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Public policies for fostering the entrepreneurship industry: unlocking the black box of collaborative governance mechanisms in ecosystems

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The entrepreneurship industry comprises economic activities organized to promote regional entrepreneurial development and relies on collaborative governance mechanisms capable of handling diverse stakeholders, power asymmetries, and conflicting interests. Although the role of governance is widely acknowledged, these mechanisms remain a "black box," as little is known about how abstract governance functions translate into concrete practices that can be stimulated through public policy. This qualitative study, based on an in-depth case study and semi-structured interviews, examines the operationalization of governance within the public program *Inova RS*, developed in southern Brazil, with the aim of understanding how governance functions are enacted through public policy in an emerging economy. The findings reveal a central governance function in the context of public policies, particularly in the Global South: orchestration. These findings demonstrate how public policies can foster the entrepreneurship industry by structuring micro-governance practices that sustain territorial collaboration and help overcome institutional fragmentation. From a theoretical perspective, the study advances the classical governance model by introducing the function of orchestrating and proposing a new procedural order for governance functions. From a practical point of view, it provides guidance for designing policies and instruments capable of strengthening entrepreneurial ecosystems in emerging contexts, reinforcing their relevance for regional development.

Keywords: entrepreneurship industry, collaborative governance, public policies.

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Políticas públicas para o fomento da indústria do empreendedorismo: desvendando a caixa-preta dos mecanismos de governança colaborativa em ecossistemas

A indústria do empreendedorismo reúne atividades econômicas organizadas para promover o empreendedorismo regional. Para isso, depende de mecanismos de governança colaborativa que lidem com diversos *stakeholders*, assimetrias de poder e conflitos de interesse. Embora o papel da governança seja reconhecido, esses mecanismos permanecem uma "caixa-preta", pois pouco se sabe sobre como funções abstratas de governança se traduzem em práticas concretas que podem ser incentivadas por políticas públicas. Este estudo qualitativo, baseado em um estudo de caso aprofundado e entrevistas semiestruturadas, analisou a operacionalização da governança no programa público Inova RS, desenvolvido no Sul do Brasil, com o objetivo de compreender como as funções de governança são desenvolvidas por meio de uma política pública em um país emergente. Os resultados revelam uma função de governança central, quando se fala em políticas públicas, especialmente no Sul Global: a orquestração. Esses achados indicam como políticas públicas podem fomentar a indústria do empreendedorismo ao estruturar práticas de microgovernança que sustentem a colaboração territorial e ajudem a superar a fragmentação institucional. Teoricamente, o estudo amplia o modelo clássico de governança ao introduzir a função orquestrar e propor uma nova ordem processual das funções. Na prática, oferece subsídios para o desenho de políticas e instrumentos capazes de fortalecer ecossistemas empreendedores em contextos emergentes.
Palavras-chave: indústria do empreendedorismo, governança colaborativa, políticas públicas.

Políticas públicas para el fomento de la industria del emprendimiento: descifrando la caja negra de los mecanismos de gobernanza colaborativa en ecosistemas

La industria del emprendimiento reúne actividades económicas organizadas para promover el emprendimiento regional. Para ello, depende de mecanismos de gobernanza colaborativa que gestionen diversos *stakeholders*, asimetrías de poder y conflictos de interés. Aunque el papel de la gobernanza es reconocido, estos mecanismos permanecen como una "caja negra", ya que se sabe poco sobre cómo las funciones abstractas de gobernanza se traducen en prácticas concretas que pueden ser incentivadas por políticas públicas. Este estudio cualitativo, basado en un estudio de caso profundo y entrevistas semiestructuradas, analizó la operacionalización de la gobernanza en el programa público Inova RS, desarrollado en el sur de Brasil, con el objetivo de comprender cómo las funciones de gobernanza se desarrollan a través de una política pública en un país emergente. Los resultados revelan una función de gobernanza central cuando se habla de políticas públicas, especialmente en el sur global: la orquestación. Estos hallazgos indican cómo las políticas públicas pueden fomentar la industria del emprendimiento al estructurar prácticas de microgobernanza que sustenten la colaboración territorial y ayuden a superar la fragmentación institucional. Teóricamente, el estudio amplía el modelo clásico de gobernanza al introducir la función de orquestar y proponer un nuevo orden procesal de las funciones. En la práctica, ofrece insumos para el diseño de políticas e instrumentos capaces de fortalecer ecosistemas emprendedores en contextos emergentes.
Palabras clave: industria del emprendimiento, gobernanza colaborativa, políticas públicas.

1. INTRODUCTION

According to the Global Entrepreneurship Monitor (GEM) report, coordinated by Babson College, about 120 million people in 54 countries were involved in subsistence-oriented entrepreneurial activities in 2024. This significant volume reinforces the importance of institutions in creating favorable conditions for entrepreneurship (Aparicio et al., 2016; Bosma et al., 2018), as their support goes well beyond isolated incentives, encompassing everything from establishing regulatory frameworks to structured investments such as venture capital (Ratinho et al., 2020).

Based on this dynamic of institutions within a given ecosystem, the entrepreneurship industry consolidates itself, comprised of organizations and programs that support entrepreneurs in identifying and exploiting opportunities (Hartmann et al., 2020; Hunt et al., 2022). However, it is argued that its advancement depends less on direct support to the entrepreneur and more on public policies based on governance, capable of articulating actors, mediating interests, reducing asymmetries, and coordinating collective actions (Brattström, 2022; Guerrero et al., 2023).

Despite its importance, governance mechanisms remain a "black box," as little is known about how their functions translate into concrete processes and agreements among public, private, and academic actors (Vazquez-Brust et al., 2020; Wegner & Verschoore, 2022). This gap is even more critical in the Global South, where collaborative governance needs to articulate actors with asymmetric capacities and frequently divergent interests (Ansell & Torfing, 2021; Kuhlmann & Wollmann, 2019), and where studies examining their operational configuration and institutional arrangements are still scarce.

To understand how abstract governance functions translate into concrete practices that can be encouraged by public policies, this qualitative study, based on an in-depth case study and semi-structured interviews, analyzed the operationalization of governance in the public program Inova RS, developed in southern Brazil, with the aim of understanding how governance functions are developed through a public policy in an emerging country. By empirically opening this "black box," we show how abstract functions are converted into practical and situated actions, revealing the institutional conditions that shape entrepreneurial ecosystems.

