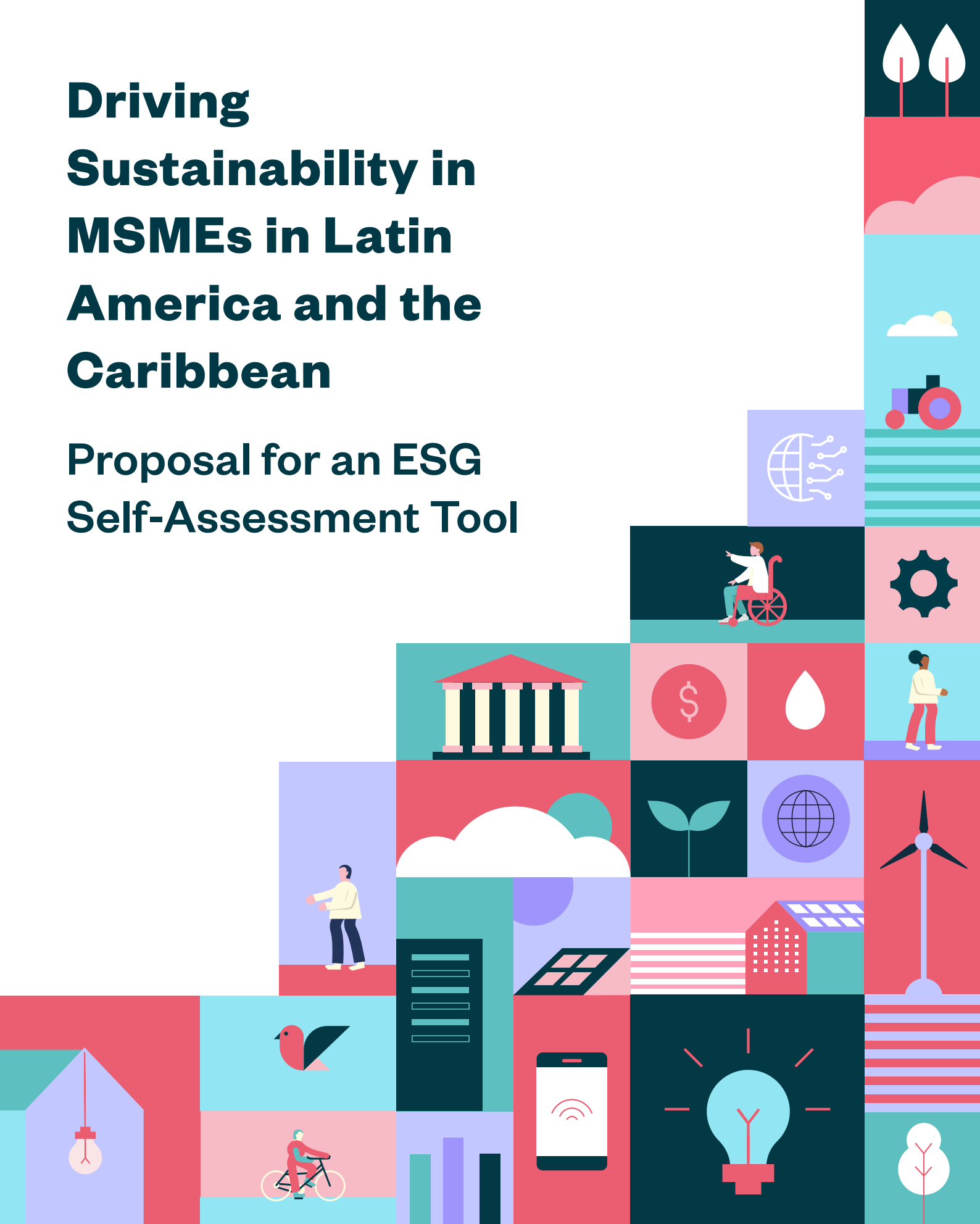


Driving Sustainability in MSMEs in Latin America and the Caribbean

Proposal for an ESG Self-Assessment Tool



AUTHORS

Juan Carlos Rodríguez
Manuel Fernandini Puga

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Abstract

Although the crisis generated by COVID-19 has only deepened the vulnerability of micro, small, and medium-sized enterprises (MSMEs), conditions are emerging to promote sustainable economic recovery through access to productive financing, supplemented by technical assistance, to promote investments that contribute to reducing gender and diversity gaps in companies, as well as exposure to climate change risks. This publication is a guide for public development banks (PDBs) and other economic promotion agencies to implement a self-assessment tool to determine, preliminarily, the degree of sustainability of MSMEs. By applying this tool, we expect to achieve two aims: (i) for PDBs, to have initial information that will allow them to develop and/or adjust their support to MSMEs, both in terms of credit and technical assistance; and (ii) for MSMEs, to have access to an easy-to-use tool that will allow them to identify gaps and opportunities with respect to the sustainability of their business model.

JEL Codes

J15, J16, M1, M5, Q5, Q56

Keywords

digitalization, diversity, environmental, social, and governance (ESG); financing; gender; green SME; index; investments; MSMEs; sustainability; technical assistance.

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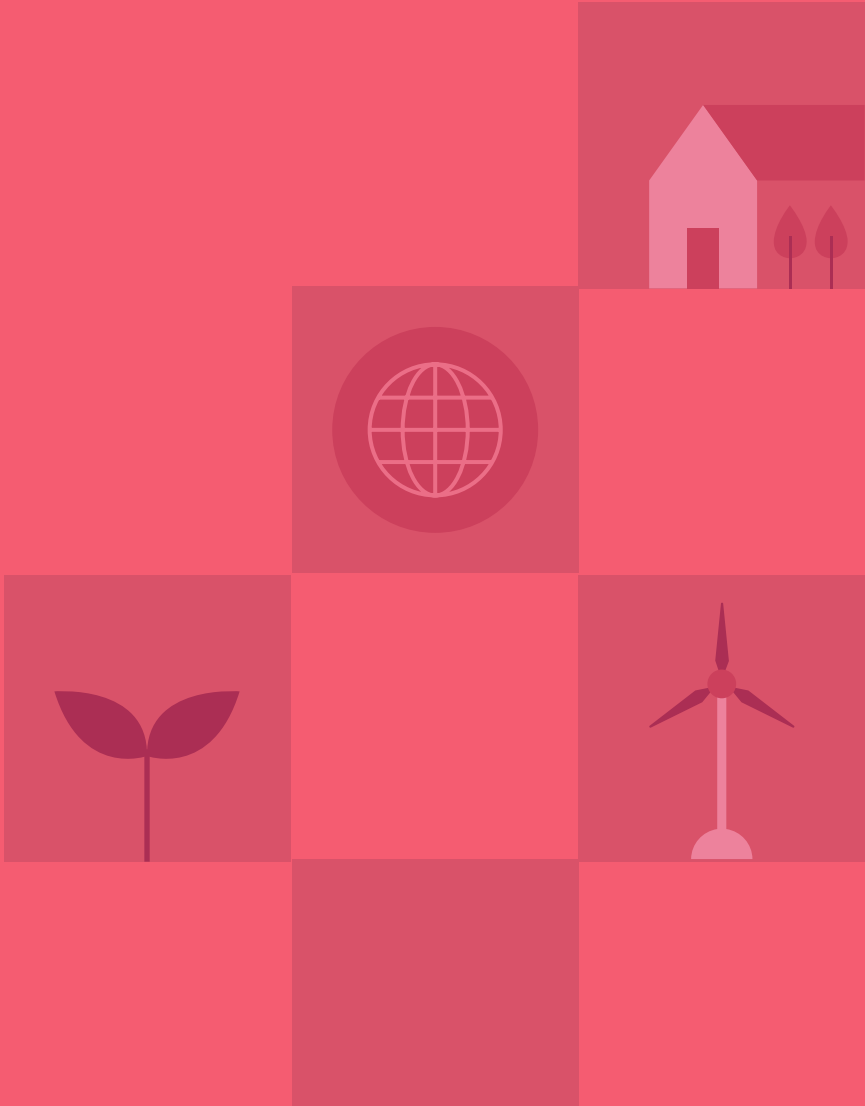
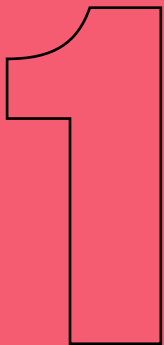
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Inter-American Development Bank
1300 New York Avenue, N.W.
Washington, D.C. 20577
www.iadb.org

Introduction





Due to their high participation in world economic activity, micro, small, and medium-sized enterprises (MSMEs) are fundamental channels for achieving sustainable development objectives (Kamal-Chaoui, 2017). They are also the most impacted by the destruction of infrastructure due to natural disasters and water and power shortages. The literature and empirical evidence underscore the important role played by the financial sector in supporting sustainable economic growth and reducing inequality by increasing the economy's productivity. The expansion of financing for productive investments can improve the performance of companies and increase employment through the adoption of new technologies and/or the acquisition of equipment, capitalization, or insertion into global value chains. Moving toward zero net emissions could create 15 million jobs and generate 1 percent of additional economic growth by 2030 in Latin America and the Caribbean (LAC) (Saget, Vogt-Schilb, and Luu, 2020).

Although the crisis generated by COVID-19 has only deepened the vulnerability of MSMEs, particularly those owned or led by women, conditions are emerging to promote a sustainable economic recovery through access to productive financing.¹ This should be supplemented by technical assistance to promote investments that contribute to reducing both gender and diversity gaps in companies, as well as exposure to climate change risks. Along these lines, the International Monetary Fund (IMF) supports the efforts of governments to achieve an economic recovery consistent with previous commitments to generate actions that help mitigate climate change and promote sustainable development (IMF, 2020). Similarly, the Organisation for Economic Co-operation and Development (OECD) has emphasized the importance of supporting this type of investment to reduce the likelihood of future shocks and improve the resilience of countries when they occur, whether as a result of disease or environmental degradation (OECD, 2020).

¹ This is understood as credit for investments and associated working capital.



Presently, the sustainable development agenda goes far beyond the environmental issue, which was the most important issue until the 1990s. It has incorporated new elements in the social sphere, such as gender equality and the inclusion of vulnerable populations, including indigenous peoples and members of the LGBTQ community, and the governance sphere, such as the use of information and communication technologies (ICTs) to improve the transparency of corporate accountability and the organizational culture that drives management in general. These have definitively determined a new form of global capitalism, which is conceptually synthesized in the environmental, social, and governance (ESG) criteria. However, since what is not measured cannot be known, and what is not known cannot be improved, the incorporation of the sustainability dimension and ESG criteria in the investment decisions of MSMEs is still an incipient practice.

Within this context, this publication is a guide for public development banks (PDBs) and other economic promotion agencies (EPAs) to implement a self-assessment tool to determine, preliminarily, the degree of sustainability of MSMEs. Thus, the application of this tool is expected to achieve two benefits: (i) for PDBs, to have initial information that will allow them to develop and/or adjust their lines of support to MSMEs, in terms of credit and technical assistance; and (ii) for MSMEs, to have access to an easy-to-use tool that will allow them to identify gaps and opportunities with respect to the sustainability of their business model.

The self-assessment tool addresses the evaluation of fundamental issues of the ESG criteria scheme with regard to their importance in the MSME's business model. To this end, it has 60 indicators that assess mitigation and adaptation to climate change as part of the environmental criterion; a gender and diverse population approach as part of the social criterion; and digital transformation and organizational culture as part of the governance criterion. It groups the results of the different variables of the indicators included in the instrument in a single numerical value. This provides the user with a simpler scheme for interpreting the results at the level of MSMEs in different sectors, regions, and countries, among others.



The publication is divided into six chapters. After this introduction, Chapter Two introduces the conceptual framework for the tool, emphasizing the importance of the ESG criteria scheme as a synthesis of the debate around sustainable development in recent decades and their contribution to global economic development. Chapter Three summarizes the methodology followed to build the tool, including the dimensions, subdimensions, variables, subvariables, and indicators that comprise it. Chapter Four introduces the self-assessment tool, describing aspects of both the conceptual framework and the mathematical composition of an ESG criteria application index. Chapter Five presents an outline of potential action plans to cover technical assistance or investment needs for MSMEs to improve their progress in the incorporation of ESG criteria. Finally, Chapter Six includes a set of recommendations and work perspectives to maximize the use of the tool in the context of MSMEs in LAC.

Conceptual Framework for the ESG Criteria Adoption Index for MSMEs

2





2.1 ESG Criteria as the Main Conceptual Framework of the Self-Assessment Tool

Unlike the early days of the debate on social responsibility, when Latin American and Caribbean (LAC) companies depended on their environment to achieve a sustainable development scheme, today, following years of growth in the 2000s, companies are given a greater role in influencing the environment and becoming a factor of change in society, as described in the ESG criteria scheme. After the 2020 health crisis caused by the COVID-19 pandemic, which led to an economic crisis, MSMEs in LAC have a second favorable scenario for their development under a sustainable scheme. MSMEs are a fundamental component of the region's economies, accounting for 99 percent of all companies and employ 67 percent of active workers. However, they generate only 30 percent of the regional gross domestic product (GDP), much less than 60 percent of MSMEs in OECD countries, which explains the results of social inequality in LAC (Amar and Grondona, 2020). ESG criteria are defined as follows:

Environmental: This criterion refers to the company's impact on the environment. It establishes improvement goals to reduce climate change through a reduction of the carbon footprint, proper management of resources, generation of energy efficiency, and incorporation of clean and renewable energy (Deloitte, 2021).

Social: This criterion has two perspectives. First, within the organization, it includes policies and guidelines to respect human rights, promote equality according to gender and diverse populations, establish adequate labor standards, and build healthy work environments. Second, with respect to relationships between the company and the outside world, it focuses on promoting the social development of the surrounding community (Deloitte, 2021).

Governance: This criterion refers to the organizational culture within which the company is run, based on sound institutional values, strong business ethics, clear anti-corruption policies, a diverse board of directors, and responsibility for transparency and accountability (Deloitte, 2021).

Although the structure of the ESG principles is the main conceptual framework for analysis, the self-assessment tool assesses the status of the transition to a sustainable development model for MSMEs, **prioritizing some of the fundamental issues of each criterion**. Therefore, at the next level, as part of the operationalization scheme, a set of six subdimensions are included, which are organized into the three criteria of the ESG model (Table 1).

TABLE 1. ESG Criteria and Self-Assessment Subdimensions

ESG Criteria	Subdimensions
Environmental	Mitigation of climate change
	Adaptation to climate change
Social	Gender approach
	Diverse populations
Governance	Digital transformation
	Organizational culture

Source: Authors' elaboration.



These subdimensions are defined below and will be operationalized with a system of variables, subvariables, and indicators.

- I) **Mitigation of Climate Change:** An effort to reduce or prevent greenhouse gas emissions. In the case of companies, mitigation activities may include the use of renewable energy, introduction of innovations to increase the energy efficiency of old equipment, and changes in consumer behavior toward the end of the value chain.²
- II) **Adaptation to Climate Change:** A long-term process to reduce current and future vulnerability to climate change, which is directly connected to poverty reduction goals and low-carbon emission growth strategies. Adaptation projects include the construction of infrastructure that includes climate change trend parameters in the design, agricultural development programs that promote economic diversification, and technological innovation to increase productivity without compromising natural resources (Grünwaldt, 2011).
- III) **Gender Approach:** A process of assessing the implications for women and men of any planned action, including legislation, policies, or programs, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring, and evaluation of policies and programs in all political, economic, and social spheres, so that women and men benefit equally and inequality is not perpetuated (United Nations, 1997).
- IV) **Diverse Populations:** A form of development that considers the identity of Indigenous peoples, people with disabilities, people of African descent, and the LGBTQ population, and that takes advantage of their talents and capabilities to promote socioeconomic development in LAC countries. This development approach is on the current agenda of the Inter-American Development Bank (IDB) because LAC is one of the most diverse regions in the world in terms of cultural heritage, native culture, race, sexual orientation, skills, and languages (IDB, 2019).
- V) **Digital Transformation:** A production system of goods and/or services whose characteristics are high mobility of intangible assets, users, and business functions through the use of software, web pages, computer algorithms and user and client information, and significant investment in research and development activities. Companies in the digital economy make widespread use of ICTs, which contributes to the real economy, either directly, by developing new ICT sectors, or indirectly, by promoting the development of new companies and making traditional ones more efficient (Dini, Gligo, and Patiño, 2021).
- VI) **Organizational Culture:** A set of values, beliefs, behaviors, and reward systems that affect the daily behavior of company members. Culture defines the way in which employees interact with each other both inside and outside the organization, the latter to respond to external challenges. Therefore, organizational culture defines the way in which employees face external and internal stakeholders, whether they are other employees, clients, competitors, or others. It also defines the behaviors that the organization rewards, all of which have a direct impact on the organization's ability to achieve strategic objectives (Melián, 2022).

