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Exploring the Links Between Tax Education, Tax Awareness and Tax Compliance Among Students in Vietnam[1]

Abstract. In Vietnam, tax non-compliance remains a significant issue, contributing to a large tax gap, and improving voluntary compliance is crucial for the country's economic growth. This research contributes to understanding how tax education influences compliance through awareness, addressing a gap in the literature, particularly in emerging economies like Vietnam, and offering valuable insights for regional economic development strategies This study investigates the relationship between tax education and tax compliance, focusing on the mediating role of tax awareness among university students in Vietnam as future taxpayers. A quantitative approach was applied with a sample of 513 university students from various institutions across Vietnam. The survey was distributed through both direct email and online platforms to ensure diversity in responses. Data was analysed using SPSS 25, with Cronbach's Alpha used to assess reliability and Confirmatory Factor Analysis to evaluate the measurement model. The findings from Structural Equation Modelling reveal that tax awareness significantly mediates the relationship between tax education and tax compliance, with a positive impact on compliance behaviour (coefficient = 0.777*, $p = 0.000$). However, tax education alone showed no direct effect on compliance behaviour ($p = 0.218$). Based on these results, the study suggests several policy recommendations: (1) enhancing tax education programs through transparency and technology, (2) integrating tax education into early curricula, and (3) using interactive e-tax platforms to increase accessibility. These strategies aim to promote tax compliance and contribute to sustainable economic growth in Vietnam and similar emerging economies.

Keywords: tax awareness, tax compliance, tax education, taxpayers, tax policy, emerging economies

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Исследования влияния налогового образования и осведомлённости на налоговую дисциплину студентов во Вьетнаме

Аннотация. Во Вьетнаме несоблюдение налогового законодательства является серьёзной проблемой, которая приводит к недополучению налогов, поэтому повышение налоговой дисциплины граждан имеет большое значение для экономического роста страны. При этом данная проблематика недостаточно изучена применительно к странам с формирующейся экономикой, таким как Вьетнам. В настоящем исследовании рассматривается взаимосвязь между налоговым образованием и налоговой дисциплиной, при этом особый акцент делается на роли налоговой грамотности среди студентов как будущих налогоплательщиков. Исследование построено на количественном анализе результатов опроса 513 студентов из различных вузов страны. Анкетирование осуществлялось как напрямую, через электронную почту, так и через онлайн-платформы для обеспечения разнообразия ответов. Данные обрабатывались с использованием программного пакета SPSS 25; надёжность измерений оценивалась с помощью коэффициента Кронбаха, модель измерений проверялась с помощью конфирматорного факторного анализа. Результаты структурного моделирования показали значимость налоговой осведомлённости, поскольку она выполняет роль связующего звена между налоговым образованием и налоговой дисциплиной, то есть повышение налоговой осведомленности положительно влияет на поведение налогоплательщиков (коэффициент = 0.777*, p = 0.000). При этом само по себе налоговое образование прямого влияния на налоговую дисциплину не имеет (p = 0.218). Показано, как налоговое образование через повышение осведомлённости влияет на налоговую дисциплину. На основе полученных результатов предложены следующие рекомендации для развития региональной налоговой политики: (1) совершенствование программ налогового образования через повышение прозрачности и внедрение соответствующих технологий; (2) включение налогового образования в учебный план на младших курсах вузов; (3) использование интерактивных онлайн платформ для повышения доступности налоговой информации. Эти меры направлены на стимулирование налоговой дисциплины и поддержку устойчивого экономического роста во Вьетнаме и других странах с развивающейся экономикой.

Ключевые слова: налоговая осведомленность, налоговая дисциплина, налоговое образование, налогоплательщики, налоговая политика, страны с развивающейся экономикой

Introduction

Tax non-compliance remains a critical issue for many developing nations, and Vietnam is no exception. Despite substantial progress over the years, the country's tax system is still being refined. Vietnam's tax to GDP ratio remains modest according to official data, fluctuating in recent years between roughly 11–15 % (World Bank, 2024; CEIC Data, 2025), which is significantly below the global average. Moreover, Vietnam faces a significant tax gap, reflecting inefficiencies in compliance and enforcement (Cung, 2019). A central contributing factor is insufficient tax knowledge among the population, which undermines their ability to fulfil tax obligations (Hardika et al., 2021). Although the tax system continues to develop, gaps in tax education persist, particularly at the university level, where future taxpayers are shaped. These gaps prevent students from fully understanding their roles in the tax system and limit both their willingness and ability to comply with tax regulations.

Tax education, therefore, plays a pivotal role in shaping voluntary tax compliance, especially in emerging economies like Vietnam, where the system remains nascent. While research in developed countries, such as a field experiment in Denmark, has shown limited effects of tax education on compliance (Slemrod, 2019), the situation in developing countries presents unique challenges. These include not only a lack of institutional trust but also weak tax education systems that fail to equip citizens, especially young adults, with adequate knowledge of tax
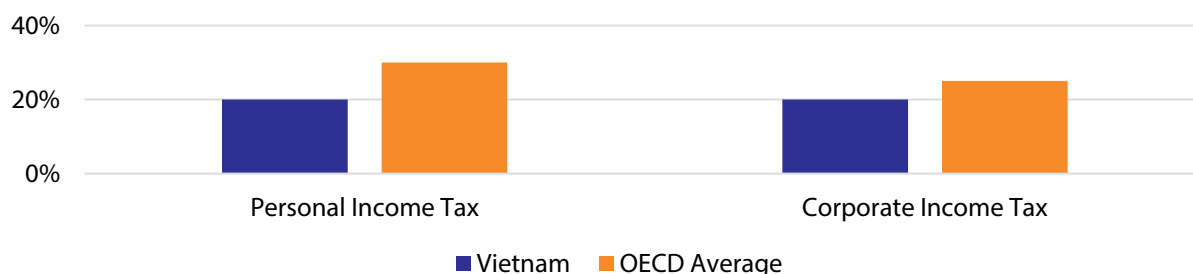
Fig. 1. *Comparison of Personal and Corporate Income Tax Rates Between Vietnam and Developed Countries*
Source: World Bank, 2023

