

Agile Leadership Models for Entrepreneurial Ecosystems in the Digital Economy

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Abstract. *This paper examines the role of agile leadership models in shaping the functioning and performance of entrepreneurial ecosystems operating within the digital economy. Current literature on entrepreneurial ecosystems highlights the role of digital infrastructures, institutional coupling and innovation networks but offers little about how leadership practices are at work in increasingly networked, multi-actor environments. In addition, although agile leadership has been a subject of study primarily in intra-organizational settings, patterns of leadership at the ecosystem level remain undertheorized. To address this gap the research utilizes a qualitative-integrative approach consisting in an exploratory content synthesis methodology using web-based peer-reviewed literature and professional case-studies on digital entrepreneurship, ecosystem governance, as well as agile management. The research is informed by the question as to how agile leadership models relate to coordination, innovation and value co-creation in digitally-mediated entrepreneurial ecosystems.*

The study delineates three mutually reinforcing leadership mechanisms by which ecosystems can respond to technological turbulence and institutional complexity: cognitive sense-making, relational coordination, and decentralized governance. The results demonstrate that the agile leadership contributes to ecosystem (i.e. network) resilience and innovation capability if it embraces distributed decision making, collective strategic narratives and learning-based collaboration among diverse or heterogeneous actors.

Our paper enlarges the boundaries of our understanding since we conceptualize agile leadership as a systemic capability, not yet generated in a systematic way in the extant literature on both leadership and entrepreneurial ecosystems. The findings have implications for ecosystem builders, educators and policy makers interested in designing governance and leadership systems that support entrepreneurial performance in the digital economy.

Keywords: Agile leadership, Entrepreneurial ecosystems, Digital economy, Innovation management, Strategic adaptability.

Introduction

The digital economy consolidation creates a different environment for entrepreneurship, not with standing stand-alone firms becoming interdependent constellations of entrepreneurial activities embedded in networks of public and private enterprises, institutions, technologies and governance domains. The entrepreneurial ecosystems are ever more complex adaptive systems, and value generation is the result of coordination across organisational borders, the rapid recombination of

resources as well as continual interpretative acts articulating technological and market signals. It is in this context that leadership is not simply considered a function within organizations but a relational and systemic capacity that impacts the ways that ecosystems develop and sustain competitive dynamics. Hence, this study will contribute to the emerging call for redefining leadership as a systemic practice nested in entrepreneurial ecosystems rather than as a firm-centric management lease. As digital technology makes startups, established firms, academia, investors and public authorities more interdependent, the practice of leadership is emerging as a key influence on relationships through which these actors coordinate and interpret uncertainty and co-create value. This transition poses important theoretical and practical questions about what kinds of leadership can enable the management of agility and coherence in digitally enabled entrepreneurial systems.

Current scholarly disputes revolve around how digitalization exacerbates opportunity and fragility both within entrepreneurial ecosystems. Advances in digital platforms, data-driven decision-making, and artificial intelligence help reduce innovation cycles as well as induce pronounced uncertainty and interdependence between actors of ecosystems (Sussan & Acs, 2017; Akatkin et al., 2017). The traditional forms of hierarchical management seem evermore at odds with these conditions, and ill-suited to support experimentation, distributed agency, and fast feedback. This misfit raises an important question: how may leadership models be reframed to enable strategic adaptability and resilience at the ecosystem level rather than the level of individual organisations.

The overarching research question investigated in this study relates to how agile leadership fosters the functioning of entrepreneurial ecosystems in situations of digital complexity. Although agility has been extensively discussed in project management, software development and firm-level strategy, there are limited conceptualisations of the implications it holds for leadership across networked entrepreneurial systems. The following research question drives the analysis: How do agile leadership models facilitate coordination, innovation and value co-creation in digital entrepreneurial ecosystems? A tentative conclusion is that leadership practices which focus on decentralisation, learning and iterative sense-making may be most adept at synchronizing multiple ecosystem actors and keeping innovation viable in the tumultuous digital context.

The findings of this research may contribute to leadership literature, ecosystem studies and innovation management by locating the agile leadership in the larger structure of a digital entrepreneurial ecosystem. The analysis takes a reflexive position recognizing the dynamic and situation-specific character of leadership in digitally mediated settings.