The results reveal a central governance function in the context of public policies, especially in the Global South: orchestration. While recent advances in the literature are recognized (Machado et al., 2025), there is still limited understanding of how orchestration occurs in the context of public policies, particularly in the implementation phase, when the state plays a role in coordinating and sustaining governance arrangements. This gap is relevant, as the research findings demonstrate that the implementation of public policies involves institutional dynamics distinct from those present in interorganizational networks, which constitutes a theoretical and empirical differential of this study.

Furthermore, the results show that public policies can strengthen the entrepreneurship industry by structuring micro-governance practices that sustain territorial collaboration and mitigate institutional fragmentation.

Theoretically, the study expands the governance model of Wegner and Verschoore (2022) by incorporating the orchestration function and proposing a new processual ordering of the functions. In practical terms, it offers subsidies for the design of more effective policies and instruments to strengthen entrepreneurial ecosystems in emerging contexts, reinforcing their role in regional development.

After this introduction, the theoretical framework on collaborative governance and the entrepreneurship industry is presented. Next, the methodological procedures of the case study are described. The fourth section presents the empirical results and the reordering of the identified governance functions. Subsequently, the theoretical discussion and implications for public management are developed. Finally, the concluding remarks, limitations, and research agenda are presented.

2. THEORETICAL FRAMEWORK

2.1 The entrepreneurship industry and the challenge of public policies

Entrepreneurship has become a complex industry, simultaneously driving economic activity and subject to criticism for promoting low-quality projects focused on business survival (Hartmann et al., 2020). Although it is seen as an inclusive sector capable of driving economic development (Audretsch & Fiedler, 2023), it also receives criticism for encouraging low-quality initiatives, marked by illusions of opportunity, inefficient allocation of resources, and low technological advancement (Hunt et al., 2022).

This duality, together with the fragmentation of the sector, makes it difficult to establish clear criteria for success or failure in evaluating the entrepreneurship industry. In this scenario, public policies play a strategic role in creating favorable environments for innovative and locally-based ecosystem entrepreneurship (Audretsch & Fiedler, 2023).

The literature indicates that government programs need to go beyond a focus on individual support, strengthening interorganizational connections through governance mechanisms that sustain collaboration and innovation (Brattström, 2022; Guerrero et al., 2023). However, coordination, instrument integration, and institutional clarity challenges persist, limiting the effectiveness of initiatives (Guerrero et al., 2022), which reinforces the need to advance the understanding of collaborative governance models that articulate better public and private efforts to strengthen entrepreneurial ecosystems.

Although the entrepreneurship industry has shifted the focus from quantity to quality in entrepreneurship (Stam, 2017), its governance mechanisms still fail, especially due to the difficulty in defining boundaries between public support and private initiatives in the face of entrepreneurship uncertainties (Cai & Liu, 2020; Guerrero & Urbano, 2019).

This sector brings together a diversity of actors: entrepreneurs, incubators, accelerators, investors, universities, government agencies, and consultants, with distinct interests and expectations (Brattström, 2022). Such heterogeneity reinforces the need for governance mechanisms capable of coordinating actions, generating synergies, and avoiding institutional overlaps. For this reason, the literature emphasizes the need to advance collaborative governance models that articulate better public and private efforts to strengthen entrepreneurial ecosystems (Bergman & McMullen, 2021; Bouncken & Kraus, 2022).

2.1 Governance mechanisms

Unlike classical network management approaches, focused on interorganizational structures, collaborative governance emphasizes the decision-making, coordination, and collective learning processes needed to achieve shared public objectives (Ansell & Torfing, 2021). This perspective has gained centrality in explaining how governments and interdependent actors articulate efforts in complex institutional contexts (Emerson & Nabatchi, 2015). Inserted into Public Administration, it reinforces the state's capacity to implement policies in a participatory, responsive, and results-oriented manner (Kuhlmann & Wollmann, 2019; Sørensen & Torfing, 2017).

From this perspective, the management of public policies depends not only on hierarchical structures but also on the creation of interorganizational arrangements that sustain commitment, trust, and collective learning. In these contexts, collaborative governance operates as a horizontal coordination mechanism capable of restoring government capacities through integration among public, private, academic, and social actors (Ansell & Gash, 2008).

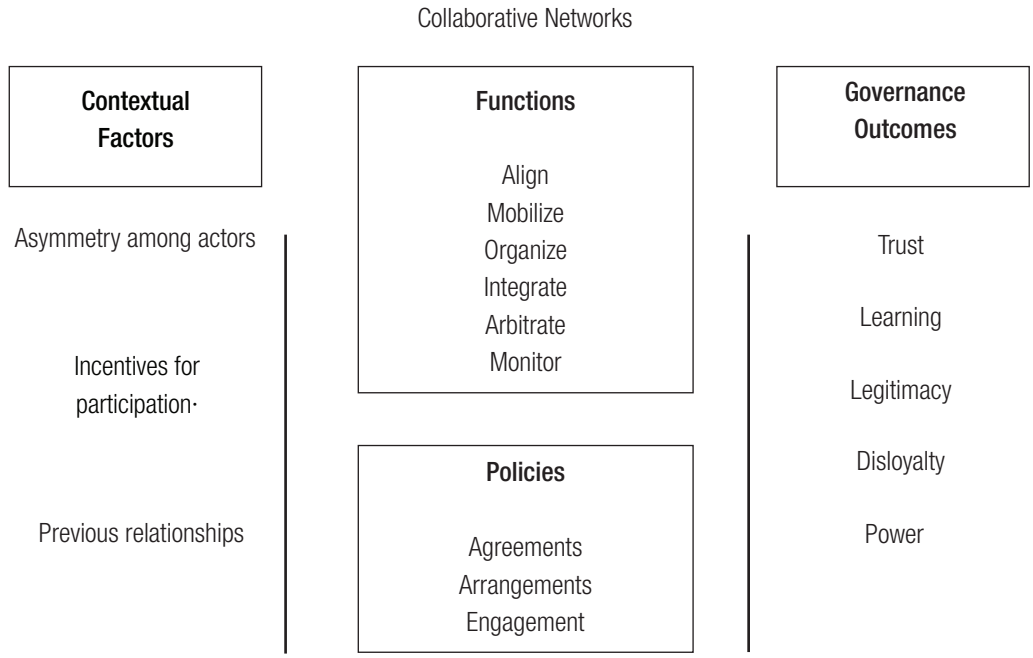
The literature points out that the effectiveness of these arrangements depends on the appropriate selection and combination of governance mechanisms capable of minimizing transaction costs, promoting coordination, and ensuring accountability (Vazquez-Brust et al., 2020). These mechanisms involve decisions about what to internalize or externalize and how to structure coordination forms that balance autonomy and control (Chakkol et al., 2018). Still, even in robust institutional contexts, their implementation involves costs and tensions resulting from the diversity of interests, power asymmetries, and resource limitations (Lahat & Sher-Hadar, 2020; Fischer et al., 2020).

