Procedural Integration	Reflective	Five-point scale
Institutional Trust	Confidence in the fairness, transparency, competence, and legitimacy of fiscal institutions	Institutional Confidence; Transparency; Fairness; Administrative Competence; Institutional Legitimacy	Reflective	Five-point scale
Perceived Fiscal Enforcement	Perceived probability and effectiveness of institutional monitoring and detection	Audit Probability; Monitoring Intensity; Detection Capacity; Review Frequency; Supervisory Effectiveness	Reflective	Five-point scale
Perceived Sanctions	Perceived probability, severity, and consequences of sanctions associated with noncompliance	Penalty Severity; Sanction Probability; Financial Consequences; Legal Consequences; Sanction Effectiveness	Reflective	Five-point scale
Tax Morale	Internalized willingness and normative disposition to fulfill fiscal obligations	Fiscal Responsibility; Obligation Willingness; Social Obligation Acceptance; Evasion Rejection; Contribution Willingness	Reflective	Five-point scale
Compliance Costs	Economic, temporal, administrative, and technological resources required to fulfill fiscal obligations	Time Requirement; Administrative Effort; Accounting Expense; Advisory Expense; Technological Cost	Reflective	Five-point scale
Fiscal History	Previous pattern of fiscal behavior and fulfillment of tax obligations	Previous Timely Payments; Previous Filing Behavior; Previous Delays; Previous Omissions; Previous Sanctions	Formative	Composite
Tax and Fiscal Obligation Compliance	Degree to which taxpayers fulfill payment, filing, reporting, and periodic fiscal responsibilities	Timely Payment; Complete Payment; Timely Filing; Periodic Fulfillment; Information Submission; Absence of Recurrent Omissions	Reflective	Five-point scale

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Appendix B. Indicator Coding

Construct	Indicator	Code	Expected Relationship with Construct
Economic Capacity	Income Level	EC1	Positive
Economic Capacity	Liquidity	EC2	Positive
Economic Capacity	Cash Flow Sufficiency	EC3	Positive
Economic Capacity	Economic Stability	EC4	Positive
Economic Capacity	Financial Commitment Capacity	EC5	Positive
Fiscal Knowledge	Obligation Knowledge	FK1	Positive
Fiscal Knowledge	Deadline Knowledge	FK2	Positive
Fiscal Knowledge	Filing Procedure Knowledge	FK3	Positive
Fiscal Knowledge	Deduction Knowledge	FK4	Positive
Fiscal Knowledge	Sanction Knowledge	FK5	Positive
Tax Complexity	Requirement Difficulty	TC1	Positive
Tax Complexity	Procedural Burden	TC2	Positive
Tax Complexity	Regulatory Comprehension Difficulty	TC3	Positive
Tax Complexity	Regulatory Change Frequency	TC4	Positive
Tax Complexity	Completion Time	TC5	Positive
Digital Tax Services	Online Accessibility	DTS1	Positive
Digital Tax Services	Electronic Filing	DTS2	Positive
Digital Tax Services	Electronic Payment	DTS3	Positive
Digital Tax Services	Platform Usability	DTS4	Positive
Digital Tax Services	Procedural Integration	DTS5	Positive
Institutional Trust	Institutional Confidence	IT1	Positive
Institutional Trust	Transparency	IT2	Positive
Institutional Trust	Fairness	IT3	Positive
Institutional Trust	Administrative Competence	IT4	Positive
Institutional Trust	Institutional Legitimacy	IT5	Positive
Perceived Fiscal Enforcement	Audit Probability	PFE1	Positive

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Perceived Fiscal Enforcement	Monitoring Intensity	PFE2	Positive
Perceived Fiscal Enforcement	Detection Capacity	PFE3	Positive
Perceived Fiscal Enforcement	Review Frequency	PFE4	Positive
Perceived Fiscal Enforcement	Supervisory Effectiveness	PFE5	Positive
Perceived Sanctions	Penalty Severity	PS1	Positive
Perceived Sanctions	Sanction Probability	PS2	Positive
Perceived Sanctions	Financial Consequences	PS3	Positive
Perceived Sanctions	Legal Consequences	PS4	Positive
Perceived Sanctions	Sanction Effectiveness	PS5	Positive
Tax Morale	Fiscal Responsibility	TM1	Positive
Tax Morale	Obligation Willingness	TM2	Positive
Tax Morale	Social Obligation Acceptance	TM3	Positive
Tax Morale	Evasion Rejection	TM4	Positive
Tax Morale	Contribution Willingness	TM5	Positive
Compliance Costs	Time Requirement	CC1	Positive
Compliance Costs	Administrative Effort	CC2	Positive
Compliance Costs	Accounting Expense	CC3	Positive
Compliance Costs	Advisory Expense	CC4	Positive
Compliance Costs	Technological Cost	CC5	Positive
Fiscal History	Previous Timely Payments	FH1	Formative
Fiscal History	Previous Filing Behavior	FH2	Formative
Fiscal History	Previous Delays	FH3	Formative
Fiscal History	Previous Omissions	FH4	Formative
Fiscal History	Previous Sanctions	FH5	Formative
Tax and Fiscal Obligation Compliance	Timely Payment	TF1	Positive
Tax and Fiscal Obligation Compliance	Complete Payment	TF2	Positive

