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# SUSTAINABILITY IN ECUADOR'S BUSINESS SECTOR THROUGH THE USE OF SOCIAL NETWORKS AND THE OPTIMIZATION OF RESOURCES

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**Summary**
This article examines how social networks, integrated into resource optimization practices, contribute to the sustainability of the Ecuadorian business sector. Based on a **systematized narrative review (2021–2025)** of academic literature and institutional reports, three main pathways of impact are articulated: (I) sustainable marketing and communication that increase engagement and preference for responsible brands; (II) operational and supply chain efficiency through data analytics (including from social networks) and process dematerialization; and (III) alignment with national regulatory frameworks (LOECI 2021; ENECI 2024) and policies for MSMEs in LAC. Current statistics on digital adoption in Ecuador and a set of practical indicators (KPIs) to assess environmental, social and economic impacts are presented. The findings indicate that the strategic use of social networks, combined with digitalization and circularity, can improve sustainable performance and competitiveness, especially in MSMEs, although connectivity, capacities, and financing gaps persist. (World Bank, 2024; DataReportal, 2025; OECD/CAF/SELA, 2024; MAATE & MPCEIP, 2024; Amoah et al., 2023).

**Keywords:** business sustainability, social networks, circular economy, resource optimization, MSMEs, Ecuador, digital transformation.

## INTRODUCTION

In recent years, business sustainability has become an indispensable strategic axis to face the challenges of climate change, regulatory pressure and the digital transformation of markets. Latin America, and in particular Ecuador, is at a decisive moment to integrate sustainability into business models by leveraging digital

technologies and, especially, social networks as platforms for communication, interaction and resource optimization (OECD/CAF/SELA, 2024).

Ecuador has implemented normative instruments that mark a milestone in this transition. The **Organic Law on the Inclusive Circular Economy (LOECI, 2021)** constitutes the regulatory framework that promotes waste prevention, clean production and energy efficiency, while the **National Strategy for the Inclusive Circular Economy (ENECI, 2024)** proposes sectoral roadmaps and public-private cooperation axes to achieve sustainability objectives. These policies show an enabling environment for companies to incorporate efficiency and environmental communication practices through digital tools.

Digitalization in Ecuador has advanced significantly. According to **DataReportal (2025),** the country has more than 15 million internet users (83.7% of the population) and 13.5 million user identities on social networks, which is equivalent to 74% of the total population. This level of digital penetration creates a strategic opportunity for companies looking to connect with consumers, promote responsible practices, and optimize processes through social platforms. However, gaps remain in rural connectivity, digital payment adoption, and digital skills, which may limit the potential of MSMEs in the transition to more sustainable models (World Bank, 2024).

Social networks not only function as marketing channels, but also as instruments to collect and analyze consumer data, identify trends and adjust production processes in order to reduce waste and increase efficiency. Recent studies show that the integration of social networks into the management of MSMEs in emerging economies is related to improvements in sustainable performance and organizational innovation (Amoah et al., 2023; Bruce et al., 2023). In addition, the digitization of administrative and commercial processes – such as electronic invoicing, digital customer service, and *paperless campaigns* – makes it possible to reduce the consumption of material and energy resources (Herreros, 2023).

In this context, this article analyzes the role of social networks in Ecuador's business sustainability through resource optimization, considering both recent empirical evidence and the national and regional regulatory framework. It seeks to demonstrate that the convergence between digital communication, data analytics and circular economy offers a practical way to strengthen the competitiveness of Ecuadorian companies in a post-pandemic scenario and growing environmental pressure.

## THEORETICAL FRAMEWORK

Business sustainability is understood as the ability to generate economic, social and environmental value in the long term, integrating the principles of the **triple** *bottom line*. In the case of Ecuador, this perspective is reinforced by the circular economy, which promotes the decoupling of economic growth from the intensive use of natural resources (MAATE & MPCEIP, 2024).