The collaborative governance model of Wegner and Verschoore (2022) brings together six essential functions that articulate strategic and operational dimensions of cooperation, guiding the collaborative dynamics between public and private actors in coordination and legitimacy within governance arrangements. The functions are defined as:

- **Align:** refers to the convergence of purposes and interests, creation of common guidelines, and reduction of uncertainties.
- **Mobilize:** involves engaging participants and activating formal and informal resources.
- **Organize:** refers to the allocation of resources and skills, defining roles and decision flows.
- **Integrate:** promotes collective construction and knowledge sharing.
- **Arbitrate:** ensures conflict mediation and the preservation of trust.
- **Monitor:** consolidates learning and continuous adjustment.

Figure 1, based on Wegner and Verschoore (2022), illustrates the governance functions that represent essential roles in interorganizational relations according to collaborative governance models. As network complexity increases, whether by the number of participants or the diversity of collective objectives, or by the expansion of practices used to sustain relationships, it becomes necessary to adopt more robust coordination mechanisms to manage these interactions (Grandori & Soda, 2006; Mikhailov et al., 2024).

FIGURE 1 THEORETICAL-ANALYTICAL MODEL OF MICROGOVERNANCE FUNCTIONS



Source: Elaborated by the authors based on Wegner and Verschoore (2022).

These functions show that collaborative governance constitutes a management process whose effectiveness depends on its translation into concrete institutional practices (Nason et al., 2026). Despite advances in the literature (Ansell & Gash, 2008; Emerson & Nabatchi, 2015; Wegner & Verschoore, 2022), a gap remains about how governance mechanisms operate in the transition from planning to the execution of entrepreneurship policies, usually treated abstractly (Sørensen & Torfing, 2017).

Although challenges such as coordination, asymmetries, and cooperation costs are recognized, little is still known about how these problems are addressed in daily interactions between public and private actors, especially in the Global South (Guerrero et al., 2022). Since most governance studies focus on the context of interorganizational networks (Silva, 2024), there is little understanding of their application in the implementation of public policies, a phase in which the state plays a structuring role in the coordination processes.

Thus, this study seeks to fill this gap by adopting a processual approach that makes explicit the conditions and effects of governance mechanisms, contributing to guide the design and implementation of policies.

3. RESEARCH METHODOLOGY

This research adopted a qualitative approach with an exploratory-descriptive case study design (Flick, 2013), suitable for analyzing interactive processes in complex and context-dependent phenomena (Ragin, 2013). Following Eisenhardt's (2019) guidelines, the case selection was intentional, choosing a revealing, rare, and theoretically relevant case (Tsoukas, 2009) to deeply investigate collaborative management in regional ecosystems. The case study protocol is presented in Appendix A.

The Inova RS program was chosen for meeting three main criteria:

i. Representing an unprecedented initiative in Brazil aimed at articulating multiple actors around innovation.

ii. Constituting a regional model of collaborative governance based on smart specializations as the foundation of the program's proposal.

iii. Allowing direct access to primary and secondary data, enabling an in-depth examination of interactions among government, universities, companies, and civil society.

The empirical research was based on the triangulation of three main sources of evidence, ensuring internal and construct validity. The first source involved semi-structured interviews with public managers, academic representatives, entrepreneurs, and Innovation Managers (GIT), following Langley and Meziani's (2020) guidelines. Lasting between 45 and 90 minutes, the interviews were conducted in person and guided by a protocol of open questions (Appendix B).

The number of participants followed the principle of theoretical saturation (Ribeiro et al., 2018), being interrupted when new interviews ceased to bring relevant contributions to the emerging categories. Table 1 presents the list of institutions and interviewees who participated in the study.

TABLE 1 LIST OF RESEARCH INTERVIEWEES

Nº	Position/Role	Institution	Region	Duration
1	Innovation Director	Secretariat of Innovation	State of Rio Grande do Sul (RS)	49 min
2	Innovation Manager	Secretariat of Innovation	Metropolitan Region (RS)	56 min
3	Innovation Manager	Secretariat of Innovation	Production and North Region (RS)	1h 03 min
4	Innovation Manager	Secretariat of Innovation	South Region (RS)	44 min
5	Innovation Manager	Secretariat of Innovation	Serra Gaúcha Region (RS)	46 min
6	Innovation Manager	Secretariat of Innovation	Vales Region (RS)	40 min
7	Innovation Manager	Secretariat of Innovation	Northwest and Missões Region (RS)	59 min
8	Innovation Manager	Secretariat of Innovation	Vales Region (RS)	1h 42 min
9	Entrepreneur	Owner	Metropolitan Region (RS)	1h 50 min
10	Entrepreneur	Owner	Serra Gaúcha Region (RS)	38 min
11	Coordinator	University	Vales (RS)	43 min
12	Coordinator	University	Production and North	46 min

Source: Research data.

The interviews were recorded, transcribed, and systematically coded. First-order codes were derived directly from the interviewees' statements; second-order codes grouped similar practices; and third-order codes represented the six governance mechanisms, transparently connecting empirical evidence and theoretical constructs.

The second data source gathered institutional documents from Inova RS and partner organizations, such as reports, action plans, ordinances, presentations, and public materials, allowing the reconstruction of the program's history and analysis of its strategic and operational evolution in the territories.

The third source was participant observation. One researcher acted as a GIT throughout the data collection, participating in mobilizations, meetings, and events and accessing informal decision-making dynamics. Another researcher followed the process as an academic advisor, expanding the analytical triangulation. Field diaries recorded micro-governance mechanisms, mediations, conflicts, consensuses, and operational adjustments that were not easily visible in interviews or documents.

