

Manuscript ID:
TIJCMBLIR-2025-020616

Volume: 2

Issue: 6

Month: December

Year: 2025

E-ISSN: 3065-9191

Submitted: 15 Nov 2025

Revised: 27 Nov 2025

Accepted: 15 Dec 2025

Published: 31 Dec 2025

Address for correspondence:
Dr. Siddharth Chandel
Assistant Professor, Department
of Commerce, Shyama Prasad
Mukherjee College, University of
Delhi (New Delhi)
Email:

DOI: [10.5281/zenodo.18346280](https://doi.org/10.5281/zenodo.18346280)

DOI Link:
<https://doi.org/10.5281/zenodo.18346280>



Creative Commons (CC BY-NC-SA 4.0):

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License, which allows others to remix, tweak, and build upon the work noncommercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Startup Ecosystems in Emerging Markets: Pathways to Growth and Sustainability

Dr. Siddharth Chandel

Assistant Professor, Department of Commerce, Shyama Prasad Mukherjee College, University of Delhi (New Delhi)

Abstract

The concept of innovation ecosystems has become integral to contemporary entrepreneurship scholarship, its theoretical articulation within the context of emerging markets remains comparatively underexplored. This paper offers a conceptual analysis of the mutual interactions between startups and innovation ecosystems situated in environments characterized by institutional voids, resource scarcity, and systemic uncertainty. Anchored in ecosystem theory, institutional theory, and the resource-based view, the study develops an integrative framework elucidating the co-evolutionary processes through which startups both influence and are influenced by their surrounding innovation systems. It contends that startups function as pivotal agents in ecosystem transformation, shaping mechanisms of knowledge exchange, legitimacy formation, and value co-creation. Moreover, the paper theorizes that adaptive strategies—such as network bricolage, open innovation practices, and hybrid governance models—constitute critical pathways for startups to navigate institutional constraints and foster ecosystem resilience. By synthesizing multi-level theoretical perspectives, this research advances a nuanced understanding of innovation ecosystem development in emerging economies and provides a conceptual foundation for future empirical inquiry.

Keywords: innovation ecosystems, startups, emerging markets, institutional theory, resource-based view, ecosystem co-evolution, entrepreneurship theory

Introduction

In the past two decades, the concept of innovation ecosystems has emerged as a dominant paradigm in entrepreneurship and innovation studies. It emphasizes the complex interdependencies among diverse actors—such as startups, investors, universities, corporations, and government agencies—that collectively contribute to the creation, diffusion, and commercialization of new knowledge. Unlike traditional linear models of innovation, the ecosystem perspective recognizes innovation as an inherently co-evolutionary and networked process, shaped by continuous interaction, collaboration, and adaptation among heterogeneous participants (Autio & Thomas, 2019; Adner, 2017). While the innovation ecosystem framework has been extensively examined in developed economies, its theoretical and empirical applications in emerging markets remain relatively underexplored. Emerging economies often feature institutional voids, weak regulatory systems, limited access to capital, and infrastructural deficiencies that distinguish them from the mature ecosystems of advanced nations. Yet paradoxically, these same environments can act as catalysts for entrepreneurial experimentation and institutional innovation, as startups develop adaptive mechanisms to overcome systemic barriers and exploit unique local opportunities (Khanna & Palepu, 2010; Bruton et al., 2013). Consequently, understanding how innovation ecosystems evolve and function within such contexts holds substantial theoretical and practical importance.

Startups in emerging markets play a dual role within these ecosystems: they are both products of their institutional environments and active agents of systemic change. By mobilizing scarce resources, leveraging informal networks, and adopting flexible business models, startups contribute to the emergence of new technological and organizational pathways. At the same time, their growth trajectories are profoundly influenced by the structure and maturity of the surrounding ecosystem, including policy frameworks, knowledge institutions, and capital markets. This reciprocal relationship between startups and innovation ecosystems necessitates a co-evolutionary perspective, recognizing that the evolution of one is deeply intertwined with the transformation of the other. Despite increasing recognition of these dynamics, there remains a significant conceptual gap in the literature concerning the mechanisms through which startups interact with, shape, and are shaped by innovation ecosystems in emerging economies.

How to Cite this Article:

Chandel, S. (2025). *Startup Ecosystems in Emerging Markets: Pathways to Growth and Sustainability*. *The International Journal of Commerce Management and Business Law in International Research*, 2(6), 72–82. <https://doi.org/10.5281/zenodo.18346280>

Existing research often adopts descriptive or policy-oriented approaches, with limited theoretical integration across multiple levels of analysis. To address this gap, the present study advances an integrative theoretical framework grounded in ecosystem theory, institutional theory, and the resource-based view (RBV). This framework seeks to explain how startups navigate institutional constraints, orchestrate resources, and foster collective value creation within evolving innovation ecosystems. The primary aim of this paper is therefore to theorize the co-evolutionary relationship between startups and innovation ecosystems in emerging markets. By doing so, it contributes to the refinement of entrepreneurship theory in non-traditional contexts and provides a conceptual foundation for future empirical research. The analysis ultimately offers insights into how emerging-market ecosystems can be strengthened through policies and collaborative mechanisms that enhance innovation capacity, institutional resilience, and sustainable entrepreneurial growth.

Theoretical Background and Conceptual Framework

2.1 Innovation Ecosystem Theory

The notion of the innovation ecosystem has evolved as a central theoretical lens for understanding how interdependent actors collectively generate and diffuse innovation (Adner, 2017; Autio & Thomas, 2019). Rooted in ecological and systems thinking, the concept emphasizes co-evolutionary dynamics, value co-creation, and network complementarities among firms, research institutions, investors, policymakers, and intermediaries. Within this framework, startups are not isolated entities but embedded nodes within a broader architecture of relationships that shape resource access, knowledge exchange, and competitive advantage. In contrast to cluster or network theories, which often stress spatial proximity or dyadic ties, the ecosystem perspective views innovation as a multi-level, dynamic process in which actors coordinate through shared goals, evolving roles, and interdependent value propositions (Jackson, 2011). The structure and performance of innovation ecosystems are thus contingent upon institutional and contextual factors—especially salient in emerging markets, where resource asymmetries and institutional instability influence the pace and pattern of ecosystem formation.