obligations. Given these challenges, addressing tax education is imperative to improving tax compliance. This study explores how tax education influences tax compliance among university students in Vietnam, with a focus on the mediating role of tax awareness — a factor often overlooked in prior research.

In Vietnam, tax awareness — defined as the understanding of one's tax rights and responsibilities — plays a critical role in shaping compliance behaviour. According to the Cognitive Compliance Model (CCM), tax compliance is not solely determined by external forces such as audits or penalties, but also by cognitive and normative factors, with tax awareness mediating the relationship between tax education and compliance (Kirchler et al., 2008). However, most previous studies focus on direct effects of education or deterrents, failing to explore the crucial role of awareness, especially in transitional economies like Vietnam, where institutional trust is low and tax systems are still evolving.

This study seeks to fill that gap by investigating the mediating influence of awareness in the relationship between education and compliance among university students, a critical demographic in shaping future tax culture. By fostering tax awareness through targeted education, it is possible to enhance compliance behaviour and contribute to the development of a more ethical and sustainable tax system.

The urgency of addressing tax education and tax awareness in Vietnam is underscored by the following data, which illustrates significant disparities in tax rates and compliance levels between Vietnam and developed countries. These figures highlight the gaps in Vietnam's tax system and demonstrate the pressing need for improvements in tax education to foster higher levels of compliance.

The Figure 1 shows that Vietnam's tax rates for both personal and corporate income are much lower than the OECD average, with Vietnam at 20 % compared to 30 % for personal income tax and 25 % for corporate income tax in OECD countries.

The data in Table 1 also show that Vietnam's tax compliance rate is significantly lower than the OECD average, with Vietnam at 60 %. In comparison, the OECD countries have a tax compliance rate ranging from 80 % to 95 %.

These statistics reveal the disparity in tax compliance and the need for a comprehensive tax education system to bridge these gaps. Despite relatively competitive tax rates, Vietnam's low tax compliance reflects a systemic issue that cannot be addressed solely by enforcement. A cultural shift, beginning with education and continuous engagement with the tax system, is necessary. Without improving tax education and awareness, Vietnam will continue to face significant challenges in closing the tax gap and fostering voluntary compliance.

Although the growing importance of tax education in shaping taxpayer behaviour is recognized globally, its specific mechanisms in Vietnam remain underexplored. This gap is particularly notable among university students, who represent the emerging cohort of future taxpayers in a socio-institutional environment with limited tax morale and evolving tax policies. This study seeks to address these gaps by investigating the impact of tax education on tax compliance behaviour among university students in Vietnam, focusing on the mediating role of tax awareness.

This gap is particularly evident among university students, who represent the next

Table 1

Tax Compliance Rates in Vietnam Compared to Developed Countries

Country	Tax Compliance Rate
Vietnam	60 %
OECD Average	80 % – 95 %

Source: OECD, 2023 (OECD. (2023). OECD Tax Database: Comparative Tax Statistics. https://www.oecd.org/tax-policy/tax-database.htm (Date of access: 10.02.2025)).

generation of taxpayers in a socio-institutional environment marked by limited tax morale and evolving tax policies. To address this issue, the research examines how tax education influences tax compliance among university students in Vietnam, with particular attention to the mediating role of tax awareness. Within Vietnam's transitional economic and institutional context—where tax compliance remains a persistent challenge—the study explores the relationships between tax education, tax awareness, and tax compliance.

Accordingly, the following research questions guide this study:

RQ1: How does tax education influence tax compliance behaviour among university students in Vietnam?

RQ2: What is the effect of tax awareness on tax compliance in this group?

RQ3: To what extent does tax awareness mediate the relationship between tax education and tax compliance among Vietnamese university students?

Drawing on the Cognitive Compliance Model (CCM), the study proposes the following hypotheses:

H1: Tax awareness positively influences tax compliance behaviour among university students in Vietnam.

H2: Tax education positively influences tax compliance behaviour among university students in Vietnam.

H3: Tax awareness mediates the relationship between tax education and tax compliance behaviour among university students in Vietnam.

By examining these relationships, the research aims to clarify how improving tax education and tax awareness can strengthen tax compliance among university students. The findings will inform policy recommendations for enhancing tax education in Vietnam and other emerging economies, supporting sustainable economic development through improved compliance.

Structure of the paper. The hypotheses draw on the studies reviewed in the literature section. The research design and results are described in the methods section, followed by the discussion, conclusions, and implications.

