



Fiscal governance and public intelligence for local tax efficiency (English Version)

ISBN: 978-9915-704-31-9

DOI: 10.62486/978-9915-704-31-9.Ch04

Pages: 32-41

©2026 The authors. This is an open access article distributed under the terms of the Creative Commons Attribution (CC BY) 4.0 License.

Strategies for the Effectiveness and Efficiency of RetelCA in Municipal Governments of Colombia

Estrategias de efectividad y eficacia del RetelCA en alcaldías municipales de Colombia

Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo

ABSTRACT

The withholding mechanism of the Industry and Commerce Tax (RetelCA) constitutes an essential tool within the Colombian municipal tax system. Its effectiveness and efficiency depend on regulatory, administrative, and technological factors that vary significantly among territorial entities. This study aimed to analyze the institutional perception of public officials responsible for managing this mechanism, in order to identify the relative performance of the strategies implemented. The research was conducted under a quantitative approach, using a descriptive scope and a non-experimental cross-sectional design. A structured Likert-type questionnaire was applied to public servants working in municipal tax administration areas, yielding a reliability index of $\alpha = 0,89$. Six dimensions were evaluated: regulatory clarity, administrative capacity, technological management, audit and sanctions, tax culture, and interinstitutional coordination, along with a global assessment of the system. The findings reveal a predominantly moderate perception (between 2,50 and 3,49), with strengths in staff training and pedagogical actions, but also marked weaknesses in technological interoperability, refund processes, and interjurisdictional articulation. The general perception of efficiency approaches the high range, although not yet fully consolidated. It is concluded that, although the current RetelCA model includes functional components, structural limitations persist, requiring improvements in regulation, operational management, and fiscal cooperation, within the framework of decentralization and territorial autonomy.

Keywords: Fiscal Administration; Administrative Decentralization; Institutional Evaluation; Local Government; Local Taxation.

RESUMEN

El mecanismo de retención en la fuente del Impuesto de Industria y Comercio (RetelCA) constituye una herramienta esencial en el sistema tributario municipal colombiano. Su efectividad y eficacia dependen de factores normativos, administrativos y tecnológicos que varían significativamente entre entes territoriales. Este estudio tuvo como objetivo analizar la percepción institucional de los funcionarios encargados de su gestión, con el fin de identificar el desempeño relativo de las estrategias implementadas. La investigación se enmarcó en un enfoque cuantitativo, de tipo descriptivo y diseño no experimental transeccional. Se aplicó un cuestionario estructurado tipo Likert a servidores públicos de áreas tributarias municipales, con un índice de confiabilidad de $\alpha = 0,89$. Se evaluaron seis dimensiones: claridad normativa, capacidad administrativa, gestión tecnológica, fiscalización y sanciones, cultura tributaria y coordinación interinstitucional, junto con una percepción global del sistema. Los resultados muestran una valoración predominantemente media (entre 2,50 y 3,49), con fortalezas en la formación del personal y acciones pedagógicas, pero también con debilidades marcadas en interoperabilidad tecnológica, procesos de devolución y articulación interjurisdiccional. La

percepción general sobre la eficiencia se aproxima al rango alto, aunque sin consolidarse. Se concluye que, si bien el modelo actual del RetelCA presenta elementos funcionales, persisten limitaciones estructurales que exigen mejoras en normatividad, gestión operativa y cooperación fiscal, en el marco de la descentralización y autonomía territorial.

Palabras clave: Administración Fiscal; Descentralización Administrativa; Evaluación Institucional; Gobierno Local; Impuestos Locales.

INTRODUCTION

Strengthening subnational public finances has become a priority for countries adopting fiscal decentralization schemes, understood as the capacity of local governments to manage resources autonomously, efficiently, and responsibly (Martínez-Vázquez, Lago-Peñas & Sacchi, 2017). In this context, local tax administration is not only a financing mechanism but also an essential instrument of governance and institutional legitimacy (Bird & Bahl, 2008; Smoke, 2015). Multiple studies have emphasized that, for local authorities to fulfill their fiscal functions adequately, it is essential to provide them with regulatory, technological, and organizational tools that enable them to collect taxes efficiently and effectively (OECD, 2022; Cabral, 2020).

