“Tax culture and local development: Analysis of its impact on the formalization of informal traders in Peru”

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TAX CULTURE AND LOCAL DEVELOPMENT: ANALYSIS OF ITS IMPACT ON THE FORMALIZATION OF INFORMAL TRADERS IN PERU

Abstract

Economic informality remains a critical challenge in Latin America, affecting both sustainable development and tax equity. This study analyzes the relationship between tax culture and willingness to formalize among traders in Peru's main wholesale food market. Using a quantitative, non-experimental, correlational and cross-sectional approach, 300 traders were surveyed using an expert-validated questionnaire with tested reliability (Cronbach's alpha of 0.87 for tax culture and 0.83 for formalization). The findings show a significant positive correlation ($rs = 0.914$, $p < 0.01$) between tax culture and the probability of formalization. The dimensions of tax knowledge ($rs = 0.681$), tax awareness ($rs = 0.701$), and tax compliance ($rs = 0.745$) were also positively associated with the inclination to formalize. While 44.3% of respondents acknowledged that access to tax information strengthened their tax culture, only 30.3% claimed to regularly comply with their tax obligations. The study concludes that promoting formalization requires educational initiatives and public policies that strengthen the tax culture, simplify procedures and build institutional trust. It also highlights the need to integrate effective state and local tax systems and to develop legislation aligned with the realities of local government, thus promoting the inclusion of taxpayers in the tax system.

Keywords traders, tax culture, business formalization, taxation

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INTRODUCTION

Taxation and voluntary tax compliance are essential for socio-economic progress, especially in Latin America, where informality and tax evasion present significant challenges (Thu, 2024; Chiarini et al., 2022; Gootjes & de Haan, 2022). Peru, in particular, faces a critical situation, lagging behind in regional tax collection, with the retail sector an area of particular concern (Gómez, 2024; Mateo-La Rosa et al., 2024). The magnitude of the informal economy in the region, which accounts for about 40% of GDP, underscores the urgency of implementing effective measures to strengthen tax systems and promote business formalization (United Nations-ECLAC, 2019; Bohorquez-Isidro et al., 2024).

Tax culture is a multifaceted concept that goes beyond tax compliance, encompassing a deep understanding of civic responsibility and the fundamental role of taxation in state functioning and collective well-being (Ademe & Simret, 2020). This concept is underpinned by various economic and sociological theories that examine the factors that influence the tax behavior of individuals and firms. These include tax deterrence theory, which analyzes how perceptions of risk and the consequences of non-compliance affect taxpayers' decisions (Assfaw

& Sebhat, 2019; Jemberie, 2020), and Ajzen and Fishbein's (1975) theory of reasoned action, which explores how subjective attitudes and norms impact on the intention to comply with tax obligations.

From the authors' perspective, business formalization implies a voluntary process of integrating enterprises operating outside the law into the established regulatory framework (ILO, 2017). This process not only benefits the state through increased revenue collection, but also offers firms access to credit, legal protection and growth opportunities. North's (1990) institutional theory and Williamson's (1985) transaction cost theory provide theoretical frameworks for understanding the dynamics of formalization and the reasons why some firms choose to remain informal.

1. LITERATURE REVIEW AND HYPOTHESIS

The interaction between tax culture and economic formalization generates a potential virtuous circle for development. A strong tax culture fosters formalization by raising awareness of the benefits of operating within the legal framework, while formalization strengthens tax compliance by standardizing tax practices and demonstrating their tangible benefits for society (Oladipo et al., 2022). In this context, financial and tax education emerges as a crucial tool to promote fiscal responsibility and fiscally aware citizenship (Okpeyo et al., 2019; Arce-Cruz et al., 2023).