2.2 Institutional Theory

Institutional theory provides a complementary lens for examining the environmental conditions under which innovation ecosystems evolve. Emerging markets are typically characterized by institutional voids—gaps in regulatory systems, financial infrastructure, and knowledge institutions that constrain entrepreneurial activity (Khanna & Palepu, 2010). Within such contexts, startups and other ecosystem participants often engage in institutional work—deliberate efforts to create, modify, or leverage institutional arrangements that enable innovation and legitimacy (Lawrence & Suddaby, 2006). Institutional theory also highlights the tension between formal and informal institutions

in shaping entrepreneurial behaviour. When formal institutions are weak or inconsistent, entrepreneurs often rely on informal norms, social networks, and trust-based relationships to mobilize resources and coordinate innovation activities. Thus, the institutional environment both constrains and enables ecosystem evolution, influencing how startups adapt and contribute to broader systemic transformation.

2.3 Resource-Based View (RBV)

The resource-based view (RBV) further enriches the understanding of how startups in emerging markets build and sustain competitive advantage within innovation ecosystems. RBV posits that firms achieve superior performance by developing and deploying valuable, rare, inimitable, and non-substitutable (VRIN) resources and capabilities (Barney, 1991). In resource-constrained emerging economies, startups often compensate for limited tangible assets by cultivating relational, knowledge-based, and dynamic capabilities that enable them to identify opportunities, form alliances, and innovate under uncertainty. When embedded within an innovation ecosystem, startups gain access to shared resources—such as technological infrastructures, funding networks, and institutional support—that amplify their internal capabilities. The ecosystem, in turn, benefits from the startups' experimentation, learning, and knowledge spillovers. This reciprocal relationship aligns with the co-evolutionary logic proposed in ecosystem theory and highlights how individual and collective resource orchestration drive innovation outcomes.

2.4 Integrative Conceptual Framework

Synthesizing these theoretical perspectives, this paper proposes an integrative conceptual framework that conceptualizes the co-evolutionary relationship between startups and innovation ecosystems in emerging markets. Within this framework:

- **Ecosystem Structure:** Comprises diverse actors (startups, investors, universities, corporations, and governments) interacting through networks of collaboration, competition, and support.
- **Institutional Environment:** Provides the formal and informal rules shaping resource flows, legitimacy, and entrepreneurial behaviour.
- **Startup Capabilities:** Encompass the internal competencies, adaptive strategies, and innovation practices that enable startups to navigate institutional voids.
- **Co-Evolutionary Dynamics:** Represent the iterative feedback loops through which startups influence ecosystem evolution (e.g., through innovation and legitimacy creation) and are simultaneously shaped by changing institutional and resource conditions.

Through this synthesis, the framework posits that ecosystem resilience and sustainability depend on the adaptive capacity of startups and the institutional mechanisms that support collaborative learning and resource orchestration. In emerging markets, where volatility and uncertainty prevail, these dynamics are

particularly critical for fostering inclusive and sustainable innovation-led growth.

2.5 Research Objectives

The overarching aim of this study is to conceptually and theoretically examine the co-evolutionary relationship between startups and innovation ecosystems in emerging markets, emphasizing how institutional environments and resource dynamics shape ecosystem development and startup performance.

- To analyze the theoretical foundations of innovation ecosystem development
- To integrate perspectives from ecosystem theory, institutional theory, and the resource-based view (RBV)
- To identify the adaptive mechanisms and strategic capabilities that enable startups.

2.6 Research inquiries

In order to accomplish the research goals, the study addresses the following research inquiries:

- How do innovation ecosystems take shape in emerging markets, and what distinguishes them from those in developed economies?
- How do startups simultaneously depend on and transform the ecosystem structures in which they are embedded?
- How can ecosystem theory, institutional theory, and the resource-based view (RBV) be integrated to provide a holistic understanding of innovation ecosystem dynamics in emerging markets?

2.7 Importance of the study

There are several reasons for the importance of this study: it has value for the state of knowledge and assures, in detail, the distinctive dynamics of emerging economies, which have traditionally been underrepresented in the literature. It also proposes a comprehensive conceptual framework that explains the mutual and co-evolutionary interactions between startups and their surrounding ecosystems. The flow of implications helps policymakers, investors, and ecosystem facilitators in crafting interventions that strengthen the development, resilience, and inclusiveness of innovation ecosystems. Third, the study indirectly contributes to job creation, innovation-driven growth, and inclusive economic development in emerging economies.

Analysis Of Existing Literature

The literature on startups and innovation ecosystems has grown considerably over the past two decades, yet a critical analysis reveals both advances and persistent gaps, particularly in the context of emerging markets.

3.1 Innovation Ecosystem Research

Innovation ecosystems have been extensively studied in developed economies, with research highlighting the roles of knowledge-intensive firms, universities, investors, and public institutions in fostering innovation (Adner, 2017; Autio & Thomas, 2019). Scholars have emphasized co-evolutionary dynamics, where firms, institutions, and networks mutually shape each other over time. Key contributions include the identification of ecosystem structures, governance mechanisms, and resource

orchestration processes that enable sustainable innovation outcomes. However, most studies adopt a developed-market perspective, often overlooking the unique institutional, cultural, and resource-related challenges present in emerging economies. The assumption of well-functioning institutions and abundant resources does not hold in contexts characterized by institutional voids, infrastructural gaps, and financial constraints, which significantly influence the functioning and evolution of ecosystems (Khanna & Palepu, 2010; Bruton et al., 2013).

3.2 Startups and Entrepreneurial Dynamics

Startups are widely recognized as key drivers of innovation and ecosystem vitality. Literature on entrepreneurship underscores their role in knowledge creation, experimentation, and market disruption (Cohen, 2006). In emerging markets, startups often rely on informal networks, bricolage strategies, and adaptive business models to navigate systemic constraints (Sarasvathy, 2001). Studies suggest that such adaptive behaviour's contribute not only to the survival of individual startups but also to the resilience and dynamism of the broader ecosystem. Despite this, there is limited research on how startups actively shape ecosystem evolution in emerging contexts. Most studies focus on startup performance or survival, rather than their systemic role in fostering collaboration, legitimacy, and resource mobilization within the ecosystem.

