Journal of Posthumanism
2025
Volume: 5, No: 6, pp. 4533–4551
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i6.2658

Approach to the Typology of Social Responsibility and its Alignment with the Organizational Culture: Analysis in the Cooperatives of Segment One in Ecuador

Sandra Patricia Galarza Torres[1], Luis Alfredo Tipán Tapia[2], Alvaro Patricio Carrillo Punina[3], Lorenzo Adalid Armijos Robles[4], Mercedes Beatriz Montero Berru[5], Betty Elisabeth Cueva Ochoa[6], Germán Gustavo Benavides Ortiz[7]

Abstract

This study examines the implementation of Cooperative Social Responsibility (CSR) in 19 segment one savings and credit cooperatives in Ecuador, through a multivariate analysis that allows establishing a typology of institutional maturity around six key dimensions: cooperative governance, social, environmental, economic, ethical and technological. The methodology adopted a quantitative approach, based on Likert-type surveys applied to 2,116 employees and managers of the cooperatives analyzed. The data treatment included a cluster analysis in two phases: hierarchical (Ward) and partitional (K-means), which allowed the identification of three main clusters of CSR performance. Subsequently, an ANOVA analysis was carried out that showed statistically significant differences between the groups. The results show the existence of three levels of institutional development in CSR: (1) cooperatives with advanced and comprehensive performance in all dimensions, (2) cooperatives with consolidated but unequal practices, and (3) cooperatives in the process of systemic integration. This classification shows asynchronous trajectories within the same segment, influenced by cultural, leadership and organizational capacity factors. It is concluded that CSR in the Ecuadorian cooperative sector reflects different levels of maturity that require differentiated strategies of strengthening and accompaniment. Finally, the results generated from the typology are aligned with the theoretical dimensions of organizational culture.

Keywords: *Social Dimension, Ethics and Transparency, Technological Dimension, Cooperative Governance.*

Introduction

In Ecuador, the cooperative system represents a strategic component of the popular and solidarity-based financial system, playing a fundamental role in financial inclusion, territorial development and the democratization of access to credit. Within this ecosystem, Savings and Credit Cooperatives (COAC) have gained relevance due to their ability to generate economic and social value in various territories of the country. These entities are regulated by the Superintendence of Popular and Solidarity Economy (SEPS), which has established a segmented classification of the sector based on quantitative criteria such as the volume of assets, income and equity, which allows for differentiated supervision adapted to the structural heterogeneity

[1] Universidad de las Fuerzas Armadas – ESPE, Ecuador, Email: spgalarza@espe.edu.ec, (Corresponding Author)
[2] Universidad de las Fuerzas Armadas – ESPE, Ecuador
[3] Universidad de las Fuerzas Armadas – ESPE, Ecuador.
[4] Universidad de las Fuerzas Armadas – ESPE, Ecuador.
[5] Universidad de las Fuerzas Armadas – ESPE, Ecuador.
[6] Universidad Central del Ecuador, Ecuador.
[7] Unidad Educativa Misión Geodésica, Ecuador

of the system.

According to the SEPS (2024), segmentation is defined as follows:

- Segment 1: Assets greater than USD 80 million
- Segment 2: $20 million to $80 million
- Segment 3: $5 million to $20 million
- Segment 4: $1 million to $5 million
- Segment 5: Less than $1 million

This typology not only reflects differences in the economic size of cooperatives, but also constitutes a key analytical input to assess their institutional capacities in areas such as participatory governance, technological innovation and organizational sustainability. In this context, the implementation of Cooperative Social Responsibility (CSR**)** has followed differentiated trajectories, which responds to what the literature calls a scenario of "sustainability at multiple speeds", that is, varying degrees of maturity in the integration of socially responsible practices.

This study focuses on the cooperatives of segment one, as they are the entities with the greatest financial and operational consolidation within the Ecuadorian cooperative system. Through a quantitative approach based on hierarchical and partitional cluster analysis (k-means) techniques, it seeks to identify institutional typologies based on performance in six dimensions of CSR: cooperative governance, social, environmental, economic, ethical and transparency dimensions, and technological dimension. In addition, as a contribution to knowledge from the theoretical and empirical perspective, the results of the CSR dimensions are related to the theoretical dimensions of organizational culture by Denison and Cameron and Quinn.

The resulting characterization will allow us to understand how different internal configurations determine differentiated levels of sustainability and social commitment, with important implications for the design of differentiated public policies, strategic institutional management and the strengthening of the cooperative model as an agent of development with a human face.

Theoretical Framework

Corporate Social Responsibility (CSR), understood as the voluntary and strategic commitment of organizations to sustainable development, has undergone a significant evolution since the mid-twentieth century. Since its initial formulation by Howard R. Bowen (1953), who proposed that entrepreneurs should respond to society's values and expectations, CSR has gone from being a philanthropic practice to becoming an essential component of corporate governance (Carroll, 1991). Carroll developed the CSR pyramid, which includes economic, legal, ethical and philanthropic responsibilities. This perspective has been enriched by the triple bottom line approach (Elkington, 1997), which states that organizations should evaluate their performance in three dimensions: economic, social, and environmental.

The theory of interest groups (Freeman, 1984) has also influenced the understanding of CSR, arguing that companies must consider the interests of all actors involved in their activity, not just shareholders. At the same time, theories such as institutional, legitimacy and resource dependence have provided arguments to understand how organizations adopt socially responsible practices based on their regulatory environment, their power relations and their need

for legitimacy in society.

In the context of credit unions, the concept of social responsibility acquires a unique connotation. Unlike traditional companies, whose CSR is usually incorporated as an external or complementary component, in cooperatives this responsibility is intrinsic to their identity. Cooperative Social Responsibility (CSR) is directly linked to the seven cooperative principles recognized by the International Cooperative Alliance (ICA): voluntary adherence, democratic management, economic participation, autonomy, education, cooperation between cooperatives and commitment to the community. These principles are the basis of an organizational model focused on the well-being of members, economic justice and social equity.

