MICROFOUNDATIONS OF ENTREPRENEURIAL ECOSYSTEM COHERENCE: THE ROLE OF PLACE-BASED POLICY

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ABSTRACT

Why do regions with similar resources and policy support diverge in entrepreneurial outcomes? We examine how place-based policy interventions shape micro-level interactions among ecosystem actors, producing reinforcing or destabilizing feedback loops that affect regional entrepreneurial activity and performance through changes in entrepreneurial ecosystem coherence. We use a longitudinal case study of a European EE (2010–2025), based on interviews, extensive participant observations, and archival data. We identify two mechanisms—relational embeddedness and collective sensemaking—through which policy interventions influence EE coherence. These micro-level processes generate macro-level patterns of ecosystem coherence, which feed back to influence actor behavior and regional entrepreneurial outcomes. Importantly, policy-induced incentives can either reinforce productive EE coherence or trigger fragile dynamics that weaken ecosystem performance. Our findings provide a mechanism-based explanation for why resource-similar regions exhibit divergent entrepreneurial outcomes and offer actionable guidance for designing place-based entrepreneurship policies that avoid unintended destabilization of entrepreneurial activity.

Keywords: Entrepreneurial ecosystems, place-based policy, complex adaptive systems

EXTENDED ABSTRACT

Entrepreneurial ecosystem (EE) research examines the extent to which ecosystems provide enabling conditions that mobilize resources productively and generate sustained value for ecosystem participants (i.e., EE health; Johnson et al., 2022; Santos et al., 2025). A central question in this literature—and in research on regional entrepreneurship more broadly—is why some regions succeed in fostering entrepreneurial activity while others, despite comparable resources and policy support, struggle to sustain healthy entrepreneurial ecosystems. To address this question, most studies employ a static macro-level view of EE factors such as resources, entrepreneurial support organizations (ESOs), and infrastructure (Colombo et al., 2019; Stam & Van de Ven, 2021). Despite abundant resources, active ESOs, and extensive support infrastructure, many EEs remain unhealthy, exhibiting weak relationships, rivalry, and limited collective learning (Spigel & Harrison, 2018). These issues highlight that EE health depends not only on the presence of key resources—such as financial capital, skilled human capital, and supportive policies—but also on their effective mobilization.

Recent research points to coherence among ecosystem actors, referred to as the alignment of goals, expectations, and interaction patterns, as a critical condition for EE health by enabling effective resource mobilization (Bonomi Santos et al., 2025; Roundy et al., 2018). When coherence is strong, ecosystems are better able to coordinate activities, sustain collective learning, support productive entrepreneurship (Bonomi Santos et al., 2025), and produce resilience (Roundy et al., 2017). However, prior work's focus on macro-level perspectives, emphasizing system attributes such as governance structures, policy frameworks, or aggregate resource endowments, led to blind spots on how micro-level interactions shape coherence and incoherence (i.e., microfoundations of coherence; Wurth et al., 2022; Roundy & Lyons, 2023).

As a result, we still lack a clear understanding of how everyday micro-level interactions, often encouraged by policy interventions intended to improve ecosystem performance, generate reinforcing or destabilizing dynamics of EE coherence. Moreover, research indicates that EE

coherence may (temporally) emerge, yet weaken over time, which gives rise to calls for research to trace an EE longitudinally to uncover the evolutionary dynamics of coherence (Bonomi Santos et al., 2025). Hence, despite growing recognition of coherence as necessary for ecosystem health, we still lack a clear understanding of *how and why EE coherence and incoherence emerge, strengthen, and weaken over time.* Understanding these dynamics is particularly important for place-based policy, as many regional interventions aim to stimulate entrepreneurship indirectly by reshaping local coordination, incentives, and interaction patterns rather than by targeting firms directly (Candeias & Sarkar, 2024; Hess et al., 2025).

To answer these questions, we draw on a complex adaptive systems (CAS) perspective, which conceptualizes EEs as dynamic systems in which system-level outcomes emerge from recursive micro-level interactions among heterogeneous actors (Roundy et al., 2018). From this perspective, coherence is not a stable attribute imposed by exogenous factors but an emergent outcome of micro-level interactions within a complex system that can generate reinforcing or destabilizing feedback loops over time (Han et al., 2021; Roundy et al., 2018). Place-based policy interventions can shape these dynamics by influencing how local actors interact, coordinate, and interpret opportunities, thereby affecting whether ecosystems converge toward sustained entrepreneurial activity or fragment over time (Candeias & Sarkar, 2024; Daymond et al., 2023). However, prior CAS research remains vague about the specific microfoundational mechanisms by which individual actions and interactions generate coherence in EEs.

In our empirical analysis, we conducted a longitudinal qualitative case study of a European regional EE between 2010 and 2025. This revelatory setting allows us to trace pronounced temporal variation in ecosystem coherence, from emergence and strengthening to weakening, across a heterogeneous set of interacting actors and under changing place-based policy conditions. Our data include 44 interviews with EE actors, such as ESOs, entrepreneurs, investors, and policymakers, extensive observational data, and a rich archive of public and non-public documents, including policy programs, funding documents, strategic plans, and

recordings of EE events. Table 1 provides an overview of the data sources, their duration, and how they are used to trace micro-level interactions, policy involvement, and EE evolution over time. This multi-source, longitudinal design enables us to trace how micro-level interactions aggregate into ecosystem-level patterns and how changes in policy involvement reshape incentives, interaction logics, and coordination over time.