For the data processing stage, a content analysis strategy was adopted in the terms of Bardin (2016), starting from a prior theoretical model as a reference framework. Thus, the initial coding was conducted deductively (a priori), taking the governance functions proposed by Wegner and Verschoore (2022) as initial analysis categories. According to Bardin, content analysis can take a deductive procedure when starting from previously defined categories, functioning as an empirical verification process of

a conceptual framework. In this sense, the objective was not to discover completely new categories, but to examine how the theoretical categories manifested in the case studied.

However, according to Bardin (2016), content analysis also allows a mixed coding process, enabling emerging categories to be incorporated into the initial framework whenever the empirical material presents elements not contemplated by the deductive structure. Thus, although the coding began deductively, recurring and consistent evidence that did not fit the original categories required the creation of new inductive codes.

It was in this process that the additional governance function emerged, here named the orchestration function, identified as distinct and necessary to explain coordination and alignment practices among multiple actors in highly dynamic institutional contexts.

Table 2 below represents the main analysis categories of this study.

TABLE 2 CATEGORIES OF ANALYSIS

Category	Description	Representative Excerpt (Empirical Example)
Organize	Structure arrangements and define roles and flows.	"The regional governance group helped distribute tasks better and centralize information."
Integrate	Connect actors and resources from different sectors.	"The university started to participate more when it saw that the business sector was engaged."
Align	Build a shared vision and common objectives.	"The meetings helped put everyone on the same page about the project's direction."
Arbitrate	Resolve disagreements and ensure legitimacy in decisions.	"The state committee plays an important role in balancing regional differences."
Mobilize	Engage new actors and expand the territorial reach.	"We managed to bring in municipalities that had never participated in anything similar before."
Orchestrate	Translate strategic decisions into coordinated actions; combine adaptive leadership and operational coherence.	"The regional manager plays the role of a conductor: connecting the ends and keeping the group moving forward together."

Source: Elaborated by the authors.

4. RESULTS

4.1 The case of the Inova RS Program

Rio Grande do Sul is one of the pioneering states in promoting public innovation policies in Brazil. In 2019, it brought together government, universities, technology parks, and the business sector to create the Inova RS Program. The initiative, presented in Table 3, is based on regionalization and valuing local potential, with the state assuming the role of integrator in the quadruple helix, mediating relationships, promoting collaboration, and guiding investments in knowledge, technology, and human capital.

TABLE 3 ACTIONS FOR THE CREATION OF THE INOVA RS PROGRAM

1. Identification of the vocation and future vision of the main regions of the state.
2. Mapping of regional ecosystems and their main institutional actors.
3. Identification of quadruple helix institutions operating in each region.
4. Approximation between the state government and institutional representatives: universities, parks, technology hubs, and the business sector.
5. Articulation with key leaders and representative institutions.
6. Mobilization of local actors, forming an alliance around the state's innovation agenda.
7. Preliminary design of strategic development projects based on the regional future vision.
8. Structuring governance committees in each region composed of leaders and local institutional actors.
9. Creation of a state decree-law regulating the formation of the Inova RS Program.

Source: Research data.

The Inova RS Program was designed to cover eight ecosystem regions, defined based on demographic, economic, and strategic criteria, as shown in Table 4.

TABLE 4 INOVA RS PROGRAM – AREAS OF ACTION

Regions	Areas of Action
Production and North	Agribusiness and health
South	Agribusiness, blue economy and health
Serra Gaúcha	Tourism, smart cities and industry
Vales	Agri-food, health and services
West and Campanha	Agribusiness and tourism
Northwest and Missões	Agribusiness, metallurgy and tourism
Metropolitan	Health, education and creative economy
Central	Agribusiness, education and security

Source: Research data.

These regions were defined based on their specific innovation potential and growth prospects. To start the articulations, the government visited the cities considered the zero mark of each territory. In its structuring, the Inova RS Program created a governance model replicated in the eight regional ecosystems, composed of nuclei with different decision-making levels, responsible for articulating local actors and coordinating efforts for innovation development. Table 5 presents this composition.

TABLE 5 GOVERNANCE MODEL OF THE INOVA RS PROGRAM

Nucleus	Actors	Responsibilities
Strategic Committee	Leaders representative of their areas of expertise.	• Identify regional strategic challenges and priority areas of action. • List strategic projects aligned with regional challenges. • Identify opportunities for collaboration with prominent innovation agents at the local, national, and/or international levels.
Technical Committee	Individuals recognized for their technical capability in management, innovation, and planning.	• Assist the quadruple helix actors in the development and execution of strategic projects. • Suggest methodologies and specific parameters for the execution of strategic projects. • Propose initiatives for implementing and adhering to network activities.
Innovation Managers (GITs)	Professionals experienced in managing innovation, science, and technology projects.	• Provide support to local governance bodies. • Plan and manage strategic projects within the ERIs.
Inova RS Board	Highly representative individuals from organized civil society, businesses, universities, and government.	• Approve and endorse critical decisions, such as strategic areas and innovation projects to be prioritized within a specific ecosystem.
Advisory Council	Main and alternate representatives from each of the eight regions.	• Define guidelines and priorities for networked ecosystem activities. • Assist in defining priority areas of action for the strategic and technical committees. • Contribute to improvements in the handling of strategic projects.

Source: Elaborated by the authors.

The governance structure was implemented based on the zero mark in each region, mobilizing local actors and forming alliances to develop projects aligned with a regional vision for the future. Coordinated by technical committees, the ecosystems carried out a detailed mapping of assets, challenges, and opportunities, generating diagnoses that guided the definition of strategic areas and priority projects.

4.2 Identification and analysis of governance mechanisms in Inova RS

The governance of collaborative networks is challenging due to the diversity of actors, power asymmetries, and possible conflicts (Smith, 2020; Mikhailov et al., 2024). To analyze Inova RS, the model of Wegner and Verschoore (2021) was used, which identifies six essential functions — align, mobilize, organize, integrate, arbitrate, and monitor—as daily practices that strengthen collaboration. In the program, governance acted as the main implementation mechanism: the Strategic Committee launched calls for proposals with regional guidelines, and the selected educational institutions developed work plans, coordinating resources, actions, and schedules in each region. Some excerpts from the interviews highlight this as the first stage:

> The calls provided direction and the expected results by the Government. With this, the university created a project that organized these guidelines into actions. A design was made of how the program should work in the regions and how the actions should be conducted (Interviewee #4).

> It was clear what our routine would be from the moment we started the project. That helped a lot because we knew what our path and our conditions were. The organization of people, deadlines, finances, schedules, and the resources that would be needed was very detailed (Interviewee #2).