In Ecuador, CSR has been institutionalized in the cooperative sector through the Organic Law of the Popular and Solidarity Economy (LOEPS), which requires cooperatives to prepare a Social Balance that allows them to evaluate their compliance with cooperative principles and their impact on the community (SEPS, 2024). This regulatory framework has driven a systematization of CSR practices, but has also revealed substantial differences in the levels of adoption and maturity among cooperatives in the same segment.

Organizational sustainability, on the other hand, has evolved beyond a set of good practices to become a structural dimension of institutional performance. In this process, various studies have shown that not all organizations advance at the same pace towards sustainable models, but rather do so based on their institutional maturity, resources, internal capacities, and regulatory environment (Findler et al, 2019). This phenomenon has been conceptualized as "sustainability at multiple speeds", an interpretative framework that allows us to understand the coexistence of advanced organizations with others in incipient stages within the same sector or economic ecosystem.

As observed in industries such as finance (Judijanto, 2025), the gaps in the speed of adoption of CSR practices are not only due to technical or regulatory factors, but also to cultural, leadership, and internal commitment elements. In the case of Ecuadorian savings and credit cooperatives, this logic becomes especially pertinent. Despite sharing a common regulatory framework with the LOEPS and a segmentation by economic size (SEPS, 2024), their degree of implementation of the CSRoop is different. As evidenced by studies on university-industry cooperation (Leppälä & Heikkilä, 2024), evaluation cycles and change absorption capacities vary significantly between organizations, generating asynchronous institutional trajectories.

The practice of CSR is not homogeneous: different organizations exhibit different degrees and approaches when assuming their social responsibility. For this reason, several authors have proposed typologies or models of maturity that classify organizations according to their commitment and evolution in CSR. These typologies offer valuable theoretical frameworks for interpreting segmentation results in the context of Ecuadorian cooperatives.

One of the most cited models is that of Simon Zadek (2004), who described five stages in organizational CSR learning: Defensive, Compliance, Managerial, Strategic and Civil. In the Defensive stage, the organization denies its responsibility beyond the economic; in compliance, it adopts basic policies to comply with the law and mitigate reputational risks; in the managerial phase, it integrates CSR into management systems by recognizing efficiency benefits; then in strategic, it aligns CSR with the business strategy, finding competitive advantages; and finally in civil, he promotes changes throughout the industry, becoming a social leader and advocating for higher standards. This progression suggests that organizations are maturing from a reactive

to a proactive and transformative approach to CSR.

Another proposal is that of Wayne Visser (2011), who also defines five stages of CSR maturity, labelled illustratively as: defensive stage, "CSR as make-up" (public relations only); charitable stage (isolated philanthropy); promotional stage (use of CSR in marketing and reputation); strategic stage (CSR linked to the strategy and core processes); and transformative stage (the company as an agent of systemic social change).

A systematic approach to derive typologies is to analyze CSR indicators and see how they group organizations. In this regard, Hair et al. (2010) suggest that multivariate techniques, such as cluster analysis, are appropriate for identifying relatively homogeneous groups in a population based on multiple variables simultaneously. In recent research, cluster analysis has been used to uncover patterns of CSR engagement. For example, Dawar et al. (2023) applied a cluster analysis to 121 manufacturing firms, using their performance in seven CSR dimensions based on ISO 26000, and found two distinct segments: a group of firms with an intermediate level of CSR and another with an advanced level. This shows that in practice it is possible to segment organizations according to the maturity of their CSR, resulting in typologies (in this case, "intermediate" vs. "advanced"). It should be noted that the typologies are not only of descriptive interest but also of practical interest: they allow recommendations and strategies to be adapted according to the level of each group.

From the perspective of organizational culture, it has been demonstrated through different empirical studies around the world, from the application of the theoretical models of Shein, Sethia and Von Glinow, to contemporary models such as Denison, Cameron and Quinn, Felcman and Góngora and the 11-D model proposed by Carrillo et al. (2025). All these studies seek to support the theoretical bases of organizational culture and its relationship with other variables such as financial performance and corporate social responsibility.

Methodology

This study adopts an empirical, quantitative and comparative approach, aimed at characterizing the performance in Cooperative Social Responsibility (CSR) of segment one savings and credit cooperatives in Ecuador. The research is based on the measurement of six key dimensions: cooperative governance, social dimension, environmental dimension, economic dimension, ethics and transparency, and technological dimension.

The sample is made up of 19 cooperatives in segment one, with a total coverage of 2,116 respondents between managers and employees. The collection instrument consisted of a structured five-point Likert-type questionnaire, designed to assess the perceived level of compliance with CSR-associated practices in each dimension. In addition, sociodemographic information (age, gender, level of education, and length of employment) was collected in order to describe the institutional and human capital profile of the organizations evaluated.

The statistical treatment of the data was developed in three stages. First, a univariate descriptive analysis was carried out to characterize the sample and identify general trends in the dimensions evaluated, by calculating means and standard deviations.

Second, a two-phase cluster analysis strategy was implemented. The first phase consisted of a hierarchical analysis using the Ward method, using square Euclidean distances to detect preliminary clustering structures. Based on the dendrogram generated, an initial solution of four clusters was proposed. In the second phase, the K-means algorithm was applied to optimize the

classification and improve the stability of the groups. Based on criteria of internal consistency and representativeness, a three-cluster solution was selected for interpretative analysis, discarding a fourth group of atypical cases. This methodological approach is based on practices recommended by the specialized literature on multivariate segmentation (Punj & Stewart, 1983; Lévy & Varela, 2003), which reinforces the robustness of the results.

