



Community Embeddedness as the Missing Mechanism of Entrepreneurial Ecosystem Resilience

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Abstract

Entrepreneurial ecosystems are increasingly expected to withstand recurrent disruptions while sustaining entrepreneurial activity and regional development. Although existing research has identified the structural components, institutional arrangements, and governance mechanisms that shape entrepreneurial ecosystems, it provides limited explanation of how localized social relationships are transformed into ecosystem-level resilience. Addressing this theoretical gap, this conceptual article develops a middle-range theoretical framework that positions community embeddedness as the missing generative mechanism linking ecosystem relationships to resilience outcomes. Drawing on the integration of entrepreneurial ecosystem theory, embeddedness theory, social capital theory, ecosystem governance, and resilience literature, the article proposes that community embeddedness converts locally embedded relationships into four interconnected resilience capacities: resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration. Together, these capacities explain how entrepreneurial ecosystems absorb shocks, adapt to changing conditions, and reorganize while maintaining their core entrepreneurial functions. By advancing a process-oriented explanation of entrepreneurial ecosystem resilience, the proposed framework extends embeddedness theory to the ecosystem level, integrates previously fragmented theoretical perspectives, and establishes a foundation for future empirical research aimed at validating and refining the proposed middle-range theory across diverse entrepreneurial contexts

Keywords

community embeddedness; entrepreneurial ecosystem resilience; entrepreneurial ecosystems; social capital; ecosystem governance

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1. Introduction

Entrepreneurial ecosystems (EEs) have become a dominant lens for understanding how place-based interactions among entrepreneurs, support organizations, governments, universities, investors, and communities foster entrepreneurial activity and regional development. Rather than viewing entrepreneurship as the outcome of isolated firms or individuals, the EE perspective emphasizes the interdependence of multiple actors whose interactions generate opportunities, innovation, and economic growth (Acs *et al.*, 2017; E. Stam, 2015a; E. Stam & van de Ven, 2021a). Recent scholarship further argues that entrepreneurial ecosystems should be understood as evolving relational systems in which value creation depends not only on the availability of ecosystem components but also on the quality of relationships connecting them (Spigel, 2017; Wurth *et al.*, 2022a). As entrepreneurial environments increasingly face recurrent disruptions—including pandemics, geopolitical instability, technological discontinuities, and climate-related shocks—the resilience of entrepreneurial ecosystems has emerged as a critical concern for both scholars and policymakers (Audretsch *et al.*, 2024; Buratti & Menter, 2026; Iacobucci & Perugini, 2021).

The growing attention to entrepreneurial ecosystem resilience reflects a broader recognition that sustainable entrepreneurial development depends not merely on the capacity to generate new ventures but also on the ability of ecosystems to absorb shocks, adapt to changing conditions, and reorganize without losing their core functions (Roundy *et al.*, 2017). Empirical evidence demonstrates that some entrepreneurial ecosystems recover rapidly from crises, whereas others experience prolonged stagnation despite possessing comparable institutional resources or policy support (Buratti & Menter, 2026; Sahu & Panda, 2024). Such variation suggests that resilience cannot be fully explained by the presence of ecosystem elements alone. Instead, resilience appears to emerge from dynamic interactions among ecosystem actors, indicating the need to move beyond structural descriptions toward understanding the mechanisms through which entrepreneurial ecosystems sustain adaptive capacity over time (Cantner *et al.*, 2021; Spigel & Harrison, 2018).

Although entrepreneurial ecosystem research has advanced considerably over the past decade, the dominant literature remains primarily concerned with identifying ecosystem components, institutional conditions, lifecycle dynamics, and governance arrangements (Brown & Mason, 2017; Cavallo *et al.*, 2019; E. Stam & van de Ven, 2021). Existing studies have clarified the roles of finance, human capital, culture, policy, markets, universities, and support organizations in shaping entrepreneurial performance (Stam, 2015; Wurth *et al.*, 2022). Likewise, relational perspectives have highlighted that interactions among ecosystem actors are essential for entrepreneurial processes (Spigel, 2017). However, these perspectives largely explain what entrepreneurial ecosystems consist of rather than how localized relationships are transformed into collective adaptive capacities during periods of disruption (Spigel & Harrison, 2018). Consequently, the underlying mechanism that links social relationships to ecosystem resilience remains theoretically underdeveloped.

This limitation becomes particularly apparent when compared with advances in the broader literature on embeddedness and social capital. Embeddedness theory argues that economic action is fundamentally situated within ongoing social relationships rather than occurring independently of social contexts (Granovetter, 1985). Subsequent research has demonstrated that embedded relationships facilitate trust, reciprocity, legitimacy, and collective learning, all of which shape entrepreneurial processes (Jack & Anderson, 2002; McKeever *et al.*, 2014; Uzzi, 1997). Similarly, social capital research explains how relational structures enable knowledge exchange, resource mobilization, and coordinated action among interconnected actors (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998; Reagans & McEvily, 2003). Nevertheless, these theoretical insights have rarely been integrated systematically into explanations of entrepreneurial ecosystem resilience. As a result,

community relationships are often treated as contextual conditions or supporting factors rather than as the generative mechanism through which resilient ecosystems emerge.

The present study argues that community embeddedness represents the missing explanatory mechanism connecting relational structures to entrepreneurial ecosystem resilience. Community embeddedness extends beyond network density or place attachment by emphasizing the extent to which entrepreneurs and supporting organizations are socially connected, mutually committed, and collectively engaged within their local communities (Granovetter, 1985; Korsgaard *et al.*, 2015; McKeever *et al.*, 2014). We contend that these embedded relationships transform localized interactions into ecosystem-level adaptive capacities. Specifically, community embeddedness enables the retention and mobilization of critical resources, strengthens trusted coordination among heterogeneous actors, facilitates distributed sensemaking during uncertainty, and supports collective reconfiguration following environmental disruptions. Through these interconnected processes, entrepreneurial ecosystems become capable of adapting while maintaining their essential functions. This conceptualization is consistent with resilience scholarship emphasizing adaptive capacity, coordinated action, and community-based responses as fundamental sources of resilience (Aldrich & Meyer, 2015; Duchek, 2020; Norris *et al.*, 2008).

