

## Tax Administration, Taxpayers' Awareness And Tax Compliance In Southern And Central Ethiopia: A Structural Equation Model (Sem) Approach

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### ABSRTACT

*Tax is the most essential development instrument to finance investment and provide public services for citizens. Despite its crucial roles, tax collection and management have remained outstanding problems in Southern and central Ethiopia. The study aimed to investigate the effects of tax administration and tax payers' awareness on category "A" tax payers in Southern and central Ethiopia. The research employed an explanatory research design, and a total of 382 sample respondents were selected using systematic random sampling technique. Structural Equation Modeling (SEM) was applied to examine the causal relationships among variables. The finding from path analysis indicated that; tax administration has limited direct effects on taxpayers' compliance. The study identified that tax administration laws do not boost tax compliance. Additionally, the result revealed that existing tax administration practices substantially impact and indirectly influenced tax compliance by increasing tax awareness. This implies that the enactment of tax administration alone does not have a significant direct impact on improving tax compliance; 'rather' it can be only effective through improvement in contextual factors such as tax awareness. To effectively improve tax compliance, tax authorities should prioritize enhancing public tax awareness instead of solely relying on tax administration practices.*

Keywords: Tax administration, Tax awareness, Tax Compliance, Category "A" taxpayers, Structural Equation Model.

### INTRODUCTION

Taxes are considered unreturned because the benefits given by the government to citizens are regularly not relative to the sum they pay. This way, taxes are money exchanges to the open segment, barring advance exchanges and coordinating installments for freely created products and administrations. Taxes can be categorized as direct or indirect. Direct taxes are levied on individuals or businesses responsible for their payment, encompassing income and property taxes. Conversely, indirect taxes are levied on one entity, usually merchants, yet ultimately incurred by consumers via elevated prices on products and services. Indirect taxation encompasses sales and value-added tax (Charles et al., 2020).

Many tax authorities face considerable challenges in ensuring tax compliance, and motivating taxpayers to meet their tax obligations is seldom straightforward. Tax compliance is defined by how much taxpayers adhere to tax laws. However, the concept of compliance can vary widely, ranging from narrow law enforcement definitions to broader economic interpretations and even more wide-ranging views that consider taxpayers' decisions to align with the broader aims of society as readdressed in tax policy (Gberegbe & Umoren, 2017).

Mohdali (2013) asserts that tax compliance signifies taxpayers' commitment to conforming to tax legislation to promote economic stability. He asserts that this word accurately represents taxpayers' behavior in fulfilling their

tax obligations. The importance of tax compliance has led to extensive research in countries around the world, regardless of their economic status (Asfawa & Sebatb, 2019).

Ethiopia's tax collection efficiency is inferior to that of other Sub-Saharan African nations. The Ethiopian Income Tax Proclamation (EITP, 2016) categorizes the Ethiopian government's levies and taxes into direct and indirect forms. Direct taxes are collected on income from employment, property rental, business operations, farming, and certain gains. Indirect taxes are sales taxes (VAT), specific taxes on goods, import duties, and turnover taxes.

Despite multiple efforts to reform its tax system, Ethiopia has faced challenges in enhancing voluntary taxpayer compliance. The nation's tax-to-GDP ratio of 11% is significantly lower than the standards of affluent countries (25-35%), developing nations (18-25%), and the Sub-Saharan African average of 16% (Abay, 2010). The inadequate revenue collection performance is chiefly due to two factors: the pervasive unwillingness of business income taxpayers to adhere to the regulations and shortcomings in the tax administration system.

Taxpayer knowledge and compliance are essential for a nation to collect state revenue through taxation efficiently. Improving tax administration is equally important in increasing voluntary tax compliance. Taxpayer awareness involves initiatives to promote individuals' comprehension and compliance with tax obligations dictated by tax regulations. Consciousness is obvious when taxation regulations are known, documented, treasured, and submitted. If regulations are only partially understood, taxpayer awareness remains low (Alabede et al., 2011). This study investigated tax administration, taxpayer knowledge, and tax compliance among Southern and central Ethiopia's category "A" taxpayers.