² More information on the subject can be found via the United Nations Environment Programme: <https://www.unep.org/explore-topics/climate-action/what-we-do/mitigation>.

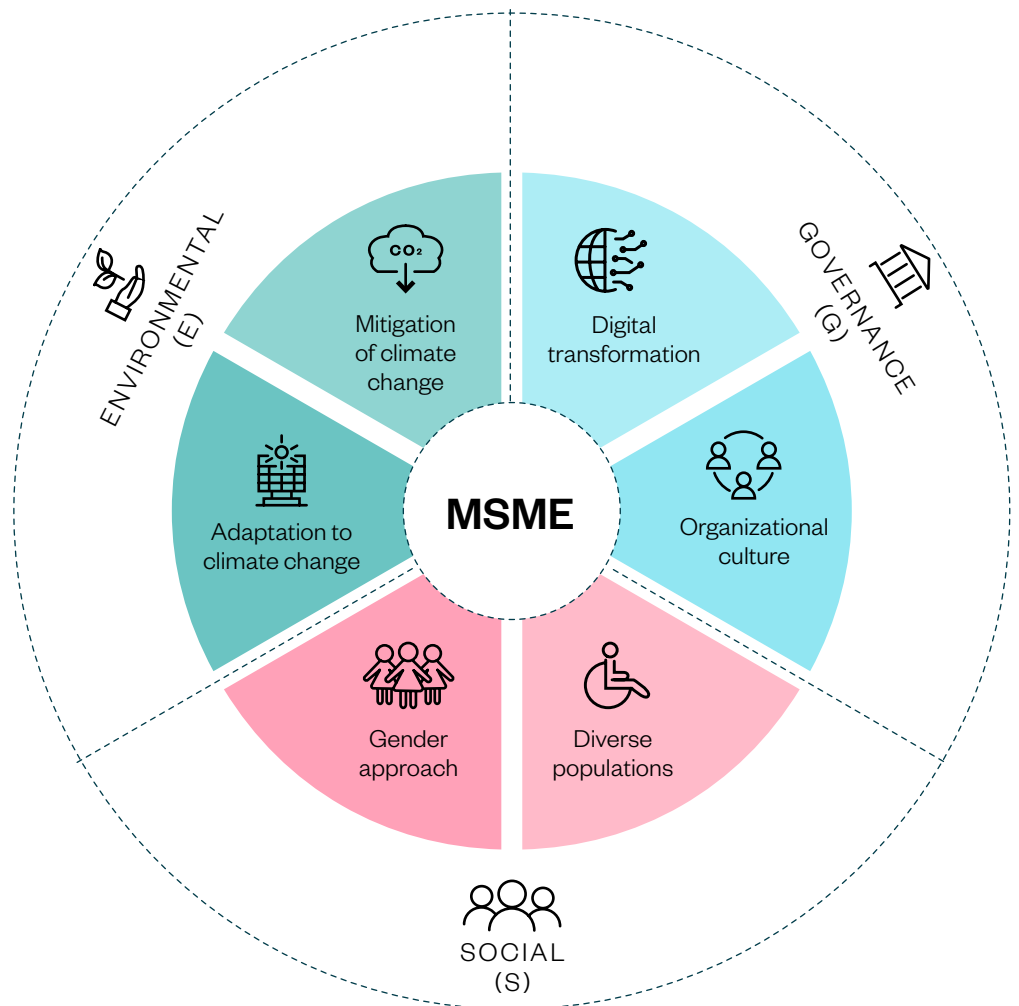


2.2 Self-Assessment Tool Theory of Change Structure

The self-assessment tool is structured based on the three dimensions of the **ESG criteria, which are the three main dimensions of the instrument**. At a next level of analysis, it includes six subdimensions to address some of the most important issues of each ESG criterion **in the context of the current international business agenda**. For example, the environmental dimension is addressed through two subdimensions: climate mitigation and adaptation. Thus, it addresses the core activities that a company can carry out within the framework of an environmental management plan. The social criterion is addressed through the subdimensions of gender approach and diverse populations. It calls for

research on policies of equal access and opportunities for vulnerable populations as part of the most relevant agenda of this criterion in the sustainable business environment. Finally, it addresses the governance criterion through the subdimensions of digital transformation and organizational culture of the MSME. In this case, it includes improvements in company digitalization as a means of contributing to improving the quality of management (based on the achievement of adequate levels of efficiency in purchasing, sales, and advertising processes, as well as transparency and accountability), which is linked to the values that comprise the organizational culture of the company.

FIGURE 1
Conceptual Framework of the Self-Assessment Tool for MSMEs



Source: Authors' elaboration.



Figure 1 shows the conceptual scheme describing the evaluation logic of the self-assessment tool. ESG criteria, which make up the first level of analysis, are equally important in the results of the transition to a sustainable business model. In other words, it is not a linear process that can be described in phases or stages, but rather a cyclical process in which each criterion can progress in parallel and be interrelated and feed on the other. For example, the values of inclusion and respect for the rights of women and diverse populations included in the social criterion are an element of improving the organizational culture, which in turn is part of the governance criterion. Likewise, planning climate change mitigation activities (environmental criterion) can have an influence on the company's values and trigger progress on information transparency activities in this management orientation (governance criterion).

By including the most important issues within the complex framework of the ESG criteria approach, the self-assessment tool is meant to be a synthesis of the extensive debate on the concept of sustainable development today. In addition, it clearly contributes to IDB's current work agenda, as noted in the previous chapter. In this way, the initiative will contribute to the knowledge and promotion of a sustainable economic development model for MSMEs in the region.

2.3 Scope and Perspective for the Use of the Self-Assessment Tool

The following points describe the scope and perspective for the use of the self-assessment tool.

I) The self-assessment tool is a potential evaluation instrument for MSMEs that are beneficiaries of different IDB support initiatives in countries in the region. Thus, for example, the tool could be adopted as part of the support process provided by the public development banks (PDBs) involved.

II) In this sense, the tool could be applied to potential beneficiaries in an exploratory phase, to identify areas in which MSMEs require a process of adjustment to shift their business model toward a sustainable development scheme.

III) Along the same lines, the self-assessment tool will identify opportunities to support MSMEs in two areas: (a) investment financing needs; and (b) technical assistance needs.

IV) The current development phase of the tool (which includes application through virtual means, such as email, and submits the results through radar-type indices and figures) can be considered a validation stage for subsequent development in dynamic environments. Accordingly, a next stage in the development of a web-based version of the tool can be expected, with the aim of making a fully interactive instrument.

V) As a result of the dynamism of the productive and commercial activity of the targeted public, the possibility of introducing changes in the structure of this first version of the tool based on new variables, dimensions, or subdimensions should be included. This will depend on the evidence to be found while applying the tool in the field.



2.4 Incentives for MSMEs to Use the Self-Assessment Tool

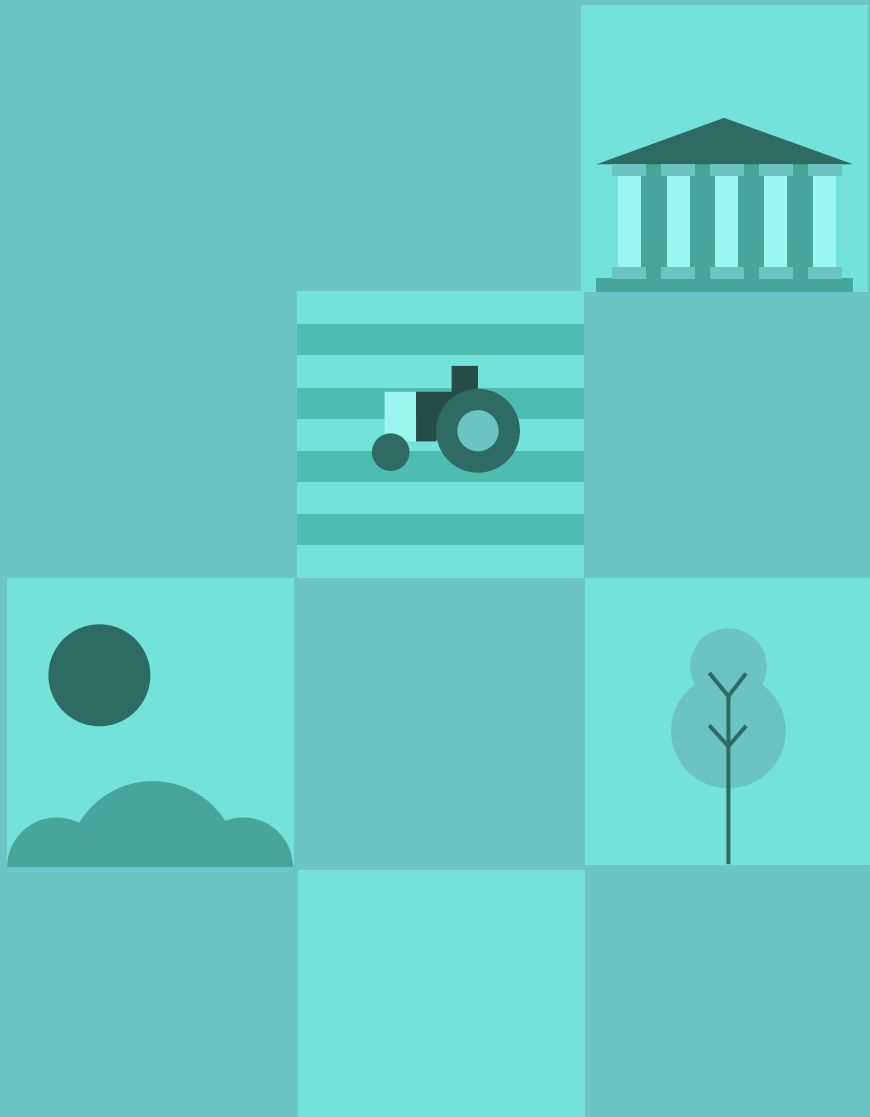
Finally, the following points are some suggested ways to incentivize MSMEs to use the self-assessment tool, which can be included in outreach or communication strategies to achieve adequate levels of coverage:

- At a first level of communication, outreach should focus on the inevitable process of business conversion toward a sustainable development approach that involves high levels of investment, especially in large companies. In particular, the post-pandemic scenario has generated interest by companies around the world in understanding ESG criteria. A study by the Oxford Business Group reveals that 60 percent of company leaders consulted globally have this perspective for their businesses (Oxford Business Group, 2021).
- At a second level of communication, outreach should highlight the advantages of making investments to accelerate the transition to a sustainable development model that is appropriate to the particular context of each MSME. These advantages can be: access to credit as a result of an improved rating because of the importance of the new business model in the context of international finance, access to international markets with regulations that are oriented toward these types of requirements, commercial regulations that include quality seals in relation to sustainable businesses, and others.

Another incentive to apply the survey is that it makes available a free and easy-to-apply tool that enables MSMEs to measure their progress in the transition to a sustainable development model. In this sense, it should be introduced as a model to be applied before specific investment initiatives are made to close gaps in the six dimensions included.

Methodological Process to Build the Self-Assessment Tool

3





3.1. Objectives

The primary objective of the tool is to calculate an index number to measure the degree of progress of the MSME transition to a sustainable business model. The number is based on a set of indicators that assess different components of the ESG criteria scheme. Thus, the tool should facilitate achievement of the following specific objectives:

- To measure the introduction of environmental criteria in MSMEs' productive and commercial activities through the implementation of climate change mitigation and adaptation activities in their business model.
- To measure the introduction of social criteria in MSMEs' planning, production, and commercialization activities through the promotion of gender equality and access to diverse populations as part of the business model.
- To measure the introduction of governance criteria in MSMEs' planning, production, and commercialization activities through digital transformation and consolidation of an organizational culture, in line with sustainable development, as part of the business model.

3.2. Phases and Milestones to Build the Tool

I) Phase 1, Conceptualization: In this phase, secondary sources and literature produced by specialized institutions were reviewed to study the concept of sustainable development in the context of the international cooperation agenda, public policies, and private companies. This review facilitated the design of the conceptual framework and the evaluation logic of the tool based on the ESG principles approach that summarizes the process

of this debate. Thus, the ESG criteria correspond to the main evaluation dimensions of the tool. Within each evaluation dimension are subdimensions, which refer to the issues prioritized within each criterion.

II) Phase 2, Structuring: In this phase, the operationalization scheme of the variables, subvariables, and indicators was defined to collect information on the issues prioritized in each ESG criterion, to measure the progress of their incorporation into the MSME's management model. This provided sufficient input to develop a questionnaire to be applied as a pilot to MSMEs, as well as to subsequently build an ESG Criteria Adoption Index (ESG-CAI) with their respective subindices (E, S, and G). At the same time, based on the structure and topics addressed by the tool, this phase included the preparation of potential support plans to cover technical assistance or investment needs to enable MSMEs to improve their progress toward the transition into a sustainable business model.

III) Phase 3, Validation: In this phase, a panel of experts was convened to review the tool to identify improvements or corrections in each dimension, subdimension, variable, subvariable, indicator and in the questions included in the survey designed for the field. The third phase also included an initial pilot application of the tool to two groups of MSMEs in the provinces of San Juan and Neuquén in Argentina³ (see Box 2).