After defining activities, roles, and responsibilities, the approach between the GITs and regional actors began to promote knowledge exchange, strengthen social ties, and stimulate integration. This process awakened collective interest and engagement among those participating for the first time in a collaborative movement. Interview excerpts highlight this initial phase:

> People did not know each other. There was no culture of collaboration in the region. So, it was necessary to generate integration strategies so that people could get to know each other better before we defined actions and the responsibilities of each (Interviewee #5).

> The trust to collaborate with each other was born from the moments of integration. We held several regional events, such as presentations, forums, and seminars. In these moments, there were connections and exchanges of ideas. And it was systematic, continuous, so that participants could get closer, become part of what was happening (Interviewee #7).

In an innovation ecosystem, universities act as neutral facilitators, bringing together companies, governments, civil society organizations, and other partners to jointly address common themes and challenges.

> The Technology Park was the place that brought everyone together around the cause. Being a reference in innovation in the region, being there made collaboration easier. It was an entry point for those companies, as they were not integrated. Each acted on its own (Interviewee #9).

> My company is an example; we had never been part of such an experience before, we didn't quite know what to expect or if it would be worth continuing. It was a gradual process, being present at events and getting to know people better, which led us to stay in the movement (Interviewee #10).

With connections established, the Strategic Committee and the GITs began the alignment stage, aiming to transform individual interests into a shared collective purpose that made sense for everyone involved. This alignment is reflected in interviewee statements:

> We sought to understand a bit of each participant's expectations, what their role was in the region, and how that could be enhanced. A large meeting was held at the university, where the project's objectives were presented, and based on that, actions were developed taking into account common interests (Interviewee #3).

> The alignment included support from the class entities that represented the local entrepreneurs. Through this development, participants sought to understand where they could fit in, how they would connect with the ecosystem, what they would gain from it, and what their benefits would be (Interviewee #5).

During this process, conflicts of interest and collaboration difficulties emerged, demanding the arbitration function. The GITs then assumed the role of mediators, guiding dialogues, conducting negotiations, and indicating ways to reach consensus among participants.

> As it was a new experience, many people joined out of curiosity to see what would happen in the region. But to be part of the program, dedication and commitment were necessary. That led some people to leave and give way to others (Interviewee #1).

> It was a job of reconciling interests, but sometimes some people felt undervalued. Our job was then to show everyone that there were no favors. The process was very transparent, and that helped with understanding (Interviewee #6).

In parallel, the mobilization stage encouraged participants to direct efforts toward collective objectives. The Inova RS board and the GITs articulated local leaders and institutions, creating a shared sense of purpose, values, and routines. As it was an unprecedented experience, it was necessary to develop a common cognitive model, supported by raising awareness of the benefits of networking, joint learning, and access to innovation, which motivated active engagement from participants.

> It wasn't easy to mobilize the group. Each wanted something different, and this led us to create a board of advantages to make it clear that participation in the program would be good for everyone. By collaborating with each other, they would reap benefits they couldn't have achieved alone (Interviewee #10).

> The committee brought this strategic information; we created collective objectives for the region, and that contributed to people becoming aware of being part of something new. Before that, they

> only saw that it would be work. At that moment, the role of the GITs was fundamental for leading the actions (Interviewee #1).

Given the diversity and inexperience of most actors, the Technical Committee transferred the execution of the planned actions to the GITs, who began acting as facilitators and implementers, enabling the program's regional implementation. Previous attempts to delegate this responsibility to local leaders resulted in delays and inactivity in some regions.

> As innovation agents, we approached local companies, startups, associations, the city hall to generate regional connections. We had an action agenda to fulfill and involved the entire network in that commitment. But the responsibility was ours. We would be held accountable for it (Interviewee #2).

> It didn't work out when the agenda was left to everyone. There was a lack of protagonism in the regions. There's still that mindset that everything is the government's responsibility, and it wasn't easy to break that culture (Interviewee #9).

To monitor progress, evaluation mechanisms were developed to validate the progress of actions and their impact on innovation ecosystems.

> Every six months, the results were consolidated, and there was a performance and improvement analysis. These evaluations were required by the government, which closely monitored the program's execution. There were periodic meetings to present results (Interviewee #4).

> We had a schedule to meet, and specific indicators and metrics were created for the reality of each region of the state, through a collaborative process with other divisions of the state public administration, with proficiency in public policy evaluation (Interviewee #5).

The monitoring of actions was the responsibility of the Strategic Committee, supported by a team dedicated to tracking activities, measuring results, and analyzing deviations for adjustments. In its first two years, Inova RS achieved important intermediate results for strengthening the entrepreneurship industry.

The comparison among the eight ecosystems showed that governance functions do not emerge homogeneously. Differences in institutional maturity, cooperation patterns, and network density influenced both the sequence of function activation and the degree of orchestration required. As the focus was not on analyzing failures, the data highlighted successful cases, although interviews indicate challenges in more fragmented regions.

Territories with an associative tradition, such as Serra and Missões, advanced more quickly in alignment and integration, while regions like Norte and Sul depended more on the GITs to organize processes, mediate conflicts, and maintain engagement. Functions such as mobilizing and arbitrating also took on different meanings according to local agendas—from the centrality of health in the Valleys to the cultural weight in Missões, as shown in Table 6.