Comprehensive studies have been undertaken regarding tax compliance and its determinants in Ethiopia, including those by Assfaw and Sebat (2019), Niway and Wondwossen (2017), Mesele et al. (2019), Deyganto (2018), Solomon and Shaik (2017), Manchilot (2018), Dejen and Alebel (2020), Lakech and Ayitene (2019), and Wondimu and Mulatie (2020). Nevertheless, most of these researches failed to investigate the direct and indirect impacts of tax awareness and tax administration systems on taxpayers' compliance behavior. In summary, prior studies on tax compliance have essentially neglected the application of structural equation modeling. This study addresses the gap by examining the influence of tax awareness and tax administration on the tax compliance behavior of category "A" individual business income taxpayers in Southern and Central Ethiopia.

#### **LITRATURE REVIEW**

Among early taxation theories, tax compliance is emphasized due to its broader applicability to the study. Ensuring tax compliance poses a considerable burden for tax authorities globally. The concept of tax compliance, although crudely described as adherence to tax laws, is multidimensional. Its interpretation ranges from a strictly legal perspective to broader economic implications, encompassing a taxpayer's alignment with societal goals as reflected in tax policies. This complex nature of tax compliance underscores the difficulty in achieving full taxpayer cooperation (Gberegbe & Umoren, 2017).

Tax compliance is a complex concept that has been examined from multiple viewpoints. While some researchers, like Enofe et al. (2019), view it simply as taxpayer willingness to pay taxes, others, such as Andreoni et al. (2008) and Song and Yarbrough (2008), adopt more comprehensive definitions that encompass economic equilibrium, taxpayer ability, ethics, legal environment, and voluntary behavior. These diverse interpretations reflect the complexity of understanding and influencing taxpayer compliance. Tax authorities often define compliance as combination of taxpayer ability and willingness to follow tax laws accurately and timely. This includes correctly declaring income and paying the exact tax amount due (Internal et al. Act, 2000).

Oladipupo and Obazee (2016) define tax compliance as the accurate declaration of all income sources and the full remittance of taxes in conformity with legal obligations. From an economic perspective, voluntary tax compliance focuses on taxpayers willingly fulfilling reporting requirements, accurately calculating tax liabilities, and timely submitting tax returns.

A review of relevant empirical studies is essential to bridge this gap. Tax awareness refers to the taxpayer's sensitivity to tax legislation (Oladipupo & Obazee, 2016). Various factors, including formal education, influence it. Knowledge about a subject encompasses positive and negative aspects, which shape a person's attitude. Bird (2014) defined knowledge as information that someone knows or recognizes. Knowledge is closely tied to knowledge acquisition, which is influenced by a blend of individual desires and outside forces like available information resources and sociocultural conditions (Bird, 2014).

Tax knowledge is a critical factor influencing taxpayer compliance. It encompasses understanding tax laws, the motivation to comply, and strategies to minimize compliance costs. An essential component is a firm grasp of tax

regulations and awareness of potential tax evasion opportunities. As Oladipupo and Obazee (2016) highlighted, tax knowledge concerns taxpayer awareness of tax legislation. To foster compliance, it is crucial to enhance public understanding of tax laws and their role in countrywide improvement (Mohd, 2010).

A clear understanding of the compliance process can reduce compliance costs by minimizing confusion, errors, anxiety, and the need to hire expensive tax professionals. Utomo (2011) characterized taxation Knowledge as a taxpayer's ability to understand tax policy, including tax rates and benefits. Fikriningrum (2012) outlined key areas of tax law knowledge, such as having a Taxpayer Identification Number (TIN), fulfilling tax rights and obligations, understanding tax penalties and taxable income, and staying informed about tax rules through socialization and training.