Tax culture has emerged as a fundamental element in the study of business formalization and tax compliance, attracting the attention of researchers and policy makers in various contexts (Machuca Vílchez et al., 2023; Cordova-Buiza et al., 2022). This multidimensional phenomenon encompasses knowledge, experiences and attitudes that citizens develop towards the state to effectively comply with their tax obligations (Castañeda, 2024; Arambulo-Dolorier et al., 2023). The complexity of this concept is reflected in its integral manifestation of ethical values, understanding of norms and behaviors that lead to responsible compliance with tax obligations (Jimenez & Rodriguez, 2022; Salazar-Rebaza et al., 2024).

The literature reviewed converges in the conceptualization of tax culture as a multidimensional phenomenon. Hinojosa Salazar et al. (2021) and Nigatu and Belete (2022) point out that taxpayers' lack of knowledge and awareness generates tax adherence problems, making it imperative to promote tax education and a positive perception of the system to improve compliance. Biru (2020) elaborates on this aspect, highlighting how tax beliefs significantly influence citizens' willingness to comply with tax rules. Zhang and Hou (2020) and Eliason and Lutz (2018) address the complexity of tax knowledge, noting that many taxpayers avoid delving into these aspects, preferring to focus on immediate benefits. This finding underscores the need for educational strategies that can effectively convey the importance and long-term benefits of tax compliance.

Kumi and Kwasi (2023) emphasize the role of tax values, such as honesty, responsibility and solidarity, in building a strong tax culture. This view is complemented by exploring tax awareness as the internalization of these values and the recognition of the collective benefits derived from paying taxes. Barberan et al. (2022) put these concepts into practice, analyzing how tax compliance represents the materialization of this culture in concrete actions.

Silupu Garcés and Reyes Landa (2019) highlight productivity as a key factor in the formalization process, allowing firms to generate the necessary surpluses to cover the costs associated with formality. United Nations-ECLAC (2019) stresses the importance of monetary and non-monetary incentives in stimulating desirable behavior among economic agents. Edgley and Holland (2021) provide a critical perspective by pointing out that the gap in public tax knowledge, especially in the high-income sector, reflects and exacerbates the disparity between budgeted and actual tax revenues, constituting a significant concern for social justice and the public interest. This observation highlights the importance of addressing inequalities in tax knowledge as part of a comprehensive strategy to improve tax compliance. Onofrei et al. (2020) show that greater tax knowledge signifi-

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cantly impacts the formalization of traders, helping to control budget deficits in boom times and allowing more fiscal space to stimulate the economy in times of recession. This finding underlines the strategic importance of tax education not only for individual compliance, but also for macroeconomic stability.

Recent research has shed light on the complex relationship between tax culture, formalization and economic development. Studies in Ecuador and Peru have shown positive correlations between the level of tax culture and tax compliance, as well as the significant impact of tax education programs on the willingness to formalize among micro-entrepreneurs (Hidalgo Achig et al., 2022; Alicia et al., 2023). However, despite tax reforms, informality in Latin America remains high, suggesting the need for more comprehensive approaches that address technical, cultural and social aspects (Irándoust, 2024). Optimizing collection through administrative simplification and cost reduction is presented as a promising strategy to incentivize business formalization and promote sustainable economic growth (Titova et al., 2019; Barrios et al., 2020).

The relevance of tax culture in the context of business formalization has been highlighted in several international studies. In Paraguay, Teixeira (2021) revealed significant deficiencies in the tax knowledge of traders, highlighting the imperative need for continuous training and tax education programs to promote a robust tax culture and encourage business formalization. This research emphasizes the importance of intensifying inspections to ensure that Pymes comply with regulations, especially concerning tax payments.

In the Panamanian context, Garcia Alvarado and Mandel (2022) explored the role of tax culture as a mechanism to increase tax collection. Their desk and explanatory research concluded that the state plays a crucial role in promoting tax orientation programs. The study underlines the government's responsibility in disseminating information on tax rights and duties, pointing to taxpayers' negative perception of state management in this area. This perspective highlights the importance of institutional trust in building an effective tax culture.

In Ecuador, Barberan et al. (2022) addressed tax culture as a key element for tax compliance. Their mixed approach revealed that the consolidation of a tax culture is a long-term process, highlighting the need to emphasize the importance of tax payment in the business sector. This study underlines the time complexity in the formation of effective tax awareness and the need for sustained strategies for its development.