Based on this perspective, the study is driven by the following research question: How do agile leadership models shape coordination, innovation and resilience in entrepreneurial ecosystems functioning within the digital economy? Consistent with this question, the paper's working hypothesis was that entrepreneurial ecosystems whose leadership practices feature attributes such as decentralization, iterative learning and shared sense-making would enjoy more adaptive capacity and innovation sustainability when faced with digital-related volatility. In order to investigate this proposition, the paper utilises an integrative qualitative method of conceptual synthesis and interpretive analysis applied to extant empirical research.

Literature review

Entrepreneurial ecosystems in the digital economy

The term, the entrepreneurial eco-system has become more popular and enterprising scholars in this area have been trying to understand how it is that entrepreneurship develops as a part of a set of connections among actors rather than as an organisation acting alone. Sussan and Acs (2017) frame the digital entrepreneurial ecosystem as a socio-technical system in which digital infrastructures make possible new kinds of interaction, access to resources and formation of markets. This point of view is also supported by Akatkin et al. (2017), who highlight the architectural functions of digital platforms in organizing economic activity and defining ecosystem borders.

Recent works also state that digital ecosystems are a fluid one, with its roles, modularized architectures and overlapped value propositions (Tsai et al., 2022). Such features augment problems of coordination and increase the desiderata for styles of leadership capable of operating across organizational and institutional boundaries. Chen et al. (2023), who combine the KBV with ecosystem theory, arguing that entrepreneurial growth in particular depends more and more on not just controlling knowledge-based resources but orchestrating them across distributed networks.

Agile leadership and strategic adaptability

There is no standard definition of agile leadership, which has been described as “the ability to steer organisations through uncertainty and change through flexibility, learning and adaptation.” (Enachescu et al., 2025). Hayward (2021) posits agile leadership as a move away from command-and-control logics, focusing on empowerment, trust and iterative decision-making. This view is empirically supported in the context of SMEs, where agile leadership was found to boost strategic flexibility and openness to change in a digital transformation (Fachrunnisa et al., 2020; Adhiatma et al., 2023).

At the same time, there are conceptual tensions in the literature on whether these agile leadership engagements can be scaled across firm boundaries. Omowole et al. (2024) identify agile practices as interplaying with organizational resilience, but also that their focus is mainly intra-organizational. Rožman et al. (2023) broadens the debate by relating agile management ecosystems to talent development and competitiveness, thereby indirectly recognizing the systemic aspect of agility. Yet, how agile leadership works within entrepreneurial ecosystems are understudied.

Leadership, innovation, and ecosystem governance

Digital entrepreneurship research increasingly recognizes leadership as a key factor in ecosystem governance and innovation diffusion. Ghezzi and Cavallo (2020) demonstrate that agile business model innovation relies on leadership practices that legitimize experimentation and tolerate failure. Tan et al. (2009) illustrate how ecosystem-level agility emerges from coordinated strategic moves rather than centralized authority, as evidenced by platform-based firms.

Despite these insights, here is still lack of integration between agile leadership literature and digital ecosystem frameworks. Studies on leadership, agility, and ecosystem hold them as separate constructs rather than inter-related phenomena. This proliferation restricts our understanding of how leadership models can be conceived to deal with systemic complexity, course of actions' heterogeneity, and collective value creation in the digital economy.

Working definitions and research gap

Entrepreneurial ecosystems, as described in the literature reviewed, are dynamic configurations of interconnected actors, resources and institutions that together allow entrepreneurial activity to occur. Here we use agile leadership as a term to refer to the ability to enable coordination, learning and decision-making across firms or other organizational boundaries rather than within an individual firm. Ecosystem governance refers to the formal and informal mechanisms through which collective action, accountability, and strategic alignment are maintained among heterogeneous participants.

Despite growing scholarly interest in digital ecosystems, leadership, and agility, previous research has predominantly viewed these areas as separate analytical paths. There are studies on agile leadership that have a strong emphasis on internal organisational processes, and also ecosystem research that tends to look at structures and institutions without much treatment of leadership continua. This divergence exposes a conceptual void in relation to how leadership models function as integrating mechanisms framing the conjunction of innovation, governance and resilience at ecosystem level. To do so, the current paper fills this gap by offering a systemic understanding of agile leadership in digital entrepreneurial ecosystems.