Building on these arguments, this article develops a theory-building framework that integrates entrepreneurial ecosystem theory, embeddedness theory, social capital theory, ecosystem governance, and community resilience literature into a unified explanation of entrepreneurial ecosystem resilience. Rather than conceptualizing community embeddedness as a contextual characteristic, we position it as the generative mechanism through which localized social relationships are translated into ecosystem resilience. By doing so, this study makes three primary contributions. First, it addresses a critical explanatory gap in entrepreneurial ecosystem research by identifying the mechanism linking ecosystem relationships to resilience outcomes. Second, it extends embeddedness theory beyond the entrepreneurial process to explain ecosystem-level adaptive capacities. Third, it advances a middle-range theoretical framework that clarifies how community embeddedness generates four interrelated resilience capacities—resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration—thereby enriching the theoretical foundations of entrepreneurial ecosystem resilience and providing a coherent agenda for future empirical investigation.

2. Theoretical Foundations

2.1 Entrepreneurial Ecosystem Resilience

The entrepreneurial ecosystem (EE) perspective has evolved from emphasizing the availability of entrepreneurial resources to recognizing entrepreneurship as an emergent property of interconnected actors embedded within a regional context. Early conceptualizations primarily focused on identifying the institutional and environmental conditions that stimulate entrepreneurial activities (Acs *et al.*, 2017; Stam, 2015). Subsequent studies extended this perspective by arguing that entrepreneurial ecosystems are fundamentally relational systems whose performance depends on interactions among entrepreneurs, investors, universities, governments, intermediaries, and other stakeholders rather than on the isolated contribution of individual components (Spigel, 2017; Stam & van de Ven, 2021). Accordingly, entrepreneurial ecosystems should be understood as dynamic social systems that continuously evolve through collaboration, knowledge exchange, and collective learning (Cantner *et al.*, 2021; Wurth *et al.*, 2022).

Recent disruptions have shifted scholarly attention from ecosystem formation toward ecosystem resilience. Rather than asking why entrepreneurial ecosystems emerge, researchers increasingly seek to explain why some ecosystems adapt successfully to crises

while others experience prolonged decline. Existing studies conceptualize entrepreneurial ecosystem resilience as the capacity of ecosystems to absorb shocks, maintain entrepreneurial activity, reorganize institutional arrangements, and generate renewed entrepreneurial opportunities following disturbances (Iacobucci & Perugini, 2021; Roundy *et al.*, 2017). Empirical evidence from economic crises and the COVID-19 pandemic further suggests that resilient ecosystems are characterized by adaptive networks, diversified entrepreneurial activities, and institutional flexibility (Audretsch *et al.*, 2024; Buratti & Menter, 2026; Sahu & Panda, 2024).

Despite these advances, the resilience literature within entrepreneurial ecosystem research remains dominated by structural explanations. Most studies emphasize ecosystem elements, institutional configurations, lifecycle stages, or network structures as determinants of resilience (Brown & Mason, 2017; Buratti *et al.*, 2023; Cavallo *et al.*, 2019). Although these perspectives successfully identify the structural conditions associated with resilient ecosystems, they provide limited explanations of the social processes through which ecosystem actors collectively mobilize resources, coordinate responses, and adapt under conditions of uncertainty (Spigel & Harrison, 2018). Consequently, entrepreneurial ecosystem resilience remains insufficiently theorized as an emergent capability generated through ongoing community interactions rather than merely as an outcome of favorable ecosystem structures.

2.2 Community Embeddedness: Beyond Social Context

The concept of embeddedness originated from (Granovetter, 1985) critique of economic theories that portrayed economic actors as socially atomized. Granovetter argued that economic actions are inherently embedded within networks of social relationships that shape access to information, trust, norms, and opportunities. Subsequent research expanded this perspective by demonstrating that embedded relationships reduce uncertainty, facilitate cooperation, and strengthen long-term collaboration among economic actors (Portes & Sensenbrenner, 1993; Uzzi, 1997). Within entrepreneurship research, embeddedness has become an essential lens for understanding how entrepreneurial behavior is influenced by social, institutional, and spatial contexts rather than by purely individual characteristics (Welter, 2011; Zahra, 2007).

Entrepreneurship scholars further distinguish embeddedness from simple network participation by emphasizing the mutual obligations, legitimacy, and shared identities that emerge through sustained community interactions. Jack & Anderson (2002) demonstrated that embedded entrepreneurs are better positioned to identify opportunities and mobilize local resources because they operate within trusted social relationships. McKeever *et al.* (2014) argued that entrepreneurial processes are shaped by reciprocal community practices that generate collective value beyond individual firm performance. Research on rural and place-based entrepreneurship similarly shows that local embeddedness strengthens entrepreneurs' capacity to combine local knowledge with external opportunities while reinforcing community legitimacy and long-term collaboration (Kalantaridis & Bika, 2006; Korsgaard *et al.*, 2015; Muñoz & Kimmitt, 2019).

Although embeddedness has been extensively examined at the individual or firm level, its ecosystem-level implications remain underdeveloped. Existing entrepreneurial ecosystem studies frequently acknowledge the importance of local culture, social relations, and community engagement but rarely conceptualize community embeddedness as the mechanism through which these contextual conditions generate ecosystem resilience (Spigel, 2017; Thompson *et al.*, 2018). Consequently, community embeddedness has largely remained an implicit background condition rather than an explicit theoretical construct capable of explaining how localized relationships become collective adaptive capacities during periods of disruption.

2.3 Social Capital as the Relational Infrastructure of Resilience

Social capital theory provides an important theoretical bridge between embedded social relationships and collective adaptive outcomes. Coleman (1988) conceptualized social capital as productive social structures that facilitate coordinated actions, while Nahapiet & Ghoshal (1998) distinguished structural, relational, and cognitive dimensions of social capital that collectively support knowledge creation and resource exchange. Adler & Kwon (2002) further argued that social capital enhances organizational performance by reducing coordination costs and strengthening trust among actors. These perspectives suggest that social relationships generate value not simply because actors are connected, but because relationships create relational resources that enable collective action.