According to Alabede et al. (2011), taxpayers' awareness combines knowledge and action. It involves understanding tax laws, acknowledging their importance, and voluntarily complying with them. True awareness is demonstrated by obeying tax regulations, while limited knowledge often hinders this process. Essentially, taxpayer awareness is about possessing the knowledge to understand tax laws and then acting upon that knowledge by complying with them.

Tax administration involves assessing tax obligations in compliance with prevailing tax legislation, evaluating these liabilities, and managing the collection, prosecution, and enforcement of fines against non-compliant taxpayers (Kangave, 2005). It encompasses many responsibilities, including taxpayer registration, assessments, return processing, collections, and audits. The principal aims of tax administration are to guarantee adherence to tax legislation and improve taxpayer service satisfaction. A deeper insight into Taxpayer conduct and perspectives regarding taxation might assist tax authorities devise more effective strategies for managing compliance risks (Walsh, 2012).

Tax administration is systematically organized and arranged for tax collection and related activities by federal and state tax authorities. Effective tax administration requires a robust management system to carry out its functions, guided by tax laws or codes and staffed by knowledgeable administrators. The success of tax administration reforms has been recognized in various regions, including Asia and Latin America. Numerous researches have proven the beneficial effects of tax administration reforms on tax revenue. For example, Gillis (1989) showed that Indonesia's tax-to-GDP ratio surged by approximately 50% after implementing tax administration reforms, a substantial achievement for a nation heavily dependent on natural resource exports. Similar findings were reported by Sewel and Thirsk (1997) for Morocco and Bulutoglu and Thirsk (1997) for Turkey, where tax administration improvements led to increased tax revenue.

#### **METHODOLOGY**

This study employed an explanatory research design to gather data through a survey of a population sample. This design is widely used to gather information on various research subjects. The study population includes all category "A" individual business income taxpayers in Level One and Level Two cities of Southern & Central Ethiopia. A report from regional authorities revealed that, though category "A" taxpayers constitute about 6% of the taxpayers' population, they accounted for 62% of tax revenue collected in the last ten years (2011-2020) (Regional Revenue Authority, 2020).

Another report from the regional finance bureau indicated that the actual tax collected measured by tax-to-regional GDP ratio for the period (from 2016 to 2020) averaged 5.13%, while the planned and the potential ratios were 8.94% and 11.2%, respectively (BoFED, 2020). These figures indicate that the region is facing challenges in tax collection, which can be associated with tax compliance. Earlier studies and reports from various government bodies showed that category "A" taxpayers are among the most non-compliant. Therefore, issues related to taxpayers' compliance with special attention to category "A" taxpayers are justified. A systematic random sampling method was employed to select a sample of 382 Category "A" taxpayers. The researcher exclusively utilized primary data due to the inadequacy of sufficient and dependable secondary data for category "A" taxpayers. Data was gathered using a standardized questionnaire delivered with assistance to participants. The research utilized the Structural Equations Model (SEM) estimate method with STATA version 17 for data analysis.

#### **Model specification**

Prior studies by Alaran-Ajewole et al. (2017) and Oladipupo and Obazee (2016) served as suitable frameworks for this investigation into the factors influencing voluntary tax compliance.

The specific model description is presented below;

$$TC = \partial_0 + \partial_1 TAWR + \partial_2 TADM + \mu$$

Where: TC= Tax Compliance, TAWR = Tax Awareness, TADM = tax administration and  $\mu$  = error term.

The dependent variable in this study is tax compliance. The primary independent variables are tax administration and taxpayer awareness. Tax administration encompasses several elements, including the quality of service provision to taxpayers, the tax assessment and collection processes, the enforcement of tax laws, and issues related to corruption. Taxpayers' awareness includes awareness of accurate financial report preparation, understanding of tax return declarations, timely payment of expected taxes, comprehension of tax obligations and rights, awareness of tax administration duties and criminal liabilities, and insight into the role of taxation in the economy.