TABLE 6 EXAMPLES OF GOVERNANCE FUNCTIONS IN DIFFERENT REGIONS

Function	Empirical situational examples (interview excerpts)	Identified regional differences
Align	• "We seek to understand each participant's expectations and develop actions considering common interests." (Interviewee #7) • We had already been building bridges with the government, so these common expectations were already well underway." (Interviewee #4)	In Missões, alignment was led by the universities; in the South, the agenda was driven by the state government's interests for that region.
Mobilize	• "It was not easy to unite everyone, but we focused on areas such as health and showed the benefits it would bring to the region." (Interviewee #10) • "Here, people saw Inova as a chance to foster missionary religious tourism routes." (Interviewee #7)	In Vales, mobilization was driven by the health agenda; in Missões, mobilization relied on cultural and religious belonging.
Organize	• "The calls for proposals gave direction and expected results. The university translated this into actions, schedules, and defined roles." (Interviewee #2) • "The GITs did a good job and took on all the planning, thinking, and organizing." (Interviewee #12)	In Metropolitana, the process was more formalized, with action plans and detailed goals; in the North, there was greater reliance on the GITs to keep the group organized.
Integrate	• "Here in the region, there is a tradition of collaboration; people know each other, and this builds trust." (Interviewee #5) • "We promoted events and forums so that everyone could get to know each other before defining responsibilities." (Interviewee #11)	The Serra region showed rapid integration due to its associative tradition; in Vales, integration was slower and required more action from the GITs.
Arbitrare	• "It was a matter of reconciling interests, showing there was no favoritism. Transparency helped understanding." (Interviewee #4) • "Both the committees and the universities were intermediating interests and collective expectations." (Interviewee #9)	The South reported more conflicts related to institutional representation; in Metropolitana, mediation was more institutionalized through technical committees.
Monitor	• "Inova was part of the university's goals and closely monitored by the GITs." (Interviewee #12) • "Of course we monitored performance, but we focused more on the ecosystem's overall movement." (Interviewee #10)	In the North, monitoring was the responsibility of the university; in Metropolitana, it was a more creative process without specific controls.

Source: Elaborated by the authors.

This heterogeneity shows that the effectiveness of Inova RS depends less on a standardized model and more on its ability to adapt to the peculiarities of each ecosystem. The program's performance results from the balance between central guidelines and contextual adjustments, allowing the same governance framework to generate different trajectories, functionally equivalent to local needs.

4.3 Inova RS as a governance policy for the entrepreneurship industry

In its first two years, the Inova RS Program produced results that strengthened the entrepreneurship industry in Rio Grande do Sul. The regional ecosystems defined strategic investment areas, ensuring greater precision in resource allocation: R$14.6 million allocated to science, technology, and innovation projects (SICT-RS, 2024). In 2023, collaborative action among government, universities, technology parks, innovation hubs, and the productive sector contributed to the state achieving national leadership in the Public Leadership Center's (CLP) innovation competitiveness ranking.

Table 7 summarizes the program's actions and its cohesion mechanisms that sustain, integrate, and give continuity to regional innovation ecosystems.

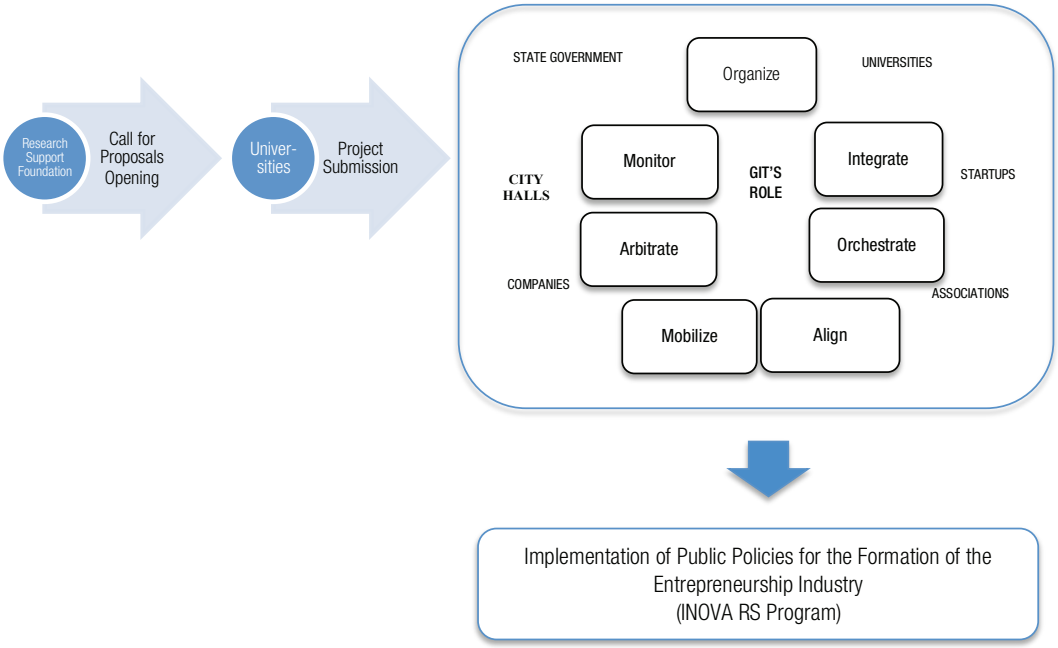
TABLE 7 COHESION ACTIONS OF THE INOVA RS PROGRAM

1. The creation of a common agenda among the innovation ecosystem participants that brings together projects aimed at the economic and social development of the regions.
2. The mobilization of local actors, forming an alliance to develop projects based on a shared vision for the future of the region.
3. The coordination and development of projects focused on the economic and social development of the state.
4. The systematic inclusion of new actors from different municipalities, as well as the continuity of ongoing projects.
5. he expansion of connections, with the strengthening of communication between the quadruple helix actors and between municipalities.
6. The cooperation among the actors from different helices that arises from participation in the program in favor of regional innovation.
7. The culture of innovation being prioritized in the discussion agenda, making it a priority in debates among the actors and reflecting in the joint development of public policies.

Source: Research data.

The operationalization of these actions begins with public policy being applied in local ecosystems through an integrated flow of actions represented in Figure 2.

FIGURE 2 OPERATIONALIZATION OF THE PUBLIC POLICY (INOVA RS)



Source: Elaborated by the authors.

In it, the trajectory of the GITs — selected through FAPERGS — in the orchestration policy of Inova RS is observed, showing how their performance sustains regional articulation. The process begins with their selection through a call for proposals and continues with immersion in the local ecosystem, where they begin to perform, in an integrated manner, the six classic functions of the model, to which is added the "orchestrate" function, here recognized as a new essential function. In the diagram, these functions are presented circularly to highlight their interdependence and continuity.

By articulating actors, supporting management, and monitoring project execution, the GITs also produce evidence that informs strategic adjustments, reinforcing their position as the link that sustains collaborative dynamics in the territory. As a direct result, the actual implementation of the public policy that supports and fosters the entrepreneurship industry can be observed.

5. THEORETICAL DISCUSSION

The analyses show that it is possible to foster the entrepreneurship industry through public policies anchored in collaborative governance practices. More than norms, these mechanisms constitute dynamic processes that articulate capacities, resources, and interorganizational relationships around common objectives, translating policy guidelines into coordinated action. Although the model of Wegner and Verschoore (2022) offers a consistent framework for understanding the functions of collaborative governance, the empirical evidence indicates a logical and processual reorganization of these functions.