In Colombia, Guardo et al. (2023) analyzed tax culture as a key factor in mitigating tax non-compliance, addressing taxpayers' knowledge and consciousness deficits. Lack of personal understanding is identified as the main obstacle to tax compliance. Simplified tax regimes emerge as an innovative tax strategy, designed to be simple and offer benefits, seeking to formalize previously marginalized taxpayers. This paper highlights the importance of ongoing tax information and education, suggesting that strengthening tax knowledge could translate into greater tax compliance.

In Peru, Dávila Barboza and Pintado Calle (2022) examined the impact of tax culture on the formalization of Pymes. Their descriptive study revealed a significant lack of knowledge about the benefits of formalization among informal traders. This study underlines the need to promote tax awareness to foster the growth and formalization of small business units, suggesting that tax education could be a powerful tool to combat informality.

Hurtado Barazorda et al. (2023) explored the relationship between tax culture and tax compliance in Peru. Their applied research showed a positive assessment between both variables, suggesting that improvement in tax culture could significantly increase tax compliance. This study reinforces the importance of developing educational strategies to strengthen tax awareness and thus improve levels of tax formalization and compliance.

In conclusion, the evidence presented suggests that tax culture plays a key role in business formalization and tax compliance. The studies reviewed converge on the need to implement tax education programs, improve government transparency and simplify tax systems to foster a robust tax culture. The phenomenon complexity requires a multidimensional approach that addresses not only tech-

nical knowledge, but also taxpayers' values, attitudes, and perceptions. Future research could explore innovative strategies for the promotion of tax culture, considering the cultural and socioeconomic particularities of different contexts, as well as the impact of emerging technologies on tax administration and business formalization.

The general objective of this research is to analyze the relationship between tax culture and formalization of traders in the Producers of Santa Anita market in Lima, considered to be the largest wholesale market in Peru. The specific objectives include: (1) to assess the level of tax knowledge of traders; (2) to identify attitudes towards tax compliance; (3) to examine perceptions about the benefits and costs of formalization; and (4) to propose strategies to strengthen tax culture and promote formalization. The working hypothesis proposes that there is a significant positive relationship between the level of tax culture and willingness to formalize among market traders.

This study is justified by its potential to contribute to the design of more effective public policies on taxation and business formalization. In a context where informality remains a major challenge for economic development in Peru and other countries in the region, understanding the factors that influence the decision to formalize is crucial. Furthermore, the specific case study of the Productores de Santa Anita market can provide valuable insights into the dynamics of the informal economy in urban settings, thus contributing to the academic literature on the topic and offering guidelines for targeted interventions to promote a sound tax culture and greater economic formalization.

Therefore, the evidence shows that strengthening tax culture and awareness is essential to promote business formalization, as evidenced by recent studies in Latin America. Continuous tax education appears as a crucial factor to reduce the tax knowledge deficit among informal traders, especially in SMEs, thus facilitating their transition to the formal system. In addition, the consolidation of a sound tax culture requires sustained government commitment through tax orientation programs and strategies designed to build institutional trust, which are key elements to foster taxpayers' active participation in the tax system.

This study analyzes the relationship between tax culture and willingness to formalize among traders in the main wholesale food market in Peru. The general hypothesis indicates that

H1: There is a significant relationship between tax culture and business formalization.

2. METHODS

This study employs a non-experimental, correlational, and cross-sectional design. This approach enables the examination of study variables within their natural context, without deliberate manipulation, and allows for the analysis of their relationships at a specific point in time. The target population consists of 1,336 traders from the Santa Anita Producers' Market in Lima, as recorded by the Municipality of Santa Anita (2023). A representative sample of 300 traders was determined using simple probability sampling, with a 95% confidence level and a 5% margin of error.

The participants were adult traders with at least one year of activity in the market, covering sectors such as groceries, agricultural products, and meats. Traders with less than twelve months of experience, or those who chose not to participate, were excluded to ensure the sample's relevance to the study's objectives.