At the international level, empirical studies have emphasized that the clarity of fiscal rules, the interoperability of information systems, the professionalization of human resources, and transparency in the use of public spending directly affect tax compliance and the administrative efficiency of local governments (Bird, 2011; Torgler, 2007). However, these advances are not distributed evenly. In Latin America, and particularly in countries such as Colombia, profound institutional asymmetries persist between municipalities, which impact the quality of tax management (Gómez-Sabaini & Morán, 2016; Rincón & Reyes, 2020).

Colombia has adopted a decentralized model that delegates responsibility for administering taxes, such as the Industry and Commerce Tax (ICA), to local authorities, including withholding at source (RetelCA), within its structure. This mechanism seeks to anticipate collection and reduce evasion by delegating collection functions to withholding agents. However, in practice, its implementation has been marked by operational, regulatory, and technological limitations that hinder its proper functioning (Castro & Rojas, 2022; González & Lozano, 2021).

Although there are important contributions from a regulatory and accounting perspective, the Colombian scientific literature lacks studies that systematically evaluate the institutional perception of the strategies implemented to administer RetelCA. Most studies focus on the legal framework or aggregate statistical analyses of fiscal behavior, without incorporating methodologies that capture the direct experience of the public officials responsible for its application (Gutiérrez, Restrepo & Gómez, 2021). In contrast, comparative research across countries with similar fiscal structures has shown that public managers' perceptions are a crucial input for understanding the factors that explain the success or failure of a decentralized tax policy (Pomeranz, 2015; Carrión & Delgado, 2020).

Given this gap, this article aims to analyze the perceptions of officials responsible for tax management in Colombian municipal governments regarding the effectiveness and efficiency of the strategies used to administer the RetelCA. Using a quantitative and descriptive methodological approach, six key dimensions will be evaluated: regulatory clarity, administrative capacity, technological management, oversight mechanisms, tax culture, and inter-institutional

coordination. The relevance of this study lies in its empirical approach, which complements traditional approaches and provides insights for redesigning public policies to improve the fiscal sustainability of municipalities in Colombia.

METHOD

This research was carried out from a positivist perspective, using a quantitative approach, which enabled an objective and systematic assessment of public officials' perceptions of the strategies municipal mayors use to administer the withholding of the Industry and Commerce Tax (RetelCA). A non-experimental descriptive design with a cross-sectional approach was chosen, as the data were collected at a single point in time, directly in the natural context of the events, without manipulating variables or altering existing conditions (Hernández, Fernández & Baptista, 2014).

The study focused on a population of public servants working in finance departments, treasury offices, and other agencies responsible for tax management across different municipalities across the country. To collect the information, a questionnaire with a five-point Likert scale was administered, ranging from "strongly disagree" to "strongly agree." This instrument was designed to evaluate, in a structured manner, aspects related to six key dimensions: regulatory clarity, administrative capacity, technological management, enforcement and penalties, tax culture, inter-institutional coordination, and an overall assessment of the efficiency and effectiveness of RetelCA strategies.

Before implementing the questionnaire on a large scale, a pilot study was conducted with a small group of officials with characteristics similar to those of the final sample. This allowed the wording of the items to be adjusted and ensured the instrument's internal consistency. Cronbach's alpha was then calculated, yielding a value of 0,89, confirming high reliability for the set of proposed statements (Oviedo & Campo-Arias, 2005).

The collected information was organized in a database and processed using descriptive statistical procedures, including programs such as Excel and SPSS. The analysis included calculating averages, frequencies, and measures of dispersion, which enabled the results to be interpreted by dimension. To facilitate the reading and understanding of the findings, three levels of assessment were established: low (between 1,00 and 2,49), medium (between 2,50 and 3,49), and high (between 3,50 and 5,00), following the interpretation guidelines suggested by the literature on Likert-type instruments (Campo-Arias & Oviedo, 2008). In this way, it was possible to identify both the strengths and the areas requiring improvement in municipal management of RetelCA.

RESULTS

This research, based on a positivist, quantitative approach, enabled a systematic exploration of the perceptions of public officials responsible for administering RetelCA across various municipal governments in Colombia. Based on data collected using a Likert-type instrument with five response options, a descriptive statistical analysis was conducted, including measures of central tendency, dispersion, and extremes, which facilitated a detailed characterization of each evaluated dimension. The analysis revealed that the institutional perception of the strategies implemented for the administration of RetelCA is mostly in the middle range (2,50 to 3,49), with some indicators tending toward higher values, suggesting a level of functional development that is not yet consolidated.

