



"A Study On The Innovation Ecosystem Driving Startup Growth In Emerging Economies"

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ABSTRACT

This study examines the role of innovation ecosystems in driving startup growth in emerging economies, where firms often face challenges related to funding access, regulatory constraints, and infrastructural limitations. By analysing theoretical frameworks such as social capital, institutional models, and the Helix structures, the research explores how interactions among entrepreneurs, government bodies, academia, and industry stakeholders contribute to startup performance. The study identifies key ecosystem components including human capital, social networks, governance structures, and digital infrastructure that significantly influence innovation and growth potential. It also highlights the unique dynamics of emerging markets, where flexibility, network integration, and technology adoption are essential for startup resilience and scalability. The findings emphasize the necessity of well-designed policies, ecosystem orchestration, and collaborative partnerships to foster sustainable entrepreneurial development and economic advancement in developing regions.

Keywords

Innovation Ecosystems, Startup Growth, Emerging Economies, Social Capital, Entrepreneurial Networks

1. Introduction

In developing countries startups have become an important driver of economic growth, innovation and job creation. These companies don't exist in isolation but are embedded in networks of actors, resources and institutions that collectively create an innovation ecosystem. A single innovation is made from socially conceived and identified requirements, technological deployment of operational innovations, coordinated government involvement, and competent staff. Conspered with opportunities on new ones, inventions are the consequence of a long and uncertain process.

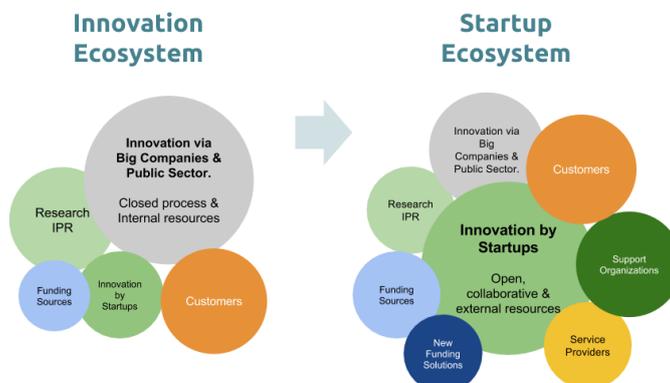


Fig: From Innovation Ecosystems to Startup Ecosystems

Source: <https://www.startupcommons.org/from-innovation-ecosystems-to-startup-ecosystems.html>

In developing economies, the funding, regulation and infrastructure challenges mean the need for solid innovation ecosystems is more pressing than ever. According to Bauman-Vitolina et al (2019), human capital

like skilled labour and entrepreneurial talent, and social capital like professional networks and collaborative relationships, greatly determines the effectiveness of these ecosystems. As with entrepreneurship ecosystems, entrepreneurship education is equally important to equip individuals with the knowledge, skills, and mindset to engage with and benefit from ecosystems (Andin et al., 2022)

Government policies and institutions shape the startup landscape, creating entrepreneurs' cities, enabling access to resources and inter-organizational collaboration (Costa et al., 2022) On the other hand, the organizational strategies and structural characteristics of innovation ecosystems condition whether or not startups can exploit the available opportunities and resources for sustainable growth.

With the increasing interest in innovation ecosystems, most studies have focused, almost exclusively, on developed economies. There is limited understanding of the complex interactions and connections that contribute to the growth of startups in emerging markets, as this is a much less studied area. It is important that policymakers, entrepreneurs and investors understand the systems in these startups so as to improve performance. This study focuses on the key driving forces shaping innovation ecosystems in emerging economies to drive the growth of startups and the following interaction between human and social capital, institutions, and organizations.

1.1 Research objectives and scope

The study intends to:

- ◆ Identify the key driving forces shaping innovation ecosystems in emerging economies that influence startup growth.
- ◆ Examine the interaction between human capital, social capital, institutions, and organizational structures within innovation ecosystems.
- ◆ Understand how innovation ecosystems enable startups to access resources, networks, and knowledge to foster sustainable growth in emerging markets.
- ◆ Investigate challenges unique to emerging economies such as funding constraints, regulatory barriers, cultural elements, and infrastructure limitations and their effects on startups.
- ◆ Analyze the role of digital platforms and technology adoption in enabling collaboration, scaling, and innovation among startups.