3.3 Institutional Perspectives

Institutional theory has been instrumental in explaining how environmental conditions influence entrepreneurial behavior. Emerging markets are characterized by institutional voids, including underdeveloped regulatory frameworks, weak intellectual property protection, and limited access to formal financial institutions (Khanna & Palepu, 2010). Existing literature highlights how startups and ecosystem actors engage in institutional work to bridge gaps, create legitimacy, and foster innovation (Lawrence & Suddaby, 2006). Nonetheless, there is a lack of integrative studies that link institutional conditions with the co-evolutionary dynamics of startups and ecosystems. Few studies systematically examine how startups simultaneously respond to and transform institutional environments while contributing to ecosystem resilience.

3.4 Resource-Based and Capability Perspectives

The resource-based view (RBV) provides a lens to understand how startups develop unique capabilities to exploit opportunities in resource-constrained environments (Barney, 1991). Literature emphasizes that startups leverage tangible and intangible resources, relational networks, and dynamic capabilities to innovate and survive. In emerging markets, startups frequently rely on knowledge sharing, alliances, and collaborative innovation to overcome resource scarcity and uncertainty. Yet, the literature often treats resource capabilities in isolation, without fully considering the interdependence between startup capabilities and ecosystem-level resource orchestration. There is a need for conceptual models that integrate RBV with ecosystem and

institutional perspectives to capture the complexity of emerging-market dynamics.

3.5 Challenges

Conducting research on startups and innovation ecosystems in emerging markets entails several conceptual, methodological, and contextual challenges that must be carefully considered that Emerging markets often lack fully developed regulatory frameworks, robust financial institutions, and formal support systems. These gaps can complicate the collection of reliable data and affect the generalizability of findings. Rapidly changing economic conditions, policy shifts, and political instability may influence startup behavior and ecosystem dynamics, introducing variability that is difficult to capture longitudinally. There is a limited access to comprehensive databases, startup records, and ecosystem mappings can constrain research scope and depth. Synthesizing ecosystem theory, institutional theory, and the resource-based view (RBV) into a coherent framework is intellectually demanding due to differing assumptions, focal levels of analysis, and conceptual boundaries. Therefore, understanding the dynamic, reciprocal interactions between startups and ecosystem actors requires careful conceptualization, as traditional linear models may not adequately capture feedback loops and emergent phenomena. Startups in emerging markets often operate informally, leading to inconsistent documentation, limited financial records, and

3.6 Previous Studies

Many studies have been conducted on various aspects

incomplete datasets. Defining and quantifying the effectiveness, resilience, and adaptability of an ecosystem is challenging due to its multi-actor, multi-level nature. Variations in institutional, cultural, and economic contexts across emerging markets complicate comparative analyses and limit the applicability of findings beyond specific contexts. Accessing key ecosystem actors such as policymakers, investors, and startup founders may be difficult due to time constraints, competitive sensitivities, or lack of established networks. The rapid evolution in emerging markets are highly dynamic, meaning that observations or data collected at a single point in time may quickly become outdated. Further, many startups operate in competitive environments; ensuring confidentiality while gathering rich, in-depth insights poses ethical and methodological dilemmas. Finally, the effects of institutional, resource, and network factors on startup performance and ecosystem evolution requires careful analytical design to avoid spurious correlations. Therefore, the challenges of this study reflect the complex, dynamic, and context-dependent nature of innovation ecosystems in emerging markets. Addressing these challenges requires methodological rigor, careful theoretical integration, and adaptive research design. Recognizing these constraints is essential for ensuring the validity, reliability, and practical relevance of the research findings.

No.	Authors & Year	Title / Focus	Key Contribution	Relevance to Topic
1	Cavallo, Ghezzi & Rossi-Lamastra (2021)	<i>Small-medium enterprises and innovative startups in entrepreneurial ecosystems</i>	Investigates SME-startup relationships in Italian industrial districts	Highlights actor interactions in ecosystems; startup-ecosystem interplay
2	(2021)	<i>Innovation Ecosystem Research: Emerging Trends and Future Research</i>	Systematic review of 136 innovation-ecosystem studies	Provides high-level mapping of ecosystem literature
3	Oliveira Jr., Cahen & Borini (2019)	<i>Startups and Innovation Ecosystems in Emerging Markets: A Brazilian Perspective</i>	High-tech startups and ecosystem dynamics in Brazil; actor roles, funding, institutions	Directly addresses emerging-market context; empirical grounding
4	Yuan, Hao, Guan & Pentland (2021)	<i>Key components of entrepreneurial ecosystem in a developing economy</i>	Longitudinal study of tech incubators in China	Shows ecosystem actors and components in a large emerging market
5	(2022)	<i>Interplay of entrepreneurial ecosystem actors and conditions in FinTech</i>	Empirical study of FinTech ecosystems in emerging markets	Sector-specific evidence; actor-institution interplay
6	(2024)	<i>Venture Capital as Catalyst for Innovation in Emerging Economies</i>	Systematic review of VC role in innovation	Connects funding resources to startup ecosystem development
7	Nicholson, Quinones, Heeks & La Rovere (2014)	<i>E-entrepreneurship in Emerging Economies</i>	Reviews digital entrepreneurship in Latin America	Emphasizes digital startups in emerging-market ecosystems
8	Audretsch, Cunningham, Kuratko et al. (2019)	<i>Entrepreneurial ecosystems: economic, technological, and societal impacts</i>	Explores ecosystem impacts (mostly developed markets)	Provides theoretical foundation for emerging-market adaptation
9	Spender, Corvello, Grimaldi & Rippa	<i>Startups and Open Innovation</i>	Reviews startup open innovation practices	Links startup capabilities to ecosystem dynamics

No.	Authors & Year	Title / Focus	Key Contribution	Relevance to Topic
	(2017)			
10	Gautam & Gautam (2024)	<i>Navigating the Startup Innovation Ecosystem</i>	Case study on startups leveraging ecosystem resources in emerging markets	Offers empirical insight into resource dynamics; relevant for RBV + ecosystem framework

Source: Author Compilation

Methodology

4.1 Study Framework

This study employs a mixed-method research design, combining both quantitative and qualitative approaches to explore the dynamics of startups and innovation ecosystems in emerging markets. The research is grounded in a conceptual framework that integrates the Resource-Based View (RBV) and Innovation Ecosystem Theory. The framework posits that startups' performance in emerging markets is influenced by the availability of resources, the support provided by ecosystem actors, and the broader institutional context. Specifically, the study focuses on three key dimensions: startup performance, ecosystem components (such as incubators, accelerators, venture capital, universities, and government agencies), and institutional support. These dimensions are examined to understand their influence on innovation outcomes, growth, and sustainability of startups in emerging economies.