**Socio-demographic and Economic Attributes of Sample Respondents**

In this sub-section, respondents' Socio-demographic and economic attributes like gender, age, education status, type of business engaged, business experience, experience as category "A" taxpayer, and place of birth have been discussed below:

Table 1: Socio-demographic and economic characteristics of sample respondents

Item	Frequency	Valid Percent
<b>Gender of the respondent</b>		
Male	284	77.8
Female	81	22.2
Total	365	100
<b>Age of the respondents</b>		
Below 25 year	26	7.1
25-34 year	135	37.0
35-44 year	119	32.6
45-54 year	54	14.8
55-64 year	22	6.0
Above 65 year	9	2.5
Total	365	100
<b>Education status</b>		
Secondary education and below	120	32.9
Certificate	49	13.4
College diploma	75	20.5
First degree	110	30.1
Second degree	11	3.0
Total	365	100
<b>Business engaged</b>		
Manufacturing	36	9.9
Service	82	22.5
Retailer	161	44.1
Wholesale	86	23.6
Total	365	100
<b>Experience as category "A" tax payer</b>		
Below 5 years	155	42.5
5-10 year	167	45.8
11-15 year	32	8.8
Above 15 years	11	3.0
Total	365	100

Source: Computed from questionnaire (2023)

Table 1 indicates that 284 individuals (77.8%) were male, whereas 81 individuals (22.2%) were female. Regarding the age of the sample respondents, 135 (37.0%) were individuals aged 25 to 34 years. Thus, the majority (69.6 percent) of respondents were adults aged between 25-44 years. Regarding their education status, most 120 (32.9 %) respondents were in secondary education (9- 12th grade), complete or below secondary education, followed

by the other education status category. The findings indicated that most responders (53.6 percent) were college diploma and above graduates, implying a better ability of respondents to easily understand the study's objective and thus get a good and genuine response. The majority, 161(44.1%) of the respondents, were retailers, while the rest were wholesalers (23.6%), service providers (22.5%), and manufacturers (9.9%). Nearly the majority, 167 (45.8%) of respondents, had been about 5-10 years since they registered in category “A” taxpayers. In general, the majority (57.6%) of category “A” taxpayers have five years and above of business experience after being registered as category “A”. This implies they had a chance to get enough experience to know tax regulations in this category.

**Structural Equation Modeling (SEM)**

This research utilized structural equation modeling (SEM) to examine causal relationships. The scores for each scale were averaged to create single values for each observed variable. Each data set was used to test both the measurement and structural models. Due to the possibility of non-normal data and model misspecification, the robust maximum likelihood (RML) estimation method was employed for parameter estimation and evaluation of model fit.

Table 2: Kaiser's Measure of Sampling Adequacy (MSA)

Variables	MSA
Tax administration(TADM)	0.710
Tax Awareness (TAWR)	0.873
Tax Compliance (TC)	0.858
Kaiser's MSA	0.813

Source: Model output (2023)

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) value of 0.813 indicates that the data is suitable for factor analysis. A KMO value closer to 1 indicates a higher proportion of variance shared among variables, making them more appropriate for the purpose of factor analysis. With a value of 0.813, the data demonstrates satisfactory conditions for conducting factor analysis.

Table 3: CFA for Tax Administration (TADM) Model

Model Fit Measures

RMSEA	RMSEA 90% CI		TLI	CFI	Model Test		
	Lower	Upper			$\chi^2$	df	P
0.158	0.0995	0.223	0.908	0.969	20.2	2	< .001

Source: Model output (2023)

Table 3 above shows the fit indices for the TADM measurement model. As discussed earlier, a well-adjusted measurement model is crucial for subsequent analysis within the structural model.

The TADM construct is underpinned by four latent factors: service delivery to taxpayers/TADM\_1/, tax assessment and collection procedures/TADM\_2/, tax law enforcement/TADM\_3/, and practice of tax corruption/TADM\_4/. The fit statistics for the four-factor TADM measurement model indicate an acceptable model fit. The chi-square value is significant at the 0.01 level, and the p-value of 0.000 suggests a good fit. The Comparative Fit Index (CFI) is 0.969, and the Root Mean Square Error of Approximation (RMSEA) of 0.158 with a p-value of 0.000 supports this conclusion. ‘The Standardized Root Mean Squared Residual’ (SRMR) of 0.0367, being relatively low, further reinforces the model's fit.