Literature Review

Theoretical Framework

In academic literature, taxpayer behaviour has been investigated through several frameworks, including the Economic Deterrence Model (EDM), the Slippery Slope Framework (SSF), and the Cognitive Compliance Model (CCM).

The EDM is based on rational choice theory, suggesting that individuals comply with tax regulations when the expected costs of evasion (e.g., audit probability and penalties) exceed the benefits (Allingham & Sandmo, 1972). While effective in enforcement-driven environments, this theory is criticized for neglecting psychological and institutional factors that influence behaviour (Mascagni et al., 2024). In Vietnam, where audit rates are low and penalties inconsistent, the EDM may fail to capture compliance dynamics, especially among informal or future taxpayers. Recent studies highlight the EDM's limited capacity to explain voluntary compliance in low-deterrence, weak institutional credibility contexts (Mohamed & Gan, 2024; Tahar et al., 2023).

The SSF, developed by Kirchler et al. (2008), integrates trust and power as dual determinants of tax compliance. It advances the EDM by recognizing that trust in authorities fosters voluntary compliance, while power ensures enforcement. However, the SSF is less suitable for low-trust environments like Vietnam, where scepticism toward public finance and limited fiscal transparency prevail (Nuryadi et al., 2024). Additionally, as Ishak et al. (2023) argue, the SSF doesn't sufficiently address the question as to how tax knowledge and internalized awareness evolve, which limits its applicability in transitional or emerging contexts.

The CCM, by contrast, provides a better lens for understanding tax compliance among future taxpayers such as university students. It posits that compliance is shaped by cognitive evaluations, normative beliefs, and emotional perceptions, not just fear of punishment or institutional trust (Kirchler et al., 2006; Parsons et al., 2023). The CCM emphasizes the role of tax education in shaping awareness and legitimacy perceptions, highly relevant in Vietnam, where tax curricula are underdeveloped, and many enter adulthood with limited exposure to tax obligations (Nguyen et al., 2024). Moreover, the CCM aligns with calls for non-coercive, education-driven strategies to build tax morale, especially in emerging economies where state capacity and trust are evolving (Mascagni et al., 2024). By focusing on internalizing tax norms, the CCM better assesses how attitudes are shaped among new entrants, where the EDM and SSF are weaker.

In light of these considerations, this study adopts the CCM to explore the relationships between tax education, awareness, and compliance among Vietnamese university students. Applying CCM extends the model into transitional economies, offering insights into how cognitive

and normative aspects of tax behaviour can be nurtured from an early stage.

Tax Compliance

Tax compliance refers to the extent individuals meet their tax obligations, including accurate reporting and timely payment. It is divided into voluntary compliance, based on trust, ethics, and fairness, and enforced compliance, driven by audits and penalties (Andreoni et al., 1998; Kirchler et al., 2008). In developing countries like Vietnam, where audit coverage is under 5 % and enforcement is inconsistent, over-reliance on legal sanctions is ineffective (General Department of Taxation, 2023). This highlights the need for strategies that promote voluntary compliance, particularly through education and public engagement.

Empirical studies show that social norms, institutional trust, and civic attitudes are key factors in shaping compliance (Batrancea et al., 2019; Kogler et al., 2023). In transitional economies with low trust in public institutions, voluntary compliance becomes even more important. Taxpayers are more likely to comply when they view the system as fair, transparent, and beneficial.

Vietnam's evolving tax culture presents challenges and opportunities. Many young taxpayers lack formal exposure to tax obligations and are sceptical of public fund use. Therefore, it is crucial to cultivate awareness and moral responsibility from an early age, which aligns with the Cognitive Compliance Model (CCM) and its emphasis on internal motivations, such as perceived legitimacy and ethical commitment, as drivers of compliance. Enhancing voluntary compliance among university students through targeted education may strengthen tax morale and institutional trust in the long run.

Relationship between Tax Awareness and Tax Compliance

Tax awareness refers to individuals' understanding of their tax rights and obligations, the rules of compliance, and the broader role of taxation in national development. In the Cognitive Compliance Model (CCM), tax awareness is seen as a key cognitive factor shaping perceptions of legitimacy, fairness, and civic duty, which are essential for voluntary compliance (Kirchler et al., 2006; Parsons et al., 2023).

Although researchers generally agree that tax awareness affects compliance, the extent and nature of this relationship remain contested. Some studies report a positive correlation, suggesting that more informed taxpayers are likelier to comply (Nguyen et al., 2024; Rahmayanti et al., 2020). However, other research indicates that awareness alone may be insufficient. For instance, Ermawati (2018) and Ishak et al. (2023) argue that individuals may still be non-compliant due to low institutional trust, perceived corruption, or a lack of perceived benefits. Similarly, Susanto and Fiorita (2023) highlight that awareness affects compliance indirectly, through internal motivations and perceived social norms.

Vietnam's context calls for re-examining this relationship. Tax awareness is limited, especially among young and first-time taxpayers. The General Department of Taxation (2023) reports that university students lack practical tax knowledge, and tax education is rarely included in national curricula. Combined with low tax morale and scepticism about public fund management (Hong, 2023), this offers a unique setting to explore how

Drawing on these considerations, the following hypothesis is proposed:

H1: Tax awareness positively influences tax compliance.

Relationship between Tax Education and Tax Compliance

Tax education is the process by which individuals acquire knowledge about tax laws, obligations, and taxation's role in society. In the Cognitive Compliance Model (CCM), education lays the foundation for cognitive awareness, influencing perceptions of fairness, responsibility, and compliance behaviour (Kirchler et al., 2006; Parsons et al., 2023).

