

Understanding Scaleup Ecosystems: Network Effects, Regional Dynamics, and Policy Implications

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This research **addresses** an important gap in the entrepreneurial ecosystem literature: while startups have received substantial attention, scaleup ecosystems remain underexplored despite their relevance for productivity, innovation, job creation, and regional competitiveness. The project examines how network effects and other systemic conditions influence the emergence, sustainability, and regional impact of scaleup activity. The central **Research Questions** are:

1. What is the effect of network structures on the formation and performance of scaleup ecosystems?
2. To what extent do scaleup ecosystems influence regional economic outcomes, and through which mechanisms?

The study **aims to** identify the ecosystem conditions that most strongly support scaling, with a particular focus on the role of connectivity among firms, institutions, mentors, investors, and other relevant actors.

This research is important because scaleups are not only growth firms; they are potential engines of regional transformation, innovation diffusion, and high-quality employment. Understanding the conditions that enable them to grow can help policymakers, ecosystem builders, investors, and support organizations design more effective interventions. It is especially relevant for European regional strategy and Smart

Specialisation, where policy instruments increasingly seek to strengthen high-growth entrepreneurial activity.

The project is **relevant to** academic and practical audiences. Academically, it contributes to entrepreneurial ecosystem theory by shifting the focus from the individual firm to the ecosystem as a system of interactions. Practically, it can inform better allocation of public and private resources, improve benchmarking across regions, and support the design of networking and capital-access programs.

The theoretical foundation combines five complementary frameworks. First, Stam's structural model is used to conceptualize the key elements of entrepreneurial ecosystems and their interactions. Second, the Schumpeterian / Kirznerian distinction helps distinguish between different forms and qualities of entrepreneurship. Third, New Institutional Economics provides a lens to analyze how formal and informal institutions shape entrepreneurial behavior and outcomes. Fourth, the REDI (Regional European Development Index) framework, used to assess regional entrepreneurial quality and comparative ecosystem performance. Fifth, Complex Adaptive Systems theory supports the idea that ecosystems evolve through dynamic, co-dependent relationships rather than linear cause-effect mechanisms. Together, these perspectives provide a strong basis for analyzing scaleup ecosystems as multi-level, interconnected, and adaptive structures.

The project adopts a quantitative research design because the phenomenon under study is systemic, multi-dimensional, and likely shaped by multiple interacting variables at the firm and regional levels. The design is exploratory and explanatory, combining configurational and statistical methods to capture both structural patterns and temporal

dynamics. This approach is well suited to studying ecosystems where outcomes may emerge from different combinations of conditions rather than a single dominant factor.

The planned analytical strategy includes Social Network Analysis to measure the structure, density, and connectivity of ecosystem relations. Fuzzy-set Qualitative Comparative Analysis will be used to identify equifinal pathways associated with strong ecosystem performance. In addition, Principal Component Analysis, linear regression, panel data models, and time-series analysis may be applied depending on data availability and variable structure.

The data would come from both available data from public administration and private organizations that have been specifically monitoring high-qualified business connections over the last seven years, including mentoring sessions, exclusive events, and interactions with top decision makers. This type of source is very valuable because it captures repeated, real-world ecosystem interactions over time. It also offers the possibility of observing relational patterns, actor centrality, participation intensity, and the evolution of connections across different contexts.

The expected sample would likely include scaleups companies, c-level corporate mentors, top global investors, institutional actors and other stakeholders involved in the ecosystem. The longitudinal nature of the data would make it possible to study how network positions and participation in high-value activities relate to scaleup outcomes over time. At this stage, preliminary results are not yet achieved.

The expected findings would clarify which ecosystem configurations are most conducive to scaleup success and which network structures are associated with stronger regional performance.

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