Entrepreneurship and network research reinforces this argument by demonstrating that trust, cohesion, and knowledge exchange significantly influence entrepreneurial outcomes. Strong ties facilitate cooperation and knowledge transfer (Reagans & McEvily, 2003; Tortoriello *et al.*, 2012), whereas diverse network connections provide access to complementary resources and novel information (Ahuja, 2000; Burt, 2004). Studies also indicate that entrepreneurs benefit from combining cohesive local relationships with broader bridging networks that expand access to external opportunities (Hoang & Antoncic, 2003; W. Stam *et al.*, 2014). However, the literature has primarily examined these mechanisms at the organizational or interfirm level, leaving unanswered how social capital becomes aggregated into ecosystem-wide adaptive capabilities.

This study argues that community embeddedness provides the missing link connecting embedded social capital to entrepreneurial ecosystem resilience. Rather than treating trust, cohesion, and reciprocity as independent determinants of resilience, community embeddedness integrates these relational resources into a collective mechanism through which entrepreneurial ecosystems retain critical resources, coordinate adaptive responses, interpret emerging challenges, and reorganize collective activities during environmental disruptions.

2.4 Ecosystem Governance and Collective Coordination

The ecosystem governance literature complements embeddedness and social capital perspectives by explaining how heterogeneous actors coordinate collective action despite organizational autonomy. Ecosystems differ from conventional hierarchical organizations because coordination relies on voluntary collaboration, distributed leadership, and shared strategic interests rather than formal authority (Adner, 2017; Jacobides *et al.*, 2018). Consequently, governance effectiveness depends on the capacity of ecosystem actors to align expectations, exchange information, and sustain collaborative relationships under uncertain conditions (Shipilov & Gawer, 2020).

Research on network governance similarly emphasizes that effective coordination requires appropriate governance structures capable of balancing flexibility, legitimacy, and collective decision-making (Provan & Kenis, 2008). Innovation network studies further demonstrate that orchestrators facilitate collaboration not through direct control but by enabling knowledge integration, trust building, and coordinated resource mobilization across diverse actors (Dhanaraj & Parkhe, 2006). These governance mechanisms become particularly important during crises, when ecosystems must rapidly coordinate decentralized actors despite incomplete information and heightened uncertainty (Dattée *et al.*, 2018; Hannah & Eisenhardt, 2018).

Nevertheless, governance theories primarily explain *how* coordination is organized rather than *why* actors remain willing to cooperate under adverse conditions. Governance structures may facilitate collaboration, yet their effectiveness ultimately depends on pre-existing social relationships that sustain trust, reciprocity, and mutual commitment. This observation suggests that governance alone cannot fully explain entrepreneurial ecosystem

resilience without considering the underlying relational mechanisms embedded within local communities.

2.5 Toward an Integrated Explanation

Collectively, the four theoretical streams reviewed above converge on a common insight: entrepreneurial ecosystem resilience is fundamentally relational. Entrepreneurial ecosystem theory explains the structural configuration of ecosystems; embeddedness theory clarifies the contextual nature of entrepreneurial action; social capital theory identifies the relational resources that enable collective action; and ecosystem governance explains how autonomous actors coordinate collaborative responses. However, each perspective addresses only part of the explanatory puzzle. None explicitly theorizes the mechanism through which localized social relationships are transformed into ecosystem-level resilience capacities.

Building on this theoretical gap, this article proposes community embeddedness as the generative mechanism linking ecosystem relationships with entrepreneurial ecosystem resilience. Specifically, community embeddedness is argued to convert locally embedded relationships into four interrelated resilience capacities: resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration, that collectively enable entrepreneurial ecosystems to adapt and reorganize under conditions of disruption. By integrating these previously disconnected theoretical traditions, the proposed framework advances a middle-range explanation of entrepreneurial ecosystem resilience that moves beyond structural descriptions toward a process-oriented understanding of how resilience is generated through community-based interactions.

The preceding discussion demonstrates that existing theoretical perspectives explain complementary aspects of entrepreneurial ecosystem resilience but remain fragmented. Their integration establishes the conceptual foundation for positioning community embeddedness as the central explanatory mechanism.

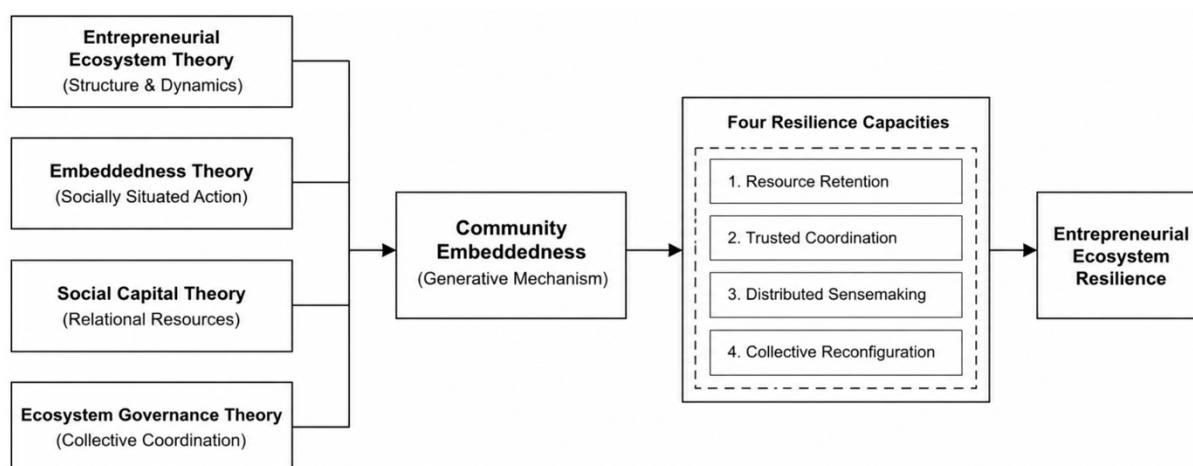


Figure 1. Integrating Theoretical Foundations for Entrepreneurial Ecosystem Resilience
Source: Developed by the authors.

Figure 1 synthesizes four complementary theoretical traditions into a unified conceptual foundation for the proposed middle-range theory. Rather than treating entrepreneurial ecosystem theory, embeddedness theory, social capital theory, and ecosystem governance as separate perspectives, the figure positions community embeddedness as the generative mechanism that transforms their complementary insights into resilience capacities, thereby establishing the theoretical basis for the conceptual model developed in the subsequent section.

