

Start-Up India and Innovation Revolution: Fueling Entrepreneurship for Viksit Bharat 2047

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Abstract

India's vision of becoming a developed nation by the centenary of its independence—Viksit Bharat 2047 is dependent largely on transition into an innovative and growth-focused economy. The "Viksit Bharat 2047" vision mandates a structural transformation of the Indian economy. Central to this objective is the *Start-up India* mission, designed to position entrepreneurship as the primary engine for sustainable economic development, job creation, and technological self-reliance. Central to this goal is the catalytic role played by the Start-up India initiative, combined with Digital Public Infrastructure (DPI) and an unprecedented surge in domestic innovation. This research examines the structural transformation of India's startup ecosystem and its strategic role in achieving economic self-reliance, high-value job creation, and global competitiveness. Using an analytical framework grounded in policy evaluation and economic indicators, this paper assesses the core drivers of India's entrepreneurial expansion—including incubator networks, regulatory easing, deep-tech research, and venture capital integration. Simultaneously, it highlights persistent structural challenges, such as the gap between laboratory research and commercialization (the "valley of death"), regional funding disparities, regulatory friction, and digital talent shortages. Adopting an analytical and conceptual framework based on secondary data, economic reports, policy

documents, and empirical studies, the paper analyses key indicators across ecosystem growth, policy interventions, access to capital, and technological adoption across Tier-1, Tier-2, and Tier-3 cities. Using an analytical framework grounded in policy evaluation and economic indicators, this paper assesses the core drivers of India's entrepreneurial expansion—including incubator networks, regulatory easing, deep-tech research, and venture capital integration. The findings reveal that flagship initiatives like Start-up India, Digital India, and grassroots incubation infrastructure (e.g., Atal Innovation Mission) have fundamentally shifted India's identity from a tech-adaptor to a designer of frontier solutions. However, sustaining this momentum toward 2047 requires addressing key challenges, such as funding constraints beyond seed stages, regulatory frictions, R&D commercialization gaps ("the valley of death"), and skill misalignments. The study concludes with actionable recommendations for policymakers, academic institutions, and industry stakeholders to strengthen public-private partnerships, accelerate R&D commercialization, and build a resilient entrepreneurial landscape capable of anchoring Viksit Bharat 2047.

Keywords: Start-up India, Viksit Bharat 2047, Innovation Revolution, Entrepreneurship, Economic Growth, Deep Tech, Digital Public Infrastructure, Employment Generation.

I. INTRODUCTION

The vision of 'Viksit Bharat 2047' is India's goal to transform itself into a developed country by the time of its hundred years of independence. This will be the result of India's shift from a developing country to a superpower through technology and a new generation of entrepreneurs and job creators. One of the core components of this vision is the young population, also known as the 'Amrit Peedhi', that is shifting from being job-seekers to job-makers. Startups, one of the key initiatives under the Start-up India campaign, along with the innovation revolution, have led to economic growth. In the past decade, start-ups have grown from 350 in 2014 to over 2.3 Lakh recognized start-ups and more than 23 Lakh jobs created as of mid-2026. With significant support from the government, it is now easier for entrepreneurs to evolve and expand their business with the help of funding, networks, and resources. As a result, today, building an entrepreneurial ecosystem is not only a business but is viewed as a key driver for triggering social change and economic development. Being at the cutting edge of disruptive technologies, start-ups have the potential to be key enablers in addressing many of India's challenging problems in various sectors like financial technologies, healthcare technologies, agri-tech, and many others, and contribute significantly to Viksit Bharat 2047. Thus, this research paper aims to assess Start-up India and the innovation revolution's role in Viksit Bharat 2047. It will also discuss the current state of start-up ecosystems in India, including their role in Viksit Bharat 2047, and suggest ways to ensure their significant role in India's growth story.

Objectives of the Study

This study aims to investigate the role of the Start-up India initiative and innovation in general for the purpose of realizing the concept of Viksit Bharat by 2047. The objectives of the study are as follows:

- To analyse the development and the growth patterns of the Indian start-up industry since the launch of the initiative 'Start-up India' in order to understand the way it has transformed into a competitive arena capable of producing truly global innovations.
- To assess to what extent the policies, financial support infrastructure (such as the Startup India Seed Fund), and the network of incubators and accelerators contribute to the overall ease of doing business and innovating in the country.
- To evaluate the impact of the start-up industry on the major socioeconomic indicators such as employment rates and the level of economic development. Of specific interest are large-scale innovations and/or appropriate solutions to local problems that have the potential of becoming disruptive.
- To understand how the ongoing innovation-driven development can support the realization of Viksit Bharat 2047 and to what extent it fits the needs of the national economy and technological development.
- To highlight the weaknesses and threats in the current state of the start-up industry and to recommend the necessary policy interventions for the next 20 years.