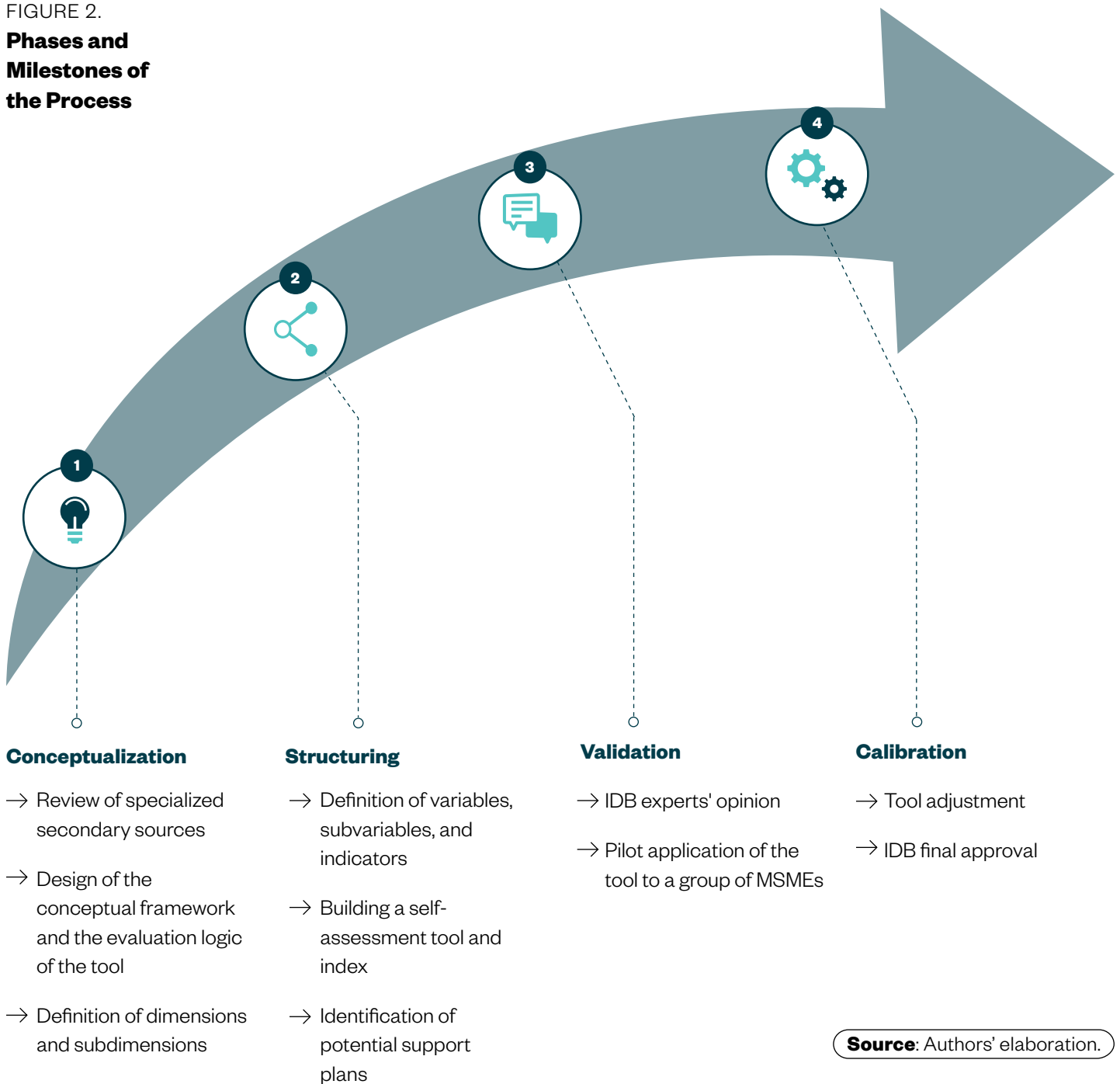
3. These MSMEs were contacted through an e-mail containing a web survey, based on a sampling frame defined with the San Juan Investment Development Agency (<https://www.inversionessanjuan.gov.ar>) and the Centro PyME-ADENEU (<https://www.adeneu.com.ar>), respectively, which made possible the inclusion of more than 200 MSMEs as part of this pilot program.



IV) Phase 4, Calibration: In this phase, adjustments were made as a result of the application of the Phase 3 pilot, including corrections in the survey questions and changes in the option menus when priority topics were identified in the current reality of MSMEs, among others. This process yielded the final version of the tool, to be used in different territorial contexts after interactive web development.

FIGURE 2.

Phases and Milestones of the Process





3.3. Definition of Variables and Subvariables

Although the first level of the structure of the self-assessment tool has been fully defined, a scheme for operationalizing variables and subvariables is needed to address and measure each of the prioritized issues. In this way, the dimensions and subdimensions can be assessed through a process and turned into more limited, observable, and measurable concepts through the self-assessment survey. A definition of the operationalization scheme elements is introduced below.

- **Variable:** A level of progress of specific observable processes that help explain the inclusion of a subdimension in the MSME's business model.
- **Subvariable:** A specific activity that is part of a subprocess explained by a variable.

The objectives of the operationalization scheme of variables and subvariables are the following:

- I) To have a clear structure of specific, observable, and measurable processes and activities to measure the progress of the MSME's transition to a sustainable model.
- II) To build a clear and precise system of indicators that can be collected through a virtual survey conducted by MSME officials.
- III) To obtain tabulated information on indicators that enables information to be compared and analyzed by economic sector or category, geographic region, and others.
- IV) To obtain an index number that synthesizes the information collected by the indicator system, which facilitates measurement of progress of the MSME transition process toward a sustainable business model.



TABLE 2.
Definition of Variables

DIMENSION	SUBDIMENSION	VARIABLE	DEFINITION
 ENVIRONMENTAL	 Mitigation of climate change	Planning	Identification and organization of climate change mitigation activities in the MSME's management.
		Implementation of mitigation activities	Introduction of climate change mitigation activities at any stage of the MSME's operation.
	 Adaptation to climate change	Implementation of adaptation activities	Introduction of climate change adaptation activities at any stage of the MSME's operation.
 SOCIAL	 Gender approach	Strategic design with a gender approach	Incorporation of a gender approach in the MSME's management strategy.
		Participation of women	Equal or majority participation of women in ownership or leadership positions in the MSME.
	 Diverse populations	Strategic design with a focus on diverse populations	Incorporation of a focus on diverse populations in the MSME's management strategy.
		Participation of diverse populations	Equal or majority participation of diverse populations in ownership or leadership positions in the MSME.
 GOVERNANCE	 Digital transformation	Level of digital maturity	Level of development and use of IT and ICT solutions in the MSME's planning, production, and marketing processes.
		Incorporation of specialists	Recruitment of ICT and IT solutions specialists as part of the MSME's team.
	 Organizational culture	Quality of management	Set of values and principles that guide the MSME's management.
		Relationship with the environment	Set of policies with respect to the rules and regulations of the state and society.

The next level in the operationalization structure includes the subvariables that make it possible to address each variable.

Source: Authors' elaboration.



BOX 1.

Importance of Including a Gender and Diversity Perspective in Self-Assessment Tools for MSMEs

MSMEs are often thought to be gender neutral. However, depending on how this perspective is present, companies tend to incorporate nuances that consider differentiated behavior patterns. That is, the gender perspective can be present in different aspects of the MSME: (i) ownership or leadership, (ii) labor force, and (iii) products offered, which are mostly consumed or used by women. While not all companies fit neatly into any of the categories above, it is important to consider the extent to which institutional policies take into account the needs of women's groups in their stakeholder environment.

This is also true for population groups within the diversity spectrum. Depending on the geographic location of the companies, Indigenous peoples may be more present within their stakeholder environment (i.e., ownership or leadership, workforce, and products). The same may be true for people of African descent, people with disabilities, or LGBTQ individuals.

Since the gender and diversity perspective may not always be considered at the core business level of the MSME, it is important to understand the extent to which the company enables an internal and external environment that tends to greater social equality.

Understanding this perspective, both internally and externally, allows the MSME to have more and better dialogue with different stakeholders, and to consider the extent to which the interests of these groups can improve the goods or services that the company provides.

Information gathered from the implementation of the pilots of this tool showed that MSMEs owned or led by women tend to have more awareness and adoption of the sustainability areas on which the self-assessment was conducted. This may be because women are more sensitive to social and environmental issues and have adopted more roles in connection with caregiving issues in the private sphere.



TABLE 3.

**Subvariables of the
Environmental Dimension**

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: MITIGATION OF CLIMATE CHANGE			
PLANNING	Identification of activities	The purpose is to determine whether MSME leaders have any degree of interest or concern for the effects of their productive activity on the surrounding environment.	Categorical
	Organization of activities	The purpose is to determine the level of organization of environmental management activities in discourse or in an explicit document.	Categorical
IMPLEMENTATION OF MITIGATION ACTIVITIES	Use of renewable energy	The purpose is to identify the use of mechanisms to generate electric power from renewable sources, i.e., natural resources or biomass.	Categorical
	Improving energy efficiency	Research is conducted on the implementation of technological innovations to save water, heat, or electric power.	Categorical
	Introduction of a circular economy	The purpose is to identify the introduction of activities to reuse and recycle materials and products when possible to create added value.	Categorical
	Reduction of pollutants	Research is conducted on the substitution of polluting supplies or raw materials.	Categorical
	Access to special markets	The purpose is to identify environmental management activities in the commercialization stage of the value chain.	Categorical
	Use of low-emission equipment	The use of engines or fuels with designs that reduce CO ₂ emissions is identified.	Categorical
	Use of efficient transportation	Use of transportation systems that reduce CO ₂ emissions is promoted.	Categorical

(continued on next page)



TABLE 3.

Subvariables of the Environmental Dimension (cont.)

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: ADAPTATION TO CLIMATE CHANGE			
IMPLEMENTATION OF ADAPTATION ACTIVITIES	Development of environmental urbanism	Promote the construction of buildings with a sustainable approach.	Categorical
	Natural resource management	The purpose is to determine implementation or participation in the promotion of the restoration of damaged ecosystems and the conservation of biodiversity.	Categorical
	Awareness and resilience to weather-related disaster risks	The purpose is to determine the implementation of or participation in awareness and resilience to extreme weather events or weather-related emergencies.	Categorical

TABLE 4.

Subvariables of the Social Dimension

Source: Authors' elaboration.

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: GENDER APPROACH			
STRATEGIC DESIGN WITH A GENDER APPROACH	Equality of women's participation in the business strategy	The purpose is to identify progress in the incorporation of gender issues at the level of the MSME's discourse or in strategic documents.	Categorical
	Skill development	The purpose is to determine whether the MSME's management has sought training or awareness on gender issues in the workplace.	Categorical
PARTICIPATION OF WOMEN	Leadership and empowerment of women	The purpose is to quantify the cases of women-owned MSMEs or those in which women hold positions of leadership or high-level responsibility.	Categorical
	Equality in women's labor participation	The purpose is to determine the ratio of women to the total number of MSME workers.	Quantitative
	Salary gap	The purpose is to determine if there is a salary gap between men and women in the MSME.	Quantitative

(continued on next page)



TABLE 4.

**Subvariables of the
Social Dimension (cont.)**

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: DIVERSE POPULATIONS			
STRATEGIC DESIGN WITH A FOCUS ON DIVERSE POPULATIONS	Equality of diverse population's participation in the business strategy	The purpose is to identify the progress in the incorporation of diverse population issues at the level of the MSME's discourse or in strategic documents.	Categorial
	Skill development	The purpose is to determine whether the MSME's management has sought training or awareness of issues affecting diverse populations in the workplace.	Categorial
PARTICIPATION OF DIVERSE POPULATIONS	Leadership and empowerment of diverse populations	The purpose is to quantify the cases of MSMEs owned by diverse population members or those whose leadership or high responsibility positions are held by diverse population members.	Categorial
	Equality in diverse population participation	The purpose is to determine the ratio of diverse population members to the total number of MSME workers.	Categorial
	Salary gap	The purpose is to determine if there is a salary gap between diverse population members and other workers in the MSME.	Categorial

Source: Authors' elaboration.




TABLE 5.
**Subvariables of
the Governance
Dimension**

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: DIGITAL TRANSFORMATION			
LEVEL OF DIGITAL MATURITY	Basic level of digitalization	The purpose is to identify the incorporation of basic IT solutions to conduct business, such as social media, smartphones, e-commerce, etc.	Categorical
	Advanced level of digitalization	The purpose is to identify the incorporation of digital technologies, such as planning software, use of cloud servers, etc.	Categorical
	Digital frontier level	The purpose is to identify the development and use of advanced digitalization tools. Although it is unlikely that most MSMEs will make investments at this level of digital maturity, it is possible to find isolated cases of areas or niches of technological development that are important to identify.	Categorical
INCORPORATION OF SPECIALISTS	Inclusion of basic-level digitalization profiles	The purpose is to determine whether the MSME has included basic-level IT solutions specialists in the management team.	Categorical
	Inclusion of advanced-level digitalization profiles	The purpose is to determine whether the MSME has included advanced-level IT solutions specialists in the management team.	Categorical
	Inclusion of digital frontier-level profiles	The purpose is to determine whether the MSME has included digital frontier-level IT solutions specialists in the management team.	Categorical

(continued on next page)



TABLE 5.
**Subvariables of
 the Governance
 Dimension (cont.)**

VARIABLE	SUBVARIABLE	DESCRIPTION	TYPE
SUBDIMENSION: ORGANIZATIONAL CULTURE			
QUALITY OF MANAGEMENT	Company ethics	The purpose is to determine the set of values that guide the management practices of MSME leaders.	Categorical
	Occupational health and safety	The purpose is to determine if the MSME has a plan to prevent workplace accidents and medical conditions attributed to work in the company.	Categorical
RELATIONSHIP WITH THE ENVIRONMENT	Regulatory compliance	The purpose is to determine the degree of concern for compliance with laws and regulations governing the business activity of the MSME.	Categorical
	Transparency	The purpose is to determine management's commitment to providing information on the main actions and results to the public, within the framework of the company's good governance.	Categorical

Source: Authors' elaboration.



3.4. The Indicator System

After defining the dimensions, subdimensions, variables, and subvariables, a set of indicators is established to collect information from MSMEs to conduct a self-assessment of the transition to a sustainable business model. The indicators are divided into five basic characteristics, or segregation variables, with their respective measurement scales, which will enable comparisons of results.

TABLE 6.
**Indicator Segregation
Variable Matrix**

SEGREGATION VARIABLE	MEASUREMENT SCALE
MSME size	Economic units can be categorized as micro , small , or medium-sized enterprises. Inclusion in these categories depends on the country's regulatory framework, which classifies them based on three criteria: number of employees, total assets, and total annual gross sales (ECLAC, 2009).
Area	This refers to the location area where the MSME operates. There are two possibilities: urban and rural . The exact parameters of the location by area depend on the regulations of each country, which are based on the degree of population concentration in a given area (UN-HABITAT, n.d.).
Years of operation	There are three categories of MSMEs according to the number of years they have been operating in the market: (i) new or recently created (up to 3 years old), (ii) in the process of consolidation (3 to 10 years old), and (iii) consolidated (more than 10 years old). These categories refer strictly to years of permanence in the market.
Sector	There are four major classifications of economic activity: farming , industry , commerce , and services , according to the International Standard Industrial Classification of All Economic Activities (ISIC) (United Nations, 2009).
Activity	This includes productive activities within each economic sector. Taking into account the ISIC structure (United Nations, 2009), the following activities are included: (i) Farming: agriculture, livestock, fishing, and forestry; (ii) Industry: mining and hydrocarbons; manufacturing; electricity, gas, and water supply; and construction; (iii) Commerce: wholesale and retail; (iv) Services: hotels and restaurants; transportation, storage, and communications; financial intermediation; public administration, defense, and social security; real estate, business, and rental service; education; community, social, and personal services; and household and domestic services.

Source: Authors' elaboration.



TABLE 7.

**Environmental
Dimension Indicator
Matrix**


VARIABLE	SUBVARIABLE	INDICATOR
PLANNING	Identification of activities	1. Environmental impact analysis
	Organization of activities	2. Organization of environmental management activities
IMPLEMENTATION OF MITIGATION ACTIVITIES	Use of renewable energy	3. Use of mechanisms to generate electric power from renewable sources 4. Use of renewable energy for various purposes
	Improving energy efficiency	5. Use of systems to improve energy efficiency
	Introduction of a circular economy	6. Effluent and waste management activities 7. Development of recycling activities
	Reduction of pollutants	8. Substitution of polluting supplies or raw materials
	Access to special markets	9. Markets in relation to environmental management practices 10. Use of biodegradable packaging 11. Achievement of environmental management certification
	Use of low-emission equipment	12. Use of low-emission engines or fuels
	Use of efficient transportation	13. Promotion of the use of public transportation 14. Use of logistics systems that reduce transport in trade
IMPLEMENTATION OF ADAPTATION ACTIVITIES	Development of environmental urbanism	15. Construction of buildings with a sustainable approach 16. Adoption of measures to adapt to water shortage
	Natural resource management	17. Restoration of damaged ecosystems 18. Agrobiodiversity conservation
	Awareness and resilience to weather-related disaster risks	19. Development of early warning and risk management systems for extreme weather events 20. Development of action protocols for weather-related emergency situations

Source: Authors' elaboration.



TABLE 8.