3. Theory Development: Community Embeddedness as the Missing Mechanism of Entrepreneurial Ecosystem Resilience

3.1 Defining Community Embeddedness

The preceding discussion demonstrates that entrepreneurial ecosystem research has made substantial progress in identifying ecosystem components, relational structures, and governance arrangements. Nevertheless, the literature still lacks a theoretical explanation of how localized social relationships are transformed into ecosystem-level adaptive capacities during periods of disruption. This article addresses this gap by conceptualizing community embeddedness as the generative mechanism linking entrepreneurial ecosystem relationships to resilience outcomes. Rather than treating community embeddedness as a contextual attribute or a descriptive characteristic of entrepreneurial environments, it is positioned here as a dynamic relational mechanism that enables ecosystem actors to mobilize collective capacities in response to uncertainty.

Community embeddedness builds upon the foundational notion that economic action is socially situated (Granovetter, 1985), yet extends beyond the existence of interpersonal ties or geographic proximity. Embeddedness reflects the extent to which entrepreneurs and ecosystem stakeholders are integrated into local communities through enduring relationships characterized by trust, reciprocity, mutual commitment, shared norms, and repeated interactions (Jack & Anderson, 2002; McKeever *et al.*, 2014; Uzzi, 1997). Unlike simple network connectedness, community embeddedness emphasizes the quality and durability of relationships that facilitate coordinated collective action. Likewise, it differs from place attachment because its explanatory focus lies not in emotional attachment to a location but in the relational capacity generated through sustained community engagement (Korsgaard *et al.*, 2015; Welter, 2011).

This conceptualization also distinguishes community embeddedness from social capital. Social capital represents the relational resources available through networks, including trust, norms, and access to information (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998). Community embeddedness, by contrast, explains how these relational resources become collectively enacted within entrepreneurial ecosystems. In other words, social capital provides the potential for coordinated action, whereas community embeddedness activates that potential by embedding entrepreneurial actors within stable community relationships that facilitate repeated cooperation under conditions of uncertainty. Accordingly, community embeddedness should be understood as an ecosystem-level mechanism rather than merely an individual-level characteristic.

The proposed theory relies on several interrelated constructs that operate at different levels of analysis. Their conceptual clarification establishes a common foundation for the mechanism developed in the following sections.

Table 1. Definitions of Core Constructs

Construct	Conceptual Definition	Role in Proposed Theory	Key References
Community Embeddedness	The extent to which entrepreneurs and ecosystem stakeholders are socially integrated through enduring relationships characterized by trust, reciprocity, shared norms, and mutual commitment.	Central generative mechanism transforming localized relationships into ecosystem resilience.	Granovetter (1985); Jack & Anderson (2002); McKeever <i>et al.</i> (2014)
Resource Retention	The collective capacity to preserve and mobilize critical entrepreneurial resources, including knowledge, talent, finance, and institutional support, during periods of disruption.	First resilience capacity that maintains the ecosystem's resource base under uncertainty.	Nahapiet & Ghoshal (1998); Roundy <i>et al.</i> (2017)

Construct	Conceptual Definition	Role in Proposed Theory	Key References
Trusted Coordination	Voluntary coordination among heterogeneous ecosystem actors enabled by trust, relational legitimacy, and reciprocal expectations.	Second resilience capacity facilitating collective action without hierarchical control.	Provan & Kenis (2008); Adner (2017)
Distributed Sensemaking	The collective interpretation of environmental uncertainty through continuous knowledge exchange and shared understanding among ecosystem participants.	Third resilience capacity supporting adaptive decision-making during disruption.	Reagans & McEvily (2003); Phelps <i>et al.</i> (2012)
Collective Reconfiguration	The collaborative reorganization of ecosystem resources, relationships, and institutional arrangements in response to changing environmental conditions.	Fourth resilience capacity enabling ecosystem adaptation and renewal.	Folke (2006); Duchek (2020)
Entrepreneurial Ecosystem Resilience	The capability of an entrepreneurial ecosystem to absorb shocks, adapt to changing conditions, reorganize collective activities, and sustain entrepreneurial functions over time.	Ultimate theoretical outcome of the proposed middle-range theory.	Roundy <i>et al.</i> (2017); Buratti & Menter (2025)

Source: Developed by the authors based on the conceptual synthesis presented in this study.

Table 1 summarizes the conceptual architecture of the proposed middle-range theory by defining each construct, clarifying its theoretical function, and identifying its principal intellectual foundations. Distinguishing the central generative mechanism, the four resilience capacities, and the final outcome provides conceptual consistency and facilitates subsequent explanation of the causal relationships and theoretical propositions developed throughout the remainder of the article.

3.2 Community Embeddedness as a Generative Mechanism

The central argument of this article is that community embeddedness generates entrepreneurial ecosystem resilience by transforming localized relationships into four interdependent resilience capacities: resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration. These capacities do not operate independently; instead, they reinforce one another to produce ecosystem-level resilience. This four-capacity architecture is consistent with the conceptual direction outlined in the curated reference foundation, which proposes that community embeddedness should be theorized as the mechanism converting local relationships into collective resilience capacities rather than merely as a social condition.

The first capacity is resource retention. During environmental disruptions, entrepreneurial ecosystems often experience the loss of financial capital, skilled labor, entrepreneurial talent, and institutional support. Existing entrepreneurial ecosystem research generally assumes that resources are externally replenished through policy interventions or market recovery (Roundy *et al.*, 2017; E. Stam & van de Ven, 2021). However, embedded communities possess stronger relational obligations that encourage actors to retain resources within the local ecosystem. Trust-based relationships increase the willingness of investors, entrepreneurs, universities, and support organizations to continue exchanging knowledge, sharing opportunities, and maintaining collaborative commitments despite short-term uncertainty (Granovetter, 1985; Nahapiet & Ghoshal, 1998). Consequently, community embeddedness reduces ecosystem resource leakage while preserving the critical assets required for subsequent recovery.

The second capacity is trusted coordination. Entrepreneurial ecosystems are decentralized systems in which no single actor possesses formal authority over collective responses.