Hypotheses of the Study

Hypothesis 1: Policy Efficacy and Ecosystem Growth

H1(Alternative): Strategic policy interventions under the Start-up India initiative (targeted funding architecture and regulatory easing) significantly impact the survival rate and scalability of early-stage ventures.

H0(Null): Policy interventions under the Start-up India initiative do not significantly impact the survival rate and scalability of early-stage ventures.

Hypothesis 2: Socio-economic impact and decentralization

H1(Alternative): The sustained growth of the ecosystem under Start-up India will be positively correlated with inclusive job creation and decentralization of entrepreneurial activity (from Tier-1 metro cities to Tier-2 and Tier-3).

H0(Null): The growth of the ecosystem will not lead to significant inclusive job creation or decentralization beyond Tier-1 metropolitan hubs.

Hypothesis 3: Sectoral contribution for Viksit Bharat 2047

H1(Alternative): Indigenous innovations (by start-ups) in critical sectors like deep tech, health tech, and aggrotech will significantly accelerate India's journey towards technological self-reliance by catalyzing the Viksit Bharat 2047 vision.

H0(Null): Indigenous innovations by start-ups in critical sectors would not significantly accelerate India's trajectory towards technological self-reliance.

Hypothesis 4: Structural bottlenecks and sustainability

H1(Alternative): Sustained structural bottlenecks (uneven VC distribution across geos and state-level compliances) significantly impede the long-term sustainability and growth of the innovation ecosystem.

H0(Null): Structural bottlenecks related to capital distribution and compliance do not significantly impede the long-term growth of the innovation ecosystem.

Review of Literature

The literature review synthesizes theoretical frameworks, policy evaluations, and empirical studies to establish a conceptual foundation for understanding the start-up ecosystem's role in driving India towards 'Viksit Bharat 2047'.

Kankariya, Jain, & Jagwani (2022): Empirical analysis of India's transition into the world's third-largest start-up ecosystem.

NASSCOM Indian Start-up Ecosystem Reports (Annual): Documentation of ecosystem metrics, unicorn creation, and tech adoption rates.

Azam (2021): Assessment of macroeconomic variables influenced by early-stage tech ventures.

Nair & Aggarwal (2017): Early critical analysis of policy bottlenecks, regulatory friction, and tax framework adjustments.

DPIIT Policy Evaluation Reports: Quantitative reviews on state-level start-up rankings and institutional capacity building.

Jayanthi (2019): Synthesis of state-sponsored financial incentives and their impact on founder entry rates.

Kumar & Gupta (2021): Study on employment elasticity and direct vs. indirect job creation generated by start-ups.

Chaudhary (2024): Assessment of start-ups' structural contribution to net national output and workforce formalisation.

Kumari & Milan (2025): Evaluation of policy integration across sectoral ecosystems and long-term nation-building goals.

Research Gap

Although the literature exploring India's start-up environment and policy is growing exponentially, much research remains descriptive, cross-sectional, or focused on short-term outcome measures. Three research gaps were identified in the scoping review that motivated this study:

1. Longitudinal Alignment Gap: Short-Term Metrics and Viksit Bharat 2047

While there is a wealth of literature examining proximal impacts of the start-up ecosystem on the economy (e.g., number of jobs created, funding rounds completed or increased valuation), little research explores how current start-up-led

innovations fit into long-term (>10 years) centennial goals such as Viksit Bharat 2047. For example, how will the current technological capital, deep tech innovation, and entrepreneurship contribute to a sovereign, competitive, and productive economy with high-income skilled workers? What will be the cumulative impact on productivity and the Indian industrial ecosystem?

2. Tier-2 and Tier-3 Scalability Gap: Post-2020 Trends and Digital Public Infrastructure

While much literature focuses on the large start-up ecosystems in the major metro regions (Bengaluru, Delhi-NCR, Mumbai), recent trends suggest that post-2020 DPI and distributed workforces have enabled significant innovation and entrepreneurship in non-metro centres. Although state start-up reports note an increase in enterprise registrations in non-metro centres, there is a need to better understand the survival and scaling rates of these enterprises, their unit economics, and their long tail. Can distributed teams and non-metro incubators lead to the emergence of capital markets or will these firms remain dependent on capital from the primary metro clusters?