**Social Dimension
Indicator Matrix**


VARIABLE	SUBVARIABLE	INDICATOR
STRATEGIC DESIGN WITH A GENDER APPROACH	Equality of women's participation in the business strategy	21. Incorporation of a gender approach in the MSME's management discourse 22. Incorporation of a gender approach in the MSME's documents
	Skill development	23. Conducting or participating in training events on gender approach
PARTICIPATION OF WOMEN	Leadership and empowerment of women	24. Women-owned MSMEs 25. Senior management positions held by women 26. Rules or regulations in relation to women
	Equality in women's labor participation	27. Ratio of women to total number of workers
	Salary gap	28. Salary gap between women and men 29. Conflict resolution training in relation to gender issues
STRATEGIC DESIGN WITH A FOCUS ON DIVERSE POPULATIONS	Equality of diverse population's participation in the business strategy	30. Incorporation of issues affecting diverse populations in the MSME's management discourse 31. Incorporation of diverse population issues in the MSME's documents
	Skill development	32. Conducting or participating in training events on issues affecting diverse populations
PARTICIPATION OF DIVERSE POPULATIONS	Leadership and empowerment of diverse populations	33. Ownership of MSMEs by diverse population members 34. Senior management positions held by diverse population members 35. Rules or regulations in relation to diverse populations
	Equality in diverse population participation	36. Ratio of diverse population members to total number of workers
	Salary gap	37. Salary gap between diverse population members and the rest of the workers 38. Conflict resolution training in relation to diverse population issues

Source: Authors' elaboration.



TABLE 9.

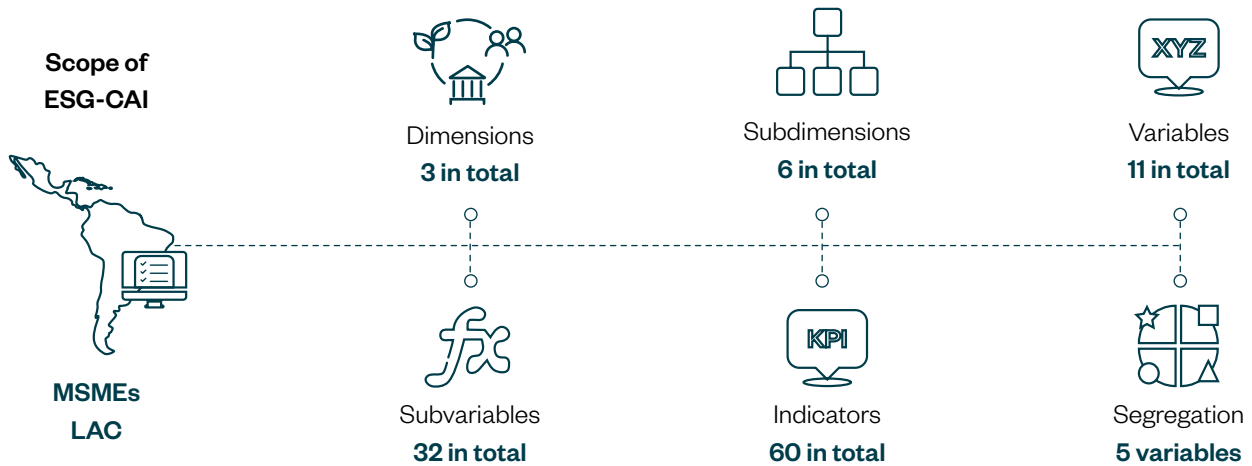
**Governance Dimension
Indicator Matrix**


VARIABLE	SUBVARIABLE	INDICATOR
LEVEL OF DIGITAL MATURITY	Basic level of digitalization	39. Interaction with clients via smartphones 40. Development of the company's website 41. Development of the company's social media 42. Use of electronic means of payment 43. Use of e-commerce for online sales 44. Interaction with virtual catalogs 45. Interaction with the state via Internet access (digital channels)
	Advanced level of digitalization	46. Development of a virtual private network (VPN) 47. Development of the intranet 48. Development of the extranet 49. Use of business management software 50. Use of cloud computing
	Digital frontier level	51. Use of digital frontier-level technology
INCORPORATION OF SPECIALISTS	Inclusion of basic-level digitalization profiles	52. Recruitment of a community manager as part of the MSME's team
	Inclusion of advanced-level digitalization profiles	53. Recruitment of an IT security and business management software specialist
	Inclusion of digital frontier-level profiles	54. Recruitment of a digital frontier-level IT solutions specialist as part of the MSME's team
QUALITY OF MANAGEMENT	Company ethics	55. Code of ethics with the company's values
	Occupational health and safety	56. Plan to prevent workers' accidents 57. Plan to prevent workers' medical conditions
RELATIONSHIP WITH THE ENVIRONMENT	Regulatory compliance	58. Commitment to comply with state rules and regulations
	Transparency	59. Anti-corruption policies 60. Use of means for accountability

Source: Authors' elaboration.



FIGURE 3.
Basic Characteristics of ESG-CAI



Source: Authors' elaboration.

Attachment 1 includes an aggregate table with the sustainability self-assessment tool system of indicators for MSMEs in LAC.

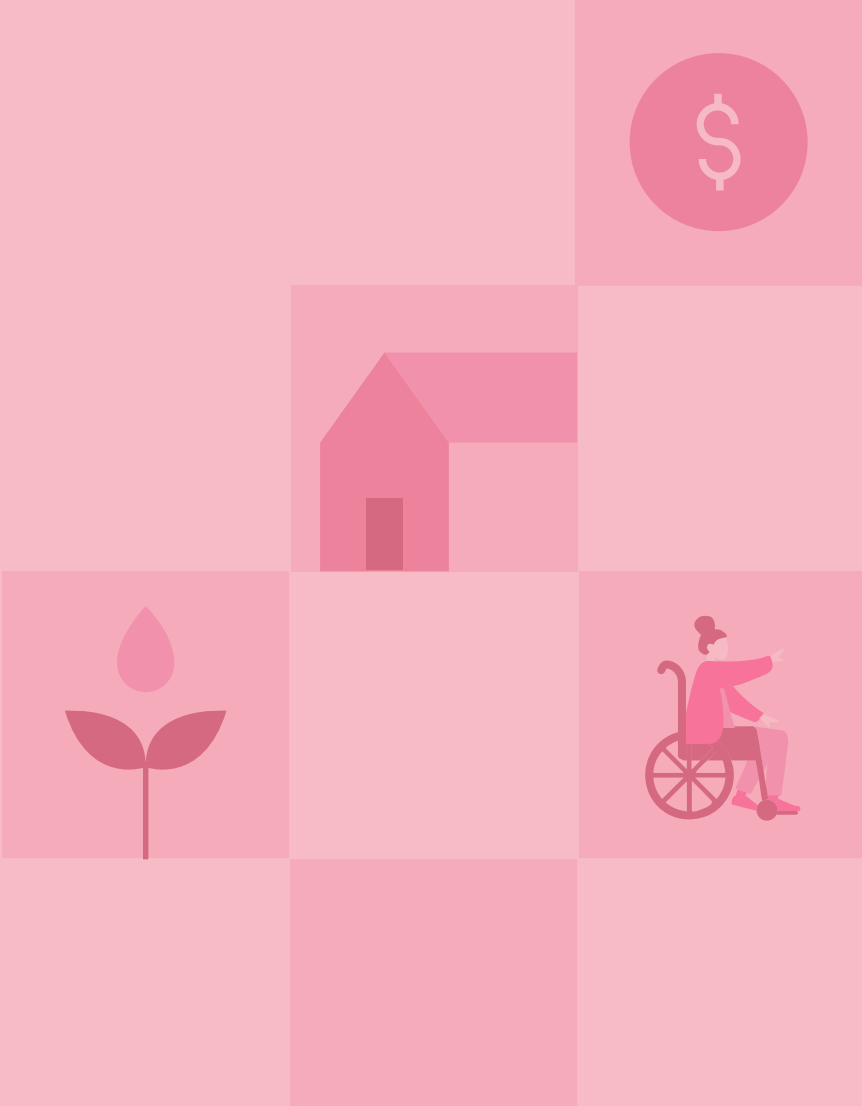
3.5. Design of the Self-Assessment Tool

We propose a questionnaire divided into five sections (see Attachment 2). The first section collects basic data on the person or MSME worker who will complete the survey. We recommend that this person be one of the leaders, such as the owner or someone in a senior position, or someone who is familiar with aspects of the company's strategy and administration, as well as production and marketing processes.

The second section contains basic data on MSMEs as legal entities, corresponding to the segregation variables. We expect that all MSMEs, regardless of size, location, years in existence, sector, or line of economic activity, will complete the entire survey, as long as the inclusion of prioritized issues of ESG criteria has different levels of progress regardless of variable value. The last three sections include questions referring to environmental, social, and governance criteria, respectively.

ESG Criteria Adoption Index (ESG-CAI)

4

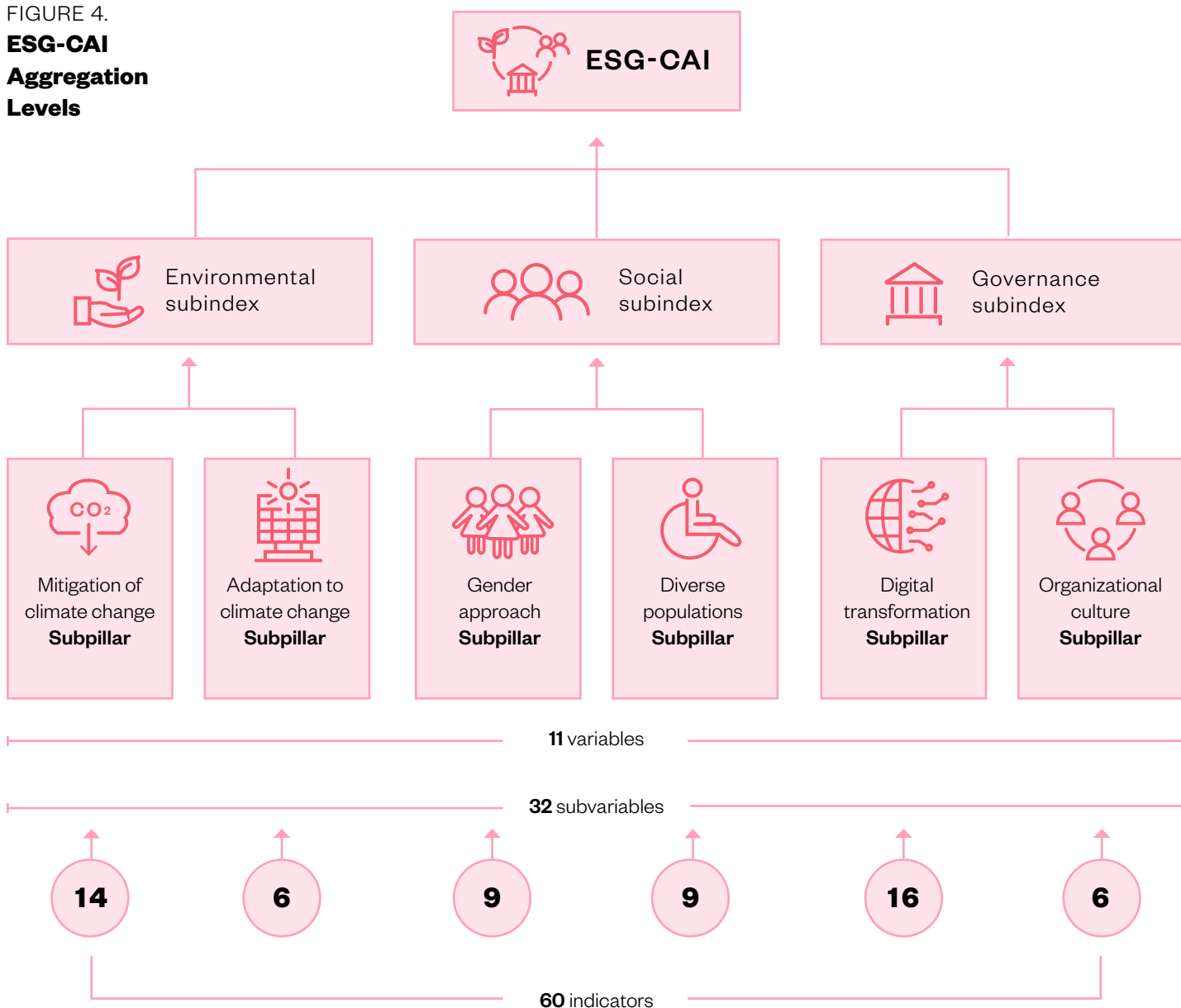




The ESG-CAI was designed to be a simple way to measure the level of incorporation of ESG criteria in the management model of MSMEs in LAC. It provides a snapshot of the progress of MSMEs in aspects of sustainability. It is the primary way to evaluate the self-assessment tool because it summarizes the findings from all of the indicators designed for the self-assessment tool.

The self-assessment tool, in addition to the ESG-CAI, includes the calculation of three main subindices (or pillars) that aggregate information from the three model dimensions, namely: SIE (environmental subindex); SIS (social subindex) and SIG (governance subindex). Both the ESG-CAI and the main subindices are calculated based on the aggregation of information from the 6 sub-dimensions (or subpillars), 11 variables, 32 subvariables and 60 indicators of the operationalization scheme introduced in the previous sections.

FIGURE 4.
ESG-CAI
Aggregation
Levels



Source: Authors' elaboration.



One of the main advantages of building an index that synthesizes the results of the various variables of the self-assessment instrument is that it allows for a simpler scheme of interpretation, compared to the complex exercise of identifying and comparing trends in individual indicators. In this sense, the index is a useful tool to compare the performance of MSMEs in different sectors, regions, and countries, among others (Saltelli, 2007).

In addition, the following advantages have been identified (Saisana and Tarantola, 2002):

- It can summarize complex and multidimensional realities to support decisionmakers.
- It is easier to interpret than a battery of separate indicators.
- It allows progress assessment over time.
- It reduces the visible size of a set of indicators without losing basic underlying information.
- It facilitates communication with the general public (i.e., citizens, media, etc.) and advocacy.

4.1. ESG-CAI Methodology

To build the ESG-CAI, we have taken the steps proposed in the OECD's Handbook on Constructing Composite Indicators, Methodology and User Guide (2008) into account. This handbook describes the considerations to be taken into account to build a quality index that represents the phenomenon or reality to be explained.

It should be understood that an index, also called a "composite indicator," is formed when several individual indicators are compiled into one based on an underlying model (OECD, 2008). The 10 steps to build the index are shown in Table 10. However, in this case, since there are no complex indicators, only seven of the steps apply.

TABLE 10.

Steps to Build an Index

STEP	DESCRIPTION	USED FOR THE ESG-CAI
THEORETICAL FRAMEWORK	It provides the basis for the selection and combination of variables into a meaningful composite indicator under a fit-for-purpose principle.	✓
DATA SELECTION	It contributes to analyzing the analytical soundness, measurability, country coverage, and relevance of indicators to the phenomenon being measured and the relationship between them.	✓
ALLOCATION OF MISSING DATA	It is necessary to provide a complete set of data. It also helps to calculate the impact of the allocation on composite indicator results to assess the reliability of each value.	✓
MULTIVARIABLE ANALYSIS	It verifies the underlying structure of the data along the main dimensions and compares it to the theoretical framework.	

(continued on next page)



TABLE 10.

Steps to Build an Index (cont.)

STEP	DESCRIPTION	USED FOR THE ESG-CAI
STANDARDIZATION	It is necessary before any aggregation of data, as indicators in a data set often have different units of measurement. It is an opportunity to make scale adjustments if necessary.	✔
WEIGHTING AND AGGREGATION	The best option is selected to assign weights to the individual indicators and aggregating the data that will allow building the index. Most composite indicators are based on equal weighting, i.e., all variables are weighted equally.	✔
UNCERTAINTY AND SENSITIVITY ANALYSIS	The uncertainty analysis is used more frequently than the sensitivity analysis, and they are almost always treated separately. The iterative use of uncertainty and sensitivity analyses during the development of a composite indicator could improve structure.	
DATA REVIEW	The index is reviewed and disaggregated into its individual parts (subindices). In this way, the relevance of the subcomponents in the final value of the index becomes evident.	✔
RELATIONSHIP TO OTHER INDICATORS	Indices often measure concepts that are in connection with well-known and measurable phenomena. These indicators can be used to test the explanatory power of an index through correlation. This helps to establish a narrative.	
VISUALIZATION OF RESULTS	It allows the best way to express the index to be identified according to the final audience. Tables, bar charts, radial graphs, and diagrams, among others, can be used.	✔

Source: Adapted from OECD (2008).