Data were collected through a structured questionnaire comprising 27 items: 15 related to tax culture and 12 to formalization, with responses on a 5-point Likert scale. The questionnaire was validated by expert judgement, and its reliability was assessed using Cronbach's Alpha, yielding values of 0.87 for tax culture and 0.83 for formalization, indicating high internal consistency (Cronbach, 1951).

The survey was conducted on-site at the market between July and September 2023, with prior authorization from the relevant authorities. Identified researchers approached traders at their stalls, explained the study's objectives, and obtained informed consent, stressing the voluntary and confidential nature of participation.

Data analysis was initially organized using Microsoft Excel, while statistical processing was conducted with SPSS version 26. Descriptive anal-

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yses included frequencies, percentages, measures of central tendency, and dispersion. Following confirmation of non-normal data distribution via the Kolmogorov-Smirnov test, Spearman's correlation coefficient was applied to examine the relationships between variables.

The study adhered to strict ethical principles, including respect for autonomy, beneficence, non-maleficence, and justice. The confidentiality of the data, its exclusive academic use, and the integrity of the collected information were assured. The study posed no risk to participants and was conducted with full transparency, with the necessary authorizations in place.

3. RESULTS

This study presents the results obtained after applying the measurement instrument to the selected sample. Data collection was carried out through face-to-face surveys directed to traders of the largest wholesale food market in Peru. The various actions implemented to achieve the objectives and verify the hypotheses formulated are detailed in a concise and clear manner. For this purpose, a variety of technical, human, technological and statistical resources were used. The results have been organized in tables, thus facilitating their understanding and analysis.

As part of the evaluation of the reliability of the data collection instrument, Cronbach's Alpha coefficient was applied independently to the study variables. The Tax Culture variable, made up of 15 items, reached a coefficient of 0.831, which denotes high reliability. The Formalization variable, composed of 12 items, obtained a coefficient of 0.720, indicating acceptable reliability. The descriptive analysis focused on the dimensions of each variable, presenting the most significant findings by means of frequency distribution tables and statistics of central tendency and dispersion. Tax culture was examined through various facets, highlighting tax knowledge, tax awareness and compliance with tax obligations.

3.1. Descriptive analysis

Regarding tax knowledge and its impact on tax culture, it was observed that 44.3% of the participants consider that the information they have on taxes almost always contributes to their tax culture, while 37.3% indicated that this happens sometimes. These results suggest a positive relationship between the level of tax information and the development of a sound tax culture. However, they also reveal significant room for improvement in the dissemination and understanding of tax information among taxpayers, which could further strengthen the tax culture in the context studied (Table 1).

Table 1. Frequency distribution: Tax information helps with tax culture

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	8	2,7%	2,7%
Almost never	38	12,7%	15,3%
Sometimes	112	37,3%	52,7%
Almost always	133	44,3%	97,0%
Always	9	3,0%	100.0%
Total	300	**100%**	

The data show a central tendency towards a moderately positive perception of the usefulness of tax information in the development of tax culture.

Tax awareness: In terms of tax awareness, we inquired about the perceived importance of tax compliance. A total of 47.7% of the participants indicated that it is sometimes important for them to comply with paying taxes to the State, followed by 36.0% who indicated that it is almost always important (Table 2).

Table 2. Frequency distribution: Importance of tax payment compliance

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	7	2,3%	2,3%
Almost never	32	10,7%	13,0%
Sometimes	143	47.7%	60,7%
Almost always	108	36,0%	96,7%
Always	10	3,3%	100.0%
Total	300	**100%**	

The distribution of responses suggests that there is a developing tax consciousness, with the majority recognizing, at least occasionally, the relevance of paying taxes.

Compliance with tax obligations: Voluntary compliance with tax obligations was explored, revealing that 50.3% of respondents claim to comply sometimes voluntarily, while 30.3% comply almost always (Table 3).