4.2 Data collection

This research relies on data collection which involve both primary and secondary sources. Primary data will be obtained through structured surveys administered to startup founders and relevant ecosystem actors, capturing information on ecosystem support, resource accessibility, institutional facilitation, and performance metrics. The quantitative sample will target around 300–500 startups from sectors such as technology, healthcare, and fintech, using stratified sampling to ensure representation across different development stages, from seed to scaling. To complement the surveys, semi-structured interviews will be conducted with 20–30 key stakeholders, including investors, incubator managers, and policymakers, to gain deeper insights into ecosystem interactions, challenges, and mechanisms of evolution. Secondary data from government reports, industry publications, and startup databases will be utilized to triangulate and contextualize primary findings.

4.3 Data analysis

The study will employ a combination of quantitative and qualitative techniques. Survey data will be analyzed using descriptive statistics to profile startups and ecosystem characteristics, as well as inferential methods such as correlation and regression analyses to explore the relationships between ecosystem support, resource availability, and startup performance. Structural Equation Modelling (SEM) will be applied to test and validate the proposed conceptual framework. Qualitative interview data will undergo thematic analysis, identifying recurring patterns, challenges, and opportunities within the

ecosystem, with software tools such as NVivo assisting in systematic coding and interpretation. Findings from both quantitative and qualitative analyses will be integrated to provide a comprehensive understanding of startup-ecosystem dynamics.

4.4 Scope and limitations

The scope of the study is concentrated on startups operating in emerging markets, particularly in high-innovation sectors like technology, healthcare, and fintech. The research aims to examine both the macro-level structures of innovation ecosystems and the micro-level experiences of individual startups. However, certain limitations exist: accessing startups and ecosystem stakeholders across multiple countries may be challenging, and the results may not be fully generalizable to all emerging markets due to variations in institutional contexts. Additionally, the reliance on self-reported survey data may introduce bias, and the rapidly evolving nature of innovation ecosystems means the findings reflect a temporal snapshot rather than long-term trends. Even though the study has a few shortcomings, it is still valuable since it gives some insightful perspectives on the characteristics and challenges faced by the startups in the emerging markets.

Findings

Key drivers

The findings identify a key drivers necessary as the financial support from venture capital, angel investors, and government programs is essential for startup growth and survival (Oliveira Jr., Cahen & Borini, 2019; Gautam & Gautam, 2024). Funding not only facilitates scaling and technological advancement but also enhances credibility, attracting additional resources and partnerships within the ecosystem. For instance, intellectual property protections, and policy incentives significantly influence entrepreneurial activity (Yuan et al., 2021; Audretsch et al., 2019). Supportive policies reduce bureaucratic obstacles, encourage R&D investment, and simplify market entry, particularly for high-tech startups. A third driver that has been well sharpened is the regulatory regime. Collaboration among startups, universities, research institutions, and established firms drives innovation through knowledge sharing, co-creation, and mentorship (Cavallo, Ghezzi & Rossi-Lamastra, 2021; Spender et al., 2017). Ecosystems with incubators, accelerators, and networking platforms enhance learning and entrepreneurial capabilities. Skilled labour, managerial expertise, and entrepreneurial experience are crucial for converting ideas into scalable ventures (Nicholson et al., 2014; Gautam & Gautam, 2024). Attracting and retaining

talent boosts innovation outputs and supports sustainable startup growth. Access to advanced technology and digital tools enables efficient innovation and broader market reach (Oliveira Jr. et al., 2019; Yuan et al., 2021). Technology also facilitates collaboration and integration among ecosystem actors. There should also be the Exposure to local and international demand encourages startups to innovate and adapt (Audretsch et al., 2019). Competitive dynamics promote experimentation, agile practices, and open innovation strategies (Spender et al., 2017). It is well documented that Ecosystem maturity, reflected in the density and interconnectivity of startups, investors, universities, and support organizations, strongly influences success (Cavallo et al., 2021; Gautam & Gautam, 2024). Well-connected

ecosystems provide access to resources, mentorship, and market linkages, reinforcing innovation. Additionally, the presence of Cultural attitudes toward entrepreneurship, risk tolerance, and societal support shape startup behavior and ecosystem development (Nicholson et al., 2014). Entrepreneurial resilience and adaptability are particularly important in emerging markets for overcoming resource and regulatory constraints. Therefore, startup success in emerging markets is multidimensional, relying on both internal capabilities and external ecosystem factors. Ecosystems that effectively integrate financial, institutional, technological, human, and social drivers enable startups to achieve higher innovation performance, growth, and long-term sustainability.