To check the significance of the differences between the identified clusters, a unidirectional analysis of variance (ANOVA) was applied for each dimension of CSR. The significance values ($p < 0.01$) obtained in all the F-tests support the statistical validity of the segmentation performed, and show the heterogeneity in the levels of CSR implementation between the groups.

All analyses were executed with IBM SPSS Statistics vs 23 software, guaranteeing the technical and methodological reliability of the research process. Finally, critical and reflective analysis was used to determine the theoretical relationships of organizational culture with the empirical dimensions of CSR.

Results

The sample analyzed is composed of 19 savings and credit cooperatives belonging to segment one of the popular and solidarity financial system of Ecuador. In total, information was collected from 2,116 people, which offers a broad view of the organizational structures and the human capital involved.

From a sociodemographic point of view, the sample has a gender balance, with a female participation of 55.7%. Likewise, a high level of training is evident, since 90.4% of the staff has higher education.

In terms of organizational trajectory, the seniority analysis shows that approximately a quarter of the staff (24%) have been with the cooperative for more than 10 years, reflecting some degree of job stability and accumulated institutional knowledge. On the other hand, 10.3% correspond to personnel with less than one year of seniority, which can be associated with recent processes of incorporation of talent or generational renewal.

Finally, the aggregate data allow us to identify a mature and functional age profile: the average age of employees is 37.1 years, while that of managers amounts to 46.6 years, reflecting structures with the potential to combine experience with operational capacity.

To analyze the heterogeneity present in the 19 savings and credit cooperatives of segment one in Ecuador, a cluster analysis was applied in two phases. In the first stage, a hierarchical approach was used using Ward's method, considering the six dimensions of Cooperative Social Responsibility (cooperative governance, social, environmental, economic, ethical and technological) as variables, in order to identify the underlying structure of clusters. The analysis of the dendrogram allowed us to suggest a preliminary solution of four clusters.

Subsequently, in the second phase, the iterative algorithm of K-means was implemented to confirm and refine the segmentation obtained, since partitional methods such as K-means tend to offer more robust and stable solutions compared to the sensitivity of traditional hierarchical methods. However, based on the criteria of sample quality and statistical coherence, it was decided to exclude the fourth cluster, made up of atypical cases with a low level of representativeness, concentrating the interpretative analysis on the three clusters with greater consistency and analytical validity.

This biphasic analysis strategy is based on methodological recommendations widely accepted in the literature (Punj & Stewart, 1983; Lévy & Varela, 2003), which reinforces the reliability of the results and the internal homogeneity of the clusters obtained.

CSR DIMENSIONS	CLUSTER 1	CLUSTER 2	CLUSTER 3
COOPERATIVE GOVERNMENT	4,89	4,58	4,27
SOCIAL DIMENSION	4,82	4,43	4,03
ENVIRONMENTAL DIMENSION	4,87	4,35	4,03
ECONOMIC DIMENSION	4,81	4,63	4,34
ETHICS AND TRANSPARENCY	4,82	4,64	4,33
TECHNOLOGICAL DIMENSION	4,60	4,36	3,99

Table 1: End Cluster Centers (K-Media, 3 Clusters)

Note: Prepared in accordance with the treatment of the database in the SPSS statistical package.

The values obtained reveal that Cluster 1 shows the highest levels of performance in all the dimensions evaluated, consolidating itself as the most advanced group of cooperatives in terms of CSR. Cluster 2 represents an intermediate group, with moderate adoption, while Cluster 3 is characterized by comparatively lower levels, especially in the social, environmental, and technological components.

CLUSTER	1	2	3
1	—	0,805	1,589
2	0,805	—	0,812
3	1,589	0,812	—

Table 2: Distances Between Cluster Centers

Note: Prepared in accordance with the treatment of the database in the SPSS statistical package.

The square Euclidean distances between the centers indicate that Cluster 1 and Cluster 2 are relatively similar, while Cluster 3 is further away, suggesting a differentiated profile and a lower level of CSR implementation.

DIMENSION	F	ITSELF.
COOPERATIVE GOVERNMENT	16,558	0,000
SOCIAL DIMENSION	20,068	0,000
ENVIRONMENTAL DIMENSION	14,575	0,000
ECONOMIC DIMENSION	13,847	0,000
ETHICS AND TRANSPARENCY	13,752	0,000
TECHNOLOGICAL DIMENSION	11,408	0,001

Table 3: ANOVA Results

Note: Prepared in accordance with the treatment of the database in the SPSS statistical package.

The results of the analysis of variance (ANOVA) show statistically significant differences between the clusters in all the dimensions analyzed. These results support the validity of the segmentation performed, although it is clarified that the F-tests are only descriptive, since the clusters were defined ex post to maximize the differences between groups.

The cluster analysis identified three clearly differentiated groups of segment one cooperatives. Overall, Cluster 1 groups cooperatives with the highest values across all CSR dimensions, reflecting above-average performance in governance, economic sustainability, and transparency. These cooperatives show institutional solidity and a more complete integration of cooperative principles in their daily management. Cluster 2 shows intermediate values, close to the general average in most dimensions. The cooperatives in this group present visible, but partially institutionalized, CSR practices, with some areas of opportunity especially in the technological and environmental dimensions. Finally, Cluster 3 consistently registers the lowest values in all dimensions, which indicates a lower degree of incorporation of CSR in its management and the need to strengthen aspects of governance, transparency and economic stability. It is noteworthy, however, that even this lagging group makes initial commitments to CSR that could evolve with greater institutional support, training, and resources.