Many studies show a positive link between tax education and compliance. For example, in Indonesia and Rwanda, school-based education and outreach campaigns increased voluntary compliance, especially when combined with transparency and civic messaging (Albert & Fadjarenie, 2022; Niyorugira, 2024). However, some researchers question the consistency of this link. For example, Kurniawan (2020) argues that formal education alone may not be enough without experiential learning or exposure to real tax situations. Mascagni et al. (2024) suggest that the effectiveness of education programs depends on the context and may diminish in environments with low trust or inefficient administrative systems.

In Vietnam, tax education is not part of formal curricula. Although some university programs include taxation in business or economics courses, the teaching is largely theoretical and often fails to connect with practical, real-world fiscal responsibilities. As a result, students primarily

acquire tax knowledge informally, leading to fragmented awareness (Nguyen et al., 2024; Hong, 2023; General Department of Taxation, 2023).

This lack of structured education fosters a perception that tax obligations are irrelevant, especially among students not yet employed full-time. Without early-stage engagement, tax norms may not be internalized during key periods of cognitive and ethical development. In a context where young people represent the future taxpayer population and tax institutions are evolving, it is important to re-examine the role of tax education for both empirical understanding and policy development.

This leads us to the following hypothesis:

H2: Tax education positively influences tax compliance.

The Mediating Role of Tax Awareness on the Relationship between Tax Education and Tax Compliance

Tax awareness plays a key mediating role between tax education and compliance. In the Cognitive Compliance Model (CCM), education provides facts, principles, and legal frameworks, while awareness translates these into perceived obligations and normative beliefs, influencing compliance behaviour (Kirchler et al., 2006; Parsons et al., 2023).

As a cognitive construct, awareness mediates behaviour by emphasizing the salience, legitimacy, and moral framing of tax duties. While education provides the content, awareness gives it meaning. This is particularly important for university students, who have limited tax experience but whose values are still forming. In such contexts, awareness shapes whether education translates into actionable intentions.

The mediating role of awareness is supported by Cognitive Dissonance Theory, which suggests individuals adjust behaviour to align with internalized beliefs (Festinger, 1962). However, few studies isolate awareness as a mediating variable, especially in transitional economies where institutional weaknesses dilute education's direct impact (Kurniawan, 2020; Susanto & Fiorita, 2023).

In Vietnam, this mediation may be even more crucial. With fragmented tax education, weak trust in fiscal authorities, and young people relying on informal sources for tax knowledge, without awareness, educational inputs are unlikely to translate into compliance intentions, especially for future taxpayers unfamiliar with formal tax procedures (Nguyen et al., 2024; General Department of Taxation, 2023). Testing this pathway will help refine education-based compliance strategies.

Therefore, the following hypothesis is proposed:

H3: Tax awareness mediates the relationship between tax education and tax compliance.

Research Methodology

This study adopts the CCM model to examine the link between tax education, tax awareness, and compliance. The CCM model is chosen for its ability to explain how cognitive and behavioural factors shape decision-making.

In the CCM model, behavioural intention is influenced by Cognitive Evaluation, Subjective Probabilities, and Feelings. Tax education represents Cognitive Evaluation, providing knowledge to assess tax obligations. Tax awareness reflects Subjective Probabilities and Feelings, influencing understanding and emotional responses. Tax compliance represents Behavioural Intention, the outcome of cognitive and emotional factors, leading to compliance.

This framework offers insights into how tax education and awareness impact compliance, guiding effective tax policies.

Sample and Data Collection

This study employs a quantitative approach to examine tax compliance among Vietnamese
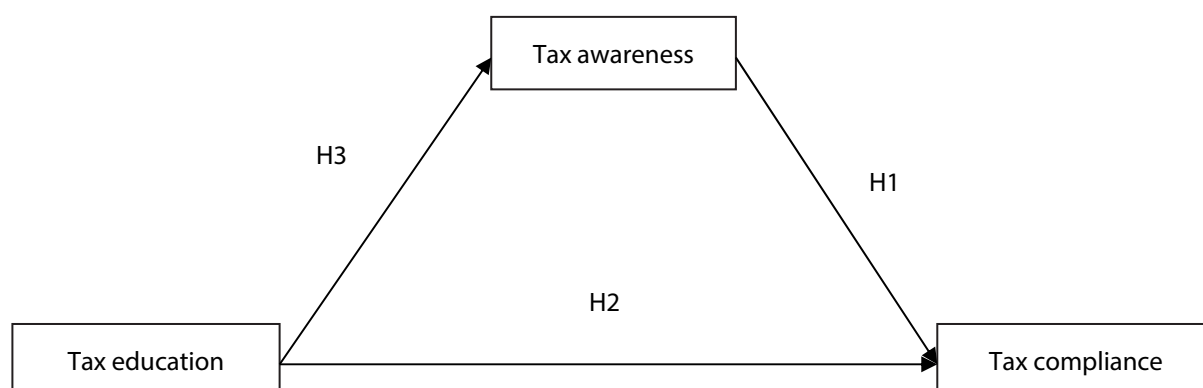

Fig. 2. *Proposed Research Model*

university students, conceptualized as future taxpayers. While not yet fully embedded in the tax system, they represent a key demographic in shaping long-term compliance behaviour. According to the Cognitive Compliance Model (CCM), compliance is driven by awareness, perception, and internalized norms, processes that develop before actual tax-paying behaviour occurs (Kirchler et al., 2006).