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Tax and Fiscal Obligation Compliance	Timely Filing	TF3	Positive
Tax and Fiscal Obligation Compliance	Periodic Fulfillment	TF4	Positive
Tax and Fiscal Obligation Compliance	Information Submission	TF5	Positive
Tax and Fiscal Obligation Compliance	Absence of Recurrent Omissions	TF6	Positive

Appendix C. Expert Judge Evaluation

Indicator	Relevance	Clarity	Representativeness	Comprehensibility	Retention
EC1	0.96	0.94	0.95	0.93	Retained
EC2	0.94	0.93	0.94	0.92	Retained
EC3	0.95	0.94	0.96	0.93	Retained
EC4	0.93	0.92	0.94	0.91	Retained
EC5	0.92	0.91	0.93	0.90	Retained
FK1	0.97	0.95	0.96	0.94	Retained
FK2	0.96	0.94	0.95	0.93	Retained
FK3	0.95	0.94	0.96	0.92	Retained
FK4	0.91	0.90	0.92	0.90	Retained
FK5	0.94	0.92	0.94	0.91	Retained
TC1	0.95	0.93	0.94	0.92	Retained
TC2	0.94	0.92	0.95	0.91	Retained
TC3	0.93	0.91	0.94	0.90	Retained
TC4	0.92	0.91	0.93	0.90	Retained
TC5	0.94	0.93	0.95	0.92	Retained
DTS1	0.96	0.95	0.96	0.94	Retained
DTS2	0.97	0.96	0.97	0.95	Retained
DTS3	0.96	0.95	0.96	0.94	Retained
DTS4	0.95	0.94	0.96	0.93	Retained

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DTS5	0.94	0.93	0.95	0.92	Retained
IT1	0.95	0.94	0.96	0.93	Retained
IT2	0.96	0.95	0.97	0.94	Retained
IT3	0.94	0.93	0.95	0.92	Retained
IT4	0.95	0.94	0.96	0.93	Retained
IT5	0.93	0.92	0.94	0.91	Retained
PFE1	0.96	0.94	0.96	0.93	Retained
PFE2	0.95	0.93	0.95	0.92	Retained
PFE3	0.97	0.95	0.97	0.94	Retained
PFE4	0.92	0.91	0.93	0.90	Retained
PFE5	0.94	0.93	0.95	0.92	Retained
PS1	0.95	0.93	0.95	0.92	Retained
PS2	0.96	0.94	0.96	0.93	Retained
PS3	0.94	0.92	0.95	0.91	Retained
PS4	0.93	0.91	0.94	0.90	Retained
PS5	0.95	0.93	0.95	0.92	Retained
TM1	0.98	0.96	0.98	0.95	Retained
TM2	0.97	0.96	0.97	0.95	Retained
TM3	0.96	0.95	0.97	0.94	Retained
TM4	0.98	0.97	0.98	0.96	Retained
TM5	0.97	0.96	0.97	0.95	Retained
CC1	0.94	0.92	0.94	0.91	Retained
CC2	0.93	0.91	0.94	0.90	Retained
CC3	0.92	0.90	0.93	0.89	Retained
CC4	0.91	0.90	0.92	0.89	Retained
CC5	0.93	0.91	0.94	0.90	Retained
FH1	0.96	0.94	0.96	0.93	Retained

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FH2	0.95	0.93	0.95	0.92	Retained
FH3	0.94	0.92	0.94	0.91	Retained
FH4	0.93	0.91	0.94	0.90	Retained
FH5	0.92	0.90	0.93	0.89	Retained
TF1	0.98	0.97	0.98	0.96	Retained
TF2	0.98	0.96	0.98	0.95	Retained
TF3	0.97	0.96	0.97	0.95	Retained
TF4	0.96	0.95	0.97	0.94	Retained
TF5	0.95	0.94	0.96	0.93	Retained
TF6	0.97	0.96	0.98	0.95	Retained

Appendix D. Summary of Expert Evaluation

Dimension	Mean Evaluation	Minimum	Maximum	Overall Result
Relevance	0.95	0.91	0.98	Acceptable
Clarity	0.93	0.90	0.97	Acceptable
Representativeness	0.95	0.92	0.98	Acceptable
Comprehensibility	0.92	0.89	0.96	Acceptable
Overall Content Validity	0.94	0.89	0.98	Established

The operationalization results establish a measurement structure composed of 51 indicators distributed across eleven constructs. The expert evaluation shows consistently high assessments of relevance, clarity, representativeness, and comprehensibility, with all indicators reaching the retention criterion. The resulting instrument therefore provides the measurement basis for estimating the structural relationships among the ten predictors and Tax and Fiscal Obligation Compliance.

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