

Reassessing MSME Classification Thresholds in the Philippines: Evidence of Structural Finance Misalignment from Sectoral Cluster Analysis

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Abstract: Micro, small, and medium enterprises (MSMEs) in the Philippines are classified primarily using static, asset-based thresholds established by law. Despite their policy centrality, these thresholds have remained unchanged whilst the enterprise landscape has undergone substantial growth and structural change. This paper uses the Asian Development Bank's Asia SME Monitor (ASM) 2025 dataset for the Philippines to empirically reassess the adequacy of the current MSME classification framework. Using national data on enterprise counts, employment, and bank lending across seven sectors for 2019–2024, the paper undertakes a multi-dimensional assessment: it constructs sector-level profiles combining MSME population shares, employment shares, and loan shares; applies k-means++ clustering to identify structural finance archetypes; and examines temporal trends in access to finance. Cluster analysis consistently reveals three sector profiles: a mass-market sector (wholesale and retail trade) with broadly proportional enterprise, employment, and loan shares; a labour-intensive but chronically underfinanced sector (other services); and a group of sectors with disproportionately high loan shares relative to their MSME population. Critically, MSME loans as a share of total bank lending declined from 6.1% in 2019 to 3.9% in 2024, even as MSME count grew by 24.2%. Geographic concentration is severe: 83.8% of MSME loans were extended in Metro Manila, where only 17.8% of MSMEs are located. These structural misalignments support a reframing of MSME policy beyond uniform size thresholds toward sector-informed, risk-differentiated support frameworks.

Keywords: MSME Classification, Enterprise Size Thresholds, Sectoral Finance Structure, Asia SME Monitor, Cluster Analysis, Philippines

1. Introduction

Micro, small, and medium enterprises (MSMEs) play a central role in economic development, particularly in emerging economies where they account for most firms and a substantial share of employment (Ayyagari et al., 2007; Beck et al., 2005). In the Philippines, MSMEs have consistently represented more than 99% of registered enterprises over the 2019–2024 period and accounted for over two-thirds of total employment by 2024 (Asia Small and Medium-Sized Enterprise Monitor 2025, 2025; Department of Trade and Industry, 2025). Governments design policies, regulatory frameworks, and financial programmes specifically for MSMEs, and the classification of firms into size categories is the foundational mechanism through which these interventions are targeted.

In the Philippines, MSME classification is established by the Magna Carta for MSMEs (Republic Act 9501), which defines categories based on total asset size exclusive of land. These legal thresholds have remained fixed since 2003 (Micro Small and Medium Enterprise Development Council, 2003). Yet the enterprise population has grown substantially, and bank lending patterns have shifted markedly. The MSME loan share of total bank credit fell from 6.1% in 2019 to 3.9% in 2024, whilst MSME count grew by 24.2% over the same period. This divergence raises a fundamental question: do current classification thresholds remain adequate for targeting policy support, or has the structure of the MSME sector outpaced the administrative categories used to define it?

This paper addresses these questions using the ADB's ASM 2025 dataset for the Philippines. The analysis applies k-means++ cluster analysis to sector-level data spanning 2019–2024 and examines whether structural patterns in enterprise distribution, employment, and finance align with the current classification framework. Beyond answering the research questions, this study makes three distinct contributions. First, it provides the first systematic, empirically grounded evaluation of Philippine MSME classification thresholds using six years of nationally representative longitudinal data that spans the COVID-19 disruption and recovery period. Second, it introduces a multi-dimensional sectoral profiling approach that integrates enterprise counts, employment shares, and finance access – dimensions that existing policy instruments treat separately and that no prior study of the Philippine MSME sector has combined into a single analytical framework. Third, the study generates actionable evidence for immediate policy application: the cluster-based archetypes can directly inform the redesign of Bangko Sentral ng Pilipinas (BSP) mandatory lending quotas, DTI enterprise development targeting,

and PHILGUARANTEE portfolio allocation, without requiring legislative amendment of Republic Act 9501. The study addresses the following research questions:

- Do existing thresholds correspond to observable patterns in enterprise distribution and employment?
- Can data-driven clustering identify natural sector archetypes that differ from administrative categories?
- What implications do structural finance misalignments hold for MSME policy design?