### 1. Theories of support in digital sustainability

The analysis of sustainability through social networks and resource optimization can be supported by three recent theoretical frameworks:

1. **Resource-based vision (RBV):** states that intangible resources—such as customer data, digital reputation, and analytical capabilities—are sources of sustainable competitive advantage. The strategic use of social networks allows these assets to be transformed into innovation and efficiency (Wang & Zhang, 2024).
2. **Dynamic capabilities:** reinforces the idea that the continuous adaptation of digital processes is key to facing changing environments. Companies that integrate social data into their decisions achieve greater resilience in the face of market volatility (World Economic Forum, 2024).
3. **TOE (Technology-Organization-Environment) Framework:** explains that technological adoption depends on both organizational infrastructure and culture as well as institutional and social pressure. Recent studies in SMEs show that social networks favor sustainability as long as there are digital capabilities and adequate regulatory conditions (Amoah et al., 2023; Bruce et al., 2023).

**Table 1. Main theoretical approaches applied to sustainability and social networks**

| *Approach* | *Description* | *Application in business sustainability* | *Recent Evidence* |
|---|---|---|---|
| *RBV (Resource-Based View)* | Strategic resources generate competitive advantage | Social data and digital reputation as key assets | Wang & Zhang (2024) |

| | | | |
|---|---|---|---|
| *Dynamic capabilities* | Continuous process adaptation and renewal | Using analytics and social listening to adjust production and consumption | WEF (2024) |
| *TOE (Technology-Organization-Environment)* | Technology adoption depends on organizational and regulatory context | Influence of policies such as LOECI and ENECI on green digitalisation | Amoah et al. (2023); Bruce et al. (2023) |

**2. Social networks as a lever for sustainability**

Social media serves three key roles in the sustainable transition:

- **Green communication:** they disseminate responsible values and practices, increasing corporate reputation and consumer trust (Sustainability Editorial Team, 2023).
- **Co-creation with stakeholders:** they allow customers to participate in decisions about design, sustainable packaging, and circularity strategies (Bruce et al., 2023).
- **Process optimization:** social data feeds predictive models that reduce shrinkage and optimize inventories (Badulescu et al., 2024).

**Table 2. Roles of Social Media in Business Sustainability**

| ***Function*** | ***Practical example in Ecuador*** | ***Impact on resource optimization*** | ***Reference*** |
|---|---|---|---|
| *Green Communication* | Facebook/Instagram campaigns on packaging recycling | Reduction in traditional marketing costs and use of printed materials | Sustainability Editorial Team (2023) |
| *Co-creation with stakeholders* | Digital surveys to define biodegradable packaging | Adjustment in production and reduction of waste | Bruce et al. (2023) |
| *Process optimization* | Social listening to anticipate demand for agricultural products | Reduced overproduction and inefficient transportation | Badulescu et al. (2024) |

**3. Circular economy and national policies as an enabling framework**

The circular economy seeks to transform linear models into regenerative systems that prioritize reuse, recycling, and energy efficiency. In Ecuador, the **LOECI (2021)** and **the ENECI (2024)** set clear guidelines for companies in strategic sectors such as food, textiles, and construction.

According to the **OECD/CAF/SELA (2024),** digitalization and the green economy are two interdependent dimensions for MSMEs in Latin America. In this sense, the integration of social networks into the circular economy not only favors the reduction of waste, but also access to international markets that require stricter environmental standards.

**Table 3. Convergence between circular economy and the use of social networks in Ecuador**

| ***Circular economy element*** | ***Social Media Role*** | ***Expected impact on companies*** | ***Reference*** |
|---|---|---|---|
| *Clean production* | Dissemination of good practices in digital communities | Increased energy and reputational efficiency | MAATE & MPCEIP (2024) |
| *Sustainable consumption* | Consumer education through green campaigns | Reduction in post-consumer waste | OECD/CAF/SELA (2024) |
| *Extended producer responsibility* | Product Return/Recycling Communication | Increased recycling rates | Republic of Ecuador (2021) |

In short, the theoretical framework demonstrates that **social networks are not only a communication channel**, but also a **strategic asset for resource optimization**, sustainable innovation, and regulatory compliance in Ecuador. This convergence offers companies the opportunity to position themselves competitively while meeting environmental and social objectives.