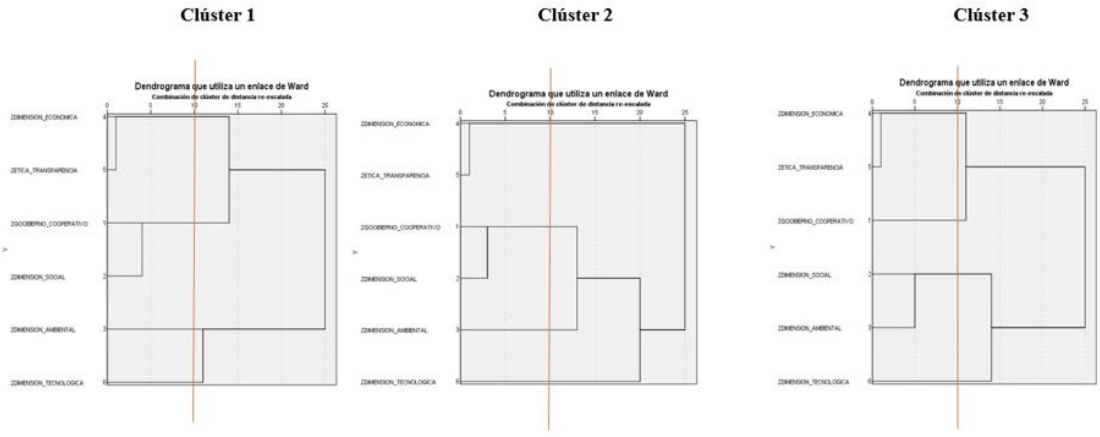

Figure 1: Cluster Analysis by Dimensions

Note: Prepared in accordance with the treatment of the database in the SPSS statistical package.

To illustrate the differences described, Figure 1 presents a radar graph with the means of each CSR dimension by cluster. It is clearly observed that Cluster 1 stands out in all dimensions, forming a wider polygon, while Cluster 3 is contained within smaller values on each axis. For example, in Cooperative Governance and Ethics, notable gaps can be seen in favor of Cluster 1. In turn, Cluster 2 approximates Cluster 1 on some axes, but tends to stay slightly below. These patterns are made even more explicit in Figure 2, which shows the standardized means (Z-scores) by dimension for each cluster. Cluster 1 presents positive standardized scores in all dimensions (above-average performance), Cluster 2 oscillates around zero (around the general average), and Cluster 3 exhibits negative standardized values in all dimensions, evidencing below-average performance in relative terms. This overview confirms the existence of differentiated levels of maturity in the implementation of CSR: from cooperatives with more advanced and comprehensive practices, to cooperatives where CSR is still in the process of systemic

integration.

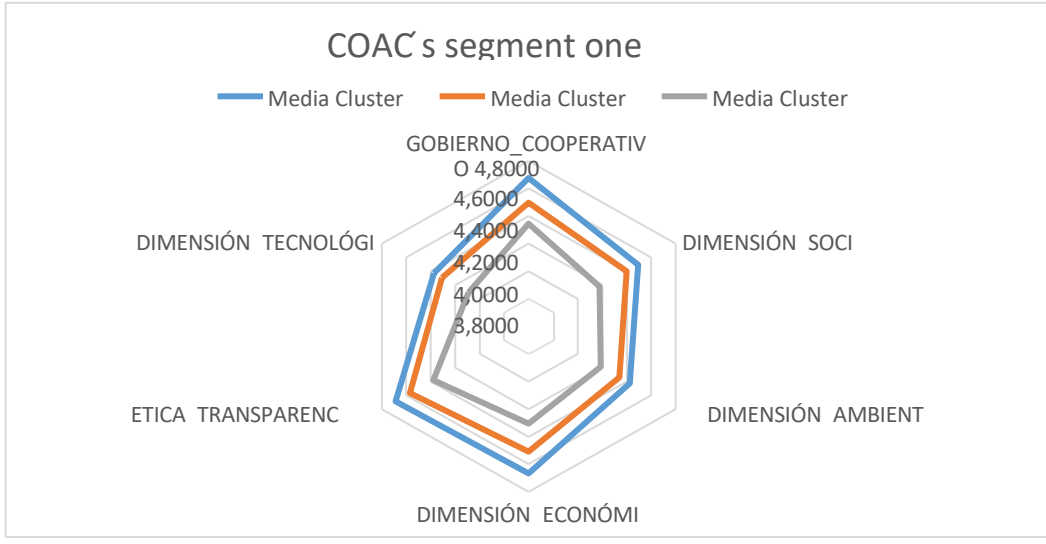

Figure 2: Radar Of Averages By Dimension And Cluster. Own Elaboration Based On Data From The Study

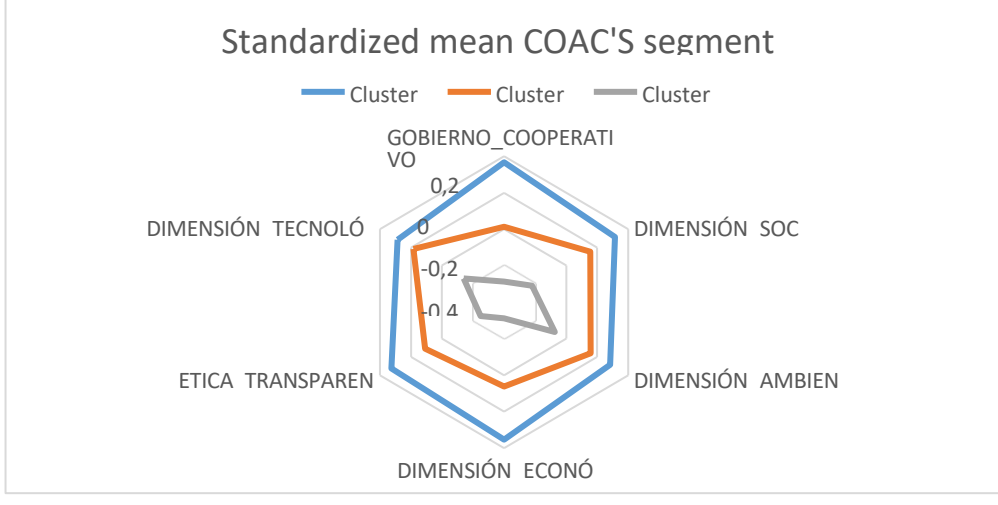

Figure 3: Radar Of Standardized Averages by Dimension and Cluster. Prepared By the Author Based on Data from The Study