Scope of the Research

This study focuses on:

- ✦ Innovation ecosystems in emerging economies, rather than developed markets. The paper specifically highlights regions such as India as examples.
- ✦ Multi-actor ecosystems involving universities, industry, government, and society, using the Helix models as conceptual framing.
- ✦ Startups and early-stage entrepreneurial firms, particularly those dependent on networks, collaboration, and innovation-driven growth.
- ✦ Conceptual and theoretical analysis, using existing literature rather than primary empirical data collection.
- ✦ Structural, relational, and institutional dimensions of how entrepreneurial ecosystems function including governance mechanisms, knowledge flows, resource allocation, and market adaptation.

1.2 Significance of the study

This research is significant because it focuses on innovation ecosystems in developing countries which are still dangerously under researched than developed countries. This research fills an important gap in knowledge of how startups work in markets with specific barriers related to funding, infrastructure and regulations.

Results can help policymakers understand how institutional support, regulations, and targeted government measures can enable ecosystems and startup growth. This knowledge can help with the making of better policy measures, incubation programs, and investment-friendly environments.

The findings of the study also highlight that human capital, social networks and collaborative links are very important for entrepreneurs and founding startups for innovation, access to resources and growth. Being aware of these can help entrepreneurs position themselves within their ecosystem.

The research not only advances theory but also creates novel practical opportunities for the academic community on social capital, institutionalism and key ecosystem. It helps in developing a better understanding of startup ecosystems in emerging markets that is more holistic and contextual.

The study serves investors, accelerators, and support organizations by revealing the determinants of maturity, growth and entrepreneurial potential in an ecosystem. When choosing startup ideation or creating startup support initiatives, people will take better decisions.

2. Literature Review

Author(s)	Year	Aim	Objective	Scope	Findings
Andin, C., Ambotang, A. S., Ugih, D., Salam, S. N., & Rosmiza, M. Z.	2022	Examine engineering students' engagement in entrepreneurship education	Assess how entrepreneurship education motivates students to pursue entrepreneurial careers	Engineering students in higher education	Entrepreneurship education positively enhances students' entrepreneurial mindset and engagement
Bandera, C., & Thomas, E.	2019	Analyze innovation ecosystems and startup survival	Evaluate role of social capital in startup performance	Early-stage startups	Social capital is critical for startup survival and growth
Baumane-Vitolina, I., Dudek, D., Solarz, N., Suh, Y., Yıldırım, G., & Tesfaye, Z. N.	2019	Explore role of human and social capital in innovation ecosystems	Identify critical components supporting economic development	Innovation ecosystems in multiple countries	Human and social capital significantly influence innovation performance and economic development
Bogers, M., Chesbrough, H., & Moedas, C.	2018	Review open innovation research	Assess practices and policies in open innovation	Global firms and SMEs	Open innovation strategies enhance firm performance and knowledge integration
Carmeli, A., Levi, A., & Peccei, R.	2021	Explore resilience and creative problem-solving in teams	Assess relational factors enhancing team innovation	Project teams in organizations	Resilient teams with strong relational networks perform better in creative problem-solving
Chandra, Y.	2022	Investigate social capital in managing human resources	Assess how social capital improves organizational agility in entrepreneurial firms	Agile entrepreneurial organizations	Strong social networks improve HR management and project adaptability
Cloitre, A., Dos Santos, V., Paulino, & Theodoraki, C.	2022	Study quadruple/quintuple Helix in entrepreneurial ecosystems	Understand institutional roles in ecosystem performance	Space entrepreneurship case study	Quadruple/quintuple Helix frameworks improve stakeholder collaboration and innovation outcomes
Cobben, D., & Roijakkers, N.	2019	Study trust and control dynamics in ecosystems	Understand governance mechanisms	Innovation ecosystems in tech industries	Balanced trust and control improve collaboration and ecosystem efficiency
Costa, D., Junqueira, T. C., Coutinho, D., & Bezerra, M. R.	2022	Rank and analyze entrepreneurial cities in Brazil	Measure entrepreneurial capacity and ecosystem quality	Brazilian cities	Certain cities outperform due to better infrastructure, policy support, and innovation networks
Granstrand, O., & Holgersson, M.	2020	Review and redefine innovation ecosystems	Provide conceptual clarity and definitions	Broad innovation ecosystem literature	Innovation ecosystems involve multi-level interactions between firms, institutions, and networks
Gupta, R., Mejía, C., & Kajikawa, Y.	2019	Survey business, innovation, and digital ecosystems	Map ecosystem structures and knowledge sharing practices	Global digital ecosystems	Knowledge sharing and inter-firm collaboration enhance ecosystem performance