Methodology

This research project adopts a qualitative integrative design that will refine our theoretical understanding of agile leadership in digital entrepreneurial ecosystems. The methodological orientation supports the synthesis of concepts - interpretive examination, which seems adequate for tackling some exploratory research questions about complex and relational lightning scenarios. Instead of aiming for statistical generalisation (Brady and Collier 2004), this is a study that aims at analytical generalisation since it analyses patterns, mechanisms and processes across based on existing empirical and conceptual research.

The review is based on peer-reviewed journal papers and leading scholarly books published mainly from 2009 to 2025 within the fields of digital entrepreneurship, entrepreneurial ecosystems entrepreneurship ecosystem agile leadership and innovation governance. The sources were compiled according to suitability for systemic dynamics, leadership enter strategy and digital transformation. In the process of integration, theoretical arguments were compared and contrasted with empirical results in an iterative manner to help pinpoint convergent themes that span leadership mechanisms, governance arrangements and adaptive capacities.

The analytical process comprised three stages. Two elements of the method used to capture such conceptualizations from the literature are as follows: Literature was analysed to derive central understandings of agility, leadership and ecosystem coordination. Second, these notions were juxtaposed in a comparative analysis to trace the relational, cognitive and structural elements of agile leadership at work outside organizational borders. Third, we synthesized the insights generated into an interpretive framework that brings together mediation for agile leadership and an ecosystem-level outcome: innovation capacity and resilience.

This methodology entails limitations. Secondary source dependence hinder access to tacit practices of leadership and informal power relations within ecosystems. Furthermore, contextual heterogeneity among the included studies hinders direct comparison. However, the study offers a strong theoretical backing for conceptualizing agile leadership as a systemic capability and lays the groundwork for future empirical work using longitudinal case studies or mixed methods designs.

Results and discussions

It is shown that agile entrepreneurial ecosystem leadership works through cognitive, relational and structural processes. Cognitively, agile leaders foster shared sense-making through flexible strategic narratives that leave room for experimentation and learning. This finding supports Hayward (2021) with his or her emphasis on adaptive leadership mindsets in multifactor settings.

Relationally, agile leadership leads to a trust and an exchange system between the actors of ecosystems. Research on digital SMEs reveals that leadership practice focusing on openness and collaboration promoted network centricity and resource mobilization (Adhiatma et al., 2023; Fachrunnisa et al., 2020). Such dynamics might seem particularly relevant in ecosystems where startups, investors and universities interact on the basis of technological uncertainty.

Agile leadership as an organizational structure enables decentralisation and modular governance. Evidence in digital business ecosystems shows that management control is embedded in enabling platforms and common norms, rather than command-and-control (Tan et al., 2009; Tsai et al., 2022). This calls into question classical models of leadership, and emphasizes the need for dispersed power to maintain ecosystem agility. These interrelationships are integrated in Figure 1 that provides a single-system conceptual reference frame for explaining how agile leadership mechanisms function as systemic intermediaries between digital complexity, ecosystem governance and innovational effects.