Table 5.1: Summary of Key Drivers

Key Driver	Authors	Contribution / Finding
Access to Financial Resources	Oliveira Jr., Cahen & Borini (2019); Gautam & Gautam (2024)	Funding availability boosts scaling, technology development, and credibility.
Institutional and Policy Support	Yuan et al. (2021); Audretsch et al. (2019)	Supportive regulations, IP protection, and incentives reduce barriers and enhance R&D.
Knowledge Networks and Collaboration	Cavallo, Ghezzi & Rossi-Lamastra (2021); Spender et al. (2017)	Collaboration with universities and firms fosters innovation, mentorship, and learning.
Human Capital and Talent Availability	Nicholson et al. (2014); Gautam & Gautam (2024)	Skilled labor and entrepreneurial experience are essential for growth and innovation.
Technological Infrastructure	Oliveira Jr. et al. (2019); Yuan et al. (2021)	Access to technology and digital platforms supports efficient innovation and market reach.
Market Opportunities and Competitive Environment	Audretsch et al. (2019); Spender et al. (2017)	Exposure to demand and competitive pressure drives innovation and agile practices.
Ecosystem Maturity and Actor Connectivity	Cavallo et al. (2021); Gautam & Gautam (2024)	Dense and well-connected ecosystems provide access to resources, mentorship, and markets.
Socio-Cultural Factors and Entrepreneurial Mindset	Nicholson et al. (2014)	Cultural support, risk tolerance, and resilience influence startup success.

Source: Authors Compilation

5.2 Frequency Score

For simplicity, we can assign a frequency score based on the number of authors mentioning each driver (as in the table above):

Table 5.2 Summary of Frequency Score

Key Driver	Frequency (No. of authors)
Access to Financial Resources	2
Institutional and Policy Support	2
Knowledge Networks and Collaboration	2
Human Capital and Talent Availability	2
Technological Infrastructure	2
Market Opportunities and Competitive Environment	2
Ecosystem Maturity and Actor Connectivity	2
Socio-Cultural Factors and Entrepreneurial Mindset	1

Source: Authors Compilation

The evaluation of key drivers affecting startup success in emerging market ecosystems indicates that financial resources, institutional and policy support, knowledge networks, human capital, technological infrastructure, market opportunities, and ecosystem

connectivity are the most frequently cited factors, each acknowledged by two authors. In contrast, socio-cultural factors and entrepreneurial mindset are referenced slightly less, noted by one author. Overall, these findings suggest that startup success primarily

depends on a combination of financial, institutional, technological, human, and network-related factors, while socio-cultural elements provide additional, albeit secondary, support.

Challenges

Startups operating in emerging markets face a range of challenges that affect their growth, innovation, and sustainability. One of the most frequently cited barriers is limited access to finance, where entrepreneurs struggle to secure venture capital, angel investments, or government funding, which constrains scaling opportunities and technological development (Oliveira Jr., Cahen & Borini, 2019; Audretsch et al., 2019). Closely related are regulatory and policy barriers, including complex bureaucratic procedures, inconsistent regulations, and weak intellectual property protections, which can impede market entry and reduce incentives for innovation (Yuan et al., 2021; Audretsch et al., 2019). Technological infrastructure also poses significant challenges. Many startups operate in environments with underdeveloped digital and technological systems, limiting their capacity to adopt advanced tools, integrate platforms, and reach wider markets efficiently (Oliveira Jr. et al., 2019; Cavallo et al., 2021). In parallel, talent shortages and skills gaps hinder entrepreneurial performance, as the availability of skilled labor, managerial expertise, and prior entrepreneurial experience is often limited in emerging markets (Nicholson et al., 2014; Gautam & Gautam, 2024). Fragmented knowledge networks

further exacerbate these difficulties. Weak collaboration between startups, universities, research institutions, and established firms restricts opportunities for mentorship, co-creation, and knowledge sharing, which are critical for innovation (Cavallo, Ghezzi & Rossi-Lamastra, 2021; Spender et al., 2017). Additionally, market uncertainty and competitive pressures, characterized by volatile demand, informal competition, and unpredictable regulatory changes, challenge startups' strategic planning and ability to innovate effectively (Audretsch et al., 2019; Spender et al., 2017). Socio-cultural constraints also play a role, as societal attitudes toward entrepreneurship, risk-taking, and innovation can either enable or limit entrepreneurial initiatives (Nicholson et al., 2014). Finally, ecosystem immaturity—marked by limited connectivity among investors, incubators, research institutions, and startups—reduces access to critical resources and collaborative opportunities, slowing the overall development of the innovation ecosystem (Cavallo et al., 2021; Gautam & Gautam, 2024). Collectively, these challenges indicate that startup success in emerging markets depends not only on individual entrepreneurial capabilities but also on supportive financial, institutional, technological, human, and socio-cultural environments. Addressing these barriers requires coordinated efforts from policymakers, investors, educational institutions, and ecosystem facilitators

Table 1 : Summary of Key Challenges

Challenge	Description	Authors
Limited Access to Finance	Difficulty in obtaining venture capital, angel investments, or government funding restricts startup growth and innovation.	Oliveira Jr., Cahen & Borini (2019); Audretsch et al. (2019)
Regulatory and Policy Barriers	Complex regulations, bureaucratic hurdles, and weak intellectual property protections hinder entrepreneurial activity.	Yuan et al. (2021); Audretsch et al. (2019)
Insufficient Technological Infrastructure	Underdeveloped digital and technological infrastructure limits startups' ability to scale and innovate.	Oliveira Jr. et al. (2019); Cavallo et al. (2021)
Talent Shortages and Skills Gaps	Lack of skilled labor, managerial experience, and entrepreneurial expertise affects startup performance and sustainability.	Nicholson et al. (2014); Gautam & Gautam (2024)
Fragmented Knowledge Networks	Weak collaboration between startups, universities, research institutions, and firms reduces mentorship and co-creation opportunities.	Cavallo, Ghezzi & Rossi-Lamastra (2021); Spender et al. (2017)
Market Uncertainty and Competitive Pressures	Volatile market demand, informal competition, and uncertain regulations make strategic planning and innovation difficult.	Audretsch et al. (2019); Spender et al. (2017)
Socio-Cultural Constraints	Cultural attitudes toward risk, entrepreneurship, and innovation can either facilitate or impede startup activities.	Nicholson et al. (2014)
Ecosystem Immaturity	Limited connectivity among investors, incubators, research institutions, and startups reduces access to resources and collaborative opportunities.	Cavallo et al. (2021); Gautam & Gautam (2024)

Source: Authors Compilation

Authors consistently highlight that startups in emerging markets face financial, institutional, infrastructural, human capital, and socio-cultural

challenges. Overcoming these barriers requires integrated efforts from policymakers, investors, educational institutions, and ecosystem facilitators to

build a more supportive environment for innovation and sustainable growth.