Jacobides, M. G., Cennamo, C., & Gawer, A.	2018	Develop theory of ecosystems	Conceptualize value creation and interdependence in ecosystems	Multi-industry innovation ecosystems	Ecosystem orchestration is essential for sustainable value creation
Kapoor, R.	2018	Broaden understanding of ecosystems	Analyze ecosystem as locus of value creation	Business and innovation ecosystems	Ecosystems expand value creation beyond individual firms
Radziwon, A., & Bogers, M.	2019	Explore open innovation in SMEs	Examine inter-organizational relationships	SMEs in technology sectors	Open innovation networks improve SME innovation performance
Rasińska, K.	2022	Examine startup ecosystems in India	Analyze factors supporting startup growth in emerging economies	Indian startup ecosystem	Institutional support, human capital, and innovation networks drive startup growth
Shipilov, A. V., & Gawer, A.	2019	Integrate research on networks and ecosystems	Provide theoretical insights on ecosystem dynamics	Inter-organizational networks	Ecosystem performance depends on inter-firm collaboration and network structure
Siegel, D. S., Kenney, M., & Nambisan, S.	2018	Examine open innovation and entrepreneurship	Study role of platforms in innovation	Tech startups and platforms	Platforms facilitate collaboration, innovation diffusion, and entrepreneurial growth
Walrave, B., Talmar, M., Podoyntsyna, K., & Verbong, G.	2018	Multi-level analysis of innovation ecosystems	Investigate factors for path-breaking innovation	Innovation projects in multiple industries	Multi-level interactions improve radical innovation outcomes in ecosystems
Zhang, T., Mei, L., & Chen, J.	2019	Study inter-firm linkages in SMEs' innovation	Evaluate ecosystem perspective on open innovation	Chinese manufacturing SMEs	Strong linkages and partnerships improve innovation output and speed

2.1 Research Gap

Though much has been studied on innovation ecosystem and startups growth, there are still many gaps on how they function in emerging economies. To begin with, most studies refer to developed economics. This leaves out the scope of critical insights from emerging markets like resource constraints, regulatory hurdles, socio-cultural factors, etc. Second, while the component parts of ecosystems such as financial support, human capital and institutional policies have been examined, there is little understanding of how these component parts work together synergistically and holistically to grow startups.

Another area which remains under-studied is that of the role of digital platforms and technology adoption, particularly on how startups access networks and collaboration to scale and grow. Evidence of the effectiveness of ecosystem orchestration, governing mechanisms and cooperation at multiple levels by government, academia, industry and civil society also remains limited. Further studies are needed examining how processes such as these can lead to sustainable growth of startups.

3. Theoretical Foundations of Startup Innovation Ecosystems

Innovation ecosystems have a structure and relational environments that allow the start-up access to resources for growth and sustainability. To understand these ecosystems, we need to combine perspectives from social capital, institutions, resilience and joint action.

Social Capital in Entrepreneurial Organizations.