Based on our case study, we develop a model that explains how micro-level interactions shape EE coherence through relational embeddedness and collective sensemaking. We find that repeated and reciprocal interactions foster relational embeddedness through close, trusted relationships, while open interactions enable collective sensemaking by producing a shared view of the EE. These mechanisms jointly shape EE coherence and reinforce one another. In line with CAS notions, EE coherence also feeds back at the micro-level, amplifying these processes. However, this positive feedback loop is fragile, as increasing policy involvement can introduce incentive regimes that either reinforce relational embeddedness and collective sensemaking, strengthening EE coherence, or trigger destabilizing feedback loops that weaken coherence. Figure 1 summarizes this multi-level recursive process by illustrating how micro-level interactions, policy-induced incentives, and feedback loops jointly shape the emergence, strengthening, and weakening of EE coherence over time. Together, these mechanisms illustrate not only how macro- and micro factors interact but also how policy-induced incentives can influence micro-macro feedback loops and thereby produce different EE outcomes.

This study contributes to EE research in three main ways. First, we extend EE research by uncovering the microfoundations of EE coherence. In particular, relational embeddedness and collective sensemaking explain how micro-level interactions give rise to macro-level EE coherence. We shift the focus from structural and macro-level factors, such as resources and policies, to how micro-level interactions shape EE coherence (Coleman, 1990; Felin et al., 2015). Thereby, our model helps to explain why EEs with similar resources can exhibit different levels of EE coherence and health.

Second, our model explains changes in EE coherence over time by adopting a dynamic, processual perspective characterized by feedback loops linking the micro and macro-levels of the EE. Moreover, micro-level interactions shape macro-level outcomes such as EE coherence, and the macro-level can also feed back into the micro-level. This allows us to explain both reinforcing feedback loops that increase coherence and destabilizing feedback loops that weaken it. Thus, our study addresses calls for research on the temporal dynamics of coherence and examines not only positive but also fragile EEs (Bonomi Santos et al., 2025).

Finally, we illuminate the contingent role of place-based policy in shaping EE coherence, showing how policy-induced incentive structures and coordination logics can either support or destabilize ecosystem dynamics. This challenges the common assumption in EE research that policy involvement is inherently beneficial for EEs (Isenberg, 2010; Stam, 2015; Wurth et al., 2022) and enhances our understanding of how policy should be crafted to improve EE health while avoiding unintended negative consequences (Hess et al., 2025; Rocha et al., 2021). On a more general level, our study contributes to CAS research by introducing specific microfoundations and showing how micro-macro feedback loops shape EE coherence. Accordingly, we operationalize CAS in a manner that renders it empirically tractable and theoretically generative in EE research (Wurth et al., 2022).

Taken together, our findings show that regional differences in entrepreneurial performance depend not just on resource availability or support infrastructure, but on how micro-level interactions among ecosystem actors generate and sustain EE coherence over time. By tracing the evolution of relational embeddedness and collective sensemaking, we demonstrate that fragile micro–macro feedback loops can either reinforce ecosystem coordination or, when policy incentives misalign actor logics, destabilize coherence. This offers actionable guidance for designing place-based entrepreneurship policies that align incentives and foster repeated, trust-based interactions, thereby strengthening EE coherence, enabling more effective resource mobilization, and supporting adaptive, resilient ecosystem dynamics.

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TABLES

Table 1. Data sources, type, and their use in the analysis.

Source	Data type			Duration/pages	Use in the analysis
Primary Data *Interview data*	Semi-structured interviews	ESOs	15	723 minutes	*Capturing actors' behaviors, roles, and experiences; explore micro-level interactions, resource exchanges, and reflections on coordination and ecosystem evolution; triangulated with observations and archival data.*
		Entrepreneurs	12	580 minutes	
		University representatives	5	239 minutes	
		Investors	5	227 minutes	
		Corporates	4	171 minutes	
		Policymakers	3	146 minutes	
		Total	**44**	**2,086 minutes**	
Observational data	Formal EE actor meetings	EE orchestrators workgroup, regular project meetings with policymakers, university workgroup meetings		About 98 hours	*Capturing real-time interactions, decision-making, relational networks, and sensemaking processes across formal and informal settings; triangulated with interviews and archival data to validate emergent mechanisms.*
	EE events	Accelerators, incubators, fairs, meetups, corporate talks, entrepreneurship education events		About 243 hours	
	Informal talks	Meetings, coffee chats, and routine interactions of ESOs, ventures, universities, investors, and policymakers		About 327 hours	
		Total		**About 668 hours**	
Secondary Data *Archival data*	Public sources	Websites, official reports, event announcements, newsletters, newspapers, social media, magazines		767 pages	*Providing chronological trace of EE activities, policy shifts, programs, and historical interactions; contextualized and triangulated with interviews and observations.*
	Non-public / Internal documents	Internal documents, meeting transcripts, emails, strategic plans from ESOs, universities, corporates, policy makers		133 pages	
	Policy and funding documents	Regional, federal, or institutional reports; funding policies; program descriptions		193 pages	
	Multimedia	Videos, recordings of EE events		About 21 hours	
		Total		**1,093 pages and about 21 hours**	

Figure 1. Multi-level recursive model of EE coherence.