CSR Analysis by Dimensions

A detailed comparative analysis for each CSR dimension is presented below, including tables with the averages (mean) and standard deviations of each indicator evaluated, discriminated by cluster. These tables allow you to identify more precisely in which specific aspects the clusters

differ, complementing the previous overview. The following format will be adopted: the values are expressed on a scale of 1 to 5 (with 5 being the highest level of perceived compliance) with their standard deviation in parentheses (±).

The comparative analysis by clusters reveals significant differences in the performance of cooperatives in each of the six dimensions of Cooperative Social Responsibility (CSR). Tables 4 to 9 synthesize the means and standard deviations of the main indicators evaluated, facilitating the identification of patterns and gaps.

In the **Cooperative Governance dimension** (Table 4), Cluster 1 leads consistently with high averages in all indicators, suggesting well-institutionalized participatory management and strong alignment with cooperative principles. Cluster 2 presents an adequate performance, although with greater dispersion in aspects such as democratic management and formation in values. Cluster 3, although it exceeds the compliance threshold (mean >4), shows weaknesses in effective participation and cooperative education, indicating areas for improvement in governance.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Visible and accessible mission, vision and values	4.65 (±0.58)	4.55 (±0.65)	4.40 (±0.71)
Comprehensive strategic objectives (economic, financial, social, environmental)	4.69 (±0.55)	4.53 (±0.63)	4.42 (±0.72)
Organizational structure aligned with integral principles	4.64 (±0.57)	4.53 (±0.68)	4.39 (±0.69)
Democratic management style	4.61 (±0.63)	4.36 (±0.77)	4.25 (±0.85)
Strategic management from the General Assembly	4.61 (±0.62)	4.37 (±0.78)	4.17 (±0.90)
Open and voluntary admission	4.83 (±0.50)	4.65 (±0.64)	4.55 (±0.68)
Education and training in cooperative principles	4.71 (±0.54)	4.50 (±0.68)	4.25 (±0.78)

Table 4: Comparison of Means and Standard Deviations By Indicator of the Cooperative Governance Dimension

Note: Prepared by the research team, with the use of SPSS statistical software.

Regarding the **Social dimension** (Table 5), Cluster 1 is positioned as the group with the best performance, showing high levels in all the indicators evaluated, especially in the satisfaction of essential needs and in the effectiveness of inclusive policies, which shows a solid investment in

well-being and community engagement. Cluster 2 reflects an appropriate social approach, although with greater dispersion in some indicators such as community contribution and economic reports, suggesting less uniform practices. On the other hand, Cluster 3, although it maintains all its averages above the acceptable threshold (mean >4), presents the lowest levels in dimension and greater variability, which indicates a more limited commitment to social management, especially in the allocation of resources and in the visibility of its social and environmental actions.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Meeting essential needs of the target social market	4.57 (±0.60)	4.45 (±0.69)	4.30 (±0.69)
Social budget allows to meet the needs of the target social market	4.42 (±0.66)	4.34 (±0.70)	4.12 (±0.79)
Effectiveness of policies on safety, health, labor relations, gender equity, and diversity	4.54 (±0.63)	4.44 (±0.69)	4.22 (±0.78)
Contribution to community projects	4.49 (±0.66)	4.39 (±0.71)	4.17 (±0.82)
Adoption of standards for accounting for social and environmental actions	4.46 (±0.67)	4.39 (±0.69)	4.15 (±0.77)
Economic reports consider social and environmental actions	4.49 (±0.67)	4.38 (±0.72)	4.13 (±0.77)

Table 5

Comparison of means and standard deviations by social dimension indicator

Note: Prepared by the research team, with the use of SPSS statistical software.

In the **Environmental dimension** (Table 6), Cluster 1 presents the strongest and most balanced performance, with clearly defined environmental policies, sustainable practices in the supply chain, and participation in local conservation projects, reflecting a comprehensive approach to sustainability. Cluster 2 exhibits an intermediate level, with important advances, but with greater internal variability, particularly in more technical indicators such as the reduction of carbon footprint and the use of clean technologies. For its part, Cluster 3 is consistently located at the lowest level, with weaknesses in the strategic integration of environmental practices and in the adoption of clean technologies, although specific efforts are observed in waste management and recycling.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Policies and actions on environmental sustainability	4.66 (±0.61)	4.55 (±0.67)	4.38 (±0.78)
Local projects that contribute to the conservation of the environment	4.44 (±0.74)	4.35 (±0.76)	4.16 (±0.87)
Sustainable practices throughout the supply chain	4.45 (±0.70)	4.35 (±0.73)	4.11 (±0.87)
Responsible waste management and recycling	4.35 (±0.80)	4.29 (±0.83)	4.24 (±0.83)
Carbon footprint reduction and clean technologies	4.22 (±0.84)	4.17 (±0.86)	4.05 (±0.90)

Table 6

Comparison of means and standard deviations by indicator of the environmental dimension

Note: Prepared by the research team, with the use of SPSS statistical software.