Table 4: CFA for Tax Awareness (TAWR) Model

Model Fit Measures

RMSEA	RMSEA 90% CI		TLI	CFI	Model Test		
	Lower	Upper			$\chi^2$	df	P
0.107	0.0833	0.132	0.911	0.941	72.6	14	< .001

Source: Model output (2023)

Table 4 displays the fit indices for the TAWR measurement model. As previously noted, a well-fitting measurement model is essential for subsequent structural model analysis. The TAWR construct is composed of seven underlying factors: Awareness of the preparation of reliable financial report/TAWR\_1/, Awareness of the declaration of tax return/TAWR\_2/, Awareness on timely payment of expected tax/TAWR\_3/, Awareness of the tax obligation/TAWR\_4/, Awareness on the tax rights/TAWR\_5/, Awareness on tax administration and criminal liabilities/TAWR\_6/, and Awareness on tax role in the economy/TAWR\_7/. The fit indices indicate that the seven-factor TAWR measurement model is well-fitted. The chi-square value is significant; nevertheless, further fit indices, such as a Comparative Fit Index (CFI) of 0.941, a Root Mean Square Error of Approximation (RMSEA) of 0.107, and a Standardized Root Mean Squared Residual (SRMR) of 0.0396, indicate an acceptable model fit.

Table 5: CFA for Tax Compliance (TC) Model

Model fit measures

RMSEA	RMSEA 90% CI		TLI	CFI	Model Test		
	Lower	Upper			$\chi^2$	Df	P
0.088	0.079	0.098	0.889	0.906	386.20	9	< .001

Source: Model output (2023)

Table 5 presents the fit indices for the TC measurement model. An accurately fitting measurement model is essential for the ensuing structural model analysis. The TC construct consists of five essential components: taxpayers' willingness to adhere to tax laws (TC\_1), taxpayers' ability to comply with tax laws (TC\_2), taxpayers' prompt tax payments (TC\_3), taxpayers' precise income reporting (TC\_4), and tax payers feel good while obeying for tax law and procedure to declaring and paying honestly (TC\_5). The fit statistics for the five-factor TC measurement model demonstrate a satisfactory model fit.

The chi-square value is significant, additional fit indices, including a Comparative Fit Index (CFI) of 0.906, a Root Mean Square Error of Approximation (RMSEA) of 0.079, and a Standardized Root Mean Squared Residual (SRMR) of 0.062, substantiates the overall model fit.

Figure 1: Structural Equation Model for determinants of tax payers' tax compliance