Finally, the purpose of this section is to describe the methodology followed in building the ESG-CAI. The conceptual composition of the index and the relevance of the indicators will be described for this purpose. It will also introduce the mathematical formulation proposed for the aggregation of the indicators and the determination of the ESG-CAI.

4.1.1 Conceptual Composition

The theoretical framework is the starting point to build an index. It is necessary to define the phenomenon and components to be assessed. This index was built based on the self-assessment tool to assess the transition of MSMEs to a sustainable business model. The theoretical framework and data selection were described in Chapters 2 and 3, respectively, of this publication. Additionally, there was an assessment of the indicators meeting the following criteria to ensure an adequate quality and performance rate:

- They reflect the multidimensionality of the phenomenon.
- They are based on an exhaustive review of theory and expert opinions.
- They are easily available (accessibility of information).
- They have a reduced measurement error.
- They are easy to replicate and include a simple methodology that can be implemented in different contexts.

It is important to note that the use of indices provides a wide variety of advantages in information management. By synthesizing information from diverse sources into a comparable value in different samples, the index can be used to generate friendly competition processes between managers of this information. The ESG-CAI can help promote competition regarding progress in the transition of MSMEs to sustainable development models not only between economic areas or sectors, but also between provinces, departments, or regions within a country. It can also be used to generate competition between countries (IDB, 2022).

4.1.2 Mathematical Composition

Before the mathematical composition of the index can be described, how the data will be treated must be determined. In particular, the allocation of missing or non-existent data for any of the indicators will be recognized as follows when building the index (Table 11).

TABLE 11.
Allocation of Missing Data in the ESG-CAI

CONDITION	MEANING	TREATMENT
UNAVAILABLE DATA	When an indicator does not have accessible information	Not included in the calculation of the index
UNINCLUDED DATA	When an indicator is no longer included in the measurement for any reason	Not included in the calculation of the index

Source: Authors' elaboration.



To aggregate the data, they must be standardized, since each indicator uses different units of measurement. In the case of the indicators, direct standardization⁴ and standardization with respect to the mean have been applied.⁵ Attachment 3 describes the standardization of the indicators.

For the ESG-CAI range, we propose a range from 1 to 100, where 1 reflects the worst-case scenario and 100 reflects the best-case scenario. In this case, no weights have been given to the dimensions to generate the index because, conceptually, the three subindices have the same importance in the adoption of a sustainable management model. Thus, the unweighted arithmetic mean is used.

The mathematical formula used is the following:

where:

- Sl_x : subindex
- X: {E, S, G}
- E: environmental criterion
- S: social criterion
- G: governance criterion

And the subindices are as follows:

$$ESG-CAI = \frac{SI_E + SI_S + SI_G}{3}$$

The maximum value will be set at 100 and the minimum

$$SI_x = \frac{\sum N_x \text{ Values}}{N_x} \times 100$$

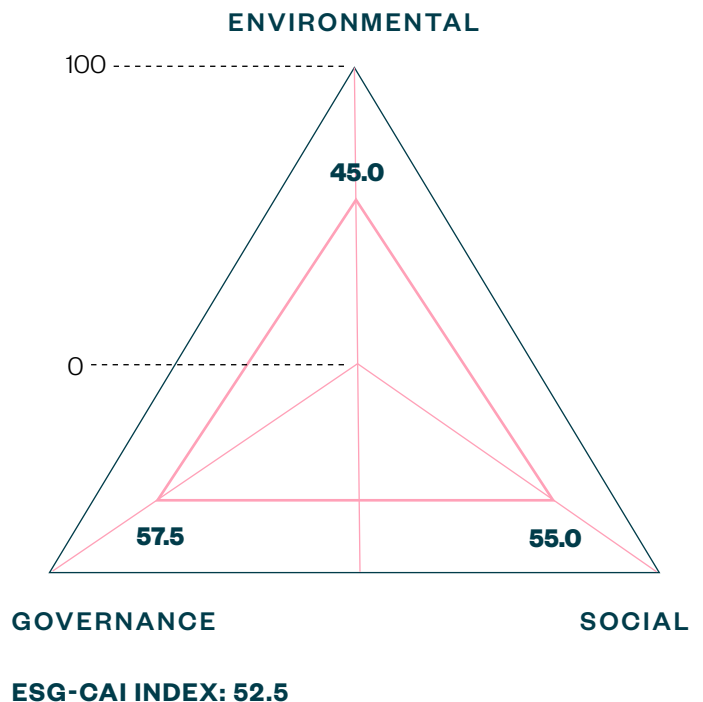
value will be set at 0, which is common and usually a desired practice in indicators being built.

4.2. ESG-CAI Display of Results

Once the tool has been applied, the data generated will respond to the indicators and will be comparable to future applications according to predefined intervals.

We suggest using a radial model to display the index and subindices. This will simplify the analysis and communication of the status of each dimension. An example is shown in Figure 5.

FIGURE 5.
Display Example of ESG Adoption Subindices in the Radial Model



Source: Authors' elaboration.

⁴ A value for the range is directly assigned.
⁵ This transformation includes indicators that are above and below an arbitrarily defined value.



4.3. Indicator Segregation Variable Analysis

This first ESG-CAI will be composed of a group of MSMEs in Argentina, which can be classified according to the following indicator segregation variables, already defined in Chapter 3:

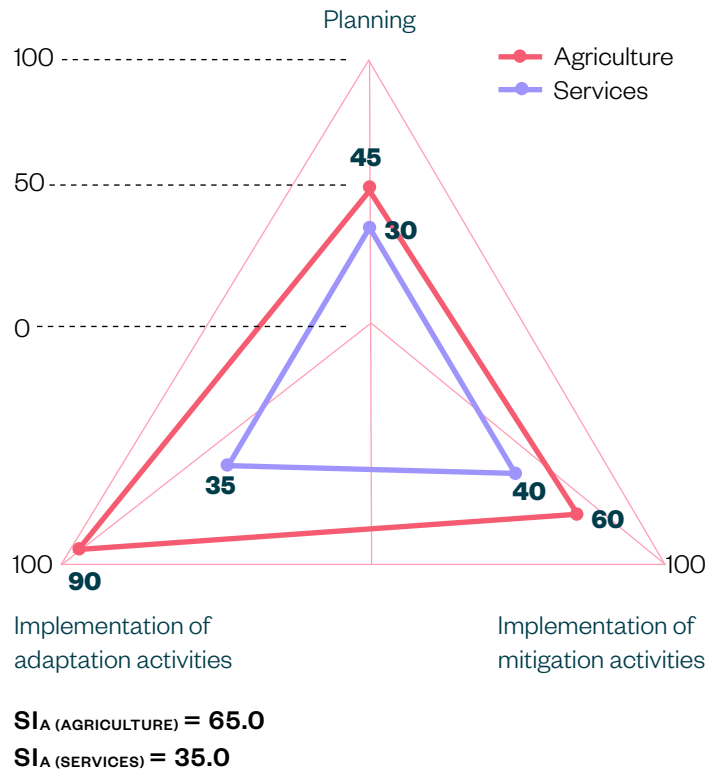
- Size
- Area
- Years of operation
- Sector of economic activity
- Area of economic activity

This division will be useful for making comparisons of the level of adoption of ESG criteria, according to segregation variables. Thus, it is possible to find differences according to areas of residence or type of economic activity, which can help orient or design action plans in connection with urban or rural areas, or for the manufacturing or commer-

4.4. Evaluation of Results in Connection with Potential Action Plans

cial sector, for example. To simplify decision making regarding potential action plans, we propose the following criterion for evaluating results: When the value of any of the subindices (environmental, social, and governance) is less than 70, consideration should be given to revising the values of the subvariables to assign skill development or investment

FIGURE 6. Example of Display of the Environmental Subindex by Sector of Economic Activity



Source: Authors' elaboration.

In the example introduced in Figure 6, MSMEs in both sectors have an environmental subindex value below 70. The subvariables in the figure should then be analyzed for action plan recommendations described in Chapter 5 of this publication.

As can be seen, the ESG-CAI makes it possible to describe the level of progress or transition to a sustainable business model. This analysis can be performed both at the aggregate level, by the segregation variables, and at the individual level. In the latter case, each MSME will be able to design its own action plan to close the gaps in the topics of each criterion or dimension, according to the results obtained from the self-assessment tool.

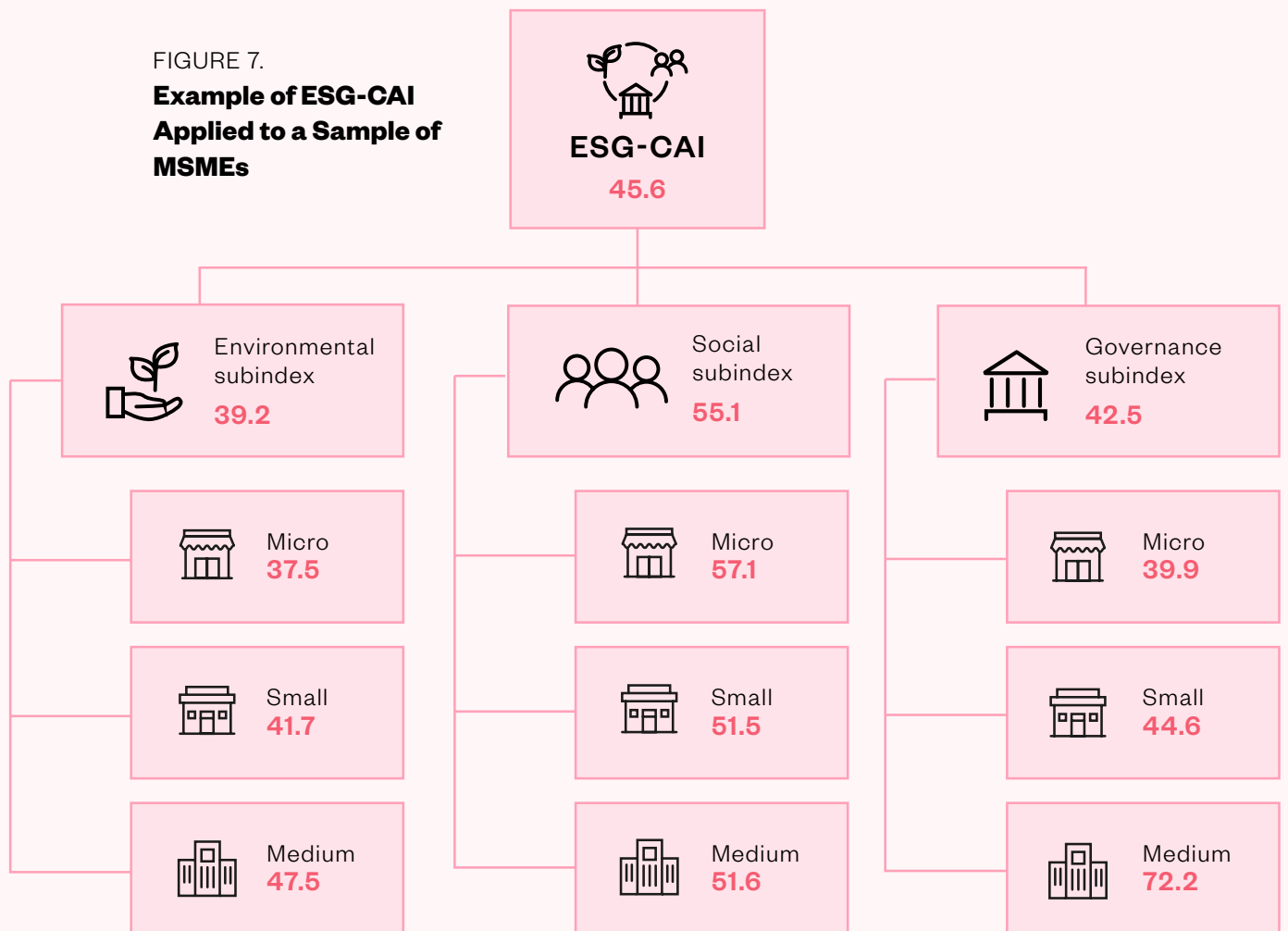


BOX 2.

Results of the Self-Assessment Pilot in MSMEs in the Province of Neuquén, Argentina

In May 2022, as part of a pilot test, the self-assessment tool was applied to a group of 118 MSMEs in the province of Neuquén. On average, the MSMEs were 12 years old. Seventy-five percent of them operated in an urban area, 47 percent sold their production in the local market, 47 percent were in the service sector, and 65 percent were microenterprises. MSME leaders in Neuquén participated freely and of their own accord, with no interference from third parties, and their willingness to provide their opinions and assessments of the issues under research was evident. Finally, the application process and the results made it possible to calibrate the tool and to produce a final version for subsequent interactive web development.

FIGURE 7.
Example of ESG-CAI Applied to a Sample of MSMEs

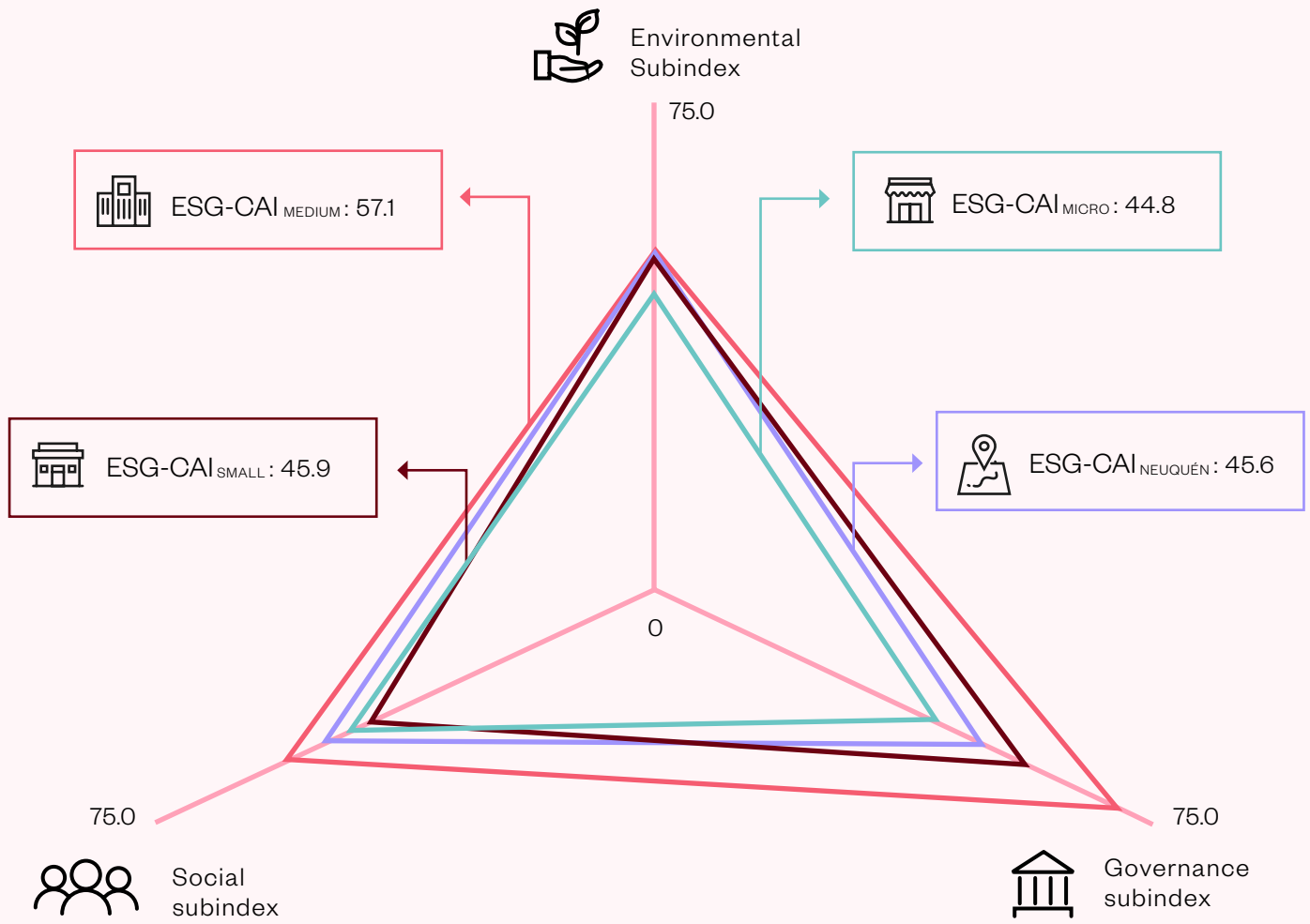


On average, MSMEs had an ESG-CAI of 45.6, with an $SI_{\text{Environmental}}$ of 39.2, an SI_{Social} of 55.1 and an $SI_{\text{Governance}}$ of 42.5. However, these subindexes show significant differences when segregated by company size.