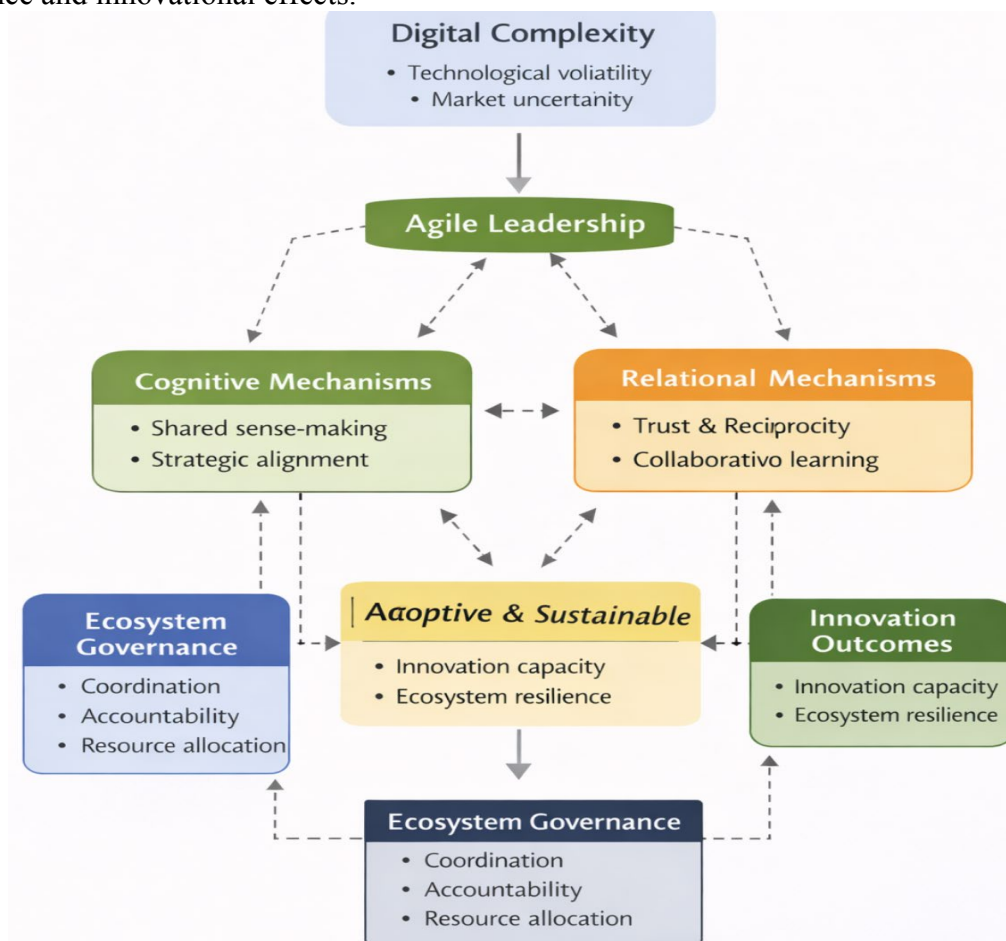


Figure 1: Agile leadership mechanisms within digital entrepreneurial ecosystems

Source: Authors' own conceptual contribution.

Figure 1 conceptualizes agile leadership as a multi-dimensional mechanism through which entrepreneurial ecosystems translate digital disruption into adaptive and innovative outcomes. Cognitive mechanisms facilitate collective sense making and strategic alignment between heterogeneous actors; relational mechanisms create trust, reciprocity, collaborative learning; and structural mechanisms enable decentralized governance and modular coordination. Moreover, they do not exist independently but instead are interdependent, with the result that ecosystems can achieve a balance of malleability and coherence. We thus provide support for the view that agile leadership is a system-wide capability and operates as such in mediating the relationship between digital complexity and sustainable ecosystem performance.

The results also call into question black-and-white connections between the agile and performance. Agile leadership speeds up innovation and enhances adaptation but at the cost of coordination and a loss of clarity on who is responsible for what. Such tensions are symptomatic of larger discussions on ecosystem management and the role this plays in leadership models that trade off flexibility with coherence. This way, the debate contributes to theory development by positioning agile leadership between innovation management and ecosystem orchestration.

Conclusion

This paper has three main contributions to the literature. First, it extends leadership theory by reframing agile leadership as a systemic organisational capability in the entrepreneur ecosystem rather than an intra-organisational practice. Second, it contributes to the research on entrepreneurial ecosystems by highlighting leadership mechanisms that enable coordination, innovation and resilience in situations of digital complexity. Third, it provides an integrative framework connecting agile leadership, ecosystem governance and innovation dynamics as a platform for further empirical research.

This paper adds to the growing body of knowledge on agile leadership models as key drivers of entrepreneurial ecosystem performance in the digital economy. The study makes a theoretical contribution to both leadership and ecosystem literature by framing agility as a systemic capability rather than as an organizational attribute. Agile leadership intersecting with digital ecosystem theory gives us a more nuanced story on the role of leadership in innovation, coordination, and resilience within digital complexity.

Practically, the results have insight for teachers, ecosystem intermediaries and policy makers involved with stimulating sustainable digital entrepreneurship. Cultivating ecosystem thinking, collaborative governance and learning can be seen as important components of leadership development interventions. Policy frameworks that foster entrepreneurial ecosystems may also take leaders' role in converging heterogeneous agents and reducing emergence risk into consideration.

This study does not deny that it has limitations concerning the conceptual method which utilizes secondary data. Further empirical validation may be pursued using longitudinal case studies, network analysis or mixed-method designs that investigate leadership practices in various digital ecosystems. This type of research would contribute to their understanding of the development over time and in various institutional contexts of agility leadership, with implications for theory as well as practice.

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