In contexts with strong state presence and public calls, the process would not begin with alignment, as the original model proposes, but with the organizing function. In these scenarios, organization produces initial coordination among heterogeneous actors, establishing material and relational foundations for collaborative networks (Cristofoli & Macciò, 2015; Sørensen & Torfing, 2005). Thus, organizing acts as a governance trigger by enabling a cooperative environment even before the existence of a shared purpose.

The integrate function appears next, as with universities as mediators, this integration becomes more stable, supported by consolidated cognitive and relational foundations (Hunt & Kiefer, 2017; Lehtonen, 2014). Although part of the literature sees integration as a consequence of alignment (Hartmann et al., 2020), in the analyzed case it precedes it, indicating that cooperation arises first from joint practice and only later evolves into a shared vision.

The align function only emerges after some level of interaction and trust, acting as a symbolic and cognitive convergence mechanism that generates identity cohesion (Hunt et al., 2022). Unlike models that place it as an initial stage (Wegner & Verschoore, 2022), the findings show that in fragmented and asymmetric ecosystems, this cohesion is a result, not a precondition, of governance. Subsequently, the mobilize function acts as a catalyst for engagement, favored by perceptions of mutual benefits and institutional legitimacy, increasing collective commitment (Acs et al., 2016). This reinforces that mobilization depends less on formal authority and more on building a shared cognitive image of the future.

The arbitrate function operates transversally, sustaining conflict resolution in contexts of plural interests and low hierarchy (Bouncken & Kraus, 2022; Provan & Kenis, 2008; Smith, 2020). Rather than being occasional, it proves to be continuous and adaptive, maintaining the balance between autonomy and coordination and conditioning the permanence of the other functions.

Finally, the monitor function closes the cycle by promoting accountability, transparency, and collective learning (Hoetker & Mellewigt, 2009). In public policies with accountability requirements, monitoring reinforces trust, guides iterative adjustments, and supports the network's legitimacy and adaptability.

The observed reordering — organize – integrate – align – mobilize – arbitrate – monitor — reveals a logic of gradual construction of collective action, distinct from that proposed by Wegner and Verschoore (2022). This sequence reflects typical conditions of Global South ecosystems: strong state action, dependence on public calls for legitimation, and university mediation. In these contexts, collaborative governance does not derive from prior horizontal relationships but is structured through formal devices and progressive mediations that reduce asymmetries, strengthen ties, and build trust incrementally.

Moreover, the evidence indicates the existence of an additional function, here called orchestrate. Unlike organize, which defines roles and rules, integrate, which strengthens bonds and trust, and arbitrate, which resolves impasses, the orchestrate function ensures continuous transition between planning and execution, converting guidelines into results and maintaining the collaborative rhythm of the ecosystem.

Its effects include operational continuity, strategic coherence, and collective learning, essential elements for the sustainability of innovation ecosystems and the effectiveness of public policies. Table 8 summarizes these differences.

TABLE 8 DIFFERENCES BETWEEN GOVERNANCE FUNCTIONS

Function	Conceptual definition	Observable indicators
Organize	Structure roles and decisions through rules and shared management instruments (Emerson & Nabatchi, 2015; Provan & Kenis, 2008).	Existence of committees, internal regulations, schedules, ordinances, and action plans that define governance and responsibilities.
Integrate	Foster connections and trust among actors to sustain collaboration (Ansell & Gash, 2008).	Intersectoral meetings, co-creation events, coordination between government, universities, and companies; mediation of interests.
Arbitrare	Resolve conflicts and align priorities to maintain the legitimacy of the process (Huxham & Vangen, 2005).	Operation of decision-making bodies, committees, or mediators in situations of deadlock; presence of deliberation protocols.
Orchestrate	Mobilize capabilities to coordinate and articulate actors and actions in an innovation ecosystem, promoting collaboration, interdependence, and co-creation (Machado et al., 2025).	Existence of agents or teams that coordinate agendas, connect decision-making levels, and monitor execution; integration and collaboration actions among actors.

Source: Elaborated by the authors.

Conceptually, orchestrating refers to the ability to lead collective action in contexts of high interdependence, mobilizing symbolic and relational resources to ensure continuity (Pikkarainen et al., 2017). This function combines elements of adaptive leadership, mediation, and activation of connections (Ansell & Gash, 2008; Emerson & Nabatchi, 2015), especially necessary in scenarios of territorial fragmentation and power asymmetries, where formal coordination is not enough.

In the context of ecosystems, recent studies expand this understanding by defining that orchestrating involves the integrated mobilization of knowledge, skills, and attitudes that allow the articulation of actors, processes, and interactions in a collaborative, interdependent, and co-creative manner, ensuring the development, management, and coordination of the ecosystem in action (Machado et al., 2025). In these cases, the role of the orchestrator connects strategic and operational levels, reduces implementation gaps, and reinforces institutional coherence, allowing policy guidelines to be converted into coordinated action.

By empirically making this function explicit, the study expands the scope of the governance model, showing that collaboration depends on processual mechanisms articulated with institutional conditions and relational mediations. Thus, it is understood that the implementation of public policies aimed at the entrepreneurship industry requires an institutional design capable of dealing with the complexity and interdependence of the actors that comprise innovation ecosystems.

Such a design should: (i) mobilize actors, ensuring the convergence of their interests (Ansell & Gash, 2008; Emerson & Nabatchi, 2015); (ii) establish flexible articulation and deliberation structures, favoring territorial specificities (Sørensen & Torfing, 2005); (iii) institutionalize arbitration and monitoring mechanisms, ensuring transparency, legitimacy, and correction of course during policy execution (Hoetker & Mellewigt, 2009; Provan & Kenis, 2008); (iv) ensure the presence of orchestrating agents capable of translating strategic guidelines into coordinated actions, mediating

interests, distributing responsibilities, and maintaining the pace of cooperation (Dhanaraj & Parkhe, 2006; Klerkx & Aarts, 2013).