Source: Authors' elaboration.



FIGURE 8.
**Example of ESG-CAI
 Results and Subindices
 by Company Size**



Source: Pilot report on MSMEs in the province of Neuquén (May, 2022).



4.5. Classification of MSMEs by ESG-CAI

The self-assessment tool developed in this document does not cover every aspect of every ESG criterion, as part of the results obtained by the MSMEs with respect to their level of progress or transition to a sustainable business model and considering the work of the main IDB clients (such as the PDBs and the EPAs). Thus, it is

necessary to group them based on a classification that considers the degree of adoption of ESG criteria, using the points obtained in the ESG-CAI as a proxy, and across the five ranges distributed proportionally on a scale of 1 to 100 points. The grouping and the classification of MSMEs⁶ is as follows:

TABLE 12.

Classification of MSMEs by ESG-CAI

Classification by degree of adoption	ESG-CAI point range	San Juan pilot	Neuquén pilot
Incipient	Fewer than 20 points	4.44%	8.47%
Low	Between 20 and 40 points	36.67%	38.98%
Medium	Between 40 and 60 points	33.33%	31.35%
High	Between 60 and 80 points	15.55%	16.10%
Model	80 points or more	10.01%	5.10%

Source: Authors' elaboration.

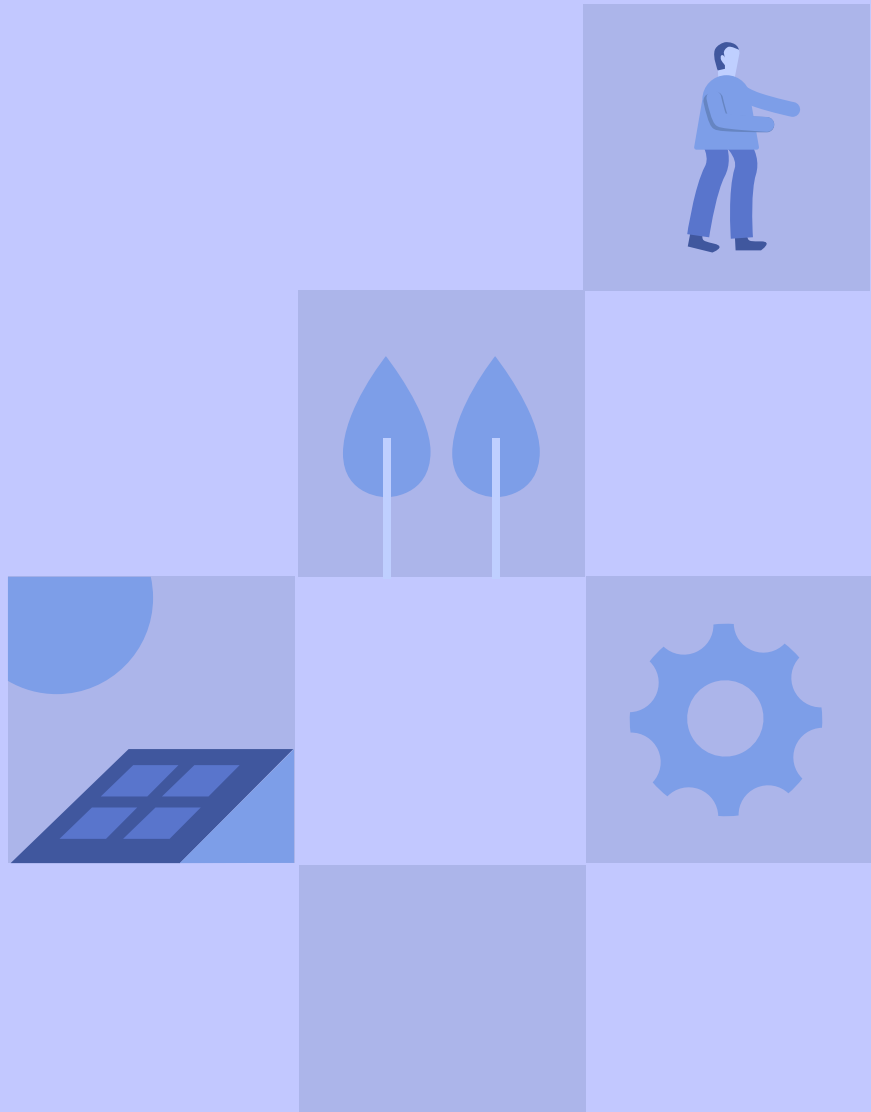
Table 12 presents a grouping and classification of MSMEs by degree of adoption of ESG criteria, represented by the ESG-CAI. There are five groups of MSMEs: (i) one with an “incipient” degree of adoption of ESG criteria (with an ESG-CAI less than 20 points); (ii) another with a “low” degree of adoption (with an ESG-CAI between

20 and 40 points); (iii) a third with a “medium” degree of adoption (with an ESG-CAI between 40 and 60 points); (iv) a fourth with a “high” degree of adoption (with an ESG-CAI between 60 and 80 points); and (v) a fifth with a “model” degree of adoption of ESG criteria (with an ESG-CAI equal to or greater than 80 points).

6. This classification is applied to the MSMEs that participated in the San Juan and Neuquén pilots in Argentina as an example. In both provinces, around 70 percent of the MSMEs have a “low” or “medium” degree of adoption of the ESG criteria.

Potential Action Plans

5





5.1. Materiality Analysis

Through main index and subindices values, the ESG-CAI provides key information for company leaders to identify the dimensions and subdimensions in which they have the greatest weaknesses, that is, the greatest gaps to close to move toward a sustainable business model. The ESG-CAI is a key input for the preparation of potential action plans for MSMEs. A potential action plan contains a set of activities to be financed to contribute to the process of transitioning to a sustainable development model. These activities can be of two types:

- Short-term skill development activities (with potential technical assistance requirement).
- Activities in connection with medium and long-term investments (with potential credit requirements).

Potential action plans should be developed specifically for each MSME. To this end, in addition to the self-assessment tool, a materiality analysis should be carried out.⁷ This is a study to identify all environmental, social, and governance aspects that have a significant impact, positive or negative, on the performance of the company and their stakeholders. It should be noted that materiality is a strategic tool that facilitates decision making. Any company that seeks to preserve competitiveness and create value for society, regardless of the size or the sector in which it operates, should carry out a materiality analysis with some regularity (Mondello, 2022).

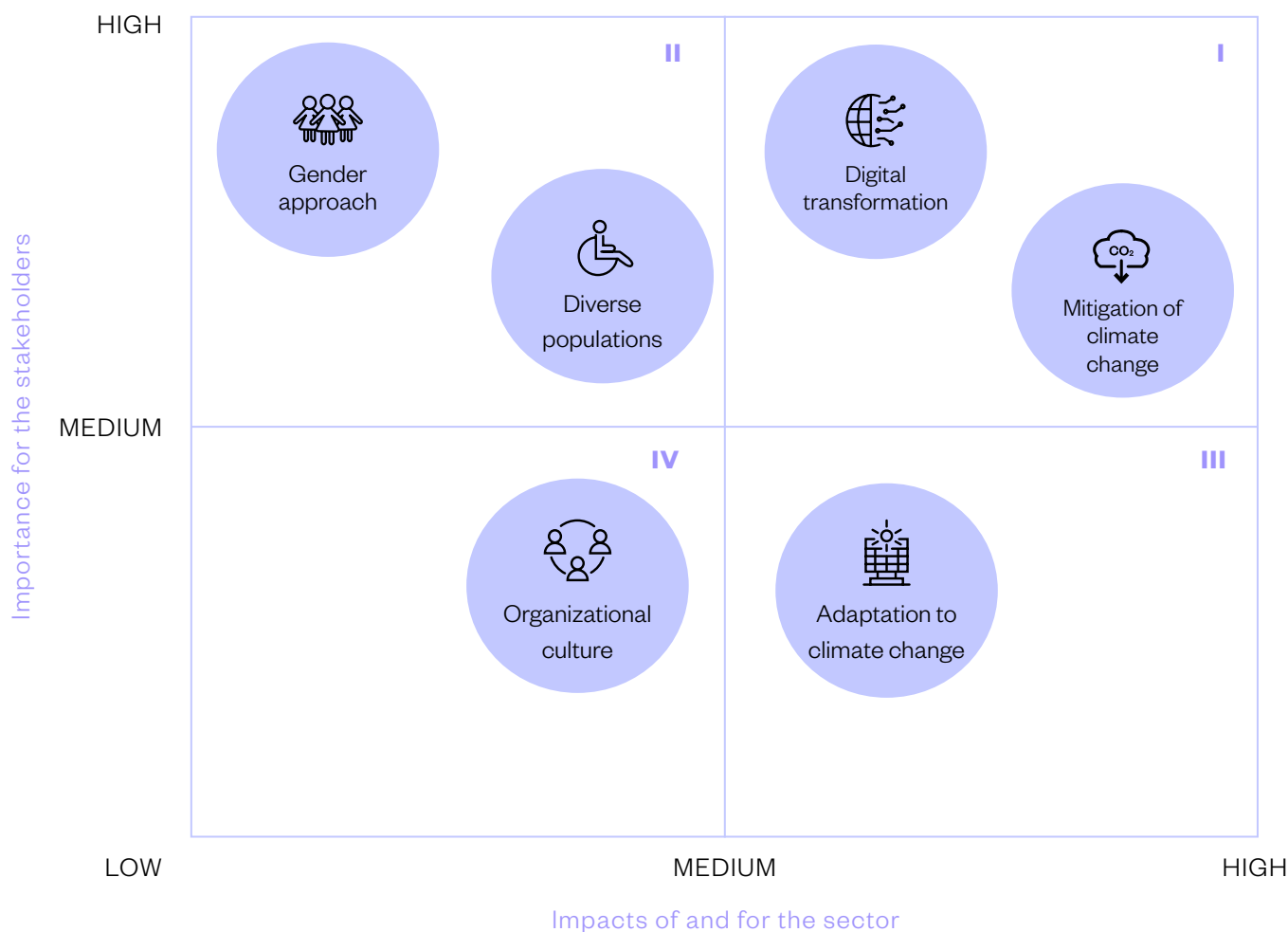
The analysis at this stage should consider the results obtained from the self-assessment tool (internal evaluation) as well as the evaluations of issues proposed by the stakeholders in connection with the MSME and the sector in which they operate (external evaluation), which will facilitate the correct prioritization of material issues associated with the identified gaps. This will enable leaders to develop more effective potential action plans for MSMEs.

As an example of this external assessment, a hypothetical case of an MSME materiality matrix (MMM) is introduced below, which plots the relationship between the different material issues associated with the identified gaps according to their importance for the MSME and for the stakeholders to prioritize them appropriately (Figure 9). Although the material issues are classified into ESG criteria, they can be introduced based on the six subdimensions defined in the self-assessment tool previously developed: climate change mitigation and adaptation, which are part of the environmental criterion; gender approach and diverse populations, which are part of the social criterion; and digital transformation and organizational culture, which correspond to the governance criterion. In this way, the material issues associated with the identified gaps can be represented graphically and placed in any of the four quadrants that make up the MMM.

7. More information on the subject can be found at: <https://transcendent.es/que-es-la-materialidad-y-por-que-es-critica-para-que-una-empresa-sea-verdaderamente-sostenible/>.



FIGURE 9.

Example of an MMM⁸

Source: Authors' elaboration.

According to the example in Figure 9, Quadrant I shows those issues that are of greatest importance to both the MSME sector and stakeholders (issues in connection with digital transformation and climate change mitigation). Quadrant II shows those issues of greater importance for stakeholders, but of lesser importance for the MSME sector (issues in connection with gender approach and diverse populations). Quadrant III shows those issues of greater importance for the MSME sector but of lesser importance for stakeholders (issues in connection with climate change adaptation). Finally, Quadrant IV shows those issues of least interest to both the MSME sector and the stakeholders (those in connection with organizational culture).

It is worth mentioning that material issues and their importance could grow or vary as new priorities, regulations, or trends emerge. Although there is no commonly accepted rule on how often the analysis should be performed, it is advisable to carry it out with some regularity in accordance with the characteristics and possibilities of the MSME.



8. The location in the coordinate plane (x,y) of the material issues in connection with the gaps identified for each of the six subdimensions of the tool may correspond to one of the quadrants (I, II, III, or IV) shown in Figure 9. In this example, they are only referential. For another MSME with a different configuration, the subdimensions could be located in different quadrants.



5.2. Investment and Skill Development Activities

Table 13 lists potential investment and skill development activities, organized by dimension and subdimension, which the MSME should assess to prepare a potential plan in accordance with the corresponding materiality analysis.

TABLE 13.
Potential Investment and Skill Development Activities

ENVIRONMENTAL DIMENSION/PILLAR ⁹		
Subdimension/Subpillar	Skill development activities (short term)	Investment activities (medium and long-term)
 MITIGATION OF CLIMATE CHANGE	<ul style="list-style-type: none"> • Technical studies to identify plans for improving energy efficiency. • Technical studies to identify plans for using renewable energy to generate electricity, heat, mechanical energy, and/or cooling. • Consulting services to develop environmental management plans for MSMEs. • Technical assistance to identify and assess polluting supplies and raw materials and their replacements in the market. • Technical assistance on clean production, organic, or other applicable national and international certifications. 	<ul style="list-style-type: none"> • Investment in a system for the use of renewable energy for electric power generation. • Investment in a system for the use of renewable energy for heat generation. • Investment in a system for the use of renewable energy for mechanical energy generation. • Investment in a system for the use of renewable energy for cooling. • Investment in renewable energy storage systems. • Investment in equipment to improve energy efficiency. • Investment in low-emission engines.





(continued on next page)

⁹ Action plans proposed based on a joint methodology of multilateral development banks to estimate climate financing.



TABLE 13.

Potential Investment and Skill Development Activities (cont.)




ENVIRONMENTAL DIMENSION/PILLAR		
Subdimension/Subpillar	Skill development activities (short term)	Investment activities (medium and long-term)
 <p>ADAPTATION TO CLIMATE CHANGE</p>	<ul style="list-style-type: none"> • Technical studies for the search of groundwater sources. • Climate change awareness and education plans. • Technical evaluation of the impact of the MSME on forests or other sensitive ecosystems in their environment. • Consulting services to develop action protocols for extreme weather events. 	<ul style="list-style-type: none"> • Investment in water micro-harvesting systems for various purposes. • Investment in water storage systems. • Investment in systems to reduce losses of stored and/or transported water. • Investment in water macro-harvesting systems. • Investment in water pumping systems. • Investment in water treatment systems for drinking water purification. • Investment in reforestation with native species. • Investment in early warning and risk management systems for extreme weather events. • Investment in protected agriculture systems. • Investment in organic fertilizers. • Investment in precision agriculture systems.
SOCIAL DIMENSION/PILLAR		
Subdimension/Subpillar	Skill development activities (short term)	Investment activities (medium and long-term)
 <p>GENDER APPROACH</p>	<ul style="list-style-type: none"> • Corporate consulting services to include a gender approach in strategic documents. • Training on the role of women in the political, business, cultural, etc. spheres in a national and global context. • Studies on labor participation of women in the economic sector where the MSME operates. 	<ul style="list-style-type: none"> • Preparation of strategic documents for MSMEs incorporating and becoming aware of the process of adapting to a gender approach. • Studies on the company's productivity or performance results according to gender quotas. • Studies on the status of the work environment according to gender quotas.