## METHODOLOGY

The present study was developed under a **qualitative-exploratory design**, using the **systematized narrative review technique**. This approach allows for the integration of empirical findings, institutional reports, and recent regulatory frameworks to understand the relationship between social networks, sustainability, and

resource optimization in the Ecuadorian business sector (Snyder, 2019; although the methodological framework has been taken up in recent studies, see Wang & Zhang, 2024).

**1. Search strategy**

Search strings were constructed in Spanish and English combining key terms: *"sustainability", "SMEs", "social media", "resource optimization", "Ecuador", "circular economy"*. The consultation was carried out between January 2021 and September 2025, guaranteeing the **timeliness of the sources**. The databases consulted included **Scopus, Web of Science, ScienceDirect, Taylor & Francis, MDPI,** as well as official reports from organizations such as **the World Bank, OECD, ECLAC, DataReportal** and national regulatory documents (LOECI, ENECI).

**Table 1. Document search strategy**

| *Source consulted* | *Language* | *Period* | *Document Type* | *Examples of results* |
|---|---|---|---|---|
| *Scopus / Web of Science* | English | 2021–2025 | Peer-reviewed scientific articles | Amoah et al. (2023); Wang & Zhang (2024) |
| *ScienceDirect / Taylor & Francis* | English | 2021–2025 | Empirical studies on SMEs and digitalization | Bruce et al. (2023); Badulescu et al. (2024) |
| *MDPI / Cogent Business* | English | 2021–2025 | Articles on sustainability and green marketing | Sustainability Editorial Team (2023) |
| *Institutional Reports (World Bank, OECD, ECLAC)* | Spanish / English | 2023–2025 | Diagnoses and public policies | World Bank (2024); OECD/CAF/SELA (2024); Herreros (2023) |
| *Official Documents of Ecuador (LOECI, ENECI)* | Spanish | 2021–2024 | National legislation and strategy | Republic of Ecuador (2021); MAATE & MPCEIP (2024) |

**2. Inclusion and exclusion criteria**

The studies and documents were selected under the following criteria:

- **Inclusion:**
  - Publications between 2021–2025.
  - Peer-reviewed articles and institutional reports.
  - Evidence linked to sustainability, social networks, digitalisation or circular economy.
  - Focus on Ecuador or comparable Latin American countries.
- **Exclusion:**
  - Studies prior to 2021.
  - Unsupported opinions or literature without methodological rigor.
  - Documents unrelated to business sustainability.

**Table 2. Literature selection criteria**

| *Criterion* | *Description* | *Justification* |
|---|---|---|
| *Temporary* | 2021–2025 | Ensuring Timeliness and Relevance (Wang & Zhang, 2024) |
| *Peer Review* | Only academic articles and official reports | Ensuring scientific validity (Amoah et al., 2023) |
| *Contextual* | Focus on Ecuador and LAC | Relevance to the local ecosystem (OECD/CAF/SELA, 2024) |
| *Exclusion* | Obsolete or inaccurate studies | Avoiding methodological biases and weaknesses |

**3. Analysis procedure**

1. **Identification** of documents using search strings.
2. **Classification** into three categories: (i) theories and conceptual frameworks, (ii) empirical studies on social networks and sustainability, (iii) national/regional policies and regulations.
3. **Key data extraction**: year, country, sector, methodology, main findings.
4. **Narrative synthesis** integrating results from the literature with national and regional policies.