For a more comprehensive view of the results, a comparative summary of the means and standard deviations, grouped by analytical dimension, is presented below (see table 4.1). This organization made it possible to establish more clearly the relative strengths and weaknesses in the management of RetelCA at the local level.

Table 4.1. Descriptive statistics by dimension evaluated on RetelCA strategies			
Dimension	Mean	Standard deviation	Items included
Regulatory clarity	3,27	1,37	4
Administrative capacity	3,14	1,16	3
Technological management	2,94	1,10	4
Auditing and sanctions	3,27	0,89	4
Tax culture	3,28	1,01	4
Inter-institutional coordination	3,20	0,93	4
Overall perception	3,62	0,92	2

In general terms, the regulatory dimension obtained moderately favorable results. The definitions of withholding agents and the territorial delimitation for the application of the tax were evaluated at 3,13 and 3,32, respectively, while regulatory alignment with constitutional principles reached 3,42. Taxpayers’ operational understanding of the tax was rated at 3,19. These results show that, although local regulatory frameworks have achieved a degree of formal structuring, challenges remain regarding technical clarity and regulatory accessibility, affecting the transparency and legal certainty of the territorial tax system.

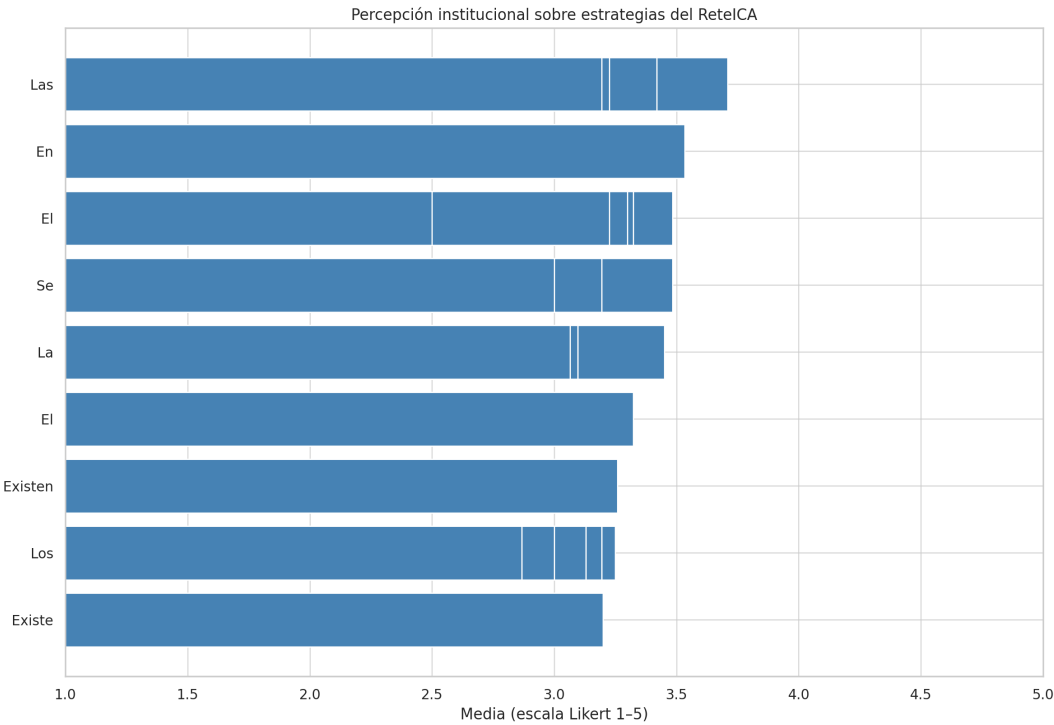


Figure 4.1. Institutional perception of RetelCA strategies

Regarding administrative capacity, the results show a significant disparity between human resource training and operational efficiency. Staff training was one of the highest-rated items in the study (average: 3,48), reflecting an institutional effort to professionalize the tax function at the local level. However, the existence of standardized procedures for tax management was rated 3,06, while the time taken to refund credit balances was rated 2,87. This gap suggests that, despite the available human capital, the lack of unified operational protocols compromises the efficiency and administrative continuity of the withholding tax system.