Table 3. Frequency distribution: Voluntary compliance with tax obligations

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	6	2,0%	2,0%
Almost never	52	17,3%	19,3%
Sometimes	151	50,3%	69,7%
Almost always	91	30,3%	0%
Always	0	0%	100.0%
Total	300	**100%**	

These results indicate a moderate predisposition towards voluntary compliance, although there is significant room for improvement in the frequency of this behavior.

The formalization variable was analyzed considering aspects such as perception of benefits, access to information and regulatory compliance.

Perception of benefits: This study evaluated whether the participants consider that formalization improves the economic capacity of their business. Forty-five percent responded that they almost always perceive this improvement, followed by 38.0% who indicated sometimes (Table 4).

Table 4. Frequency distribution: Formalization improves the economic capacity of the business

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	10	3,3%	3,3%
Almost never	40	13,3%	16,7%
Sometimes	114	38,0%	54,7%
Almost always	135	45,0%	99,7%
Always	1	0,3%	100.0%
Total	300	**100%**	

The trend of responses suggests a positive assessment of the effects of formalization on the economic capacity of businesses.

Access to information: Regarding access to trainings on tax issues, 44.3% of respondents stated that they are almost always offered to them, while 42.3% stated that sometimes (Table 5).

Table 5. Distribution of frequencies: Offering of training courses on tax issues

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	6	2,0%	2,0%
Almost never	25	8,3%	10,3%
Sometimes	127	42,3%	52,7%
Almost always	133	44,3%	97,0%
Always	9	3,0%	100.0%
Total	300	**100%**	

The data reflect a predominantly favorable perception of the availability of training on tax issues. Regulatory compliance: We inquired about the knowledge of the consequences of non-compliance with taxes. A total of 47.7% of the participants indicated that they are sometimes aware of the fines generated by non-payment of taxes, and 34.0% indicated that they are almost always aware of them (Table 6).

Table 6. Frequency distribution: Knowledge of fines for tax noncompliance

Alternative	Frequency	Valid Percentage	Cumulative Percentage
Never	1	0,3%	0,3%
Almost never	34	11,3%	11,7%
Sometimes	143	47.7%	59,3%
Almost always	102	34.0%	93,3%
Always	20	6,7%	100.0%
Total	300	**100%**	

The distribution of responses indicates a moderate level of knowledge about the consequences of non-compliance, which could influence the decision to formalize.

3.2. Correlational analysis

For hypothesis testing, Spearman's compensation coefficient was used, given the ordinal nature of the variables studied.

H1: There is a significant relationship between tax culture and the business formalization.

Spearman's evaluation coefficient (rs = 0.914, $p < 0.01$) indicates a strong and statistically significant positive relationship between tax culture and

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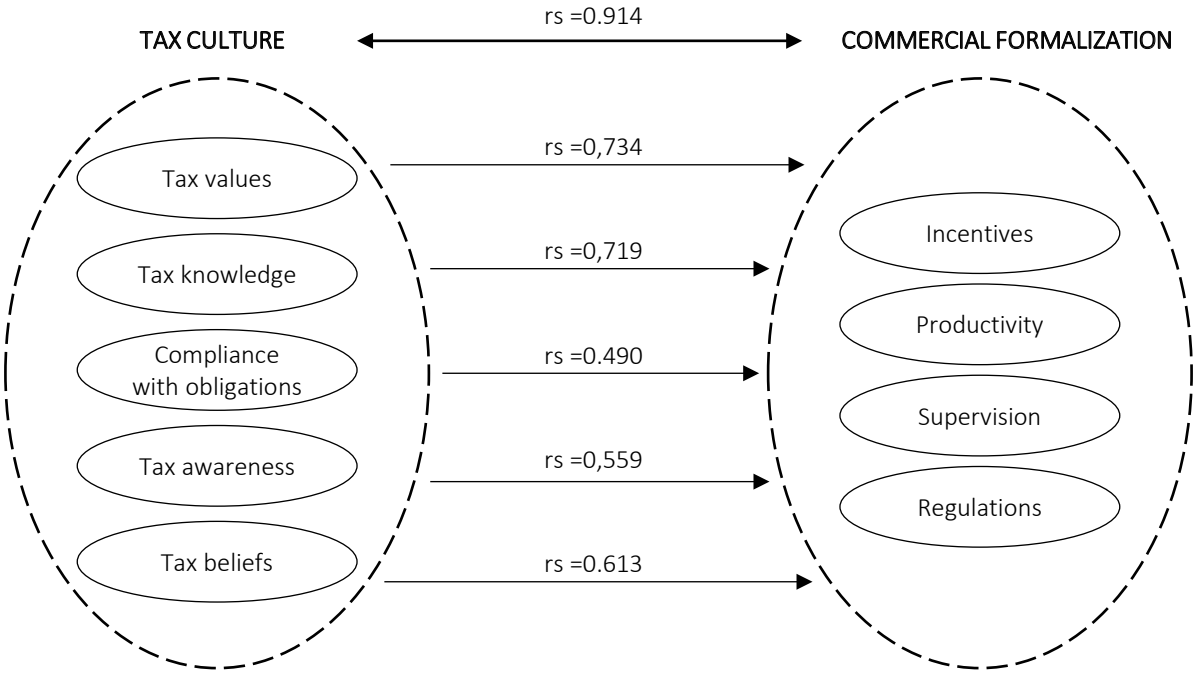