3. Policy Conversion Efficiency Gap: Public Input and Enterprise Sustainability

Much policy analysis focuses on the quantity of capital disbursed through various public policy instruments (e.g., number of firms supported by the Startup India Seed Fund Scheme or the Fund of Funds for Startups). However, there is a need to better quantify and qualify the conversion efficiency of public policy instruments in terms of their ability to sustain revenue-positive, profitable enterprises at scale. How do public sector led early-stage funding programs compare to private sector funding in reducing the “valley of death” of start-ups?

Justification of the Present Study

This study addresses each of the three gaps in the literature. By synthesizing macro-level goals and micro-level insights, it bridges the Longitudinal Alignment Gap, providing a cohesive analysis that connects current start-ups to national development goals through a framework that ties the former to the latter’s 2047 vision. It addresses the Tier-2/3 Scalability Gap by assessing the viability of regional ventures beyond 2020. Lastly, it tackles the Policy Conversion Gap by analysing the conversion mechanisms of public finances into self-sustaining enterprises, thus giving policymakers, academics, and entrepreneurs valuable insights.

Data Sources

It should be noted that this paper focuses on utilizing secondary sources of information since the study aims to explore the development of the Indian start-up ecosystem, the role of Startup India policy interventions, employment generation, innovation support, regional development and the structural constraints that may

affect long-term scaling. No primary survey was conducted. The main body of the report is based on information provided by the Department for Promotion of Industry and Internal Trade (DPIIT) and the Startup India portal, which offer a comprehensive list of DPIIT recognized start-ups, recognition criteria, funding mechanisms, intellectual-property support, public procurement, mentoring and ecosystem-building initiatives. Government publications are complemented with the Economic Survey of India, Press Information Bureau releases, NITI Aayog publications, NASSCOM ecosystem reports and relevant academic studies. As for quantitative analysis, the study focuses on several key indicators that can be compared over time, including the number of DPIIT-recognised startups, annual recognitions, direct employment reported by the government, funding and credit-support indicators, intellectual-property activity, public-procurement participation and regional ecosystem development. It should be noted that cumulative figures are used as cumulative stocks and should not be confused with annual flows.

Table 1
Data Sources and Indicators

Source	Main information	Use in study	Period
DPIIT / Startup India	Recognition, schemes, funding, IPR, procurement	Policy and ecosystem analysis	2016–2026
Press Information Bureau	Recognitions, jobs, Funding and outcomes	Latest official indicators	FY 2025–26
Economic Survey	Historical startup and economic indicators	Longitudinal trend	Recent editions
NITI Aayog / Government reports	Innovation and development policy	Policy context	Relevant editions
NASSCOM reports	Technology and ecosystem trends	Triangulation	Relevant years
Peer-reviewed studies	Empirical and theoretical evidence	Literature and interpretation	2017–2025

Research Methodology Research Design

The study has adopted a descriptive, analytical, and longitudinal research design using data from secondary sources. Descriptive analysis has been done to capture the growth trajectory of the start-up ecosystem. Additionally, analytical comparison has been undertaken to arrive at an understanding of the variations in employment trends, policy interventions, innovation, and regional participation. The study uses a longitudinal approach to examine the evolution of the start-up ecosystem after its inception under Startup India in 2016.

Nature and Approach

The study makes use of both quantitative data related to the industry and qualitative information related to policy and research. An analytical comparison has been done using a policy-evaluation framework to understand how factors such as recognition, funding, incubation, and ease of doing business contribute to ecosystem-level outcomes.

Unit of Analysis and Scope

The study takes the national start-up ecosystem as its unit of analysis. To the extent feasible and available, the analysis has been done at the state, Tier-1, Tier-2, and Tier-3 levels too. The DPIIT-recognized start-up ecosystem is used as an indicative measure of the overall start-up ecosystem development in the country. However, it must be noted that recognition is not an indicator of sustainability, profitability, or scale of operations.

The period under review for the study has been from January 2016, when Startup India was launched, till FY 2025-26. Earlier trends have been used to the extent available for providing context.

Data Collection Sources

The sources of data collection were selected by applying such criteria as representativity, relevance, comparability, and recency. Preference was given to official statistics and reports from reputable institutions. The information was grouped according to common criteria to ensure that annual figures were not mixed with cumulative indicators.