In terms of technology, the findings show that the incorporation of digital tools in RetelCA management is still in its infancy. The use of electronic platforms for reporting information and the possibility of filing virtual returns were rated 3,00 and 3,25, respectively. The generation of automatic alerts and the issuance of digital reports received averages of 3,23 and 3,16, respectively. While these values reflect a transition toward digitization, they also reveal insufficient consolidation of the technological infrastructure, which limits interoperability and real-time oversight.

The auditing and control mechanisms were rated as intermediate by the officials surveyed. Periodic audits received an average of 3,35, penalties for non-compliance 3,29, and the perception of the reduction of undeclared withholdings was 3,19. Portfolio recovery averaged 3,42. These indicators suggest that local authorities have developed basic fiscal control mechanisms. However, they have not yet reached a sufficient level of maturity to act as effective deterrents or to ensure systematic tax compliance.

Regarding tax culture, the data show a slightly higher perception than in other dimensions. Awareness campaigns and technical assistance to withholding agents were rated 3,42 and 3,32, respectively. Likewise, the perception of transparency in the use of collected resources was rated 3,39, while taxpayer satisfaction with service channels was rated 3,16. This dimension reveals significant progress in efforts to build trust and foster a tax culture, though it also suggests these strategies have not yet achieved widespread or cross-cutting reach.

Inter-institutional coordination was identified as one of the weakest dimensions. The exchange of information with the DIAN and other municipal governments was rated 2,90, while the existence of tax harmonization agreements was rated 3,19. Participation in good practice networks and the use of comparative indicators obtained scores of 3,03 and 3,32, respectively. This assessment reflects insufficient coordination between levels of government and between local jurisdictions, which limits the effectiveness of RetelCA as a joint tax control instrument, especially in contexts of intermunicipal double taxation.

Finally, the overall assessment of the implemented strategies averaged 3,39, while the perceived efficiency relative to collection costs was 3,45. These results, although close to the high range, allow us to conclude that the administration of RetelCA is at a functional stage, with potential for improvement, but still far from being a fully effective model. The breadth of the standard deviations observed in key items (with values above 1,0) also suggests structural differences between municipalities, likely related to factors such as institutional capacity, the degree of technical regulatory coverage, and the degree of technical regulatory coverage. These findings provide empirical evidence that Colombia's decentralized tax management faces structural challenges in ensuring the equitable, efficient, and effective implementation of the ICA withholding mechanism.

DISCUSSION

The findings of this study enable a critical analysis of the implementation of RetelCA strategies in the context of Colombian municipal tax administration, from the perspective of the officials responsible for the process. In general terms, the results reveal a moderately favorable assessment of the actions implemented; however, significant variations across dimensions coincide with the institutional asymmetries previously identified in the literature on fiscal decentralization in Latin America (Gómez-Sabaini & Morán, 2016).

The performance observed in the regulatory dimension, with averages around the upper threshold of the middle range, confirms the assertion of Cabral (2020) and Bahl and Bird (2018), who argue that legal clarity is a necessary, though not sufficient, condition for effective tax administration. The persistence of margins of ambiguity in the definition of withholding agents and areas of application of the tax reveals a deficit in the technical precision of municipal agreements, which can hurt legal certainty and voluntary compliance, as warned by Torgler and Schneider (2007) when analyzing the link between clear tax rules and tax behavior.

Regarding administrative capacity, the results show a significant contradiction between staff training (rated positively) and operational weaknesses in processes such as credit balance refunds. This phenomenon is consistent with the observations of Lledo, Schneider, and Moore (2004), who argue that the professionalization of human resources, while essential, must be accompanied by a functional organizational structure and a results-based management culture. The lack of standardization in procedures has also been documented in studies of local tax systems in countries such as Brazil and Mexico (Martínez-Vázquez et al., 2017), reinforcing the hypothesis that subnational organizational design is often a major bottleneck to the implementation of effective tax policies.

The technological dimension ranks among the lowest in relative performance, with an overall average lower than those of the other dimensions analyzed. This result aligns with the OECD's (2022) findings, which indicate that the digital modernization of tax administration is a persistent challenge for subnational governments, particularly in emerging economies. Low interoperability between platforms, the absence of automation, and the limited availability of virtual service channels represent a structural barrier to improving efficiency, expanding the taxpayer base, and reducing administrative compliance costs, as Alm and Martinez-Vazquez (2003) have also argued in their global review of innovation in local tax administration.