Startup ecosystems are fuelled by social capital since it's where entrepreneurs, employees and stakeholders share knowledge, trust and cooperate. In agile entrepreneurial organizations, social capital plays a crucial role in managing human resources, creating team cohesion, and enabling adaptations to changing market conditions (Chandra, 2022). When startups have strong professional networks and strong relational ties, they leverage both formal and informal resources which helps them innovate better.

Helix Models and Institutional Perspectives.

The triple, quadruple and quintuple Helix models. Resulting from the academic work of Henry Etzkowitz and Loet Leydesdorff. Explain the relationship of Universities, Industry, Government, and civil society and natural environment. In developing regional innovative systems. The quadruple and quintuple Helix emphasize the role of institutions and societal actors on entrepreneurial initiative ecosystems, supporting startups and enhancing their network and knowledge input flows (Cloitre et al, 2022). This shows that being an individual actor is not enough. One needs to serve different functions and be a coordinator.

Resilience and Creative Problem-Solving.

Startups usually work in fast-changing uncertain environments. The resilience of a team and creativity in solving problems are crucial theoretical aspects in the understanding of how startups struggle with adversity and exploit opportunities. Well-connected teams can bring the following benefits: resilience, innovation and growth despite limited resources and market disruption (Carmeli et al., 2021). The viewpoint showcases that innovation ecosystem functions based not just on material resources, but also on the capabilities and interplay of human actors.

Startup Ecosystems in Emerging Economies.

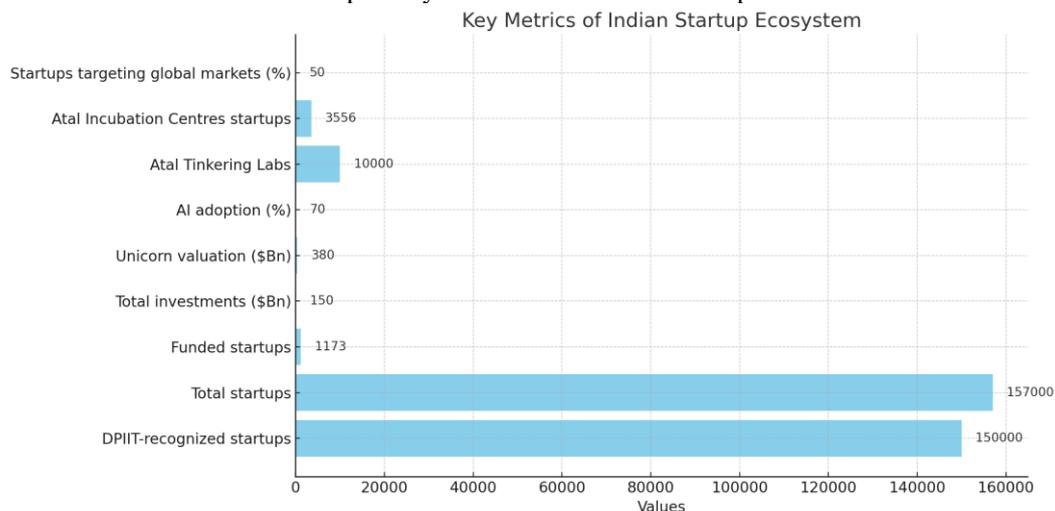
Innovation ecosystems and especially their startup innovation ecosystems in a number of growing economies, like India, show that such factors like regulatory actions as well as cultural and kinds of human capital do matter – Rasińska (2022). Theoretical frameworks involving social capital, institutional interactions, and team resilience can help us analyse these ecosystems in their complexity and themselves.