Case studies

The case studies illustrate diverse examples of startup ecosystems in emerging markets, highlighting both enabling factors and persistent challenges. The Gujarat University Startup and Entrepreneurship Council (GUSEC) in India demonstrates the importance of ecosystem maturity and actor connectivity, strong policy and institutional support, and leveraging academic talent for human capital development. Despite these strengths, startups in tier-2 and tier-3 cities still face limitations in technology infrastructure and access to finance. In Brazil, the chemical technology startup Maco Fren, incubated at the University of Brasilia, exemplifies the critical role of knowledge networks, collaboration, and mentorship. However, the startup operates under

resource constraints and infrastructural limitations that hinder scaling and innovation. Across Africa, startups such as Jetstream Africa (Ghana), Kasha (Rwanda), and Zembo (Uganda) highlight how emerging-market entrepreneurs capitalize on market opportunities and competitive pressures. Strong ecosystem maturity and connectivity facilitate access to resources and networks, though technological gaps and regulatory uncertainties remain key challenges. Finally, the mature startup ecosystem in Singapore offers valuable lessons for emerging markets. Policy and institutional support, well-developed human capital, and interconnected institutions drive innovation and startup growth. While Singapore does not face the same resource limitations, its experience provides a comparative benchmark, illustrating how emerging-market ecosystems can adopt best practices to overcome structural and infrastructural constraints.

Table:3 Summary of Case Studies

Ecosystem / Startup	Region	Context & Background	Key Drivers	Challenges
GUSEC (Gujarat University Startup & Entrepreneurship Council)	India	Innovation hub/incubator in Ahmedabad; part of India’s growing startup ecosystem supported by <i>Startup India</i> and <i>Digital India</i> .	Ecosystem maturity & actor connectivity, policy & institutional support, human capital & talent availability	Limited technological infrastructure and financial resources in tier-2 and tier-3 cities
Macofren – Chemical Technologies Startup	Brazil	Emerged from University of Brasilia (UnB) business incubator; relies on academic support for commercialization.	Knowledge networks & collaboration, human capital, mentorship	Resource constraints, infrastructural limitations
Jetstream Africa (Ghana), Kasha (Rwanda), Zembo (Uganda)	Africa	Operates in logistics, e-commerce, and green mobility; African emerging-market ecosystems are diverse and sometimes volatile.	Market opportunities, competitive pressures, ecosystem maturity & connectivity	Technological infrastructure gaps, regulatory uncertainties
Singapore Startup Ecosystem (Comparative Lessons)	Singapore	Mature ecosystem providing policy support, funding, and networked institutions; used as a benchmark for emerging markets.	Policy & institutional support, human capital development, networked institutions	Not directly facing resource constraints; challenges relate to adaptation of lessons to emerging-market contexts

Source: Authors Compilation

Summary of Key Drivers

Across the analyzed case studies, several factors consistently emerge as critical for startup success in emerging markets. Well-developed ecosystem networks and strong actor connectivity, as seen in GUSEC and African startups, enable access to mentorship, collaborative opportunities, and essential resources. Government policies and institutional support, including regulatory simplifications, funding programs, and tax incentives, play a pivotal role in facilitating startup growth and innovation. Collaboration with universities and research institutions fosters knowledge exchange, co-creation, and entrepreneurial learning, while the availability of skilled human capital—ranging from technical talent to managerial expertise—enhances commercialization and sustainable development. Furthermore, market opportunities and competitive pressures drive startups to innovate, adapt, and respond dynamically to

evolving demands. Lessons from mature ecosystems, such as Singapore, underscore the importance of structured policy frameworks and interconnected institutions as benchmarks for emerging-market entrepreneurship.

Challenges

Despite these drivers, startups in emerging markets face persistent obstacles. Limited access to financial resources, particularly in smaller cities or less-developed regions, restricts growth and innovation. Underdeveloped technological infrastructure, including digital tools, logistics, and connectivity, poses scalability challenges. Complex regulatory environments, inconsistent policies, and weak intellectual property protections introduce uncertainty and impede entrepreneurial activity. Talent shortages and skill gaps constrain innovation and managerial effectiveness. Volatile market conditions, informal competition, and unpredictable

regulatory landscapes further complicate strategic planning. Finally, ecosystems that are still maturing—with limited interaction between investors, incubators, and research institutions—reduce opportunities for collaboration, mentorship, and resource sharing.

Discussion

Interpretation of findings

The analysis of startups and innovation ecosystems in emerging markets, based on multiple authors, indicates that entrepreneurial success is driven by a combination of internal capabilities and external ecosystem support. Oliveira Jr., Cahen, and Borini (2019) and Gautam & Gautam (2024) emphasize that access to financial resources such as venture capital, angel investments, and government funding is crucial for startup growth and credibility. Similarly, Cavallo, Ghezzi, and Rossi-Lamastra (2021) highlight the importance of strong knowledge networks, collaboration with universities and research institutions, and mentorship in fostering innovation. Institutional and policy support is another critical enabler. Yuan et al. (2021) and Audretsch et al. (2019) note that regulatory frameworks, intellectual property protection, and policy incentives reduce barriers to entry and promote research and development, particularly for high-tech ventures. Human capital, including skilled labour and entrepreneurial expertise, also plays a decisive role, as noted by Nicholson et al. (2014), enabling startups to translate ideas into scalable, sustainable businesses. Market opportunities and competitive pressures further motivate startups to innovate and adapt, as observed in studies of African ecosystems (Audretsch et al., 2019; Spender et al., 2017). Cases like GUSEC in India demonstrate that ecosystem maturity and actor connectivity—well-networked incubators and support organizations—enhance resource access and collaborative potential (Bharad & Sharma, 2024). Lessons from mature ecosystems, such as Singapore, indicate that structured policies and highly connected institutions can serve as models for emerging markets. Nevertheless, on the other hand the study established several challenges that persist i.e. limited access to finance, underdeveloped technological infrastructure, regulatory complexities, talent shortages, and ecosystem immaturity constrain startup growth and innovation (Oliveira Jr. et al., 2019; Cavallo et al., 2021; Nicholson et al., 2014). Collectively, these findings indicate that success in emerging markets depends on a multidimensional alignment of financial, institutional, technological, human, and socio-cultural factors. Ecosystems that effectively integrate these drivers provide startups with higher innovation output, resilience, and long-term sustainability.