Figure 1. Correlations of the specific hypotheses: Dimensions of the variables Tax Culture and Business Formalization

Table 7. Correlation of the general hypothesis: Tax culture and business formalization

			Taxable values	Formalization
Rho of Spearman	Taxable values	Correlation coefficient	1,000	,734**
		Sig. (bilateral)	.	<,000
		N	300	300
	Business Formalization	Correlation coefficient	,734**	1,000
		Sig. (bilateral)	<,000	.
		N	300	300

formalization. Therefore, the null hypothesis (*H0*) is rejected and the alternative hypothesis (*H1*) is accepted.

Similar analyses were conducted for the specific hypotheses, correlating the dimensions of tax culture with formalization:

1. Tax knowledge and formalization: rs = 0,719, p < 0,01
2. Tax values and formalization: rs = 0,734, p < 0,01
3. Tax beliefs and formalization: rs = 0,613, p < 0,01
4. Tax awareness and formalization: rs = 0,559, p < 0,01
5. Fiscal compliance and formalization: rs = 0,490, p < 0.01

In all cases, significant positive correlations were found, allowing the respective null hypotheses to be rejected and the alternative hypotheses to be accepted, confirming the relationship between each dimension of tax culture and formalization.

4. DISCUSSION

The findings of this study reveal a significant correlation between tax culture and the degree of formalization of traders in the Santa Anita Producers' Market. Spearman's correlation coefficient (Rho) of 0.914 indicates an almost perfect positive relationship, supporting the main hypothesis of the study. This result is consistent with previous research that has highlighted the relevance of foster-

ing a robust tax culture to boost economic formalization (Alicia et al., 2023). However, the descriptive analysis shows that a considerable proportion of traders lack tax incentives and specialized tax advice. This reality suggests a pressing need for more effective dissemination and training strategies by the competent authorities to strengthen the knowledge base and resources available to traders.

When examining specific dimensions of tax culture, substantial positive correlations are observed between tax beliefs (Rho = 0.613), tax knowledge (Rho = 0.719) and tax values (Rho = 0.734) with the degree of formalization. These findings reinforce the conclusions of previous studies that have highlighted the importance of strengthening these aspects to promote formalization (Hundsdoerfer & Matthaei, 2020; Mamani et al., 2022). However, the results also point to the need for more effective tax education programs focused on improving traders' tax knowledge and values, and fostering positive beliefs towards tax compliance. Regarding tax awareness, we found a moderate positive relationship (Rho = 0.559) with the degree of formalization, suggesting that a significant proportion of traders recognize the importance of complying with their tax obligations. However, this finding contrasts with previous research that has identified weak tax awareness in certain sectors, highlighting the need to strengthen tax education and promote a greater appreciation of the benefits of paying taxes for the country's development (Mebratu, 2024).