To ensure contextually relevant and generalizable findings, the sample was stratified to reflect Vietnam's geographic and socio-economic diversity. Participants were drawn from universities in the Northern, Central, and Southern regions, representing both urban and rural settings. Each region has distinct socio-cultural characteristics, economic development levels, and institutional trust, all of which may influence tax-related behaviours.

The Northern region, including Hanoi, has higher educational access and stronger institutional presence. The Central region, with urban and rural areas, reflects a transitional economy with varied educational resources. The Southern region, including Ho Chi Minh City, is known for rapid growth and diverse cultural influences, contributing to varied tax compliance levels.

Stratified random sampling ensured adequate representation from different geographic and demographic backgrounds. Efforts were also made to balance respondents from urban centres and rural or remote areas to comprehensively reflect Vietnam's socio-economic diversity.

The sample of 513 valid responses was stratified according to Vietnam's demographic composition based on the latest data from the General Statistics Office: 34 % from the Northern region, 18 % from the Central region, and 48 % from the Southern region. This approach accounts for regional differences in educational infrastructure, institutional trust, and tax culture, which influence tax education, awareness, and compliance behaviours among university students.

Using population distribution as a proxy for student representation is justified in the absence of detailed enrolment data. This approach ensures that the sample reflects regional university-age populations, offering balanced insights into regional variations in tax-related knowledge and behaviour.

Prior to data collection, a statistical power analysis determined the minimum sample size required. With a 95 % confidence level and ±5 % margin of error, 385 respondents were needed. Data were collected from 899 students across multiple universities in Vietnam using in-person and online surveys from June to October 2024. A stratified random sampling strategy ensured demographic and geographic representation. Respondents were categorized into three regions based on population density: Area 3 (urban), Area 2 (semi-urban), and Area 1 (rural/remote). After data cleaning, 513 valid responses were retained.

Among these, 12.5 % were full-time and 36.3 % part-time students, likely having encountered preliminary tax-related situations. Although the survey did not capture prior tax filing experience, it focuses on cognitive dimensions of compliance: tax awareness, educational exposure, and attitudinal intent.

This aligns with the Cognitive Compliance Model (CCM), which emphasizes psychological factors over observable behaviour. University students, in a formative cognitive and civic development stage, provide a relevant context for studying how tax education and awareness influence compliance intentions.

A comprehensive overview of the study sample is given in Table 2.

Development of Scale and Questionnaire

The questionnaire used in this study was developed to measure three constructs from the Cognitive Compliance Model (CCM): tax education, tax awareness, and tax compliance. These constructs reflect the cognitive and normative dimensions underlying voluntary tax compliance, particularly in early-stage or future taxpayers.

The survey had two sections. The first included demographic variables such as gender, academic field, and employment status. The second assessed the three constructs using a five-point Likert scale. Items were adapted from established scales in previous studies (e.g., Parsons et al., 2023; Nguyen et al., 2024) and pre-tested for clarity among Vietnamese university students.

In line with the CCM's focus on cognitive antecedents, the instrument did not include questions on past tax filing or actual compliance behaviour. This omission was intentional, as the sample had limited real-life tax exposure, and self-reports would likely be unreliable. Instead, the questionnaire captured students' perceived tax knowledge, awareness, and evaluative beliefs about compliance, which are conceptually distinct from behaviour but foundational in the CCM (Kirchler et al., 2006).

Thus, the instrument served as a cognitive mapping tool to understand how tax education influences awareness and compliance-related

Demographics Statistics

Descriptor		Frequency	Percent (%)
Sex	Male	311	60.6
	Female	202	39.4
Employment status	Unemployment	263	51.3
	Full-time	64	12.5
	Part-time	186	36.3
Average income per month	>11 million VND	433	84.4
	<=11 million VND	80	15.6
Education area	Area 3 (Inner city areas of centrally run cities)	320	62.4
	Area 2 (Provincial cities, suburbs of centrally run cities)	108	21.1
	Area 1 (Ethnic Minorities and Mountainous Areas) and Area 2 Rural	85	16.6
Specialization	Research field I: Teacher education and training	41	8.0
	Research field III: Business and management, Law	248	48.3
	Research field V: Mathematics and statistics, Computer and information technology, Engineering, Production and processing, Architecture and construction, Agriculture and fisheries, Veterinary medicine	117	22.8
	Research fields VII: Humanities, Social and behavioural sciences, Journalism and information, Social services, Hotels, tourism and personal services, Transportation services, Environment and school conservation environmental protection, national defence and security	55	10.7
	Other research areas	52	10.1

Source: Data gathered through the survey

dispositions. Internal reliability was assessed using Cronbach's alpha, and construct validity was confirmed via Confirmatory Factor Analysis.

Data Analysis

Data analysis was conducted using Structural Equation Modelling (SEM) to examine the impact of tax awareness on tax compliance behaviour among university students. SEM was chosen for its ability to assess complex relationships between multiple constructs. After cleaning the dataset of 513 valid responses, reliability testing was done with Cronbach's Alpha to ensure internal consistency. SEM analysis was performed using SPSS 25 and relevant tools to estimate the effects of tax awareness on compliance behaviour and evaluate the model fit. Confirmatory Factor Analysis (CFA) was used to assess construct validity, with criteria such as CFI > 0.9, RMSEA < 0.08, and p-values > 0.05 confirming the model's validity (Hair et al., 2010).