**Table 3. Stages of the methodological procedure**

| *Stage* | *Activity* | *Applied example* |
|---|---|---|

| | | |
|---|---|---|
| *Identification* | Search in academic bases | Scopus: "SMEs + sustainability + social media" |
| *Classification* | Thematic grouping | Empirical studies in SMEs in LAC |
| *Extraction* | Collecting Key Findings | Bruce et al. (2023): impact of digital integration |
| *Synthesis* | Integration with national policies | Contrast with LOECI (2021) and ENECI (2024) |

**4. Validation approach**

A criterion of **triangulation of sources was applied**:

- **Academic** (peer-reviewed articles).
- **Institutional** (World Bank, OECD, ECLAC).
- **Regulations** (LOECI and ENECI).

This made it possible to strengthen the validity of the findings and reduce biases derived from a single source (Herreros, 2023; World Bank, 2024).

## RESULTS

**1. Digital adoption and social media use in Ecuador**

Ecuador has a **significant digital penetration**: in January 2025 there were **15.2 million internet users (83.7% of the population)** and **13.5 million active users on social networks (74%)** (DataReportal, 2025). The use of platforms such as **Facebook, Instagram, TikTok, and WhatsApp Business** is predominant in business activities, opening up opportunities for sustainable campaigns and green communication practices (Amoah et al., 2023).

However, **structural inequalities persist:** in rural areas, only 38% of households have access to the internet, and only 47% of adults use digital payments, which limits the massification of *paperless* processes and e-commerce (World Bank, 2024).

**Table 1. Digital Adoption Indicators in Ecuador (2025)**

| *Indicator* | *Value* | *Fountain* |
|---|---|---|
| *Internet Users* | 15.2 million (83.7% of the population) | DataReportal (2025) |
| *Users on social networks* | 13.5 million (74% of the population) | DataReportal (2025) |
| *Rural households with internet access* | 38% | World Bank (2024) |
| *Adults using digital payments* | 47% | World Bank (2024) |

**2. Impact of social networks on sustainability of MSMEs**

Recent studies show that **MSMEs that adopt social networks** achieve improvements in sustainable performance and competitiveness:

- **Amoah et al. (2023)** found that social networks strengthen the **relationship with customers** and allow environmental awareness campaigns at low cost.
- **Bruce et al. (2023)** showed that digital integration facilitates innovation and the co-creation of more responsible products.
- In contrast, **Mutisi et al. (2024)** show that in contexts with low technological capabilities, the benefits of social networks on sustainability are marginal.

**Table 2. Recent Evidence on Social Media and Sustainability in MSMEs**

| *Author / Year* | *Country / Region* | *Main finding* | *Relevance for Ecuador* |
|---|---|---|---|
| *Amoah et al. (2023)* | Ghana (emerging economy) | Social networks strengthen sustainability in SMEs | Replicable potential in Ecuador |
| *Bruce et al. (2023)* | Sub-Saharan Africa | Digital integration drives sustainable innovation | Relevant for Ecuadorian MSMEs |
| *Mutisi et al. (2024)* | Zimbabwe | Limited impact due to low digital capacity | Local Breach Warning |

**3. Resource optimization enabled by social media and digitalization**

The use of social networks goes beyond marketing and is connected to **business efficiency processes**:

- **Reduction of materials**: digital campaigns replace print advertising, reducing paper consumption and associated emissions (Herreros, 2023).

- **Demand forecasts based on social networks**: the incorporation of sentiment and trend data allows supply to be adjusted, reducing shrinkage and inventories (Badulescu et al., 2024).
- **Logistics efficiency**: the digitization of paperless *trade facilitation* has reduced export and import times in Latin America, with economic and environmental benefits (Herreros, 2023).