In terms of enforcement and penalties, the results reflect a partial, still weak implementation of effective control mechanisms, which limits the system's coercive capacity. This observation aligns with Pomeranz's (2015) empirical findings, which demonstrate that withholding schemes, such as RetelCA, only generate sustained effects on tax compliance when they are linked to robust audit systems and technologies that facilitate the detection of omissions. The local evaluation also supports the findings of Boogaard et al. (2018), who highlight that enforcement without inter-institutional data integration lacks real deterrent power, particularly in contexts where taxpayers operate in multiple jurisdictions.

The tax culture dimension performs slightly above the instrument's overall average. This finding suggests that the communication and tax education strategies implemented by some municipalities have had a positive effect on institutional perception, an aspect also identified by Torgler (2011) in his analysis of trust and tax compliance in developing countries. However, the perception of transparency in the use of collected resources, although moderately positive,

raises the need to strengthen visible accountability mechanisms, as proposed by Moreira and Lledo (2020), to strengthen the legitimacy of taxation at the local level.

Finally, inter-institutional coordination is one of the least valued dimensions, which is in line with the findings of Brosio and Jiménez (2016), who warn that the lack of coordination between levels of government and between municipalities generates duplication, conflicts of jurisdiction, and, in the case of Colombia, perverse incentives that can lead to double taxation. The low level of interoperability with the DIAN and the scarcity of interjurisdictional agreements hinder the comprehensive management of the RetelCA, thereby limiting its effectiveness as a decentralized fiscal instrument.

In aggregate, the perception of the effectiveness and efficiency of the implemented strategies is that they are functional but not consolidated. This conclusion aligns with the studies by Ahmad, Brosio, and Tanzi (2008), who argue that fiscal decentralization without homogeneous institutional capacity produces divergent effects across territories, reproducing inequalities and limiting the revenue-raising potential of the subnational tax system.

CONCLUSION

The following conclusions can be drawn from the results presented, their analysis, and discussion: The implementation of the withholding mechanism for the Industry and Commerce Tax (RetelCA) in Colombian municipalities reflects a functional, although not yet consolidated, level of development, according to the perceptions of the officials responsible for its management. The regulatory dimension showed significant progress in terms of alignment with the constitutional framework, but also revealed gaps in regulatory precision and difficulties in taxpayers' operational understanding of the tax. From an administrative perspective, the training of personnel responsible is highlighted positively, indicating an institutional commitment to the professionalization of the tax function. However, the lack of standardized procedures and delays in refunding credit balances reveal weaknesses in operational efficiency, which affect the perception of the mechanism's overall effectiveness. In terms of technology, the findings indicate a partial adoption of digital tools, with an incipient presence of electronic platforms, automated alerts, and virtual interaction mechanisms. This situation limits the possibilities for interoperability and real-time oversight, which directly affects institutional performance in tax control. Oversight mechanisms and penalties are perceived as moderately effective. Although there are procedures for control and portfolio recovery, they have not yet had a sufficiently dissuasive impact on non-compliance. The tax culture, for its part, shows more favorable attitudes, with positive assessments of awareness campaigns and technical assistance, though there is room for improvement in transparency and institutional trust. Inter-institutional coordination was identified as one of the weakest components of the system. The lack of coordination between municipalities and national entities limits the ability to establish shared strategies for RetelCA control, which represents a significant obstacle to its comprehensive management in interdependent territorial contexts. Finally, the overall perception of the effectiveness and efficiency of the implemented strategies is close to the high end, indicating that, despite the structural limitations identified, there are organizational and operational foundations on which to strengthen the RetelCA management model within the country's territorial entities.