2. Review of Literature

2.1 Economic implications of Size Thresholds

Firm size classifications underpin a wide range of economic policies: credit allocation programmes, tax incentives, regulatory exemptions, and business development initiatives. The selection of classification thresholds can therefore significantly affect the distribution of policy benefits (Beck et al., 2005). Research has also documented that size-based thresholds may induce ‘bunching’ behaviour, where firms strategically constrain growth to remain within advantageous categories (Garicano et al., 2016). More broadly, firm size affects productivity, employment growth, innovation, and access to finance, underscoring the importance of accurate size categorisation in policy design (Haltiwanger et al., 2013).

2.2 Legal Definitions of MSMEs in the Philippines

Philippine MSME classification is governed by Republic Act 9501, which defines enterprises based on total asset size exclusive of land (Republic Act 9501, 2008). Micro enterprises are those with assets not exceeding Philippine peso (PHP) 3 million; small enterprises have assets between PHP 3,000,001 and PHP 15 million; medium enterprises between PHP 15,000,001 and PHP 100 million. Employment counts serve as a supplementary but non-binding indicator: micro enterprises typically employ 1–9 workers, small enterprises 10–99, and medium enterprises 100–199 (Micro Small and Medium Enterprise Development Council, 2003). These thresholds determine eligibility for government support programmes and bank lending mandates under Republic Act 9501.

Critically, no formal review of these thresholds has been undertaken despite substantial changes in the price level, factor costs, and the enterprise landscape since the current limits were set in 2003. Given general price level increases over two decades, a fixed PHP 3 million micro enterprise ceiling represents a substantially lower real asset threshold today than when it was legislated, raising the possibility that many enterprises are miscategorised under current law.

2.3 International Comparison

MSME definitions vary substantially across countries, reflecting differing institutional objectives and economic structures. The European Union employs a multidimensional definition combining employment, annual turnover, and balance-sheet size, setting the SME ceiling at 250 employees and EUR 50 million in turnover or EUR 43 million in balance-sheet total (European Union, 2022). The OECD uses an employment benchmark of 250 employees for cross-country comparability whilst acknowledging that national definitions diverge (OECD SME and Entrepreneurship Outlook 2019, 2019). Within ASEAN, definitional heterogeneity is pronounced: some member states rely on employment, others on assets or turnover, and several apply multiple criteria simultaneously (The ASEAN Secretariat, 2025). This international variation underscores that classification thresholds are not technical constructs but institutional choices, and that the Philippine asset-based, single-dimension approach is an outlier among comparable economies.

2.4 Issues with Static Classification Thresholds

Static thresholds raise several conceptual and practical difficulties. First, even without recalibrating for inflation, the ASM data show that MSME counts grew from 995,745 in 2019 to 1,236,908 in 2024, suggesting that fixed asset ceilings may now be capturing a wider share of the enterprise population than originally intended. Second, different sectors exhibit markedly different capital intensity and risk profiles, making a single threshold ill-suited for cross-sectoral application. Third, and most critically, static thresholds do not account for the uneven access to formal finance that characterises the Philippine MSME sector, where MSME loans to total bank lending declined

from 6.1% in 2019 to 3.9% in 2024 despite MSME growth, and MSME non-performing loan (NPL) ratios consistently exceeded overall bank NPL ratios by more than three-to-one throughout this period. These structural patterns provide the empirical basis for examining whether the current classification framework adequately captures meaningful differences in firm structure and policy need.

2.5 Critical Gaps in the Existing Literature

Despite the breadth of the literature surveyed, three critical gaps remain. First, studies on MSME classification thresholds have predominantly adopted a cross-country comparative lens (Ayyagari et al., 2007; OECD, 2019), rarely examining the empirical adequacy of thresholds within a single developing economy over time. The OECD and EU definitional frameworks, whilst multidimensional, were designed for data-rich institutional environments; their direct applicability to the Philippines – where firm registries are incomplete, asset valuations are often informal, and sectoral coverage of national statistics is uneven – cannot be assumed. Second, the Philippine MSME literature remains largely descriptive, cataloguing enterprise counts and employment shares (Department of Trade and Industry, 2025) without testing whether the boundaries of the classification system correspond to structurally distinct groupings in terms of finance access. Beck et al. (2005) and Haltiwanger et al. (2013) demonstrate that firm-size effects on growth and employment are real, but neither evaluates whether the administrative categories through which policy operates are well-calibrated to the economy they purport to describe. Third, no existing study has systematically combined temporal trend analysis with sectoral clustering to evaluate whether the three-tier Philippine MSME classification reflects durable structural differences – or merely administrative convenience. This paper addresses all three gaps by treating the classification framework itself as the object of empirical scrutiny.