Based on the findings, it also became possible to contribute with practical implications leading to the proposal of structuring a succinct roadmap capable of guiding the design and implementation of territorial orchestration programs. The main recommendations are:

1. **Conduct an initial diagnosis:** identify ecosystem characteristics, integrate the GITs, organize governance, and define initial projects, monitoring everything through periodic evaluations.
2. **Clearly define the role of the orchestrator:** establish how projects are prioritized and how inequalities among institutions are handled.
3. **Assign institutional roles:** define who coordinates, who mediates, who sets priorities, and who provides knowledge, networks, and legitimacy.
4. **Identify recurring risks:** recognize possible conflicts, cooperation failures, low trust, political interference, and weaknesses in monitoring.
5. **Create mitigation mechanisms:** promote continuous integration, formalize routines, ensure transparency, set clear rules for participation, and use basic indicators to track progress.

Thus, the results show that Inova RS governance is deeply contextual. Its strength does not lie in standardized procedures but in the ability to adjust functions to the institutional and relational conditions of each territory.

6. FINAL CONSIDERATIONS

This research analyzed how collaborative governance mechanisms contribute to the development of the entrepreneurship industry, taking as reference the model of Wegner and Verschoore (2022) and the implementation of public innovation policies. The results show that, when sustained by collaborative practices, governance increases the state's capacity to coordinate heterogeneous actors, converting guidelines into collective action and strengthening articulation among government, companies, universities, and civil society.

From a theoretical point of view, a reordering of governance functions was identified, distinct from the original logic and more aligned with the institutional dynamics of the Global South. The observed sequence reflects an incremental process of building collective action in contexts marked by the strong presence of the state, dependence on public calls, and the mediating role of universities.

In addition, the additional function of orchestrating emerged, responsible for ensuring the continuous transition between planning and execution, a contribution that expands the classical model and helps to understand how public policies can strengthen entrepreneurial ecosystems in emerging environments. In practical terms, the results indicate direct recommendations for public managers: the effectiveness of the arbitration mechanism depends on ensuring real autonomy to the management committee, preventing it from becoming merely consultative.

The organizing function requires legal instruments that define roles and ensure stability; the integrating function should be strengthened by participatory structures, especially with universities acting as mediators; the mobilizing function requires incentives for co-responsibility and local

protagonism; and the orchestrating function needs to be institutionalized, with agents formally recognized for translating decisions into coordinated action.

As limitations, the study is based on a single case, with participant observation and a two-year time frame, which restricts generalizations and prevents the assessment of long-term effects. Thus, a future agenda is proposed that involves comparisons between regions and policies, longitudinal analyses, and studies focused on the role of orchestrators. Such advances can deepen the understanding of territorial innovation governance and how orchestration mechanisms convert planning into collective action.

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Kadigia Faccin: Formal analysis (Supporting); Investigation (Supporting); Methodology (Supporting); Supervision (Supporting).

RESEARCH DATA AVAILABILITY

All data supporting the findings of this study are available upon request from the corresponding author. The data are not publicly available in open repositories due to the presence of information that may compromise the confidentiality and privacy of research participants. However, they may be made available for academic purposes upon justified request and analysis by the authors.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ARTIFICIAL INTELLIGENCE USAGE

The ChatGPT artificial intelligence tool was used to assist in the technical-grammatical review of the text and the standardization of references.

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APPENDIX A

CASE STUDY PROTOCOL

STAGE I: Introductory

1. Study Title

Public policies for the promotion of the entrepreneurship industry: unveiling the black box of collaborative governance mechanisms in ecosystems

2. Research Problem

How is an innovation public policy operationalized in practice, and in what ways do its governance mechanisms contribute to structuring and strengthening the entrepreneurship industry in the context of Rio Grande do Sul?

3. General Objective

To understand how the governance of the Inova RS Program is operationalized, identifying the concrete mechanisms that support its implementation and analyzing how these mechanisms contribute to the development of the entrepreneurship industry.

4. Main Concepts Addressed

Entrepreneurship industry; Collaborative governance; Public policies.

STAGE II: Exploratory

5. Research Strategy

The study adopts a qualitative approach using a single case study strategy, seeking to deepen the phenomenon in its real context, as proposed by Flick (2013) and Ragin (2013).

6. Object of Study

The Inova RS public innovation program, examined based on governance functions (align, mobilize, organize, integrate, arbitrate, and monitor) and its role in structuring the entrepreneurship industry in Rio Grande do Sul.

7. Units of Analysis

The eight innovation ecosystems of the Inova RS Program, each constituting a distinct unit of analysis, to observe how governance is operationalized in specific contexts.

STAGE III: Methodological

8. Data Collection Techniques

Semi-structured interviews with managers and institutional representatives, documentary analysis of regulations, standards, and institutional records, and direct observation of meetings and interactions between organizations.

9. Interviews

Semi-structured interviews with representatives of the ecosystems in their different functions.

10. Documentary Analysis

Documentary analysis as a secondary source for data triangulation, involving public and private documents, meeting minutes, and action reports.

11. Direct Observation

Participant observation in interorganizational negotiation environments, sectoral meetings, or associative events to record spontaneous institutional interactions.

12. Content Analysis: Steps

The analysis will be guided by the content analysis technique (Miles and Huberman, 1994), comprising the following steps:

- Pre-analysis (organization of the material and initial readings).
- Exploration of the material (coding by categories).
- Treatment of results and interpretation.

13. Analysis Categories

The categories were developed based on the research objectives and the interview script:

- Trajectory and context.
- Governance structure.
- Coordination and cooperation mechanisms.
- Results and impacts.
- Lessons learned and recommendations.

APPENDIX B

TABLE 9 INTERVIEW PROTOCOL

Section	Objective	Guiding Questions
1. Trajectory and context	Understand the participant's history of involvement with the program and the regional ecosystem.	How did you get involved with Inova RS? What changes have you noticed since the beginning of the program? What factors facilitated or hindered the process?
2. Governance structure	Identify how roles and responsibilities are organized within the ecosystem.	How is regional governance structured? Which actors play key roles? How are collective decisions made?
3. Coordination and cooperation mechanisms	Analyze practices of alignment, integration, and conflict resolution.	What strategies have been used to promote cooperation? How are disagreements or conflicts resolved? Are there recognized leaders or mediators in the process?
4. Results and impacts	Capture perceptions of the program's tangible and symbolic results.	What results would you highlight so far? How has the program contributed to regional development and entrepreneurship? Are there any impacts not yet visible but expected?
5. Lessons learned and recommendations	Explore lessons learned and suggestions to improve the governance model.	What worked well and what could be improved? What recommendations would you make for similar programs?

Source: Elaborated by the authors.