Consequently, adaptive action depends upon voluntary coordination among heterogeneous participants (Adner, 2017; Provan & Kenis, 2008). Community embeddedness strengthens this coordination by fostering interpersonal trust, relational legitimacy, and reciprocal expectations accumulated through repeated community interactions. Trust reduces coordination costs, accelerates collective decision-making, and enables ecosystem actors to cooperate despite incomplete information or conflicting interests (McEvily *et al.*, 2003; Reagans & McEvily, 2003). Rather than relying solely on formal governance mechanisms, entrepreneurial ecosystems characterized by strong community embeddedness can coordinate adaptive responses through socially embedded relationships that sustain collective commitment during crises.

The third capacity is distributed sensemaking. Crisis situations are characterized by ambiguity, rapidly changing information, and uncertainty regarding appropriate responses. Under such conditions, resilience depends not only on access to information but also on the collective interpretation of emerging events. Community embeddedness facilitates distributed sensemaking because embedded actors continuously exchange local knowledge, interpret environmental signals, and validate emerging responses through trusted social interactions. Knowledge therefore becomes socially distributed rather than concentrated within individual organizations. This process complements research on knowledge networks, which demonstrates that cohesive relationships enhance information sharing and collective learning (Phelps *et al.*, 2012; Reagans & McEvily, 2003; Tortoriello *et al.*, 2012). Within entrepreneurial ecosystems, distributed sensemaking enables communities to recognize emerging threats earlier and collectively identify adaptive opportunities before formal institutional responses become available.

The fourth capacity is collective reconfiguration. Resilience extends beyond recovery because entrepreneurial ecosystems frequently need to reorganize resources, redefine collaborative arrangements, and establish new entrepreneurial opportunities following disruption (Duchek, 2020; Folke, 2006). Community embeddedness supports this transformation by preserving trust-based relationships that facilitate experimentation, collaboration, and resource recombination across organizational boundaries. Because ecosystem actors remain socially connected despite environmental change, they can collectively redesign entrepreneurial support systems, establish new partnerships, and adapt governance arrangements without reconstructing relational foundations from the beginning. In this sense, community embeddedness provides the social continuity necessary for ecosystem transformation while allowing institutional configurations to evolve over time.

Collectively, these capacities explain why structurally similar entrepreneurial ecosystems may exhibit different levels of resilience. Finance, infrastructure, and institutional support remain important but depend on activation through embedded community relationships. Entrepreneurial ecosystem resilience therefore emerges from community embeddedness rather than merely from the aggregation of ecosystem resources.

3.3 Boundary Conditions

Although community embeddedness is proposed as the central mechanism generating entrepreneurial ecosystem resilience, its effectiveness is unlikely to be universal. Instead, its explanatory power depends upon several boundary conditions that influence the extent to which embedded relationships can be translated into collective adaptive capacities.

First, ecosystem governance quality moderates the effectiveness of community embeddedness. Embedded communities may possess high levels of trust and reciprocity, yet fragmented governance structures can inhibit collective mobilization. Governance arrangements characterized by effective orchestration, collaborative decision-making, and institutional legitimacy strengthen the conversion of embedded relationships into coordinated ecosystem responses (Adner, 2017; Dhanaraj & Parkhe, 2006; Provan & Kenis, 2008).

Second, ecosystem maturity conditions the operation of community embeddedness. Mature ecosystems generally possess established collaborative routines, institutional memory, and accumulated trust that facilitate collective adaptation, whereas emerging ecosystems may require longer periods before embedded relationships generate comparable resilience capacities (Cantner *et al.*, 2021; Mack & Mayer, 2016).

Third, institutional support influences the extent to which community embeddedness produces resilient outcomes. Embedded communities remain socially capable of cooperation, but inadequate policy support, weak entrepreneurial institutions, or unstable regulatory environments may constrain the mobilization of community resources into ecosystem-wide adaptation (Audretsch & Belitski, 2017; E. Stam & van de Ven, 2021).

Finally, digital connectedness may extend the reach of community embeddedness by enabling entrepreneurs to sustain collaborative relationships beyond physical proximity while preserving community cohesion. Digitally enabled ecosystems therefore complement, rather than replace, locally embedded relationships in supporting resilient entrepreneurial activity (Audretsch *et al.*, 2024; Sussan & Acs, 2017).

3.4 Proposition Development

Based on the foregoing arguments, this article advances the following theoretical propositions.

Proposition 1.

Community embeddedness positively enhances entrepreneurial ecosystem resilience by strengthening the ecosystem's capacity for resource retention during periods of disruption (Granovetter, 1985; Nahapiet & Ghoshal, 1998; Roundy et al., 2017).

Proposition 2.

Community embeddedness positively enhances entrepreneurial ecosystem resilience by facilitating trusted coordination among heterogeneous ecosystem actors under conditions of uncertainty (Adner, 2017; McEvily et al., 2003; Provan & Kenis, 2008).

Proposition 3.

Community embeddedness positively enhances entrepreneurial ecosystem resilience by enabling distributed sensemaking through continuous knowledge exchange and collective interpretation of environmental change (Phelps et al., 2012; Reagans & McEvily, 2003; Tortoriello et al., 2012).

Proposition 4.

Community embeddedness positively enhances entrepreneurial ecosystem resilience by supporting collective reconfiguration, enabling ecosystem actors to reorganize resources, partnerships, and institutional arrangements following disruption (Duchek, 2020; Folke, 2006; Williams et al., 2017).

Proposition 5.

The positive relationship between community embeddedness and entrepreneurial ecosystem resilience is strengthened when ecosystem governance is collaborative, institutional support is robust, ecosystem maturity is higher, and digital connectedness facilitates sustained interaction among ecosystem actors (Adner, 2017; Audretsch et al., 2024; Provan & Kenis, 2008).

The proposed theory integrates the preceding conceptual arguments into a unified explanatory model that specifies the causal mechanism, intermediary resilience capacities, contextual boundary conditions, and expected ecosystem outcome.