3. Methodology

For each sector s , the paper constructs a three-dimensional structural profile using the ASM 2025 data for 2024 (the most recent year with full sectoral coverage): (1) M_s – MSME share by sector (% of total MSMEs); (2) E_s – MSME employment share by sector (% of total MSME employees); and (3) L_s – MSME loan share by sector (% of total MSME loans outstanding). Trend data for 2019–2024 are used to assess structural stability and contextualise the finance gap.

Because the three indicators differ in scale and dispersion, z-score standardisation is applied: $z_{is} = (x_{is} - \mu_i) / \sigma_i$, where $i \in \{M, E, L\}$. Following standardisation, k-means++ initialisation is used with $k = 3$ to identify structurally distinct sector groupings. Assignment is based on minimising squared Euclidean distance: $d^2(x_s, \mu_k) = \sum_j (x_{sj} - \mu_{kj})^2$. The choice of $k = 3$ is motivated by the three-category logic of the existing classification framework (micro, small, medium), providing a direct comparator for the sectoral analysis. Given the seven-sector dataset, clustering provides an exploratory structural typology rather than a statistically definitive segmentation.

4. Empirical Results

4.1 MSME Landscape Trends, 2019–2024

Table 1 and Figure 1 present the evolution of the Philippine MSME sector over 2019–2024. MSME count grew from 995,745 to 1,236,908, a 24.2% increase, with the recovery from COVID-19-related contraction in 2020 producing sharp growth in 2021 and especially 2023. Micro enterprises consistently account for 90–91% of MSMEs. MSME employment grew from 5.5 million to 6.3 million and its share of total employment rose from 62.4% to 66.6%, reflecting the sector's expanding role in the labour market.

Table 1: MSME Landscape Trends, Philippines 2019–2024

Indicator	2019	2020	2021	2022	2023	2024
Total MSMEs ('000)	995.7	953.0	1,076.3	1,105.1	1,241.8	1,236.9
MSME share of total (%)	99.5	99.5	99.6	99.6	99.6	99.6
MSME employment ('000)	5,511	5,381	5,462	5,608	6,364	6,252
MSME employment share (%)	62.4	62.7	64.7	65.1	66.8	66.6
MSME loans / total loans (%)	6.06	4.93	4.57	4.29	4.06	3.90

Indicator	2019	2020	2021	2022	2023	2024
MSME NPL ratio (%)	5.49	9.85	11.20	9.32	10.30	9.60
Overall bank NPL ratio (%)	2.04	3.63	3.97	3.16	3.20	3.27

Source: Asia Small and Medium-Sized Enterprise Monitor 2025 (2025); Bangko Sentral ng Pilipinas.

Table 1 confirms two simultaneous and seemingly contradictory trends. On one hand, the number of MSMEs and their share of total employment have both grown consistently since 2021, recovering strongly from the COVID-19 contraction of 2020. On the other hand, MSME loans as a share of total bank credit have fallen in every year of the period, and MSME NPL ratios have remained persistently above the overall bank average. Figure 1 below illustrates these employment and enterprise growth trends, while Figure 2 in the following section documents the corresponding deterioration in finance access.

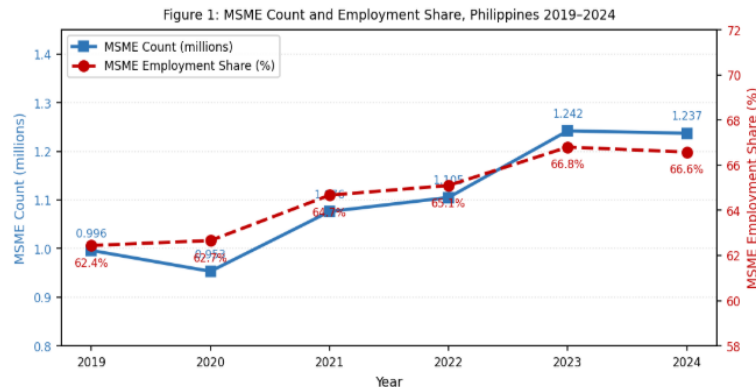


Figure 1: MSME Count and Employment Share, Philippines 2019–2024. Source: ASM 2025.