(continued on next page)



TABLE 13.

Potential Investment and Skill Development Activities (cont.)




SOCIAL DIMENSION/PILLAR		
Subdimension/Subpillar	Skill development activities (short term)	Investment activities (medium and long-term)
 <p>GENDER APPROACH</p>	<ul style="list-style-type: none"> • Studies on the company's productivity or performance results according to gender quotas. • Studies on the status of the work environment according to gender quotas. • Consulting services to solve conflicts in relation to gender issues. 	<ul style="list-style-type: none"> • Consulting services to solve conflicts in relation to gender issues. • Market studies to investigate perceptions of the product/service provided among women clients. • Design of MSME performance monitoring systems including gender indicators.
 <p>DIVERSE POPULATIONS</p>	<ul style="list-style-type: none"> • Corporate consulting services to include diverse populations in strategic documents. • Training on the role of diverse population members in the political, business, and cultural spheres in a national and global context. • Studies on labor participation of diverse population members in the economic sector where the MSME operates. • Studies on the company's productivity or performance results according to diverse population quotas. • Studies on the status of the work environment according to diverse population quotas. • Consulting services to solve conflicts in relation to diverse population issues. 	<ul style="list-style-type: none"> • Preparation of strategic documents for MSMEs incorporating and becoming aware of the process of adapting to diverse populations. • Preparation of rules and regulations in relation to diverse population conflicts or issues. • Market studies to investigate perceptions of the product/service provided among diverse population clients. • Design of MSME performance monitoring systems including diverse population indicators.

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TABLE 13.

Potential Investment and Skill Development Activities (cont.)

GOVERNANCE DIMENSION/PILLAR		
Subdimension/Subpillar	Skill development activities (short term)	Investment activities (medium and long-term)
 <p>DIGITAL TRANSFORMATION</p>	<ul style="list-style-type: none"> • Creation of the company's social media. • Training for content creation for social media. • Website development. • Consulting services to implement electronic means of payment. • Technical assistance from a community manager. • Consulting services on cybersecurity. • Consulting services on platforms implemented by the state to carry out virtual transactions. • Productivity impact studies derived from the implementation of digitalization technologies at the intermediate level in MSMEs. • Productivity impact studies derived from the implementation of digitalization technologies at the digital frontier level in MSMEs. 	<ul style="list-style-type: none"> • Implementation of an e-commerce platform. • Development of virtual catalogs of the MSME's products or services. • Investment in a VPN. • Development of an intranet and/or extranet. • Design and development of management software for the MSME. • Implementation of cloud computing services. • Implementation of digital frontier-level technologies according to MSME requirements.
 <p>ORGANIZATIONAL CULTURE</p>	<ul style="list-style-type: none"> • Consulting services to develop the company's code of ethics. • Legal advice on government rules and regulations in relation to the operation of MSMEs in the country. • Events to raise awareness and training on anti-corruption policies. 	<ul style="list-style-type: none"> • Development of a plan to prevent accidents in relation to labor activities in the MSME. • Development of a plan to prevent medical conditions in relation to labor activities in the MSME. • Development of virtual platforms for accountability.

Source: Authors' elaboration.

Recommendations

6





Below are some recommendations to maximize the possibilities of using the tool. They are based on the lessons learned from applying the pilot and the process followed in building it.

6.1. Tool Design

6.1.1. Understanding the Reality of MSMEs: The process followed to build the self-assessment tool has revealed the importance of knowing the profile of MSME leaders or owners beforehand. They understand the current status of the company's business model and the incentives that the MSMEs require, among other characteristics of this business segment. They will respond to the questionnaire not only using this self-assessment tool but embracing it and implementing it in predefined intervals to assess the progress of the transition of their business model to a sustainable development model.

6.1.2. Involvement of Experts and Pilot Testing: A tool such as this, initially built in the office, requires validation through the opinion of subject matter experts (gender, diverse populations, climate change, digital transformation, etc.) and sector experts (trade, services, industry, and agriculture), as well as practical validation in the field with a sampling frame of MSMEs (pilot testing) in a specific territory with a view to their respective calibration. It is also necessary to survey the opinions of counterpart teams that directly conduct the pilot because of their local knowledge of MSMEs, which is particularly valuable for the topicalization of the tool.

6.1.3. Dimension of the Tool: One of the objectives of the pilots and the process followed to conduct them is to have a system based on no more than 60 indicators (which should be translated into dichotomous and multiple-choice questions). These should be distributed as evenly as possible in each of the di-

mensions or pillars of the system developed to avoid bias as a result of overrepresentation. Having a higher number of indicators (in addition to the more than 10 in connection with general MSME information, including segregation indicators) does not guarantee 100 percent completion of the questionnaire (as a result of their abandonment), and therefore runs the risk of affecting the tool's effectiveness.

6.1.4. Development of the Tool on Interactive Platforms: Learning is related to the development of an interactive version of the tool that includes a strategy to maximize the user experience (UX) and the user interface (UI) with regard to the profile of direct users, that is, MSME leaders or owners. This is because a significant proportion of users may not have daily experience in interacting with virtual media. Thus, minimal failure in the visual or navigational aspect may lead to abandonment of the application. Adding a simple module to assess user experience, with a question that qualifies the application through a basic score to identify and correct design problems, is recommended.

6.1.5. Limitation of Self-Assessments: This type of online self-assessment may generate an information bias as a result of over- or underestimation of certain issues to be assessed by the person answering the tool's questionnaire. For this reason, a subsequent stage should be established for transparency of the information collected either through this means or through on-site visits and consultation with verification specialists from the counterparts involved in investment or capacity building. Technical assistance activities within the framework of a program in a given territory are also recommended to order and classify MSMEs with quality, precision, and reliability.



6.2. Tool Application

6.2.1. Preparation and Management of an MSME

Database: Since the survey used to collect field data must be sent using mass mailing services, we recommend including a previous stage for the construction of a database with contacts from the information units that make up the target population. Although this task may require considerable time, it is necessary because mass mailing services have a rejection accounting system that can stop sending when there is an excess of incorrect e-mail addresses. Thus, building a contact database should include verifying the accuracy of the contact address of each MSME to be surveyed. In addition, even if the addresses are correct, efforts should be made to verify that the recipients continue to occupy the position of relevance required to apply the survey.

6.2.2. Positioning of Counterparts: A key aspect that could be decisive for the success of the application of pilot tests is the proximity and recognition (positioning) of the public development banks or other development promotion agencies (as counterparts) and the teams conducting the application of the tool on the segment of MSMEs to which it will be directed. This will not only guarantee adequate response rates (above 10 percent) but will also shorten response times (up to one week), which will result in greater efficiency. Obviously, the IDB's support will add value to this process as a result of IDB's reputation in the region. For this reason, we suggest that the IDB logo should appear in the tool's interfaces.

6.2.3. Strategy for Outreach and Awareness-raising:

Although the literature shows the importance of the sustainable development approach in global markets, it is necessary to continue promoting research efforts on the impact on profitability of this type of investment by MSMEs in the LAC region. The results can be used to expand knowledge about these companies and thus develop texts, messages, and communication and outreach campaigns for the tool, based on evidence with areas and samples of companies in the same region. One of the concepts that should be included

in these research agendas is MSME resilience. The purpose is to demonstrate that investing in the transition to a sustainable development model can benefit not only society, but the company itself.

6.2.4. Review and Update of the Tool: As a result of the dynamic nature of the issues addressed by the self-assessment tool (particularly those related to the digitalization of MSMEs), the instrument should be continually reviewed and updated. Regarding output reports, the main panel should be revised to show menus that are appropriate to the specific context of cities, provinces, or countries. The survey questionnaire should be re-examined to introduce new terminology related to ICTs or new technologies.

6.3. Obtaining and Using Results

6.3.1. Data Segregation for the Calculation of Indices and Subindices:

Although the self-assessment tool proposes five segregation variables (see Table 6), the indices and subindices should be calculated with regard to the gender of MSMEs owners or leaders. For example, results from the implementation of the pilots carried out in San Juan and Neuquén showed that MSMEs owned or led by women tended to have greater awareness and to be more likely to adopt sustainability activities on which the self-assessment was conducted.



TABLE 14.

ESG-CAI and Subindices by MSME Owner Gender of Pilots in San Juan and Neuquén

	San Juan			Neuquén		
	Men	Women	Province	Men	Women	Province
Sample distribution	64%	36%	100%	53%	47%	100%
ESG-CAI	40.5	58.8	47.1	39.2	52.7	45.6
SI Environmental	35.9	53.3	42.1	37.1	41.5	39.2
SI Social	39.0	66.2	48.7	38.8	73.1	55.1
SI Governance	46.7	57.0	50.4	41.7	43.4	42.5

Source: Self-assessment pilot reports on MSMEs in the provinces of San Juan and Neuquén (May, 2022).

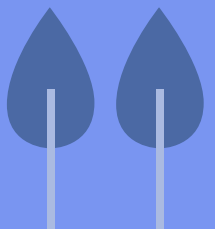
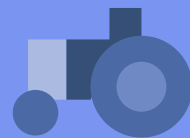
6.3.2. Complementary Analysis of MSMEs: Although the information included in the ESG-CAI and the respective subindices can be used as a primary input for the identification of material issues arising from the gaps found, it is strictly an internal assessment of MSMEs. For this reason, the information should be complemented by an external evaluation that includes the expectations and assessments of stakeholders and the sector where the MSME operates on these material issues. This will enable their appropriate prioritization and facilitate the development of medium and long-term activities, strategies, and economic development policies.

6.3.3. Feedback of Results to MSMEs: Users should be able to visualize the results in predetermined reports and graphs. For the design of the reports, we suggest the development of a panel with the ESG-CAI values and the three main subindices, with graphs comparing results according to segregation variables. This assumes that the information will be hosted on the IDB's counterpart (client) servers. This activity will empower the stakeholders to use the tool, which in turn will increase their awareness of the issues addressed by the tool, namely the variables and subvariables in the environmental, social, and governance dimensions.

6.3.4. Use of the Information Generated by the

Tool: There are at least two possibilities for the use of this type of information for the development of plans or strategies. The first is to consider an initial group of managers of this information, including IDB's main clients (the PDBs and the EPAs). In particular, EPAs can use the ESG-CAI results as a first snapshot of the business development model in place in a city, depending on how representative the sample taken is. Because the tool identifies gaps in the adoption of environmental, social, and governance agendas, the EPA would have initial input to develop the guidelines for a sustainable development strategy, prioritizing the issues where the greatest weaknesses exist. This can facilitate and even optimize time and resources for the search for relevant public-private partnerships. Second, MSMEs can make use of this information since access to an easy-to-use tool will allow them to identify gaps and opportunities regarding the sustainability of their business model and build clearer roadmaps.

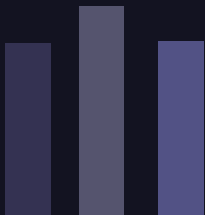
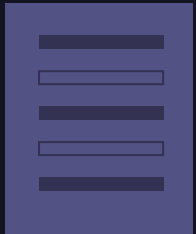
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Attachments



















ATTACHMENT 1.

System of Indicators of the Sustainability Self-Assessment Tool for MSMEs in LAC

TABLE A1.1. Indicators of the Sustainability Self-Assessment Tool


Dimension	Subdimension	Variable	Subvariable		Indicator
 Environmental	 Mitigation of climate change	Planning	Identification of activities		1. Analysis of the environmental impacts generated by the commercial activity
			Organization of activities		2. Organization of environmental management activities
			Use of renewable energy		3. Use of mechanisms to generate electric power from renewable sources
					4. Use of renewable energy for various purposes
		Improving energy efficiency		5. Use of systems to improve energy efficiency	
		Implementation of mitigation activities	Introduction of a circular economy		6. Effluent and waste management activities
					7. Development of recycling activities
			Reduction of pollutants		8. Substitution of polluting supplies or raw materials
			Access to special markets		9. Markets in relation to environmental management practices
				10. Use of biodegradable packaging	
		Use of low-emission equipment		11. Achievement of environmental management certification	
				12. Use of low-emission engines or fuels	

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ATTACHMENT 1.

**System of Indicators of the
Sustainability Self-Assessment Tool
for MSMEs in LAC**
**TABLE A1.1. Indicators of the Sustainability
Self-Assessment Tool (cont.)**















Dimension	Subdimension	Variable	Subvariable		Indicator				
 Environmental	 Adaptation to climate change	Implementation of mitigation activities	Use of efficient transportation		13. Promotion of the use of public transportation				
					14. Use of logistics systems that reduce transport in trade				
		Implementation of adaptation activities	Natural resource management	Development of environmental urbanism		15. Construction of buildings with a sustainable approach			
						16. Adoption of measures to adapt to water shortage			
					17. Restoration of damaged ecosystems				
					18. Agrobiodiversity conservation				
				Awareness and resilience to weather-related disaster risks		19. Development of early warning and risk management systems for extreme weather events			
						20. Development of action protocols for weather-related emergency situations			
				 Social	 Gender approach	Strategic design with a gender approach	Equality of women's participation in the business strategy		21. Incorporation of a gender approach in the MSME's management discourse
									22. Incorporation of a gender approach in the MSME's documents
Participation of women	Leadership and empowerment of women	Skills development				23. Conducting or participating in training events on gender approach			
						24. Women-owned MSMEs			
			25. Senior management positions held by women						
			26. Rules or regulations in relation to women						
			27. Ratio of women to total number of workers						

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ATTACHMENT 1.

**System of Indicators of the
Sustainability Self-Assessment Tool
for MSMEs in LAC**
**TABLE A1.1. Indicators of the Sustainability
Self-Assessment Tool (cont.)**

Dimension	Subdimension	Variable	Subvariable		Indicator
 Social	 Gender approach	Participation of women	Salary gap		28. Salary gap between women and men
					29. Conflict resolution training in relation to gender issues
	 Diverse populations	Strategic design with a focus on diverse populations	Equality of diverse population's participation in the business strategy		30. Incorporation of issues affecting diverse populations in the MSME's management discourse
					31. Incorporation of diverse population issues in the MSME's documents
					32. Conducting or participating in training events on issues affecting diverse populations
		Participation of diverse populations	Leadership and empowerment of diverse populations		33. Ownership of MSMEs by diverse population members
					34. Senior management positions held by diverse population members
					35. Rules or regulations in relation to diverse populations
	Participation of diverse populations	Equality in diverse population participation		36. Ratio of diverse population members to total number of workers	
			Salary gap		37. Salary gap between diverse population members and the rest of the workers
					38. Conflict resolution training in relation to diverse population issues



















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ATTACHMENT 1.

System of Indicators of the Sustainability Self-Assessment Tool for MSMEs in LAC

TABLE A1.1. Indicators of the Sustainability Self-Assessment Tool (cont.)

Dimension	Subdimension	Variable	Subvariable		Indicator
 Governance	 Digital transformation	Level of digital maturity	Basic level of digitalization		39. Interaction with clients via smartphones (WhatsApp, delivery service, etc.)
					40. Development of the company's website
					41. Development of the company's social media
					42. Use of electronic means of payment
					43. Use of e-commerce for online sales
					44. Interaction with virtual catalogs
			Advanced level of digitalization		45. Interaction with the state via Internet access (digital channels)
					46. Development of VPN
					47. Development of the intranet
					48. Development of the extranet
					49. Use of business management software
			Digital frontier level		50. Use of cloud computing
			Incorporation of specialists		51. Use of digital frontier-level technology
					52. Recruitment of a community manager as part of the MSME's team
	53. Recruitment of an IT security and business management software specialist				
	54. Recruitment of a digital frontier-level IT solutions specialist as part of the MSME's team				









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ATTACHMENT 1.