REFERENCES

Ahmad, E., Brosio, G., & Tanzi, V. (2008). Local service provision in selected OECD countries: Do decentralized operations work better? *Fiscal Studies*, 29(4), 451-479. <https://doi.org/10.1111/j.1475-5890.2008.00078.x>

- Alm, J., & Martinez-Vazquez, J. (2003). Institutions, paradigms, and tax evasion in developing and transition countries. En J. Martinez-Vazquez & J. Alm (Eds.), *Public finance in developing and transitional countries* (pp. 146-178). Edward Elgar.
- Bahl, R., & Bird, R. (2018). Fiscal decentralization and local finance reform: Progress and prospects. *Environment and Planning C: Politics and Space*, 36(1), 127-145. <https://doi.org/10.1177/2399654416683655>
- Bird, R. M. (2011). *Subnational taxation in developing countries: A review of the literature* (Policy Research Working Paper No. 5450). World Bank. <https://doi.org/10.1596/1813-9450-5450>
- Boogaard, V., Santoro, F., & Stewart, M. (2018). Tax and development: A review of donor support to strengthen tax systems in developing countries. *Development Policy Review*, 36(1), 025-042. <https://doi.org/10.1111/dpr.12229>
- Brosio, G., & Jiménez, J. P. (2016). *Descentralización fiscal y gasto público subnacional en América Latina: El papel de la cooperación intergubernamental*. CEPAL.
- Cabral, L. (2020). Accountability and tax performance in decentralized governance: Evidence from Brazil. *World Development*, 127, 104751. <https://doi.org/10.1016/j.worlddev.2019.104751>
- Campo-Arias, A., & Oviedo, H. C. (2008). Propiedades psicométricas de una escala: La consistencia interna. *Revista de Salud Pública*, 10(5), 831-839. <https://doi.org/10.1590/S0124-00642008000500015>
- Carrión, C., & Delgado, I. (2020). Gestión tributaria municipal y percepción de eficacia en la recaudación del impuesto predial en el Ecuador. *Revista de Ciencias Sociales*, 26(2), 35-52. <https://doi.org/10.31876/rcs.v26i2.33227>
- Castro, H., & Rojas, M. (2022). Evaluación de la gestión tributaria en municipios intermedios: Una revisión de los mecanismos de retención. *Revista de Administración Tributaria*, 69(2), 35-56. <https://doi.org/10.53037/rat.v69i2.452>
- Gómez-Sabaini, J. C., & Morán, D. (2016). Política tributaria en América Latina: Una visión general. *Revista CEPAL*, 118, 89-108. <https://doi.org/10.18356/769b601d-es>
- González, M., & Lozano, C. (2021). Retos institucionales en la aplicación del RetelCA: Un análisis desde la gestión tributaria. *Revista de Hacienda Pública y Economía*, 29(2), 44-65.
- Hernández, R., Fernández, C., & Baptista, P. (2014). *Metodología de la investigación* (6.^a ed.). McGraw-Hill.
- Lledo, V., Schneider, A., & Moore, M. (2004). *Governance, taxes, and tax reform in Latin America* (IDS Working Paper No. 221). Institute of Development Studies.
- Martínez-Vázquez, J., Lago-Peñas, S., & Sacchi, A. (2017). The impact of fiscal decentralization: A survey. *Journal of Economic Surveys*, 31(4), 1095-1129. <https://doi.org/10.1111/>

joes.12182

- Oviedo, H. C., & Campo-Arias, A. (2005). El coeficiente alfa de Cronbach: La confiabilidad de los instrumentos de recolección de datos. *Revista Colombiana de Psiquiatría*, 34(4), 572-580. <https://www.redalyc.org/articulo.oa?id=80634409>
- Pomeranz, D. (2015). No taxation without information: Deterrence and self-enforcement in the value-added tax. *American Economic Review*, 105(8), 2539-2569. <https://doi.org/10.1257/aer.20130393>
- Rincón, J., & Reyes, L. (2020). Obstáculos para la implementación de herramientas tecnológicas en la gestión del impuesto de industria y comercio. *Cuadernos de Economía*, 39(80), 95-113. <https://doi.org/10.15446/cuad.econ.v39n80.87215>
- Smoke, P. (2015). Rethinking decentralization: Assessing challenges to a popular public sector reform. *Public Administration and Development*, 35(2), 97-112. <https://doi.org/10.1002/pad.1703>
- Torgler, B. (2011). *Tax morale and compliance: Review of evidence and case studies for Europe* (World Bank Policy Research Working Paper No. 5922). World Bank. <https://doi.org/10.1596/1813-9450-5922>

FUNDING

None.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Data curation: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Formal analysis: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Research: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Methodology: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Project administration: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Resources: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Software: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Supervision: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Validation: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Visualization: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Writing - original draft: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.

Writing - review and editing: Roddy Javier Doria Ruiz, William Támara Vergara, Luis Carlos Fortich Arroyo.