4.2 The MSME Finance Gap

Figure 2 illustrates a persistent and widening finance gap. Despite MSME count growing by 24.2% between 2019 and 2024, MSME loans as a share of total bank credit fell from 6.1% to 3.9%, well below the nominal 8% mandatory lending ceiling for micro and small enterprises under Republic Act 9501. Bank compliance with this mandatory allocation has declined continuously, from 2.8% in 2019 to 1.9% in 2024 for micro and small enterprises, and from 4.3% to 2.9% for medium enterprises. Simultaneously, MSME NPL ratios remained persistently above the overall bank NPL ratio, exceeding it by more than three times throughout the period. This risk differential partially explains lender reluctance but also signals that current classification-based lending mandates do not sufficiently differentiate risk profiles across sectors.

Geographic concentration compounds these structural pressures. In 2024, 83.8% of MSME loans outstanding were recorded in the National Capital Region (NCR), even though only 17.8% of MSMEs are headquartered there. This mismatch between firm distribution and financial resource allocation suggests that finance-based policy instruments are not reaching the bulk of MSME activity concentrated outside Metro Manila.

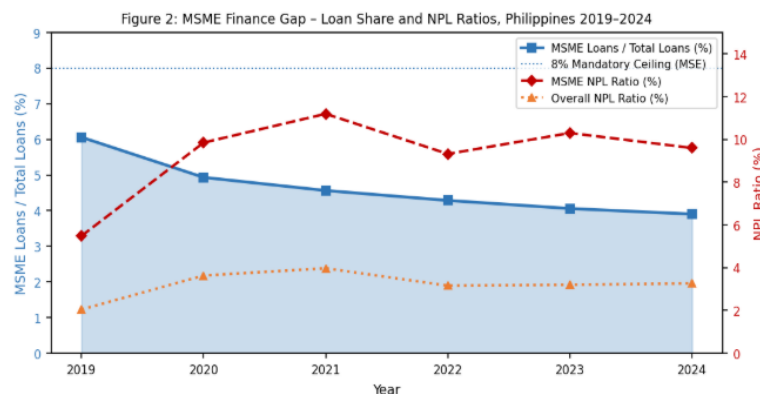


Figure 2: MSME Finance Gap – Loan Share and NPL Ratios, Philippines 2019–2024. Source: ASM 2025; Bangko Sentral ng Pilipinas.

4.3 Sectoral Profile and Cluster Analysis

Table 2 presents the 2024 sectoral data used for clustering. Using 2024 ASM 2025 data, the profile for each sector is the triple (Ms, Es, Ls). Wholesale and retail trade dominates both enterprise population (48.7%) and employment (37.9%) and receives 40.9% of MSME loans – a broadly proportional relationship. By contrast, other services accounts for 36.5% of MSMEs and 39.9% of employment but receives only 6.0% of loans, a severe structural underfinancing. The ‘others’ category (which includes real estate, financial services, and accommodation) accounts for just 0.3% of MSMEs but attracts 23.0% of MSME loans, indicating a concentration of credit in relatively capital-intensive sub-sectors.

Table 2: Sectoral MSME Profiles, Philippines 2024

Sector	Ms (%)	Es (%)	Ls (%)	Cluster
Agriculture	0.8	1.9	7.3	C1
Manufacturing	11.3	12.9	9.1	C1
Transportation & comm.	2.0	4.5	5.8	C1
Construction	0.5	1.7	7.9	C1
Wholesale & retail trade	48.7	37.9	40.9	C2
Other services	36.5	39.9	6.0	C3
Others	0.3	1.3	23.0	C1
Total	100	100	100	—

Source: Asia Small and Medium-Sized Enterprise Monitor 2025 (2025).

Following z-score standardisation, k-means++ with $k = 3$ is applied to the standardised triple (Mz, Ez, Lz). The algorithm assigns sectors to three clusters: Cluster 1 (C1): agriculture, manufacturing, transportation and communication, construction, others; Cluster 2 (C2): wholesale and retail trade; Cluster 3 (C3): other services.

The cluster assignments are identical to those obtained from the 2023 data in the prior version of this analysis, confirming that the structural finance archetypes are stable across time and not artefacts of a single year. This temporal stability strengthens the substantive finding: the three structural profiles represent persistent features of the Philippine MSME economy, not transient fluctuations.