Results

Validating Scale Reliability and Confirmatory Factor Analysis

Table 3 shows that Cronbach's alpha coefficients indicated high reliability for all scales, with values exceeding 0.7. "Tax Education" had an alpha of 0.93, with items TE_1 to TE_6 ranging from 0.782 to 0.842. "Tax Awareness" also showed strong consistency with an alpha of 0.93, although one variable (TAW_4) was slightly lower. "Tax Compliance" had alpha of 0.92, with items TC_1 to TC_5 demonstrating high consistency. These results confirm the reliability and validity of the measurement scales, ensuring the accuracy of the research findings.

Confirmatory Factor Analysis (CFA) showed a good model fit, with CMIN/df = 1.686, TLI = 0.988, and CFI = 0.990, all within acceptable thresholds. All factor loadings were significant at $p < 0.001$, confirming the validity of the measurement model and supporting the structural model's appropriateness.

Hypothesis Testing

The results from Table 4 show that tax awareness (TAW) has a significant positive effect on tax compliance (TC), with an estimate of 0.777*, a critical ratio (C.R.) of 18.234, and a p-value of 0.000. However, the relationship between tax education (TE) and compliance (TC) is not significant, with an estimate of 0.044, C.R. of 1.232, and p-value of 0.218, suggesting tax education alone does not directly influence compliance. On the other hand, tax

Reliability Analysis

No		Item	Item-Total Correlation	Cronbach's Alpha
1		*Tax education*		
	TE 1	The tax authority regularly educates about tax rights and obligations through mass media (TV, radio, newspapers).	0.842	0.93
	TE 2	The tax authority frequently updates tax rights and obligations through personal accounts (SMS, Zalo, email).	0.806	
	TE 3	The tax authority regularly educates and disseminates information on tax rights and obligations in the form of documents or written materials.	0.782	
	TE 4	The tax authority promotes tax education by organizing conferences, seminars, and training sessions.	0.811	
	TE 5	The tax authority regularly educates about tax rights and obligations via tax portals and social media (Facebook, YouTube, TikTok).	0.791	
	TE 6	Tax rights and obligations are integrated into school curricula through specific subjects in the training program.	0.801	
2		*Tax awareness*		
	TAW 1	I believe that tax awareness should be cultivated from a young age.	0.815	0.93
	TAW 2	I recognize my responsibility to pay taxes when my income reaches the taxable level as prescribed.	0.850	
	TAW 3	I am aware that tax evasion is a wrongful act and subject to penalties under the law.	0.800	
	TAW 4	I am aware of the differences between two types of taxes: personal income tax and corporate income tax.	0.716	
	TAW 5	I always recognize that the taxes I pay to the state budget are used for the nation's socio-economic development.	0.824	
3		*Tax compliance*		
	TC 1	I take responsibility for declaring taxes in accordance with tax regulations and laws.	0.839	0.92
	TC 2	I voluntarily register for a personal tax code even when it is not immediately required.	0.808	
	TC 3	I take responsibility for declaring taxes accurately, fully, and on time as prescribed.	0.833	
	TC 4	I take responsibility for paying taxes within the stipulated deadlines.	0.764	
	TC 5	I take responsibility for complying with penalties if I violate tax regulations and laws.	0.818	

Source: Compiled by the author from SPSS 25

education (TE) significantly affects tax awareness (TAW), with an estimate of 0.435*, C.R. of 9.365, and *p*-value of 0.000, demonstrating its role in fostering awareness, which impacts compliance.

The results in Table 3 align with the CCM, highlighting the role of cognitive and normative factors in tax compliance. Tax awareness (TAW) significantly influenced tax compliance (TC), with an estimate of 0.777*, a C.R. of 18.234, and a *p*-value of 0.000, supporting CCM's premise that awareness drives compliance.

However, the relationship between tax education (TE) and compliance (TC) was not significant, with an estimate of 0.044, C.R. of 1.232, and *p*-value of 0.218, indicating that education alone does not directly impact compliance. This reflects the CCM's view that education influences compliance indirectly through factors like awareness.

In contrast, tax education (TE) significantly affected tax awareness (TAW), with an estimate of 0.435*, C.R. of 9.365, and *p*-value of 0.000. This supports the CCM, demonstrating that tax education fosters awareness, which in turn influences compliance.