Source: [https://visionias.in/current-affairs/news-today/2025-06-28/economics-\(indian-economy\)/indias-start-up-ecosystem-sees-exponential-growth-over-the-last-decade-says-meta-report](https://visionias.in/current-affairs/news-today/2025-06-28/economics-(indian-economy)/indias-start-up-ecosystem-sees-exponential-growth-over-the-last-decade-says-meta-report)

Table: India's Startup Ecosystem Metrics

Metric	Value	Notes [Source]
DPIIT-recognized startups	150,000+	51% from non-metro cities
Total startups	1.57 lakh	Up from 502 in 2016
Funded startups	1,173	-
Total investments	\$150 Bn+	Ecommerce, fintech, enterprise tech: 52%
Unicorn combined valuation	\$380 Bn+	-
AI adoption in startups	70%	87% improved cost per acquisition in marketing
Atal Tinkering Labs	10,000	-
Atal Incubation Centres startups	3,556	Created 41,965 jobs
Startups targeting global markets	50%	USA, UAE, UK top destinations

Graph: Key metrics of Indian Start-ups



India's startup ecosystem has grown significantly, with over 150,000 DPIIT-recognized startups, more than half originating from non-metro cities, reflecting the rising entrepreneurial activity beyond traditional hubs. The total number of startups has reached 1.57 lakh, a remarkable increase from just 502 in 2016. Funded startups number 1,173, attracting cumulative investments exceeding \$150 billion over the last decade, with

ecommerce, fintech, and enterprise tech contributing to 52% of funding. The unicorn valuation stands at over \$380 billion, showing strong market confidence.

Technology adoption is high, with 70% of startups integrating AI, improving marketing efficiency significantly (87% better cost per acquisition). Government initiatives have also supported entrepreneurship, including 10,000 Atal Tinkering Labs and 3,556 startups from Atal Incubation Centres, creating over 41,000 jobs. Finally, around 50% of startups target global markets, with the USA, UAE, and UK being the primary destinations. Overall, the data highlights rapid growth, widespread AI adoption, strong funding, and global market orientation in India’s startup ecosystem.

In summary, these theoretical perspectives demonstrate how the innovation ecosystem helps startups obtain resources, access networks, manage uncertainty, and achieve sustained growth. They give the theoretical basis for looking at the factors behind entrepreneurial performance in developing economies.

4. Conceptual Framework of the Study

Based on the literature review and theoretical foundations discussed earlier, this study proposes a conceptual framework to explain how innovation ecosystems influence startup growth in emerging economies. The framework integrates key ecosystem components, interaction mechanisms, and contextual factors to illustrate their collective impact on startup performance and sustainability.

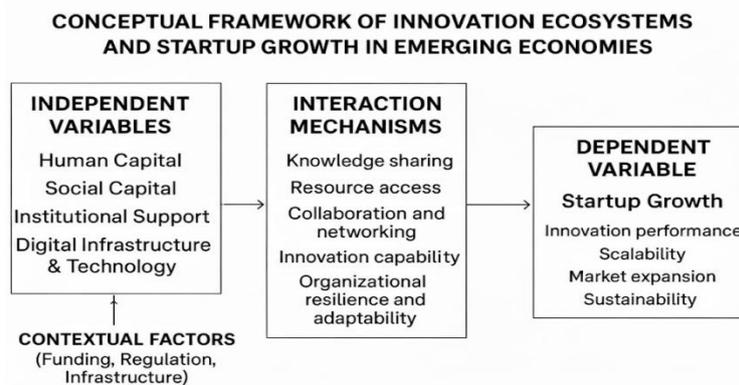


Fig: Conceptual framework of the study

The provided conceptual model illustrates the process driving Startup Growth by identifying key inputs and mechanisms. Growth, defined by Scalability and Sustainability, is directly enabled by Interaction Mechanisms such as Innovation, Collaboration, and Resource Access. These mechanisms are, in turn, generated by four foundational inputs: Human Capital (skills and knowledge), Social Capital (networks and trust), Institutional Support (formal organizational help), and Digital Infra (technological foundation). Crucially, the effectiveness of these Interaction Mechanisms is shaped by Contextual Factors the external environment defined by the availability of Funding, governing Regulation, and supportive Infrastructure. Thus, the model suggests that a robust combination of internal resources and external environmental support is necessary to generate the critical interactions that lead to successful and lasting startup expansion.

5. Components of Startup Innovation Ecosystems

Startup innovation ecosystems are comprised of a web of interconnected actors, resources and institutions that enable startups to innovate, grow and thrive. Through the structural support, social network, governance mechanism, digital infrastructure, and resource integration, these ecosystems create a viable environment for the entrepreneurial ventures to flourish.