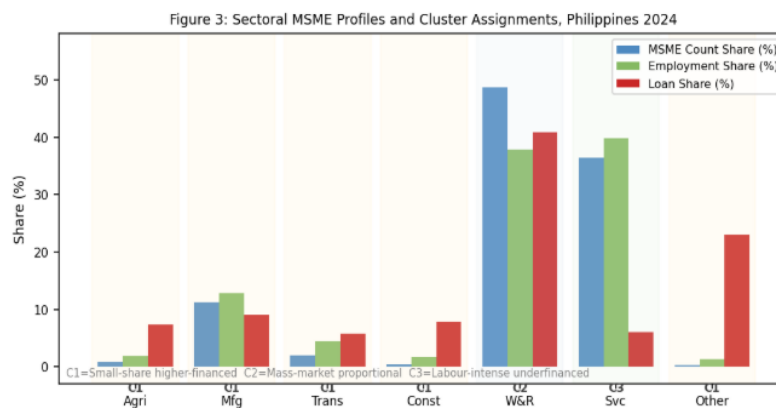


Figure 3: Sectoral MSME Profiles and Cluster Assignments, Philippines 2024. Source: ASM 2025.

Cluster 1 sectors host a small share of MSMEs and employment but attract disproportionately high loan shares per enterprise, suggesting either higher capital intensity or the concentration of borrowing in fewer but larger MSMEs within these sectors. Cluster 2 (wholesale and retail trade) exhibits a broadly proportional relationship between enterprise population, employment, and finance access. Cluster 3 (other services) is the most economically important sector by employment but receives a loan share far below its enterprise and employment weights, indicating a structural underfinancing that persists regardless of overall credit conditions.

5. Discussion and Limitations

This study evaluates whether existing MSME classification thresholds in the Philippines correspond to observable patterns in enterprise distribution, employment, and financial participation. The findings point to three interlocking structural misalignments that the current framework fails to address.

First, the current one-dimensional, asset-based classification does not distinguish between sectors with fundamentally different relationships to formal finance. Cluster 3 sectors (primarily other services, which accounts for 36.5% of MSMEs and 39.9% of employment) are chronically underfinanced, with an MSME loan share of only 6.0%. Treating these enterprises in the same policy category as Cluster 1 sectors, which receive loans far exceeding their population shares, may result in poorly designed lending mandates and support programmes that fail to reach the firms with the greatest need.

Second, the declining MSME loan share (6.1% in 2019 to 3.9% in 2024) signals a structural deterioration in MSME finance access during a period of MSME growth. If the classification system cannot signal which sectors and enterprise types face the most acute credit constraints, policy instruments such as mandatory MSME lending quotas cannot be designed effectively. The declining compliance ratios across all bank types confirm that existing mandates are insufficiently differentiated to drive meaningful resource allocation to underserved segments.

Third, the geographic concentration of MSME lending in the NCR (83.8% in 2024 versus 17.8% of MSME count) suggests that finance-access patterns are driven partly by the location and risk-pricing practices of lenders rather than by the size or sector of enterprises as defined under RA 9501. A more nuanced classification system incorporating sector and geographic dimensions could provide a stronger basis for targeted interventions.

These findings collectively support a move toward sector-informed, multidimensional classification that considers the structural finance characteristics of enterprise clusters. This does not necessarily require legislative reform of RA 9501 in the immediate term, but it does suggest that ancillary policy instruments – such as risk-differentiated guarantee programmes, sector-specific lending windows, and regional financial inclusion targets – should be calibrated against empirically identified structural profiles rather than uniform size thresholds.

Several limitations must be acknowledged. The analysis relies on aggregate, sector-level data rather than firm-level microdata. Future research using establishment-level datasets could test whether the identified archetypes hold at the level of individual enterprises. The cluster count ($k = 3$) is chosen for conceptual alignment with the existing classification, but alternative specifications may yield different groupings. Finally, the analysis is descriptive and does not establish causal mechanisms linking classification design to finance outcomes.

6. Conclusion and Directions for Future Research

This paper provides an empirically grounded assessment of MSME classification thresholds in the Philippines using ADB ASM 2025 data for 2019–2024. The key findings are: MSME count grew by 24.2% whilst MSME loans as a share of total bank credit fell from 6.1% to 3.9%; MSME NPL ratios persistently exceeded overall bank NPL ratios by more than three times; 83.8% of MSME loans are concentrated in the NCR despite only 17.8% of MSMEs being located there; and cluster analysis identifies three stable structural finance archetypes that cut across the current administrative size categories.