System of Indicators of the Sustainability Self-Assessment Tool for MSMEs in LAC

TABLE A1.1. Indicators of the Sustainability Self-Assessment Tool (cont.)

Dimension	Subdimension	Variable	Subvariable		Indicator
 Governance	 Organizational culture	Quality of management	Company ethics		55. Code of ethics with the company's values
			Occupational health and safety		56. Plan to prevent workers' accidents
					57. Plan to prevent workers' medical conditions
		Relationship with the environment	Regulatory compliance		58. Commitment to comply with state rules and regulations
			Transparency		59. Anti-corruption policies
					60. Use of means for accountability



ATTACHMENT 2.

Questionnaire of the Self-Assessment Tool

Pilot of the Self-Assessment Tool to Assess the Transition of MSMEs to a Sustainable Business Model

Dear Sir/Madam,

We would like to thank you in advance for your participation in the pilot phase of the construction of the self-assessment tool for micro, small, and medium-sized enterprises (MSMEs), which the Inter-American Development Bank (IDB) is designing within the framework of an agenda to support the post-pandemic reactivation of the Latin American and Caribbean region economies.

The survey has been designed based on environmental (climate change mitigation and adaptation), social (gender and diverse population approach) and governance (digital transformation and organizational culture) criteria, which address the main aspects of the sustainable business model. This model is transforming the way of doing business in global markets and, therefore, will define the short or medium-term possibilities of being competitive in any economic sector in the region and the world.

We must also emphasize the importance of this IDB initiative, as well as the fact that you have been selected, as it will be an essential contribution to the process of transition of the MSME sector in the region to a sustainable business model. In this sense, your answers, which will be treated confidentially and in an aggregated manner, will be vitally important in achieving this purpose.

Yours sincerely,

IDB Representation in Argentina

DETAILS OF THE PERSON* RESPONSIBLE FOR COMPLETING THE SURVEY

1. Full name _____
2. Position in the MSME _____
3. Cell phone _____
4. E-mail _____

* Gender variable not included, so we suggest that the name of the person doing the survey is used as a proxy.

BASIC MSME INFORMATION

5. Taxpayer identification number: _____
6. Company name _____
7. Size

1	Microenterprise
2	Small enterprise
3	Medium enterprise

8. Area

1	Urban
2	Rural
3	Locations in both urban and rural areas

9. Location of the company's headquarters

1	Country:
2	Region/department:
3	Province:
4	Municipality/city:



10. Main destination of sales

1	International market
2	National market
3	Local market

11. How many years has the MSME been in operation? _____

12. Economic activity sector

1	Agriculture
2	Industry
3	Services
4	Commerce

13. Economic activity area

Farming sector

1	Agriculture
2	Livestock
3	Fishing
4	Forestry

Industry sector

1	Mining and hydrocarbons
2	Manufacturing
3	Electricity, gas, and water supply
4	Construction

Services sector

1	Hotels and restaurants
2	Transportation, storage, and communications
3	Financial intermediation
4	Real estate, business, and rental services
5	Public administration, defense, and social security
6	Education
7	Health and social services

8	Community, social, and personal services
9	Household and domestic services
10	Others

Commerce sector

1	Wholesale
2	Retail

ENVIRONMENTAL CRITERION ISSUES

1. Has the company performed any analysis or produced any information on the environmental impact generated by their activity?

1	At the basic data or information level
2	At the technical report level
3	At the level of impact studies
4	No

2. Does the company have an environmental management activities plan?

1	Yes
2	No

3. Does the company use any mechanism to generate electric power from renewable sources?

1	Hydroelectric generation
2	Photovoltaic solar panels
3	Mini wind turbines
4	Urban solid waste
5	Biomass
6	Off-grid purchase from renewable sources
7	No



4. Does the company use renewable energy for other purposes?

1	Thermal energy generation
2	Mechanical energy generation
3	Cooling
4	Green hydrogen
5	Renewable energy storage systems
6	Others
7	No

5. Does the company use any system to improve energy efficiency?

1	Water consumption saving systems
2	Solar water heaters
3	Efficiency in household appliances
4	Heat pumps
5	Thermal envelope of buildings
6	Lighting saving systems
7	Others
8	No

6. Does the company carry out effluent and waste management activities?

1	Yes
2	No

7. Does the company carry out recycling activities?

1	Yes
2	No

8. Has the company replaced polluting inputs or raw materials?

1	Use of biodegradable detergents
2	Biodegradable fat or grease
3	Water-based paints
4	Natural gas
5	Others
6	No

9. Has the company been involved in markets in relation to environmental management practices?

1	Development of environmentally friendly products
2	Client loyalty through environmental management practices
3	No

10. Does the company use biodegradable packaging?

1	Yes
2	No

11. Has the company received any environmental management certification?

1	National certification
2	International certification
3	No

12. Does the company use low-CO₂ emission engines or fuels?

1	Yes
2	No

13. Does the company promote the reduction of the use of public transportation by employees (bicycles, scooters, etc.)?

1	Yes
2	No

14. Does the company use systems that reduce the use of public transportation such as delivery services (using bicycles, scooters, etc.)?

1	Yes
2	No

15. Does the company use sustainable building construction systems?

1	Yes
2	No



16. Has the company implemented measures to adapt to water shortage?

1	Water micro-harvesting
2	Water storage
3	Reduction of water losses
4	Water macro-harvesting
5	Water treatment systems for drinking water purification
6	Others
7	No

17. Does the company contribute in any way to the restoration of damaged ecosystems (forests, waterways, etc.)?

1	Directly contributes
2	Participates in campaigns or others
3	No

18. Does the company contribute in any way to the conservation of agrobiodiversity¹⁰?

1	Directly contributes
2	Participates in campaigns or others
3	No

19. Has the company developed early warning and risk management systems for extreme weather?

1	Early warning systems
2	Risk management systems for extreme weather
3	Weather monitoring of priority variables according to vulnerable areas
4	Improving agroclimatic information systems
5	Identification of activities most vulnerable to climate anomalies
6	No

20. Has the company developed action protocols for weather-related emergency situations?

1	Yes
2	No

SOCIAL CRITERION ISSUES

21. Do company leaders account for gender issues in their language or discourse?

1	In daily dialogue with employees
2	In the media
3	In campaigns or events
4	No

22. Have gender issues been incorporated in the MSME's documents?

1	In strategic or operational documents
2	In rules and regulations
3	In handbooks
4	Others
5	No

23. Has the company conducted or participated in training events on gender approach?

1	Specializations
2	Courses or workshops
3	Others
4	No

10. Agrobiodiversity, agricultural biodiversity, or biological diversity associated with agriculture is a subset of biodiversity in general that refers to the variety and variability of animals, plants, and microorganisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry, and fishing.



24. Is the MSME owned by a woman?

1	Yes
2	No

25. Are senior management positions mostly held by women?

1	Yes
2	No

26. Does the MSME have rules or regulations in connection with women?

1	Special schedules when having young children
2	Pregnancy breaks
3	Gender quotas
4	Prohibition of sexual harassment
5	No

27. What percentage of the total workforce are women?

28. Is there a salary gap according to the gender of the MSME's workers? (For example, if men earn more than women).

1	In positions of high responsibility
2	In positions of intermediate responsibility
3	In operative level workers
4	No difference

29. Has the company promoted training to resolve conflicts in relation to gender issues?

1	Yes
2	No

30. Do company leaders account for diverse populations¹¹ in their language or discourse?

1	In daily dialogue with employees
2	In the media
3	In campaigns or events
4	No

31. Have diverse population issues been incorporated in the MSME's documents?

1	In strategic or operational documents
2	In rules and regulations
3	In handbooks
4	Others
5	No

32. Has the company conducted or participated in training events on diverse populations?

1	Specializations
2	Courses or workshops
3	Others
4	No

33. Is the MSME owned by diverse population members?

1	Yes
2	No

34. Are senior management positions held by diverse population members?

1	Yes
2	No

¹¹. "Diverse populations" refers to members of indigenous groups, people with disabilities, people of African descent, and the LGBTQ population.



35. Does the MSME have rules or regulations in connection with diverse populations?

1	Prohibition of sexual harassment
2	Others
3	No

36. What percentage of the total workforce are diverse population members?

37. Is there a salary gap between workers because they are members of diverse populations? (For example, they earn less than other workers).

1	In positions of high responsibility
2	In positions of intermediate responsibility
3	In operative level workers
4	No difference

38. Has the company promoted training to solve conflicts in relation to diverse population issues?

1	Yes
2	No

GOVERNANCE CRITERION ISSUES

39. Does the company interact with clients and suppliers via smartphones (WhatsApp, delivery service, etc.)?

1	Yes
2	No

40. Does the company have a developed website?

1	Yes
2	No

41. Does the company have social media?

1	Facebook
2	Instagram
3	Twitter
4	No

42. Does the company use electronic means of payment?

1	Yes
2	No

43. Does the company use e-commerce tools (online sales)?

1	Yes
2	No

44. Has the company developed virtual catalogs of their products or services?

1	Yes
2	No

45. Does the company interact with the state via Internet access (digital channels)?

1	Payment of taxes
2	Administrative formalities
3	Access to information
4	Others
5	No interaction

46. Does the company have a VPN service¹²?

1	Yes
2	No

12. Technology that allows secure connection from the outside to a company's internal computing resources, such as accessing files on a server within the company from a home office.



47. Has the company developed an intranet (a private network with access for MSME members)?

1	Yes
2	No

48. Does the company have extranet development (a network with access to MSME members and business environment such as clients, suppliers, etc.)?

1	Yes
2	No

49. Does the company have business management software?

1	Yes
2	No

50. Has the company procured a cloud computing service?

1	Yes
2	No

51. Does the company use any digital frontier-level technology?

1	Analysis of large amounts of data (big data)
2	Additive or 3D manufacturing
3	Artificial intelligence (AI)
4	Advanced robotics
5	Blockchain ¹³
6	Internet of things ¹⁴
7	Use of drones
8	No

52. Has the company recruited community manager services?

1	Yes
2	No

53. Has the company recruited an IT security and business management and/or software specialist?

1	Yes
2	No

54. Has the company recruited a digital frontier-level IT solutions specialist?

1	Yes
2	No

55. Does the company have a code of ethics with the values that promote and guide its management?

1	Yes, implicitly in leaders' discourse
2	Yes, explicitly in a document
3	No

56. Does the MSME have a plan for workers to prevent accidents derived from their work in the company?

1	Yes, as miscellaneous activities or recommendations
2	Yes, explicitly in a plan
3	No

13. Information distributed in blocks and securely stored in different computers and in different physical locations.

14. A group of physical objects ("things") that have embedded sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet.



57. Does the MSME have a plan for workers to prevent medical conditions derived from their work in the company?

1	Yes, as miscellaneous activities or recommendations
2	Yes, explicitly in a plan
3	No

58. Does the company promote compliance with state rules and regulations?

1	Yes
2	No

59. Has the company developed management policies to prevent corruption?

1	Yes
2	No

60. Does the company promote the use of means for accountability?

1	Yes
2	No



ATTACHMENT 3.

Data Treatment

To aggregate the indicators, it is necessary to standardize the variables. In this way, by using the same range, the representation of the data is standardized. The ESG-CAI has a range between 1 (worst case) and 100 (best case). Standardization will be done in this interval. The variables have been grouped by typology according to the nature of their unit of measurement. Thus, the methodology to be followed to standardize each variable will depend on each typology.

Direct Standardization

- **Dichotomous questions:** A value of 0 is assigned when the answer is "no" and a value of 1 is assigned when the answer is "yes."
- **Multiple-choice questions with multiple answers:** Each answer has a value of 1, which is added according to the number of options selected. Likewise, a value of 0 is assigned when the answer is "no."
- **Multiple-choice questions with single and/or multiple answers:** Each option has a different value of 1 or more depending on the answer. In these cases, some answers have a higher value since they represent a greater adoption of the criterion under evaluation. Likewise, a value of 0 is assigned when the answer is "no."

TABLE A3.1.

List of Indicators with Direct Standardization I

Type of question	Indicator
Dichotomous	<ul style="list-style-type: none"> • Environmental management activities organization • Effluent and waste management activities • Development of recycling activities • Use of biodegradable packaging • Use of low-emission engines or fuels • Promotion of the use of public transportation • Use of logistics systems that reduce transport in commercialization • Construction of buildings with a sustainable approach • Development of action protocols for weather emergency situations • Women-owned MSMEs • Senior management positions held by women • Salary gap according to the gender of MSME workers • Training to resolve conflicts in relation to gender issues • Ownership of MSMEs by diverse population members • Senior management positions held by diverse population members • Existence of a salary gap between diverse population members and the rest of the MSME's workers • Training to resolve conflicts in relation to diverse population issues • Interaction with clients via smartphones • Development of the company's website • Use of electronic means of payment • Use of e-commerce for online sales • Interaction with virtual catalogs • Development of VPN



Type of question	Indicator
	<ul style="list-style-type: none"> • Development of the intranet • Development of the extranet • Use of business management software • Use of cloud computing • Recruitment of a community manager as part of the MSME's team • Recruitment of an IT security and business management software specialist • Recruitment of a digital frontier-level IT solutions specialist as part of the MSME's team • Commitment to comply with state rules and regulations • Anti-corruption policies • Use of means for accountability
<p>Multiple choice with multiple answer</p>	<ul style="list-style-type: none"> • Use of mechanisms to generate electric power from renewable sources • Use of systems to improve energy efficiency • Use of renewable energy for various purposes • Adoption of adaptation measures as a result of water shortage • Development of early warning and risk management systems for extreme weather events • Substitution of polluting supplies or raw materials • Markets in relation to environmental management practices • Incorporation of a gender approach in the MSME's management discourse • Conducting or participating in training events on gender approach • Rules or regulations in relation to women • Incorporation of diverse population issues in the MSME's management discourse • Incorporation of a gender approach in the MSME's documents • Incorporation of diverse population issues in the MSME's documents • Conducting or participating in training events on diverse populations • Rules or regulations in relation to diverse populations • Development of the company's social media • Interaction with the state via Internet access (digital channels) • Inclusion of digital frontier-level technology



TABLE A3.2.

List of Indicators with Direct Standardization II

Type of question	Indicator	Answer and value
Multiple choice with single or multiple answer	Environmental impact analysis	At the basic data or information level (1) At the technical report level (2) At the level of impact studies (3)
	Achievement of environmental management certification	National certification (1) International certification (2)
	Restoration of damaged ecosystems	Participates in campaigns or others (1) Contributes directly (2)
	Agrobiodiversity conservation	Participates in campaigns or others (1) Contributes directly (2)
	Code of ethics with the company's values	Yes, implicitly in leaders' discourse (1) Yes, explicitly in a document (2)
	Plan to prevent workers' accidents	Yes, as miscellaneous activities or recommendations (1) Yes, explicitly in a plan (2)
	Plan to prevent workers' medical conditions	Yes, as miscellaneous activities or recommendations (1) Yes, explicitly in a plan (2)

Standardization with Respect to the Mean

This group includes all variables expressed as a percentage. In this way, a measure and a value are arbitrarily assigned. Table A3.3 below lists the assignment for the corresponding indicators.



TABLE A3.3.

**List of Indicators with
Standardization with
Respect to the Mean**

Type of question	Indicator	Answer and value
Percentages	Ratio of women to total number of workers	$0\% \leq X < 20\% \rightarrow (0)$ $20\% \leq X < 40\% \rightarrow (1)$ $40\% \leq X < 60\% \rightarrow (2)$ $60\% \leq X < 80\% \rightarrow (3)$ $80\% \leq X \leq 100\% \rightarrow (4)$
	Ratio of diverse population members to total number of workers	$0\% \leq X < 20\% \rightarrow (0)$ $20\% \leq X < 40\% \rightarrow (1)$ $40\% \leq X < 60\% \rightarrow (2)$ $60\% \leq X < 80\% \rightarrow (3)$ $80\% \leq X \leq 100\% \rightarrow (4)$