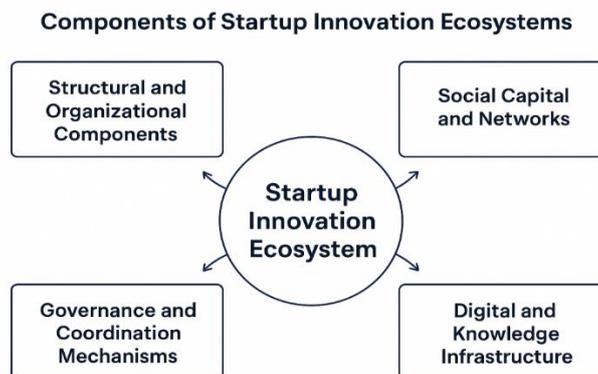


Fig: Components of start-up
Source: Own processing

A variety of players constitute an innovation ecosystem. Economies of all shapes and sizes require these players. They include firms, research institutions, government agencies and supporting organizations. Supporting organizations comprise incubators, accelerators etc. They supply the resources, the policy structures, and the infrastructure that undergird startup production. The coordinated interactions between the actors generate value that cannot be created by any organization alone (Granstrand and Holgersson 2020).

Another critical issue is social capital and networks. Trust, shared norms and professional relationships give startup access to sources of knowledge, mentors, collaborators as well as information which is essential for surviving and performing (Bandera & Thomas, 2019) Strong networks can lessen uncertainty, mobilize resource, and cooperate. All of which contribute to social capital in an innovation ecosystem.

The governance and coordination mechanisms further help ecosystem functioning. Effective governance entails the balance of trust and control between the various actors involved, the alignment of strategic priorities as well as the management of resource allocation (Cobben & Roijackers, 2019). Such mechanisms are very important. They help in managing conflicts and sustaining cooperation. They also help the ecosystem to work efficiently. This allows the startups to focus on their innovations and growth.

Most importantly, digital platforms and knowledge sharing infrastructures assume an ever more important role. These systems allow the exchange of information in real-time, working across borders, and sharing of innovations. Digital infrastructures help the ecosystem support startup product and service definition and scaling through the facilitation of open innovation and knowledge integration.

All in all, the startup innovation ecosystem structural actors, social networks, governance mechanism, digital infrastructure, and resource integration interact in a dynamic way to unleash entrepreneurship. This creates more innovation, helps startups overcome challenges, and enables them to create sustained and scalable growth in emerging economies.

6. Dynamics of Startup Growth in Emerging Economies

In emerging economies startup growth depends on many factors such as market opportunities, resource availability, institutional environment, and entrepreneurial capabilities. The economies of developing countries are often characterized by high uncertainty, limited access to finance and a fragmented infrastructure. Consequently, startups need to be flexible, creative, and able to use external networks so that they can survive and grow (Radziwon & Bogers, 2019; Shipilov & Gawer, 2019).



Fig: Dynamics of Startup Growth in Emerging Economies
Source: Own processing

To grow, people must adapt and decide. Many ambitious start-ups focus on product, process and business model innovations for local needs and constraints. The quick change startup have to cope up with the changing market and able to cater with the user requirements that are changing at a quick speed. (Bogers Chesbrough and Moedas 2018)

Access to resources is a key determinant, especially capital and skilled labour. As startups are often unable to get conventional financing, they rely on alternatives like angel-investors, venture capital, crowdfunding and government grants. Differentiate successful startups from unsuccessful ones through the efficient management of limited resources (Zhang, Mei, & Chen, 2019).

Being involved in startups ecosystems matters too. When startups companies engage with other startups, researchers, mentors, and policymakers, they can access knowledge, partnerships, and markets. In emerging economies, where formal structures may not be strong, these networks often offer essential knowledge and legitimacy (Shipilov & Gawer, 2019; Radziwon & Bogers, 2019).