Taken together, these findings indicate that the current one-dimensional, asset-based classification framework is insufficient for targeting MSME policy support effectively. The paper advocates for a sector-informed, multi-dimensional approach to MSME classification and proposes that mandatory lending quotas and credit guarantee programmes be redesigned to reflect empirically observed structural finance profiles rather than administratively fixed thresholds.

Confronted with the prior literature, the findings of this study both confirm and diverge from established positions. The results align with Beck et al. (2005), who argued that access to formal finance is the primary binding constraint on MSME growth in developing economies; the Philippine data demonstrate precisely that constraint, with the MSME loan share of total bank credit declining persistently despite enterprise growth. The findings also extend the theoretical argument of Garicano et al. (2016) on size-threshold distortions: whilst they showed that static thresholds in France distort firm-level incentives to grow, the present study shows that in the Philippine context the thresholds also fail to reflect the structural heterogeneity of finance access across sectors – a dimension not captured in the European literature. At the same time, the present results diverge from more optimistic regional assessments of MSME financial inclusion in Southeast Asia (Financing SMEs and Entrepreneurs 2020, 2020). Headline MSME growth in the Philippines masks a structural deterioration in credit

access, particularly for the other services sector, which accounts for nearly 40% of MSME employment yet receives only 6% of MSME loans outstanding. This divergence is not contradictory but contextual: aggregate regional trends do not capture within-country sectoral asymmetries of the kind that this study documents.

The authors interpret the persistence of three distinct structural finance archetypes across the full 2019–2024 period – spanning a global pandemic, a sharp contraction, and a recovery – as evidence that the misalignment between the existing classification framework and the economic reality of Philippine MSMEs is not a transient or data-specific artefact but a durable structural condition. This distinction matters critically for policy design: if the misalignment were cyclical, incremental adjustments to lending quotas might suffice. The evidence strongly supports the alternative interpretation, however: that the misalignment is structural and that it requires a more fundamental redesign of classification-linked policy instruments. The authors further note that the stability of the cluster assignments across time strengthens confidence in the methodology; the three archetypes are not artefacts of a single cross-section but reflect persistent sectoral characteristics that any reform effort must directly address.

The practical advantages of adopting a cluster-informed policy framework are both concrete and immediately actionable. At the regulatory level, the BSP could redesign mandatory MSME lending quotas by sector rather than by asset-based firm size tier, redirecting credit incentives toward the chronically underfinanced other services cluster without requiring legislative amendment of Republic Act 9501 – a reform achievable through administrative circular. Development finance institutions such as PHILGUARANTEE could calibrate guarantee fees and portfolio coverage limits to sector-specific NPL risk profiles rather than applying uniform rates across all MSME categories. The DTI could use the sector archetypes to prioritise business development services, matching grants, and capacity-building programmes for the most underfinanced enterprise groups, improving resource efficiency in the implementation of the Philippine MSME Development Plan. More broadly, the analytical framework developed in this study – combining longitudinal trend analysis, sectoral profiling, and k-means++ clustering – is replicable across other ADB member economies using ASM data, offering a methodological template for comparative MSME policy evaluation across the Asia-Pacific region.

Future research should: extend the analysis to firm-level microdata to examine within-cluster heterogeneity; explore alternative clustering methods (e.g., Gaussian mixture models, hierarchical clustering) to assess robustness; incorporate additional dimensions such as productivity, digital adoption, and export orientation; and conduct comparative analyses across ASEAN economies using harmonised ASM datasets to assess whether the identified archetypes are Philippines-specific or regionally generalisable.

Ethics Declaration

This study uses publicly available, aggregated secondary data from the Asian Development Bank's Asia SME Monitor 2025 and official government and international agency sources. The data do not contain personal identifiable information and do not involve human participants, confidential records, or sensitive individual-level data. The research was conducted in accordance with applicable ethical standards for research integrity, including accurate reporting of data, transparency in methodological procedures, and proper citation of all data sources.

AI Declaration

The authors acknowledge the use of artificial intelligence tools, including large language models, to assist in the drafting, editing, and formatting of this manuscript. All substantive intellectual contributions, including research design, data analysis, interpretation of results, and final content decisions, were performed and verified by the authors. The authors assume full responsibility for the accuracy, originality, and integrity of the work. No AI tools were used to generate or manipulate empirical data, statistical results, or research findings.

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