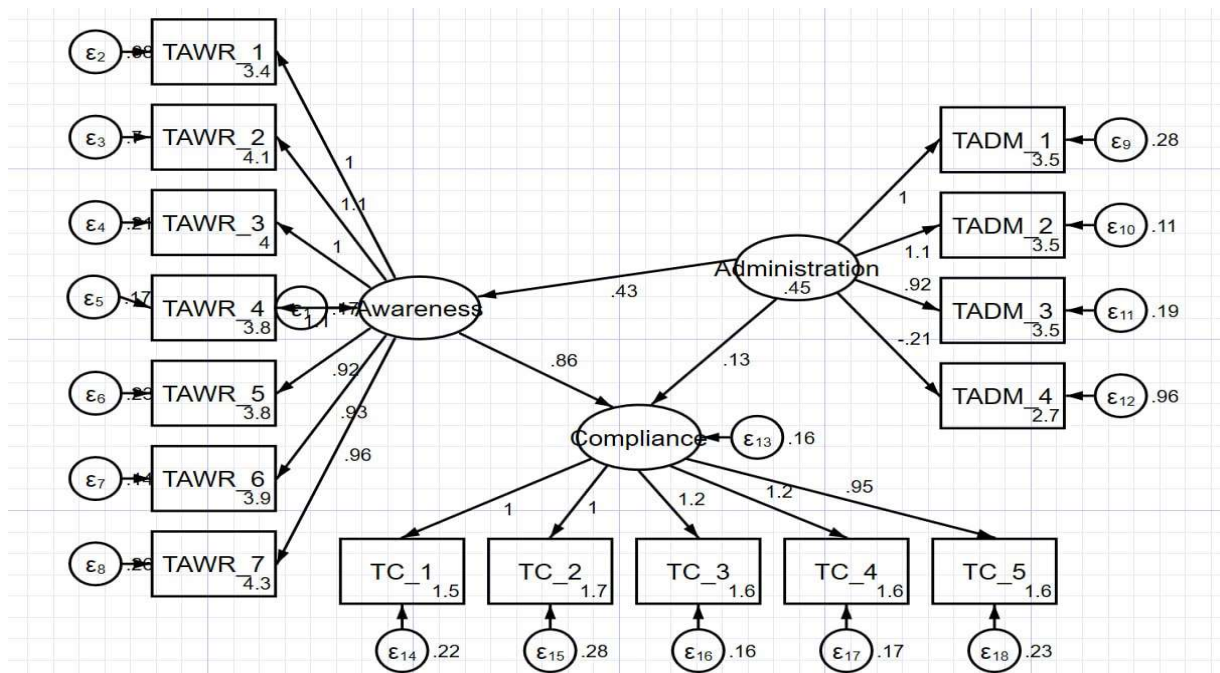


Table 6: Path Analysis

Path analysis	Coefficient	Standard Error	P-value
Direct effect			
Awareness → Tax compliance	0.864	0.113	0.000**
Administration → Tax compliance	0.126	0.051	0.014*
Indirect effects			
Administration → Awareness	0.43	0.294	0.000**
R <sup>2</sup> = 0.764			
Comparative fit index = 0.906			
RMSEA= 0.088			
SRMR: 0.062			
Chi square= 386.21 (0.000)			

Source: Model output (2023)

**Direct path:**

- Awareness → Compliance = 0.864 i.e. direct effect of tax awareness on tax compliance.
- Administration → compliance = 0.126 i.e. direct effect of tax administration on tax compliance.
- Administration → Awareness = 0.43 i.e. direct effect of tax administration on tax awareness.

**Indirect path:**

Administration → Awareness – compliance = 0.43 X 0.864 = 0.371 i.e. indirect effect of tax administration on tax compliance.

Total effect of tax administration on tax compliance = 0.126+ (0.43 X 0.86) = 0.497

The structural model indicates that 76.4% of the variation in the dependent variable is represented by a R<sup>2</sup> value of 0.764. The model's adequacy was evaluated utilizing the chi-square goodness-of-fit statistic together with other fit indices (CFI and RMSEA). Despite the significant chi-square value, which suggests a deviation from the population data, the CFI of 0.906 and RMSEA of 0.088 indicate an acceptable model fit. These findings support the main assumption that the tax compliance model is sound.

Path analysis reveals that tax awareness significantly impacts tax compliance, with a beta of 0.864 at 1% (p=0.000\*\*), suggesting that a unit increase in tax awareness boosts tax compliance by 0.864 units. Additionally, tax administration directly influences tax compliance, as indicated by a beta of 0.126, significant at 5% (p=0.014). A unit increase in tax administration improves tax compliance by 0.126 units.

The research indicates a substantial indirect influence of tax administration on tax compliance via tax awareness. An indirect effect beta of 0.43 indicates that improving tax awareness is a key mechanism by which tax administration can enhance compliance. This indicates that taxpayers' awareness of tax legislation, entitlements, and administrative protocols is essential for efficient tax compliance. In the absence of such awareness, the impact of tax administration on compliance is anticipated to diminish, highlighting the moderating role of tax awareness in this relationship.