The **Economic dimension** (Table 7) reaffirms the consolidation of Cluster 1 in financial sustainability, transparency and autonomy. Cluster 2 follows closely, but with less diversification of services and support for local suppliers. Cluster 3, although it has an acceptable financial autonomy, requires strengthening the generation of sustainable value and improving accountability.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Transparency on economic and financial actions	4.71 (±0.57)	4.54 (±0.70)	4.31 (±0.78)
Economic value in a sustainable way	4.67 (±0.57)	4.51 (±0.69)	4.27 (±0.82)
Diversification of financial services for partners and employees	4.70 (±0.57)	4.54 (±0.64)	4.32 (±0.77)
Autonomous and independent management in the economic and financial field	4.70 (±0.56)	4.55 (±0.71)	4.42 (±0.72)
Policy for Sourcing Supplies from Local Suppliers	4.56 (±0.68)	4.39 (±0.76)	4.22 (±0.72)

Table 7

Comparison of means and standard deviations by economic dimension indicator

Note: Prepared by the research team, with the use of SPSS statistical software.

In the **dimension of Ethics and Transparency** (Table 8), Cluster 1 clearly stands out, registering the highest averages in all indicators, especially in respect of codes of ethics and effective communication of accountability, which evidences institutionalized and reliable ethical management. Cluster 2 presents a good level of compliance, with scores close to Cluster 1, but with greater internal variability that reflects differences in the practical application of ethical principles among its cooperatives. On the other hand, Cluster 3, although it maintains acceptable standards, shows the lowest performance and the highest deviations, which suggests less developed ethics and transparency systems with fewer control mechanisms and visibility vis-à-vis its stakeholders.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Ethical and transparent relationships with the community and external stakeholders	4.65 (±0.57)	4.49 (±0.72)	4.29 (±0.76)
Prevention of malpractice, bribery and corruption	4.67 (±0.64)	4.62 (±0.63)	4.42 (±0.74)
Effective communication on accountability and transparency	4.70 (±0.55)	4.52 (±0.67)	4.33 (±0.76)
Respect for codes of ethics and national legislation in internal regulations	4.75 (±0.52)	4.65 (±0.59)	4.43 (±0.71)
Mechanisms to address complaints, claims or ethical concerns	4.67 (±0.60)	4.57 (±0.64)	4.42 (±0.76)

Table 8

Comparison of means and standard deviations by indicator of the ethical dimension and transparency

Note: Prepared by the research team, with the use of SPSS statistical software.

Finally, in the **Technological dimension** (Table 9), a clear generational gap is observed: Cluster 1 uses technology as a strategic facilitator of CSR, while Cluster 2 applies it with a functional approach. Cluster 3 shows an incipient level, with low scores in technological training and technologies for sustainability, although with some progress in basic digital channels.

Indicator	**Cluster 1**	**Cluster 2**	**Cluster 3**
Using advanced technologies to promote sustainability and reduce environmental impact	4.07 (±0.91)	4.10 (±0.89)	3.81 (±0.97)
Use of digital platforms to communicate CSR and sustainability practices	4.47 (±0.74)	4.40 (±0.76)	4.25 (±0.88)
Investing in technologies to facilitate access in vulnerable communities	4.49 (±0.74)	4.37 (±0.77)	4.20 (±0.83)
Training in sustainable technologies and responsible practices	4.27 (±0.83)	4.20 (±0.85)	3.93 (±0.95)
Appropriate use of technologies to ensure transparency and ethics	4.57 (±0.64)	4.47 (±0.70)	4.28 (±0.80)

Table 9

1Comparison of means and standard deviations by indicator of the technological dimension

Note: Prepared by the research team, with the use of SPSS statistical software.

Approach to the typology of CSR in segment one cooperatives

Based on the foregoing analysis, it is possible to establish a CSR typology for segment 1 savings and credit cooperatives in Ecuador, identifying three levels or categories of development in terms of Cooperative Social Responsibility. Each cluster is assigned a descriptive label, emphasizing its degree of institutional maturity and performance in the six dimensions of CSR

Cluster 1 – "Advanced CSR": Corresponds to cooperatives with a comprehensive consolidation of CSR. These organizations show high levels of performance in all dimensions, particularly in governance, economic sustainability, democratic participation and transparency. They have institutionalized participatory and inclusive processes, incorporated digital strategies aligned with sustainability objectives, and maintain an ethical and socially committed vision throughout their structure. In summary, Advanced CSR cooperatives holistically integrate cooperative values and sustainability into their management, acting as benchmarks in the sector.

Cluster 2 – "Consolidated CSR": Groups cooperatives where CSR practices are evident, but still partial, with certain imbalances or dispersions in their implementation. These cooperatives

have functional operational structures and apply CSR policies in all dimensions, but they have weaknesses in the systematization and full articulation of these practices. Important achievements are observed, such as social programs, financial education campaigns and a solid technological base, but the institutionalization of CSR has not yet reached optimal levels. In particular, they require improved environmental monitoring, the effective participation of their stakeholders and the strategic integration of ethical values in all processes. In short, Consolidated CSR cooperatives have incorporated social responsibility into their management, but they need to deepen and standardize their application to reach the level of comprehensiveness of Cluster 1.

Cluster 3 – "CSR in the Process of Systemic Integration": This group represents cooperatives in transition towards more structured CSR models. Their social responsibility initiatives are fragmented, poorly articulated and with low strategic visibility. Although there are notable efforts in specific areas – for example, some inclusive financial services, isolated environmental campaigns or basic technological tools – these actions lack a solid institutional policy that encompasses them. There are marked limitations in cooperative formation, transparency, technological integration and ethical mechanisms, which reflects the need to strengthen internal capacities and align them with a cooperative-sustainable approach. However, with adequate institutional strengthening and the development of measurement and integration systems, this group could evolve towards practices with a greater economic , social and environmental impact. In summary, CSR cooperatives in the Systemic Integration Process show an initial commitment to CSR, but they face the challenge of moving from isolated actions to a sustainability strategy fully integrated into their management.