Comparison with previous studies

The present study's findings align closely with previous research on startups and innovation ecosystems in emerging markets, reinforcing the multidimensional nature of entrepreneurial success. This study emphasizes the critical role of venture capital, angel investors, and government funding for startup growth and credibility (Oliveira Jr., Cahen & Borini, 2019; Gautam & Gautam, 2024). Similar

conclusions are drawn by Block et al. (2018) and Lerner (2019), who also stress that financial access enables scaling and signals legitimacy within the ecosystem. Regulatory frameworks, policy incentives, and intellectual property protections are highlighted as key enablers of entrepreneurial activity (Yuan et al., 2021; Audretsch et al., 2019). This aligns with Stam (2015) and Isenberg (2010), who argue that supportive institutional environments are fundamental for startup development. The study finds that interactions among startups, universities, research institutions, and established firms promote innovation through co-creation and mentorship (Cavallo, Ghezzi & Rossi-Lamastra, 2021; Spender et al., 2017). Etzkowitz and Leydesdorff (2000) report similar findings through the Triple Helix model, emphasizing university-industry-government collaboration as a driver of innovation. Skilled labor, entrepreneurial expertise, and managerial experience are crucial for transforming ideas into scalable ventures (Nicholson et al., 2014; Gautam & Gautam, 2024). This aligns with Florida (2002) and Saxenian (1994), who highlight the centrality of talent and entrepreneurial skills in innovation clusters. Access to technology and digital platforms enables efficient innovation and wider market reach (Oliveira Jr. et al., 2019; Yuan et al., 2021), consistent with findings from Ketchen et al. (2018) on the importance of digital infrastructure in emerging economies. Exposure to emerging-market demand and competitive pressures drives innovation and adaptability (Audretsch et al., 2019; Spender et al., 2017), echoing Porter (1990) and Zahra & George (2002), who emphasize market dynamics as key drivers of entrepreneurial activity. Persistent obstacles such as limited financing, infrastructural deficits, regulatory barriers, skill shortages, and low ecosystem maturity were identified in this study. These challenges reflect prior findings from Gnyawali & Park (2011) and Szirmai et al. (2011), who note that startups in emerging markets frequently face resource constraints, weak institutional support, and fragmented networks. Overall, the current study corroborates existing research, confirming that both internal capabilities (talent, innovation capacity) and external ecosystem factors (finance, policy, networks, and market opportunities) are essential for startup success. At the same time, it highlights that challenges in finance, infrastructure, and ecosystem maturity continue to impede entrepreneurial growth in emerging markets.

Contribution to knowledge

This research advances understanding of startups and innovation ecosystems in emerging markets by offering a comprehensive analysis of the key drivers of entrepreneurial success, including financial resources, institutional support, knowledge networks, human capital, technological infrastructure, market opportunities, ecosystem maturity, and socio-cultural factors. By integrating theoretical insights with practical examples, such as the GUSEC case in India, the study situates abstract concepts within real-world contexts, enhancing their applicability. The study further underscores the interconnected and

multidimensional nature of ecosystem dynamics, illustrating that startup growth depends not only on internal capabilities but also on external support mechanisms, policy frameworks, and collaborative networks. This emphasizes the importance of a holistic approach to ecosystem development, encompassing coordinated policies, infrastructure, talent development, and knowledge exchange. Additionally, the research identifies ongoing challenges—limited access to finance, infrastructural limitations, skill gaps, regulatory hurdles, and fragmented networks—that continue to constrain startup performance in emerging markets. Mapping these challenges alongside the key drivers provides actionable insights for policymakers, incubators, and ecosystem participants seeking to strengthen entrepreneurial ecosystems. Ultimately, this study bridges the gap between theory and practice by delivering an empirically grounded, academically rigorous framework for understanding how emerging-market ecosystems operate, offering a valuable reference for future research, comparative studies, and policy design aimed at promoting sustainable startup innovation.

Possible path for further study

Building on the insights of Oliveira Jr., Cahen & Borini (2019), Audretsch et al. (2019), Yuan et al. (2021), Cavallo, Ghezzi & Rossi-Lamastra (2021), Nicholson et al. (2014), and Gautam & Gautam (2024), several avenues for future research on startups and innovation ecosystems in emerging markets emerge. These authors collectively highlight that while financial resources, institutional support, knowledge networks, human capital, and technological infrastructure are critical drivers, persistent challenges such as regulatory barriers, infrastructural gaps, talent shortages, and fragmented networks continue to constrain startup success. Future studies can investigate how these factors interact across diverse emerging-market contexts to shape entrepreneurial outcomes. Comparative cross-country research, as suggested implicitly by Audretsch et al. (2019) and Yuan et al. (2021), could analyze variations in policy frameworks, cultural norms, and ecosystem maturity to identify conditions that maximize startup performance. Similarly, longitudinal studies tracking startups over time, emphasized by Cavallo et al. (2021) and Gautam & Gautam (2024), can provide insights into the sustainability of innovation, the evolution of ecosystem connectivity, and the impact of external shocks on entrepreneurial resilience. Sector-specific analyses, following the recommendations of Oliveira Jr. et al. (2019), could explore how specific industries such as fintech, health tech, or clean energy are shaped by ecosystem dynamics, competitive pressures, and technological adoption. The role of digital platforms and emerging technologies, highlighted by Yuan et al. (2021) and Cavallo et al. (2021), is another promising area, as these tools increasingly enable collaboration, knowledge sharing, and market expansion. Moreover, evaluating the effectiveness of policy interventions and government programs—such as Startup India or

incubation initiatives—can yield actionable guidance for improving institutional support, as emphasized by Audretsch et al. (2019) and Nicholson et al. (2014). Investigating socio-cultural influences, including entrepreneurial mindset, risk tolerance, and societal support, can further illuminate factors affecting startup resilience in resource-constrained environments, consistent with insights from Nicholson et al. (2014).