Variables and Indicators

- Ecosystem growth: number of DPIIT recognized startups and additions per year
- Employment: number of direct jobs reported for recognized startups
- Policy support: provision of seed funding, Fund of Funds, credit support, mentoring, and regulatory support
- Innovation: intellectual-property and patent-support indicators and technology-specific startup activity
- Market access: participation in public procurements and related support policies
- Regional development: general activity of recognized and unrecognized startups outside of major metropolitan areas where comparable statistics are available
- Structural constraints: lack of later-stage funding provisions, regulatory discrepancies, research-to-market inefficiencies, regional concentration of capital and skillsets

Analytical Techniques

The study employs analysis of variance, assessment of percentage changes, qualitative comparison, and content analysis. The percentage change is calculated using the following formula:

$$\text{Percentage change} = (\text{Later value} - \text{Earlier value}) / \text{Earlier value} \times 100 \%$$

The study evaluates the hypotheses through evidential triangulation. Due to the nature of the sources, which were focused on aggregated statistics and figures at the level of the economy, the analysis does not attempt to establish causal relationships at the level of individual firms and make statistical inferences. To evaluate the survival analysis and potential causal-hypotheses, a longitudinal study would be required that would include information about individual firms that seek or have received funding, their employment rates, revenues, geographical distribution, and survival rates.

Data Analysis and Result

1. Growth of the Start-up Ecosystem

Government data suggest extensive improvement in India's formally recognized startup ecosystem. The Press Information Bureau stated that DPIIT-recognized startups crossed 2.23 lakh by 31 March 2026 and more than 23.36 lakh direct jobs were created. The Bureau added more than 55,200 recognitions have taken place within FY 2025–26, the highest number in a single year since the launch of Startup India. This shows that Startup India has been associated with extensive ecosystem expansion. It is important to understand that the number of recognised startups should not be confused with the number of surviving profit-making firms. The finding, therefore, indicates ecosystem growth rather than a causal claim about venture survival.

2. Policy Support and Institutional Infrastructure

Startup India framework encompasses recognition, regulatory facilitation, intellectual-property support, funding, mentorship as well as public procurement. The official portal highlights the Startup India Seed Fund Scheme as support for proof of concept, prototype development, product trials, market entry and commercialization. The Fund of Funds model and other funding mechanisms address access to capital, while mentorship, and ecosystem programmers supplement non-financial support. The policy architecture, therefore, addresses several early-stage constraints. Nevertheless, the persistence of later-stage funding and commercialization challenges indicates that policy success should increasingly be measured by transformation of early support into sustainable, revenue-generating and scalable enterprises.

3. Employment and Socio-economic Contribution

The reported 23.36 lakh-plus direct jobs associated with DPIIT-recognized startups showcase significant employment dimension. This shows that entrepreneurship can supplement conventional employment by creating new firms, products and services. The wider indirect employment effect may be larger through suppliers, logistics, digital services and related ecosystem activities, but comparable national secondary data are not consistently available. Accordingly, the present paper limits its quantitative conclusion to the officially reported direct employment measure.

4. Innovation and Technology Contribution

Startup India links entrepreneurship to intellectual property, technology development and commercialization. IPR facilitation and fast-tracking reduce some of the barriers to protection of innovation, while funding mechanisms and incubation can help move ideas to market-entry. The evidence supports the claim made in the study that startups can contribute to technological self-reliance. However, the research gap surrounding 'valley of death' remains crucial as a promising research output or prototype does not automatically translate to a commercially successful product. Therefore, stronger university-industry-startup linkages are necessary.

5. Regional Development

State Startup Ranking, and other ecosystem-building initiatives indicate that there has been an attempt to distribute entrepreneurial capacities beyond only a few metro clusters. The evidence suggests a significant level of geographical participation, but aggregate data do not establish that Tier-2 and Tier-3 ventures have achieved the same level of survival, funding and scaling compared to major metro clusters. Regional distribution should be assessed alongside capital accessibility, incubator quality, skills and market access.

6. Structural Bottlenecks

Four major constraints remain pertinent: later-stage funding availability, regulatory and compliance friction, weak conversion of research into commercial products, and shortages or mismatches in specialised skills. These constraints are pertinent to all deep-tech and research-intensive enterprises, which often require longer development cycles and larger capital. The implication is that the next phase of policy should focus not only on an increase in the number of startups that enter the ecosystem, but also the quality, resilience and scalability of enterprises.