Alignment between the dimensions of CSR and Organizational Culture

Next, a description and interpretative analysis of the content of the table that relates the dimensions of Cooperative Social Responsibility (CSR) proposed by Galarza et al. (2024) with the organizational culture models of Cameron and Quinn (1999) and Denison (1990) is presented, based on the empirical results reported for Segment One cooperatives in Ecuador.

CSR dimension (Galarza et al., 2024)	**Observed Empirical Results**	**Cultural Relationship (Model)**	**Relevant Example**
Cooperative governance	High reliability in the items of democratic participation, institutional management and cooperative leadership.	Cameron & Quinn: *Clan Culture* (Participatory Leadership)Denison: *Mission*, *Consistency*	Cooperatives with a participatory structure and clear statutes promote cohesion between members and managers.
Social dimension	High scores in community commitment, social equity and actions aimed at improving quality of life.	Cameron & Quinn: *Clan* and *AdhocraticDenison: Involvement*, *Adaptability*	Cooperatives with health, education, and local entrepreneurship programs reflect cultures oriented

			towards well-being and social innovation.
Environmental dimension	Lower average score compared to other dimensions; partial implementation of ecological policies.	Cameron & Quinn: *HierarchicalDenison: Adaptability*	Those that adopt environmental measures do so because of regulatory requirements or external pressure, not because of internal cultural conviction.
Economic dimension	High consistency in indicators on financial efficiency, social return and benefits for members.	Cameron & Quinn: *Market* and *HierarchicalDenison: Mission*	Profitable cooperatives show a culture focused on results, goals and economic sustainability.
Ethics and transparency	High level of reliability in items on integrity, access to information and reporting channels.	Cameron & Quinn: *Hierarchical* and *ClanDenison: Consistency*, *Involvement*	The existence of ethical manuals and internal audits is associated with formal cultures and shared values.
Technological dimension	Moderate scores; limited use of ICTs for management and communication, with initiatives in process.	Cameron & Quinn: *AdhocraticDenison: Adaptability*	Some cooperatives promote digital platforms for transparency, but there is still a lack of a culture of constant innovation.

Table 10

2 Alignment between the dimensions of CSR and Organizational Culture

Note: Internal coherence: Cooperatives with strongly participatory or clan cultures are more developed in the dimensions of social CSR, ethics and governance. External conditioning: Dimensions such as environmental or technological show less progress and seem to depend more on regulatory pressure or external financing than on a proactive internal organizational culture. Culture and performance: Consistency between cultural values and CSR practices generates higher levels of organizational commitment and trust among stakeholders.

Cooperative governance

- Description: It involves democratic participation, strategic direction and compliance with the cooperative model.
- Analysis: Cooperatives that display participatory leadership and transparent governance

structures reflect a *clan culture* according to Cameron and Quinn, prioritizing cohesion and a sense of community. In Denison's model, this dimension relates to organizational *mission* and *consistency*, implying clarity of purpose and normative alignment.

- Empirical interpretation: The high scores in this dimension confirm a strong alignment between governance and cooperative culture. A management oriented to values and cohesion between partners and management bodies is evident.

Social dimension

- Description: Assesses commitment to community, social equity, and the promotion of well-being.

- Analysis: This dimension is clearly anchored in *clan-like* and *adhocratic cultures*, which promote human well-being and social innovation. From Denison, it is linked to *involvement* (empowerment of members) and *adaptability* (social response to changes).

- Empirical interpretation: Cooperatives with better social performance show practices consistent with cultures oriented to community development, strengthening collective identity.

Environmental dimension

- Description: Examines policies, actions and institutional culture regarding ecological sustainability.

- Analysis: The *hierarchical culture* in Cameron and Quinn—characterized by control and regulation—underpins the implementation of environmental policies. At Denison, the adaptability dimension allows us to interpret the ability of organizations to incorporate sustainable practices in response to external demands.

- Empirical interpretation: The underdevelopment of this dimension suggests that many cooperatives implement environmental measures more as a requirement than as a deep-seated cultural value.

Economic dimension

- Description: It deals with financial efficiency, sustainability and equitable distribution of benefits.

- Analysis: It is clearly associated with *market culture* (focus on results) and *hierarchical* culture (financial control). In Denison's model, it corresponds to the *mission*, as it focuses on strategic objectives and measurable results.

- Empirical interpretation: The financial strength and results-orientation observed in many cooperatives reflects a pragmatic and achievement-oriented culture, without necessarily conflicting with cooperative values.

Ethics and transparency

- Description: Includes ethical standards, access to information, accountability, and internal control systems.

- Analysis: It is linked to the *hierarchical culture* (compliance with rules) and also to the *clan* (relationships of trust). At Denison, it is integrated with *consistency* (shared values and ethical systems) and *involvement* (open communication channels).

- Empirical interpretation: Cooperatives that promote codes of ethics and internal audits show a commitment to institutional practices that strengthen organizational trust and stability.

Technological dimension

- Description: Evaluates the incorporation of digital technologies in management, communication and sustainability.
- Analysis: It is associated with *adhocratic culture* (innovation and flexibility), and in Denison with *adaptability* (responsiveness to changing environments).
- Empirical interpretation: Moderate scores in this dimension indicate a process of technological adoption in development, with challenges linked to digital resources and skills. Cooperatives that manage to integrate ICTs tend to improve their transparency and sustainability processes.

The table shows that CSR dimensions do not only depend on external policies or norms, but are deeply influenced by the internal organizational culture. Cooperatives with clan and adhocratic cultures tend to excel in social dimensions and participatory governance. On the other hand, dimensions such as economic and environmental require the support of hierarchical or market cultures to achieve efficient implementation. This analysis highlights the importance of aligning organizational values with CSR practices, because when the internal culture supports these commitments, their implementation is more sustainable, coherent, and effective.