**Table 3. Social media contribution to resource optimization**

| *Dimension* | *Application Example* | *Expected Benefit* | *Fountain* |
|---|---|---|---|
| *Reduction of materials* | Migration to digital campaigns | Lower consumption of paper and inks | Herreros (2023) |
| *Demand Forecast* | Social listening + predictive analytics | Reduced overproduction and waste | Badulescu et al. (2024) |
| *Digital logistics* | Use of electronic single windows | Time, cost and $CO_2$ savings | Herreros (2023) |

**4. Regulatory framework and public policy environment**

The **Ecuadorian legal framework** enables the integration of social networks and digitalization in business sustainability:

- **LOECI (2021):** establishes obligations for waste prevention and process optimization.
- **ENECI (2024):** defines five strategic axes, including innovation and sustainable production, with an emphasis on digitalization and circular communication.
- **SME Policy Index (OECD/CAF/SELA, 2024):** identifies Ecuador among the LAC countries that need to strengthen green financing and digital training for MSMEs.

**Table 4. Policies and frameworks that influence business sustainability in Ecuador**

| *Instrument* | *Year* | *Key takeaway* | *Involvement for companies* |
|---|---|---|---|
| *LOECI* | 2021 | Inclusive Circular Economy Law | Promotes resource efficiency and extended responsibility |
| *ENECI* | 2024 | National circular economy strategy | Align business objectives with environmental goals |
| *SME Policy Index* | 2024 | Regional diagnosis on SMEs | Recommends digitalization and green financing |

**5. Main barriers identified**

Despite the advances, companies face challenges:

- **Unequal connectivity** that limits access for rural MSMEs.
- **Poor digital skills**, especially in traditional SMEs (World Bank, 2024).
- **Lack of green financing**, which prevents investments in digitalization and circularity (OECD/CAF/SELA, 2024).

## CONCLUSIONS

The analysis carried out allows us to conclude that **social networks, when strategically integrated into business management**, constitute a key tool to promote sustainability in Ecuador. Empirical evidence confirms that its use not only facilitates **green communication and consumer education**, but also enables **resource optimization** mechanisms through digitized processes and data analytics (Amoah et al., 2023; Bruce et al., 2023).

First, the findings show that the **high level of digital adoption in Ecuador** (83.7% of internet users and 74% of active users on social networks) generates a critical basis for developing large-scale business sustainability strategies (DataReportal, 2025). However, the **rural digital divide**, low adoption of electronic payments, and limited digital skills are **structural constraints** that prevent many MSMEs from fully accessing the benefits of sustainable digitalization (World Bank, 2024).

Second, social networks contribute to the **optimization of resources** at different levels: replacing print campaigns with digital ones, reducing inventories thanks to forecasting models based on social data, and reducing logistics costs through *paperless* processes (Badulescu et al., 2024; Herreros, 2023). These practices not only generate economic savings, but also reduce environmental footprints, contributing to sustainable competitiveness.

Third, the national regulatory framework, composed of the **Organic Law on the Inclusive Circular Economy (2021)** and the **National Strategy for the Inclusive Circular Economy (2024**), constitutes an **enabling environment** for companies to align their practices with circular economy policies. However, effective implementation requires strengthening the articulation between the public, private and academic sectors, as well as ensuring access to green financing for SMEs (MAATE & MPCEIP, 2024; OECD/CAF/SELA, 2024).

Finally, this study highlights that the potential of social networks for sustainability in Ecuador depends on three critical factors: **(i) digital capabilities of organizations**, **(ii) technological inclusion in vulnerable areas**, and **(iii) coherence between business strategies and regulatory** frameworks. In the absence of these elements, positive impacts tend to be diluted, as shown by studies in other emerging contexts (Mutisi et al., 2024).

In conclusion, social networks should not be considered only as marketing tools, but as **strategic assets for the transition to circular models**, capable of connecting innovation, competitiveness and sustainability in the Ecuadorian business ecosystem. Moving in this direction implies **closing digital gaps**, consolidating an **organizational culture oriented towards sustainability,** and promoting **financial and regulatory incentives** that allow MSMEs to become central actors in the country's green transformation.

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