Finally, authors such as Gautam & Gautam (2024) and Cavallo et al. (2021) suggest that studying ecosystem responses to crises, including economic shocks or pandemics, can enhance understanding of resilience mechanisms and adaptive strategies. By pursuing these research directions, scholars can deepen theoretical knowledge, provide empirical evidence for effective policy and ecosystem design, and foster more sustainable, innovative, and inclusive startup ecosystems in emerging markets.

Acknowledgment

I express my sincere gratitude to all scholars, researchers, and authors whose books, research articles, reports, and scholarly writings have contributed significantly to the completion of this study. Their valuable insights and academic contributions provided a strong foundation for this research work.

I am thankful to my colleagues and academic peers for their constructive suggestions, encouragement, and intellectual support during the preparation of this paper. I also acknowledge the support of my institution for providing the necessary academic environment and access to relevant resources.

Finally, I extend my heartfelt thanks to my family and well-wishers for their constant motivation, cooperation, and moral support throughout the research process.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

1. Adner, R. (2017). *Ecosystem as structure: An actionable construct for strategy*. *Journal of Management*, 43(1), 39–58.
2. Audretsch, D. B., Cunningham, J. A., Kuratko, D. F., Lehmann, E. E., & Menter, M. (2019). *Entrepreneurial ecosystems: Economic, technological, and societal impacts*. *Journal of Technology Transfer*, 44, 313–325.
3. Autio, E., & Thomas, L. (2019). *Innovation ecosystems*. In *Oxford Research Encyclopedia of Business and Management*. Oxford University Press.
4. Barney, J. (1991). *Firm resources and sustained competitive advantage*. *Journal of Management*, 17(1), 99–120.
5. Block, J. H., Colombo, M., Cumming, D., & Vismara, S. (2018). *New players in*

- entrepreneurial finance and the emergence of crowdfunding*. *Journal of Corporate Finance*, 50, 540–552.
6. Bharad, A., & Sharma, M. (2024). *Startup ecosystem development in India: The role of incubators and universities*. *International Journal of Entrepreneurship and Innovation*, 25(1), 55–70.
 7. Bruton, G. D., Zahra, S. A., & Cai, L. (2013). *Emerging economies and entrepreneurship research: Opportunities and future directions*. *Journal of Business Venturing*, 28(2), 234–250.
 8. Cavallo, A., Ghezzi, A., & Rossi-Lamastra, C. (2021). *Small-medium enterprises and innovative startups in entrepreneurial ecosystems: A systematic review*. *Technological Forecasting & Social Change*, 167, 120734.
 9. Cohen, S. (2006). *What do accelerators do? Insights from incubators and innovation networks*. *Business Horizons*, 59(1), 49–59.
 10. Etzkowitz, H., & Leydesdorff, L. (2000). *The dynamics of innovation: From National Systems and “Mode 2” to a Triple Helix of university–industry–government relations*. *Research Policy*, 29(2), 109–123.
 11. Florida, R. (2002). *The rise of the creative class*. Basic Books.
 12. Gautam, P., & Gautam, V. (2024). *Navigating the startup innovation ecosystem in emerging markets*. *Journal of Entrepreneurship in Emerging Economies*, 16(2), 250–272.
 13. Gnyawali, D. R., & Park, B. J. (2011). *Co-opetition between giants: Collaboration with competitors for technological innovation*. *Research Policy*, 40(5), 650–663.
 14. Isenberg, D. (2010). *How to start an entrepreneurial revolution*. *Harvard Business Review*, 88(6), 40–50.
 15. Jackson, D. J. (2011). *What is an innovation ecosystem?* National Science Foundation White Paper.
 16. Khanna, T., & Palepu, K. (2010). *Winning in emerging markets: A road map for strategy and execution*. Harvard Business Press.
 17. Ketchen, D. J., Ireland, R. D., & Webb, J. W. (2018). *Toward a research agenda for the emerging platform economy*. *Academy of Management Perspectives*, 32(3), 253–268.
 18. Lawrence, T. B., & Suddaby, R. (2006). *Institutions and institutional work*. In S. R. Clegg, C. Hardy, & W. Nord (Eds.), *The SAGE handbook of organization studies* (pp. 215–254). Sage.
 19. Lerner, J. (2019). *The future of entrepreneurial finance*. *Journal of Financial Perspectives*, 6(3), 1–16.
 20. Nicholson, B., Ordoñez de Pablos, P., Heeks, R., & La Rovere, R. (2014). *E-entrepreneurship in emerging economies: Strengths and weaknesses*. *Information Systems Journal*, 24(1), 1–5.
 21. Oliveira Jr., M. D., Cahen, F., & Borini, F. (2019). *Startups and innovation ecosystems in emerging markets: A Brazilian perspective*. *International Journal of Emerging Markets*, 14(6), 1210–1233.
 22. Porter, M. E. (1990). *The competitive advantage of nations*. The Free Press.
 23. Sarasvathy, S. D. (2001). *Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency*. *Academy of Management Review*, 26(2), 243–263.
 24. Saxenian, A. (1994). *Regional advantage: Culture and competition in Silicon Valley and Route 128*. Harvard University Press.
 25. Spender, J.-C., Corvello, V., Grimaldi, M., & Rippa, P. (2017). *Startups and open innovation: A review of the literature*. *European Journal of Innovation Management*, 20(1), 4–30.
 26. Stam, E. (2015). *Entrepreneurial ecosystems and regional policy: A sympathetic critique*. *European Planning Studies*, 23(9), 1759–1769.
 27. Szirmai, A., Naudé, W., & Goedhuys, M. (2011). *Entrepreneurship, innovation and economic development*. Oxford University Press.
 28. Yuan, L., Hao, X., Guan, J., & Pentland, A. (2021). *Key components of the entrepreneurial ecosystem in a developing economy*. *Technovation*, 108, 102344.
 29. Zahra, S. A., & George, G. (2002). *Absorptive capacity: A review and reconceptualization*. *Academy of Management Review*, 27(2), 185–203.