Improved tax awareness markedly increases tax compliance (p=0.000), consistent with findings by Olaoye et al. (2017) and De Neve et al. (2019), which indicate that taxpayer awareness and information regarding tax administration processes influence tax compliance. This highlights the need for taxpayer education to enhance compliance. The study's findings support research by Fatmasari (2014), Ginting (2014), and Wardani (2017), which state that taxpayer awareness positively affects compliance. Similarly, research by Lestari et al. (2013), Permatasari (2015), Putri (2015), and Rifa (2016) confirms that increased tax knowledge and awareness result in higher compliance; conversely, lack of knowledge leads to misunderstandings of procedures and provisions, reducing compliance.

Comprehending and knowing tax-related information influences taxpayer compliance. The extent of formal education plays a crucial role in comprehending tax obligations. A thorough understanding of the tax compliance process can reduce compliance costs by minimizing errors, confusion, and stress. It also decreases the reliance on costly tax professionals. Taxpayers without a clear understanding of taxation are likely to be non-compliant, while those with proper knowledge tend to fulfill their tax obligations (Famami & Norsain, 2019). Improved public awareness through formal and informal tax education positively affects compliance (Sari & Fidiana, 2017).

Previous research investigating the relationship between tax awareness and compliance has yielded ambiguous results. While studies by Nurkhin et al. (2018), Olaoye et al. (2017), Rahayu (2017), Oladipupo and Obazee (2016), Ilhamsyah et al. (2016), and Redae and Sekhon (2016) demonstrated a significant positive correlation, Andinata (2015) found no evidence of such a relationship.

Similarly, tax administration significantly impacts tax compliance ( $p=0.014$ ). This finding aligns with Akinboade's (2015) identification of poor tax administration as a primary cause of widespread tax non-compliance. This includes factors such as bureaucratic processes, corruption, insufficient information, unresponsive services, inconsistent policies, and compliance obstacles. To encourage voluntary compliance, effective tax administration should streamline processes and improve taxpayer experience. Ultimately, the success of tax administration hinges on taxpayer perceptions (McKee et al., 2010).

Research findings underscore the crucial significance of tax administration in affecting taxpayer compliance. Mzalendo and Chimilila (2020) emphasize the influence of faith in tax authorities, the prevalence of corruption, and the administration's capacity to identify tax evasion. Susuawu et al. (2020) further underscore the significance of quality tax administration services in fostering compliance and recommend incorporating relevant indicators into service delivery. Usang and Etim (2021) asserted that tax administration exerted an insignificant influence on taxpayer compliance behavior.

### **CONCLUSION AND RECOMMENDATION**

Taxation is a fundamental aspect of public policy. In Ethiopia, tax compliance presents a significant challenge to tax administration, affecting revenue performance. Path analysis reveals that tax administration has minimal direct impact on tax compliance. However, it exerts an indirect influence through tax awareness, significant at the 5% level ( $p=0.000$ ). This suggests that merely implementing tax administration measures has limited direct effects on enhancing tax compliance. Instead, their effectiveness largely depends on improving contextual factors like tax awareness.

Taxpayer awareness serves as a crucial intermediary between tax administration and compliance. The efficacy of tax administration diminishes when Category "A" taxpayers fail to understand their tax duties and the procedures instituted by tax authorities. This study revealed a substantial direct impact of tax awareness on tax compliance, suggesting that intensified education improves taxpayer awareness of tax responsibilities.

The study recommends that regional tax authorities should focus on improving tax awareness regarding tax rights and obligations through various mass media channels. Additionally, tax authorities should engage knowledgeable and experienced experts to educate taxpayers about their compliance responsibilities. Furthermore, efforts should be made to enhance the functioning of tax administrations, particularly in areas such as providing tax information, offering tax advice, ensuring respectful service, treating all taxpayers equally, and implementing modern filing and payment systems.

The study also suggests that regional tax authorities should intensify enlightenment campaigns about tax assessment and collection procedures for category "A" taxpayers. Finally, addressing compliance complexity to the greatest extent possible is crucial. This study acknowledges several limitations, such as focusing on a limited number of potential factors of tax compliance within a growing array of factors.

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