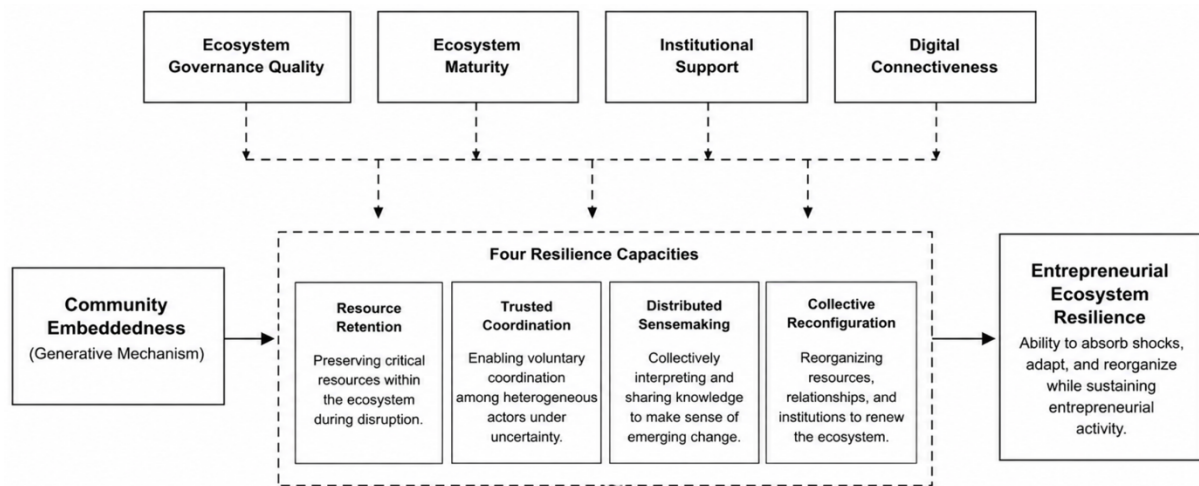


Figure 2. Proposed Middle-Range Theory of Entrepreneurial Ecosystem Resilience
Source: Developed by the authors.

Figure 2 presents the proposed middle-range theory by illustrating how community embeddedness functions as the central generative mechanism that activates four complementary resilience capacities, ultimately enhancing entrepreneurial ecosystem resilience. The model also specifies ecosystem governance quality, ecosystem maturity, institutional support, and digital connectedness as boundary conditions that strengthen the effectiveness of the proposed mechanism under different contextual settings.

The conceptual model gives rise to a set of theoretical propositions that specify the expected causal relationships, underlying mechanisms, and anticipated resilience outcomes within entrepreneurial ecosystems.

Table 2. Summary of Theoretical Propositions

	Proposition & Theoretical Logic	Underlying Mechanism	Expected Outcome
P1	Community embeddedness enhances entrepreneurial ecosystem resilience by preserving critical entrepreneurial resources during disruption.	Resource Retention	Greater ecosystem resilience through sustained availability of financial, human, knowledge, and institutional resources.
P2	Community embeddedness enhances entrepreneurial ecosystem resilience by facilitating voluntary coordination among heterogeneous ecosystem actors.	Trusted Coordination	Faster and more effective collective adaptation under conditions of uncertainty.
P3	Community embeddedness enhances entrepreneurial ecosystem resilience by enabling continuous knowledge exchange and collective interpretation of environmental change.	Distributed Sensemaking	Improved adaptive decision-making and earlier recognition of emerging opportunities and threats.
P4	Community embeddedness enhances entrepreneurial ecosystem resilience by supporting collaborative reorganization of ecosystem resources, partnerships, and institutional arrangements.	Collective Reconfiguration	Sustainable ecosystem renewal and long-term adaptive capacity following disruption.
P5	The positive influence of community embeddedness on ecosystem resilience becomes stronger under favorable contextual conditions.	Boundary Conditions (ecosystem governance quality, ecosystem maturity, institutional support, and digital connectedness)	Stronger effectiveness of the proposed mechanism across entrepreneurial ecosystems.

Source: Developed by the authors based on the proposed middle-range theory.

Table 2 consolidates the article's theoretical propositions by linking each expected relationship with its underlying resilience mechanism and anticipated outcome. Rather than presenting isolated hypotheses, the table demonstrates how the four resilience capacities collectively translate community embeddedness into entrepreneurial ecosystem resilience, while emphasizing that this generative process is contingent upon favorable contextual boundary conditions.

4. Discussion

4.1 Theoretical Implications

This article contributes to entrepreneurial ecosystem research by shifting the theoretical focus from structural configurations toward generative mechanisms. Existing entrepreneurial ecosystem literature has substantially advanced understanding of ecosystem components, institutional conditions, lifecycle evolution, and network structures (Brown & Mason, 2017; E. Stam & van de Ven, 2021b; Wurth *et al.*, 2022b). Nevertheless, much of this research implicitly assumes that the presence of favorable ecosystem elements naturally results in ecosystem resilience. The proposed framework challenges this assumption by arguing that ecosystem elements alone are insufficient to explain resilience. Instead, resilience emerges through the activation of community-based relational processes that enable ecosystem actors to mobilize resources, coordinate collective responses, interpret uncertainty, and reorganize collaborative arrangements. In doing so, the article responds directly to recent calls for more process-oriented and mechanism-based entrepreneurial ecosystem theories (Fernandes & Ferreira, 2022; Spigel & Harrison, 2018).

The second theoretical contribution lies in extending embeddedness theory from the level of entrepreneurial actors to the level of entrepreneurial ecosystems. Previous embeddedness research has primarily examined how entrepreneurs benefit from socially embedded relationships through improved opportunity recognition, legitimacy, and resource mobilization (Granovetter, 1985; Jack & Anderson, 2002; McKeever *et al.*, 2014). While these studies have demonstrated the importance of embedded social relations for entrepreneurial action, they have rarely explained how embeddedness generates adaptive capabilities at the ecosystem level. By conceptualizing community embeddedness as an ecosystem-level mechanism, this article broadens the explanatory scope of embeddedness theory beyond individual entrepreneurial outcomes toward collective resilience. This extension also complements contextual entrepreneurship research by demonstrating that communities constitute not merely the setting in which entrepreneurship occurs but an active mechanism shaping ecosystem adaptability (Welter, 2011; Zahra, 2007).

A third contribution concerns the integration of social capital theory with ecosystem resilience research. Existing studies consistently demonstrate that trust, reciprocity, and knowledge exchange enhance entrepreneurial performance (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998; W. Stam *et al.*, 2014). However, these relational resources are often examined independently or at the organizational level. The present framework argues that social capital alone does not automatically generate resilience. Instead, social capital becomes consequential when enacted through community embeddedness, which transforms relational resources into four interconnected resilience capacities: resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration. Consequently, the proposed framework clarifies how social capital is translated into ecosystem-wide adaptive capabilities rather than remaining a latent relational resource.