Changes in market conditions will increasingly shape the growth. Emerging markets are known for their varied consumer needs which are often price sensitive and are changing quickly. Startups that comprehend these nuances and formulate local strategies are much likely to attain sustained growth. At the same time, it is also important to plan strategically and be flexible when dealing with institutional and regulatory factors with inconsistency and bureaucracy (Bogers, Chesbrough, & Moedas, 2018).

Startups in emerging economies often aim to scale and go international. Through the use of technology, digital platforms and cross-border partnerships empower startups to attract larger customer bases and optimize their operations (Zhang, Mei, & Chen, 2019). The growth of startups in developing economies is an evolving process impacted by innovation, creativity, ecosystem involvement and market and institutional conditions.

7. Challenges and Barriers

Challenges:

1. Startups in emerging economies often face limited access to funding sources such as venture capital, angel investors, and formal credit institutions, making it difficult to scale operations.
2. Weak regulatory frameworks, bureaucratic procedures, and inconsistent policy support can create uncertainty and slow down business expansion.
3. Inadequate technological infrastructure, including digital connectivity and R&D facilities, restricts innovation activities and knowledge transfer among ecosystem actors.
4. Limited availability of skilled labour and entrepreneurial talent reduces the capacity of startups to innovate and compete both locally and globally.
5. Many startups struggle to integrate effectively into professional networks due to insufficient social capital, weakening their ability to gain market access, mentorship, and collaboration.

Limitations of the study:

1. The study primarily relies on secondary data and theoretical literature rather than empirical, field-based evidence, which may limit the practical verification of findings.
2. The generalization of conclusions may be restricted, as emerging economies differ greatly in cultural, institutional, and economic conditions.
3. The research does not analyse specific sectors (e.g., fintech, biotech, e-commerce) separately, which may overlook industry-specific dynamics.
4. The study does not include longitudinal analysis, meaning it does not track changes in innovation ecosystems over time.
5. The role of informal economy dynamics, local entrepreneurial culture, and regional variations is acknowledged but not deeply quantitatively examined.

8. Policy Implications and Recommendations

Strengthening innovation ecosystems in emerging economies requires targeted and strategic interventions from multiple stakeholders. Policymakers should focus on building transparent and supportive regulatory frameworks that reduce bureaucratic barriers and create a stable business environment for startups. Governments can further stimulate innovation by offering tax incentives, grants, and subsidized financing schemes aimed specifically at early-stage entrepreneurs.

Investment in human capital is essential. Expanding entrepreneurship education, technical training, and industry-academia collaboration will help create a talent pool equipped with relevant skills for innovation-driven sectors. Enhancing social capital through national and local networking platforms, startup forums, and incubator-accelerator programs can enable deeper collaboration among entrepreneurs, investors, research institutions, and industry actors.

Creating digital infrastructure and technology-access programs will improve connectivity, knowledge-sharing, and market reach. Policymakers should also facilitate cross-border partnerships and encourage participation in global value chains to help startups expand beyond local markets. Finally, ensuring transparency, accountability, and continuity of policy implementation will be crucial to building trust among ecosystem actors and creating a conducive environment for sustainable entrepreneurial growth.

9. Conclusion

This study highlights the critical role of innovation ecosystems in fostering startup growth within emerging economies, where resource constraints and regulatory challenges intensify the need for collaborative networks

and institutional support. Startups thrive not in isolation, but through active engagement with human capital, social capital, government frameworks, and organizational structures.

By analysing theoretical foundations and ecosystem dynamics, the study deepens understanding of how startups leverage networks, resilience, knowledge-sharing, and strategic adaptation to navigate uncertain environments. It underscores the importance of cohesive and well-coordinated ecosystems that empower entrepreneurs with access to skills, funding, infrastructure, and market opportunities.

Ultimately, building strong innovation ecosystems can accelerate economic development, drive technological advancement, and enhance competitiveness in emerging markets. Continued research, policy attention, and institutional commitment are vital for creating inclusive, resilient, and innovation-driven entrepreneurial environments capable of shaping future growth trajectories.

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