Discussion

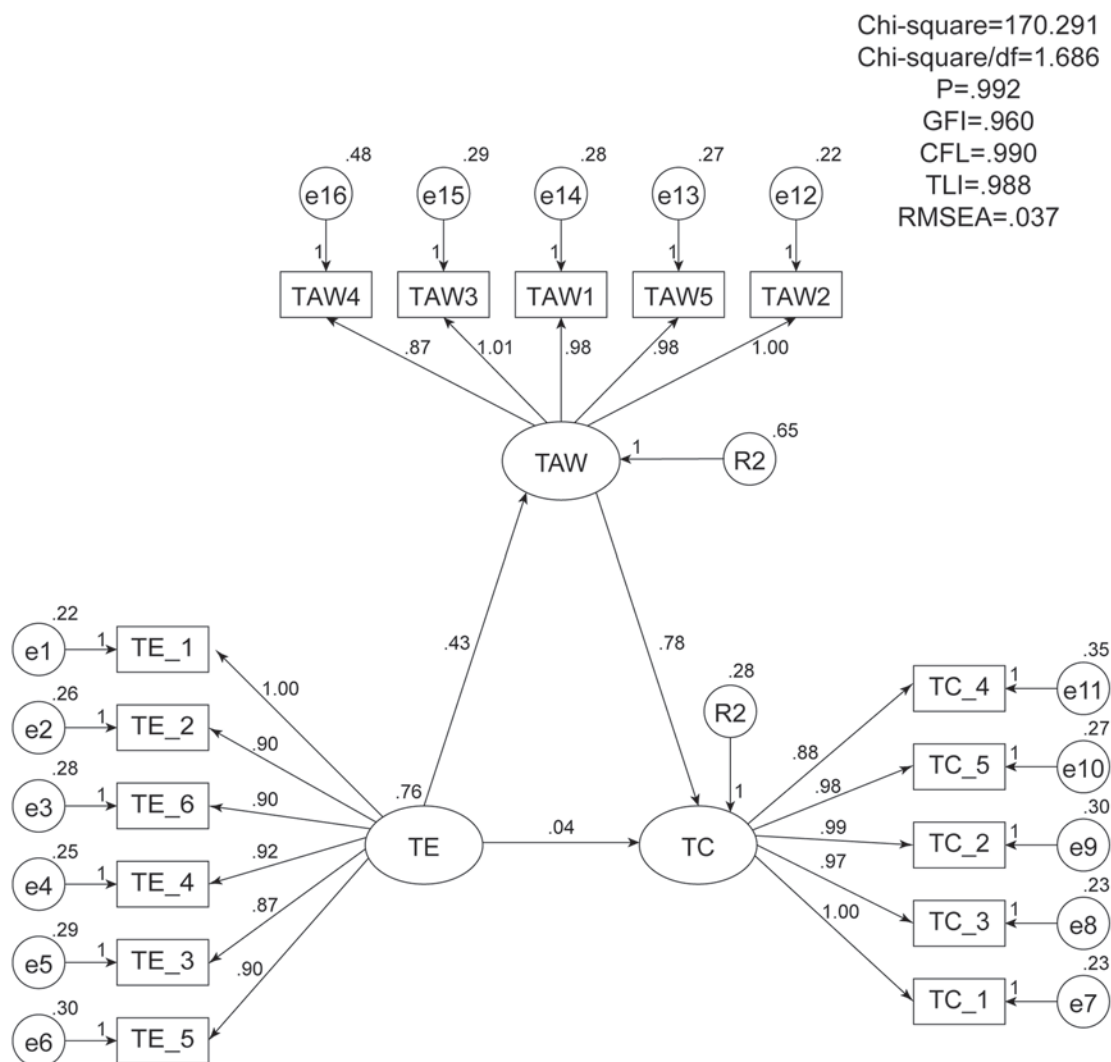This study aims to examine the impact of tax awareness and tax education on tax compliance,

Fig. 3. *Structural Equation Modelling Results*
Source: Compiled by the author from SEM 26

Table 4

Regression Coefficient Testing

		Hypothesis		Estimate	S.E.	C.R.	P	Result
H1	TAW	→	TC	0.777***	0.043	18.234	0.000	Accepted
H2	TE	→	TC	0.044	0.036	1.232	0.218	Not Accepted
H3	TE	→	TAW	0.435***	0.046	9.365	0.000	Accepted

Source: Compiled by the author from SPSS 25

specifically focusing on the mediating role of tax awareness.

The results confirm a strong positive relationship between "tax awareness" (TAW) and "tax compliance" (TC), with an estimated coefficient of 0.78 and a significant p-value of 0.000. This finding aligns with previous research (Rahmayanti et al., 2020; Nguyen et al., 2024; Dewi Anggadini et al., 2022), which also highlighted the positive impact of tax awareness on compliance. Unlike the Risk as Feelings (RaF) theory, which focuses on emotional triggers, the Cognitive Compliance Model (CCM) offers a more fitting explanation. The CCM suggests that

tax awareness improves individuals' cognitive evaluations by increasing their understanding of the risks and consequences of non-compliance, such as penalties or moral satisfaction from adherence. As taxpayers become more aware of their responsibilities and the benefits of contributions, they are more likely to comply. This aligns with Do et al. (2022), who found that tax awareness shapes compliance behaviour through personal perception and social influences.

In contrast, the results confirm that the relationship between "tax education" (TE) and "tax compliance" (TC) is not statistically significant, with an estimated coefficient of 0.04 and a p-value of 0.218. This finding aligns with studies by Kurniawan (2020) and Albert & Fadjarenie (2022), which concluded that tax education alone does not directly influence compliance behaviour. According to the Cognitive Compliance Model (CCM), this can be explained by the model's focus on cognitive and normative factors, rather than just educational inputs. The CCM suggests that education raises awareness, but compliance is more influenced by perceptions of fairness, trust, and personal experiences.

Although early tax education may shape positive attitudes, it does not directly lead to compliance without further reinforcement by practical experience and system interaction (Albert & Fadjarenie, 2022). In Vietnam, inefficiencies and corruption in tax administration erode trust, limiting the effectiveness of education and reducing compliance, even among educated taxpayers. Thus, education alone cannot overcome systemic barriers.