The study also reveals a moderate positive correlation (Rho = 0.490) between tax compliance and the degree of formalization. This finding indicates that traders with a more favorable perception towards paying taxes, considering it as a contribution to national development, tend to be more formalized. This observation is consistent with previous research that has highlighted the importance of fostering a positive tax culture to improve tax compliance (Hurtado Barazorda et al., 2023; Williams, 2020). However, the results suggest that additional efforts are still required to strengthen this perception among traders as a whole and thus encourage greater formalization in this economic sector.

The study further highlights the role of institutional trust and perceived fairness of the tax system in shaping traders' willingness to formalise. While the quantitative findings indicate a strong correlation between tax culture and formalisation, they also reveal disparities in how traders perceive the benefits and costs of compliance. This aligns with previous studies suggesting that beyond tax knowledge and awareness, trust in public institutions significantly influences compliance behaviour (Edgley & Holland, 2021; Castañeda, 2024). In contexts where traders perceive the tax system as overly complex or unfair, they may be less inclined to engage in formalisation despite recognising its potential advantages. Consequently, a comprehensive approach that combines tax education with structural reforms to enhance transparency and efficiency in tax administration could yield more sustainable results.

It is crucial to recognize the limitations inherent in this study. First, the research focused on a specific market, which may limit the generalizability of the findings to other contexts. Furthermore, by relying on a quantitative methodology, the study could benefit from complementing it with qualitative research that delves deeper into traders' perceptions and experiences. These limitations offer opportunities for future research that could broaden the scope of the study to other markets and economic sectors, as well as explore innovative strategies to strengthen the tax culture and promote formalization. Among these strategies, the use of digital technologies and participatory approaches that actively engage traders in the formalization process could be considered.

CONCLUSION

The primary objective of this study is to examine the relationship between tax culture and the formalization of traders in Lima's Santa Anita Producers' Market, the largest wholesale market in Peru. Within the context of complex taxation systems at both state and local levels, the data analysis reveals a strong link between tax culture and business formalization. The findings indicate that enhancing cognitive,

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axiological, and behavioral aspects related to taxation is positively associated with traders' willingness to operate within the legal framework. This relationship is most pronounced in the dimensions of tax values and knowledge, suggesting that tax education and the promotion of ethical principles are key drivers in encouraging the regularization of economic activities within this sector.

The study also highlights the importance of tax awareness in the formalization process, though its impact is moderate compared to other factors. This suggests a need for strategies that go beyond merely providing information, addressing citizens' perceptions of public resource management and the fairness of the tax system. In the context of existing legislation and local government structures, the relationship between tax compliance and formalization, while positive, is the least robust of the variables studied. This may be due to persistent practical barriers and the perceived complexity of the administrative processes involved in regularization.

Overall, the results support the hypothesis that tax culture plays a critical role in promoting business formalization. However, they also underscore the importance of a comprehensive approach that includes not only taxpayer education and awareness-raising, but also the simplification of administrative procedures and the enhancement of trust in public institutions. Future research could delve deeper into specific strategies designed to address persistent barriers to the transition to formality. These strategies should take into account the particular socio-economic contexts of traders, including their educational backgrounds, cultural values and economic constraints, as well as the broader interplay between state and municipal regulatory frameworks. It would be particularly useful to examine how tailored tax education programs, which integrate practical skills and ethical principles, can improve traders' willingness to formalize their businesses.

AUTHOR CONTRIBUTIONS

Conceptualization: Rosa Ana Chávez-Inga, Yuliana Yara De-la-Cruz-Rojas, Wilder Oswaldo Jiménez-Rivera.
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Visualization: Catalina Rocío Vega.
Writing – original draft: Rosa Ana Chávez-Inga, Yuliana Yara De-la-Cruz-Rojas.
Writing – review & editing: Franklin Cordova-Buiza, Catalina Rocío Vega.

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