Finally, this study contributes to resilience theory by offering a relational explanation of entrepreneurial ecosystem resilience. Previous resilience research has emphasized adaptive capacity, flexibility, organizational learning, and institutional adaptation as essential characteristics of resilient systems (Duchek, 2020; Linnenluecke, 2017; Martin & Sunley,

2015). While these perspectives identify important resilience outcomes, they pay comparatively less attention to the relational mechanisms through which adaptive capacities are generated. The proposed framework complements existing resilience literature by arguing that resilience is fundamentally produced through socially embedded interactions among ecosystem actors. Entrepreneurial ecosystem resilience should be viewed not only as an organizational or institutional capability but also as a community-generated phenomenon emerging from sustained patterns of social interaction.

The discussion suggests that ecosystem resilience emerges through an ongoing relational process rather than a static structural condition. The following process model summarizes the proposed generative logic underlying the theory.

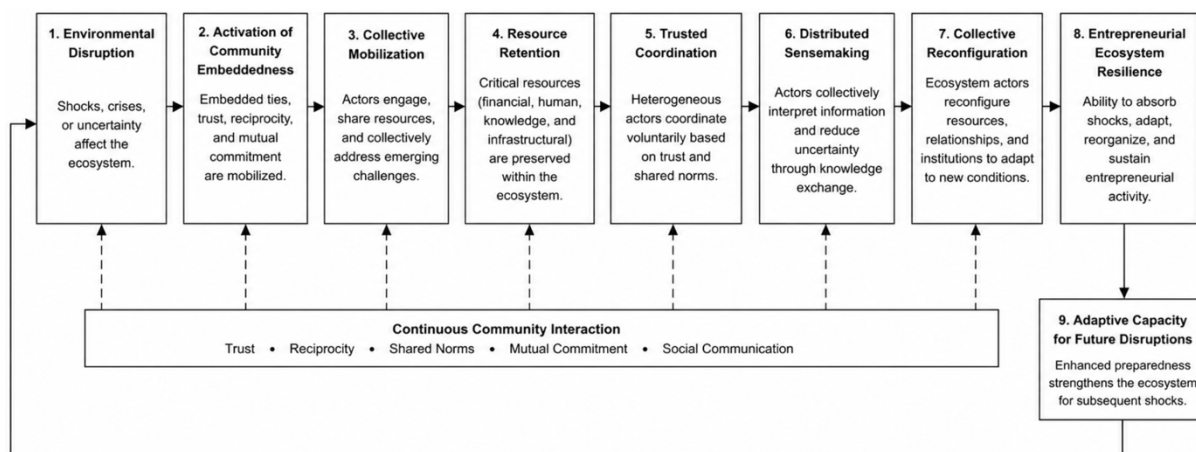


Figure 3. Generative Process of Community Embeddedness

Source: Developed by the authors.

Figure 3 illustrates the dynamic process through which community embeddedness generates entrepreneurial ecosystem resilience. Rather than depicting a static relationship among constructs, the model emphasizes a sequential transformation in which environmental disruption activates embedded community relationships, enabling collective mobilization and successive resilience capacities that culminate in ecosystem adaptation and reinforce preparedness for future disruptions through continuous relational interaction.

4.2 Managerial Implications

The proposed framework also offers important implications for practitioners responsible for developing entrepreneurial ecosystems. Governments, regional development agencies, universities, incubators, accelerators, and entrepreneurial support organizations frequently concentrate on expanding ecosystem resources through infrastructure investment, financial incentives, entrepreneurship education, or policy reforms (Audretsch & Belitski, 2017; E. Stam, 2015b). Although these interventions remain important, the present framework suggests that structural investments alone are unlikely to produce resilient entrepreneurial ecosystems if community relationships remain fragmented.

Accordingly, ecosystem builders should prioritize community embeddedness by facilitating repeated interactions, cross-sector collaboration, peer learning, local entrepreneurial communities, and trust-based partnerships among public, private, academic, and community actors. These initiatives preserve relational continuity during crises, supporting resource retention, coordinated adaptation, knowledge exchange, and collective redesign of support systems. Policymakers should therefore treat networking as a strategic investment in ecosystem resilience rather than a supplementary activity.

The framework further suggests that governance arrangements should prioritize relational orchestration over centralized control. Because entrepreneurial ecosystems consist of autonomous organizations with diverse objectives, resilience depends less on hierarchical

authority than on collaborative governance capable of sustaining trust, legitimacy, and collective decision-making (Adner, 2017; Dhanaraj & Parkhe, 2006; Provan & Kenis, 2008). Managers of entrepreneurial support organizations therefore play a critical role as ecosystem orchestrators by facilitating dialogue, reducing coordination barriers, and maintaining collaborative relationships before, during, and after periods of disruption.

4.3 Future Research Directions

The proposed theory opens several promising avenues for future empirical investigation. First, future studies should operationalize community embeddedness as a distinct ecosystem-level construct rather than relying on existing measures of social capital or network density. Developing reliable multidimensional measures would allow researchers to examine whether community embeddedness explains ecosystem resilience beyond established ecosystem variables (Liguori *et al.*, 2019; E. Stam & van de Ven, 2021)

Second, empirical research should examine the four proposed resilience capacities—resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration—as sequential or mutually reinforcing mechanisms. Longitudinal research designs would be particularly valuable because resilience develops over time through repeated interactions rather than isolated events. Comparative studies across different regional contexts, stages of ecosystem maturity, and institutional environments could further identify the conditions under which community embeddedness exerts stronger or weaker effects (Buratti & Menter, 2026; Cantner *et al.*, 2021).

Third, future research should examine the proposed boundary conditions. Beyond ecosystem governance quality, institutional support, ecosystem maturity, and digital connectedness, factors such as cultural diversity, regional inequality, and disruption type may condition how community embeddedness generates resilience. Testing these contingencies would refine the theory’s scope conditions and strengthen its applicability across diverse entrepreneurial ecosystems.

The proposed theory generates several opportunities for empirical refinement and theoretical extension. The following research agenda summarizes the most promising directions for advancing knowledge on entrepreneurial ecosystem resilience.