The results confirm the significant mediating role of tax awareness between "tax education" (TE) and "tax compliance" (TC), with a coefficient of 0.435 and high reliability (P = 0.000). This finding supports Cognitive Dissonance Theory, suggesting tax education influences compliance indirectly by enhancing tax awareness. According to the Cognitive Compliance Model (CCM), tax awareness shapes perceptions and beliefs about tax obligations, driving compliance behaviour. Taxpayers may understand tax laws through education but still fail to comply if they perceive the system as unfair or inefficient. This highlights the importance of awareness in linking education to actual compliance. Additionally, tax education programs often focus on facts like rates and penalties but neglect the broader societal benefits of taxes, such as funding public services. Incorporating these impacts could foster a greater sense of responsibility, leading to increased compliance. The study supports the CCM's view

that awareness mediates the relationship between education and compliance.

While focused on Vietnam, these findings may be applicable to transitional economies or developing regions. For example, studies by Nguyen et al. (2024) and Rahmayanti et al. (2020) in Indonesia and Eastern Europe show that tax awareness mediates the relationship between education and compliance, demonstrating the global relevance of these strategies.

The results confirm that tax education positively influences behaviour, which impacts regional economic development. Widespread implementation of tax education can improve compliance and support sustainable growth, especially in underdeveloped regions or countries undergoing tax system reforms. These strategies can be applied not only in Vietnam but also in emerging economies with evolving tax systems. Focusing on tax education in these areas can help build more effective tax systems and support economic development by increasing citizens' engagement in the formal economy.

In short, this study confirms that tax awareness significantly influences compliance, with awareness mediating the relationship between education and behaviour. While tax education alone does not directly affect compliance, it enhances awareness, which drives compliance. These findings align with the Cognitive Compliance Model (CCM), highlighting the importance of education, awareness, and trust in the tax system. The study also underscores the need to address systemic issues, such as inefficiencies and corruption, to enhance the effectiveness of tax education and promote long-term compliance. The results have clear implications for tax policy, including strengthening the tax base, improving collection, and reducing the tax gap. By fostering citizen participation and promoting fairness and transparency in revenue distribution, these measures also support broader regional development strategies.

Conclusions and Policy Implications

This study, based on the CCM, uses Structural Equation Modelling (SEM) to examine the relationship between tax education and compliance, focusing on the mediating role of tax awareness among Vietnamese university students. The findings shed light on factors influencing tax compliance and offer recommendations to improve education and awareness, fostering an ethical tax culture and enhancing voluntary compliance in Vietnam and similar developing countries.

To enhance public trust and voluntary compliance, governments should improve

transparency by publishing reports on how tax revenues are allocated, focusing on services like infrastructure, healthcare, and education. Using blockchain can provide an immutable record of tax collection and spending, improving accountability. A public feedback system should be established to engage citizens in decision-making, fostering a sense of participation in public finance.

Tax education should emphasize the societal benefits of taxes, using real-world examples to show their impact on public services. Creating user-friendly e-tax platforms and interactive tutorials will simplify filing, particularly for marginalized groups. Educating individuals from a young age about tax systems and integrating this knowledge into primary and secondary education will help build a culture of compliance for long-term contributions.

Finally, governments should clearly communicate the consequences of non-compliance, highlighting the negative impact of tax evasion on essential services. Incorporating the societal value of taxes in educational materials will promote a fairer, more transparent system, encouraging voluntary compliance.

The novelty of this study lies in its innovative approach to tax compliance through the Cognitive Compliance Model (CCM), specifically by examining the mediating role of tax awareness. Unlike previous research focusing on the direct effects of tax education, this study highlights how awareness mediates the relationship between education and compliance behaviour. This theoretical contribution extends the CCM by integrating cognitive and normative factors, emphasizing the role of awareness in driving compliance. The findings offer new insights into the indirect effects of tax education, particularly in emerging economies.

Vietnam's pronounced regional diversity, with marked disparities in economic development, educational infrastructure, and institutional trust across its Northern, Central, and Southern regions, as reflected by the rigorously stratified sample, creates a unique backdrop for investigating the nuanced effects of tax education and awareness on compliance behaviour. By foregrounding this geographic and socio-economic heterogeneity, the study enriches theoretical insights into tax compliance dynamics within emerging economies confronting complex systemic and cultural challenges.

The findings emphasize the need for customized tax education initiatives that raise awareness in ways that align with regional attributes and socio-economic realities in Vietnam. This research informs the design of context-sensitive strategies to enhance voluntary tax compliance and promote sustainable economic development, with implications for other developing nations undergoing similar transitions.

This study has several limitations. First, the sample consists of university students who have not fully engaged with the tax system, so the focus is on the cognitive and normative antecedents of compliance, as outlined by the Cognitive Compliance Model (CCM), rather than actual behaviour. Future research could include diverse demographic groups, examine the role of trust in tax systems, and explore long-term effects of tax education across cultures. Second, the sample used population distribution as a proxy for regional enrolment, which may limit representativeness; future studies should use precise enrolment data to improve stratification and generalizability. Finally, surveys capture internal perceptions but do not replicate real-world decision-making. Experimental designs could better simulate tax compliance behaviour, particularly among experienced taxpayers.

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