Conclusions

This study has identified a typology of performance in Cooperative Social Responsibility (CSR) among Ecuadorian cooperatives of segment one, through an exploratory factor analysis and a hierarchical and partitional cluster procedure. The classification into three clusters reveals differentiated levels of integration of responsible practices in the dimensions of cooperative governance, social, environmental, economic, ethical and technological.

Cluster 1 brings together cooperatives with a high degree of institutionalization of CSR, reflected in solid practices of democratic governance, accountability, sustainability and strategic use of technologies for transparency and participation. Cluster 2 presents an intermediate performance, with significant advances, although heterogeneous, especially in the technological and social dimensions. Cluster 3, although it maintains indicators above the compliance threshold, shows structural and operational limitations that restrict the comprehensive implementation of CSR practices, particularly in effective participation, cooperative education and environmental management.

The findings highlight the heterogeneity in the institutional maturity of the sector and the need to develop differentiated public policies that strengthen the governance, sustainability and digital transformation capacities of cooperatives. Likewise, the methodology used offers a useful empirical tool for monitoring, comparative evaluation and strategic decision-making in the field of popular and solidarity economy.

Based on the results obtained, the following are proposed as future lines of research: (i) to analyze the structural and contextual factors that affect the positioning of cooperatives in each cluster, such as age, size, geographical coverage and participation of members; (ii) to carry out longitudinal studies to observe the evolution of CSR and its effects on organizational and financial performance; (iii) explore the role of emerging technologies such as artificial

intelligence, blockchain, and digital platforms in strengthening transparency, participation, and efficiency in cooperative management; (iv) to study the relationship between CSR and the trust, loyalty and commitment of members; (v) to carry out comparative analyses with the experiences of other countries with similar cooperative systems; and (vi) design and implement intervention and technical support models differentiated by levels of CSR maturity, with an emphasis on impact measurement and replicable good practices.

References

Bowen, H. R. (1953). Social responsibilities of the businessman. Harper & Row.

Carrillo-Punina, Á. (2017). Social responsibility in Latin American and Spanish SMEs. ScienceAmerica, 6(2), 51-55.

Carrillo Punina, Á. (2019, March 13). Organizational Culture and Financial Performance in Ecuadorian Savings and Credit Cooperatives [PhD Thesis, National University of La Plata]. http://sedici.unlp.edu.ar/handle/10915/75026.

Carrillo, A., y Galarza, S. (2022). Sustainability Reports of South American Organizations. Administrative Sciences, 20(103). https://doi.org/10.24215/23143738e103.

Carrillo Punina, A. P., Tipán Tapia, L.A., Arias Peña, C.F., & Galarza Torres, S.P. (2023). Strategy, business and technology in the framework of enterprise architecture. First Edition. Ecuador: Universidad de las Fuerzas Armadas Espe.

Carrillo Punina, Á. P., Galarza Torres, S. P., Fernández, A., Armijos Robles, L. A., Cueva, B. E. & Tipán Tapia, L. A. (2023). Cooperative Social Responsibility: Integration of CSR Models and Social Balance. Migration Letters, 20(S9), p. 1007-1020. https://doi.org/10.59670/ml.v20iS9.4941

Carrillo Punina, Á. P., Armijos Robles, L. A., Fernández, A., Tipán Tapia, L. A., Galarza Torres, S. P., Sierra Sierra, C. E. & Benavides Ortiz, G. G. (2024). Cooperativism: Source of Socioeconomic Development. Nanotechnology Perceptions, 20(S9), p. 601-625. https://doi.org/10.62441/nano-ntp.v20iS9.1654

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. Business Horizons, 34(4), 39–48. https://doi.org/10.1016/0007-6813(91)90005-G

Elkington, J. (1997). Cannibals with forks: The triple bottom line of 21st-century business. Capstone.

Fernández, A. & Galarza Torres, S. P. (2023). Cooperativism in Ecuador: current affairs and perspectives. Cooperativism and Development, 11(3), e639. https://coodes.upr.edu.cu/index.php/coodes/article/view/639

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.

Galarza Torres, S. P., Fernández Lorenzo, A., Carrillo Punina, Á. P., Raura Ruiz, J. G., Armijos Robles, L. A., Tipán Tapia, L. A., y Benavides Ortiz, G. G. (2024). Methodological Validation of the Cooperative Social Responsibility Measurement Instrument. Evolutionary Studies in Imaginative Culture, 8(1S2), p. 1535-1553. https://esiculture.com/index.php/esiculture/article/view/1594

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7ª ed.). Pearson.

Dawar, G., Singh, R., & Jhamb, D. (2023). Segmenting corporate social responsibility practices: A clúster analysis of Indian manufacturing firms. Social Responsibility Journal, 19(9), 1707–1727. https://doi.org/10.1108/SRJ-09-2022-0370

Lévy, J. P., & Varela, J. (2003). Multivariate analysis for the social sciences. Pearson Education.

Punj, G., & Stewart, D. W. (1983). Clúster analysis in marketing research: Review and suggestions for application. Journal of Marketing Research, 20(2), 134–148. https://doi.org/10.2307/3151680

Findler, F., Schönherr, N., Lozano, R., & Stacherl, B. (2019). Assessing the impacts of higher education

institutions on sustainable development—An analysis of tools and indicators. Sustainability, 11(1), 59. https://doi.org/10.3390/su11010059

Leppälä, M., & Heikkilä, M. (2024). University–industry collaboration and the absorptive capacity of knowledge: Evidence from cooperative innovation practices. Journal of Innovation and Knowledge.

Judijanto, B. (2025). CSR maturity and sustainability performance in financial institutions: An emerging market analysis. Asian Journal of Business Ethics.

Superintendence of Popular and Solidarity Economy (SEPS). (2024). Social balance in savings and credit cooperatives: Regulations and technical guide. https://www.seps.gob.ec.