Table 3. Future Research Agenda for Advancing the Proposed Middle-Range Theory

Research Priority	Key Research Question	Suggested Research Design	Expected Theoretical Contribution
Construct Development	How can community embeddedness be operationalized as a distinct ecosystem-level construct?	Scale development, construct validation, and confirmatory factor analysis	Establish reliable measurement and strengthen construct validity.
Mechanism Validation	Do the four resilience capacities mediate the relationship between community embeddedness and entrepreneurial ecosystem resilience?	Structural equation modeling (SEM), multilevel analysis, and mediation testing	Validate the proposed generative mechanism and middle-range theory.
Temporal Dynamics	How does community embeddedness evolve before, during, and after ecosystem disruptions?	Longitudinal case studies, panel data, and process research	Explain the dynamic evolution of ecosystem resilience over time.
Boundary Conditions	Under which contextual conditions does community embeddedness exert stronger or weaker effects?	Comparative regional studies, cross-country analysis, and multilevel modeling	Refine the scope conditions and contextual applicability of the proposed theory.

Research Priority	Key Research Question	Suggested Research Design	Expected Theoretical Contribution
Theory Extension	Does the proposed mechanism operate similarly across rural, digital, emerging, and mature entrepreneurial ecosystems?	Comparative qualitative research, mixed methods, and multiple-case studies	Extend the generalizability and explanatory scope of the proposed middle-range theory.

Source: Developed by the author.

Table 3 consolidates the principal avenues for advancing the proposed middle-range theory through future empirical investigation. The agenda progresses from construct development and mechanism validation to temporal analysis, contextual refinement, and theory extension. Together, these research priorities provide a systematic roadmap for evaluating, refining, and expanding the explanatory power of community embeddedness in entrepreneurial ecosystem resilience across diverse empirical settings.

5. Conclusion

Entrepreneurial ecosystem resilience has become an increasingly important research agenda as entrepreneurial communities confront recurrent economic, technological, environmental, and societal disruptions. Despite the rapid growth of entrepreneurial ecosystem scholarship, existing research has predominantly emphasized ecosystem structures, institutional configurations, governance arrangements, and network characteristics while providing only limited explanation of the mechanisms through which localized social relationships generate collective resilience. This conceptual limitation leaves an important theoretical question unresolved: how are embedded community relationships transformed into ecosystem-level adaptive capacity? Addressing this knowledge gap, the present study set out to develop a middle-range theoretical explanation by positioning community embeddedness as the missing generative mechanism linking entrepreneurial ecosystem relationships to resilience outcomes.

The proposed framework advances the literature by integrating entrepreneurial ecosystem theory, embeddedness theory, social capital theory, ecosystem governance, and resilience research into a coherent explanatory model. Rather than conceptualizing community embeddedness as merely a contextual characteristic or a manifestation of social cohesion, the framework redefines it as an ecosystem-level relational mechanism that converts localized interactions into four mutually reinforcing resilience capacities: resource retention, trusted coordination, distributed sensemaking, and collective reconfiguration. This conceptualization represents the principal novelty of the study because it shifts the analytical focus from identifying the structural components of entrepreneurial ecosystems toward explaining the generative processes through which resilience emerges. In doing so, the study responds to longstanding calls for mechanism-based and process-oriented theorizing within entrepreneurial ecosystem research while extending embeddedness theory beyond the level of individual entrepreneurs and organizations to the ecosystem as a whole.

The study makes several important theoretical contributions. First, it introduces community embeddedness as a distinct ecosystem-level construct that complements, rather than duplicates, existing concepts such as social capital, network embeddedness, and governance. Second, it explains how relational resources become translated into collective adaptive capabilities through an integrated causal mechanism, thereby providing a more complete explanation of entrepreneurial ecosystem resilience than existing structural perspectives. Third, by developing explicit theoretical propositions and identifying ecosystem governance quality, ecosystem maturity, institutional support, and digital connectedness as boundary conditions, the proposed framework establishes a robust foundation for future

empirical theory testing and refinement. Collectively, these contributions strengthen the explanatory power of entrepreneurial ecosystem research and advance a coherent middle-range theory capable of bridging fragmented streams of scholarship.

Beyond its theoretical value, the framework offers meaningful implications for practitioners and policymakers responsible for fostering resilient entrepreneurial ecosystems. The findings suggest that investments in infrastructure, finance, and entrepreneurial support mechanisms should be complemented by deliberate efforts to cultivate enduring community relationships characterized by trust, reciprocity, shared norms, and collaborative engagement. Ecosystem resilience depends not only on the availability of strategic resources but also on the quality of social relationships that enable actors to mobilize those resources collectively during periods of uncertainty. Consequently, ecosystem governance should prioritize relational orchestration, cross-sector collaboration, and community capacity building as integral components of long-term resilience strategies rather than treating them as secondary or complementary initiatives.

Several limitations should be acknowledged. As a conceptual theory-building study, the proposed framework has not yet been empirically validated, and the relationships among community embeddedness, the four resilience capacities, and entrepreneurial ecosystem resilience remain theoretical propositions. Furthermore, the proposed boundary conditions require empirical examination across different institutional, geographical, and developmental contexts to determine the conditions under which the proposed mechanism is strengthened or constrained. These limitations, however, should be viewed as opportunities for cumulative theory development rather than weaknesses of the present study. Future research should operationalize community embeddedness as a distinct ecosystem-level construct, validate the proposed causal mechanisms using longitudinal and multilevel research designs, investigate the temporal evolution of resilience capacities, and examine the applicability of the framework across digital, rural, emerging, and mature entrepreneurial ecosystems.

In conclusion, this study argues that entrepreneurial ecosystem resilience is fundamentally a community-generated phenomenon. Resilience does not emerge automatically from favorable institutional arrangements, abundant entrepreneurial resources, or well-developed network structures. Instead, it arises through socially embedded relationships that enable entrepreneurial communities to preserve critical resources, coordinate collective responses, interpret uncertainty, and continuously reconfigure collaborative capacities in the face of disruption. By identifying community embeddedness as the missing generative mechanism connecting ecosystem relationships with resilience, this article offers a theoretically integrated, mechanism-based, and process-oriented explanation that enriches entrepreneurial ecosystem scholarship while establishing a strong foundation for future theoretical refinement and empirical investigation. In this way, the proposed middle-range theory has the potential to reshape how entrepreneurial ecosystem resilience is conceptualized, studied, and cultivated in an increasingly uncertain and dynamic world.

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