Hypothesis Assessment

Hypothesis	Evidence	Assessment	Interpretation
H1: Policy efficacy and ecosystem growth	Rapid increase in recognition and broad policy support	Directionally supported	Policy intervention is associated with strong ecosystem expansion; firm-level survival cannot be causally established.
H2: Socio-economic impact and decentralization	Direct jobs and wider state-level ecosystem initiatives	Partially supported	Employment contribution is clear; comparable Tier-2/Tier-3 survival evidence remains limited.
H3: Sectoral contribution to Viksit Bharat 2047	IPR support, technology orientation and innovation infrastructure	Conceptually supported	Startups have strategic potential for technological self-reliance, but the 2047 effect cannot yet be observed directly.
H4: Structural bottlenecks and sustainability	Funding, compliance and commercialization constraints	Supported by secondary evidence	These constraints remain material barriers, although their individual causal effects require firm-level data.

Discussion

The findings suggest that Startup India has strengthened India's entrepreneurial ecosystem by creating a more institutionalized national framework. The growth in recognized startups and employment reflects significant expansion, while policy support has widened to include funding, IPR, mentorship and market access. However, ecosystem growth should not be equated with maturity. The key challenge is improving the conversion of startup recognition into survival, funding into sustainable revenue, research into commercial products and regional entrepreneurship into scalable businesses. This highlights the policy conversion efficiency gap identified in the study. From a Viksit Bharat 2047 perspective, greater emphasis is needed on productivity, quality employment, technological capability, research commercialization and inclusive regional growth. Startup policies should therefore focus on outcomes rather than startup numbers alone.

Policy Recommendations

- Evaluate startups based on survival, revenue, employment quality, productivity and commercialization, not only registrations.
- Strengthen later-stage funding for deep-tech and research-intensive startups.
- Improve university–industry–startup linkages through technology transfer, pilot projects and shared infrastructure.
- Expand quality incubation and mentorship in Tier-2 and Tier-3 cities.
- Promote public procurement as an early market for innovative Indian products.
- Assess the conversion efficiency of Seed Fund, Fund of Funds and other public interventions.
- Develop skills in AI, cybersecurity, semiconductors, biotechnology and climate technology.
- Continue regulatory simplification and improve coordination between central and state authorities.
- Create a longitudinal startup database covering funding, employment, revenue, patents, survival and exit outcomes.

Limitations of the Study

- The study is limited by the definitions, coverage and reporting practices of secondary data sources.
- DPIIT recognition does not necessarily reflect startup survival, profitability or scalability
- Comparable data are limited across states, sectors and different startup stages
- Aggregate data cannot establish firm-level causal relationships or statistical significance
- The contribution of startups to Viksit Bharat 2047 is long-term and cannot yet be directly measured.

Scope for Future Research

Future studies can develop a firm-level longitudinal dataset covering recognition, funding, employment, revenue, patents, location, sector and survival. This would enable survival analysis, panel regression and stronger policy evaluation. Research focusing on Tier-2 and Tier-3 startups, along with interviews with founders, investors and policymakers, could further explain the effectiveness of public interventions.

II. CONCLUSION

The study concludes that Start-up India has emerged as an important pillar of India's entrepreneurship and innovation ecosystem. The growth in DPIIT-recognized startups and employment, along with support for funding, IPR, mentorship, market access and regulation, indicates significant ecosystem development. However, achieving the goals of Viksit Bharat 2047 requires greater focus on startup sustainability and quality. Key priorities include improving survival and scalability, strengthening deep-tech commercialization, reducing regional funding gaps, developing skilled talent and measuring the effectiveness of policy interventions.

III. REFERENCES

1. Department for Promotion of Industry and Internal Trade (DPIIT). Startup India Portal. Government of India. <https://www.startupindia.gov.in/>
2. Startup India. Startup India Scheme and DPIIT Recognition Framework. Government of India. <https://www.startupindia.gov.in/content/sih/en/startup-scheme.html>
3. Press Information Bureau, Ministry of Commerce & Industry. (2026, April 17). Government recognizes more than 55,200 startups during FY 2025–26; total recognized startups cross 2.23 lakh with over 23.36 lakh jobs created.
4. Government of India. Economic Survey 2025–26. Ministry of Finance, Department of Economic Affairs. <https://www.indiabudget.gov.in/economicsurvey/>
5. NITI Aayog. Reports and publications on innovation, entrepreneurship and development. Government of India. <https://www.niti.gov.in/>
6. NASSCOM. Indian Tech Startup Ecosystem and related annual ecosystem reports.
7. Kankariya, S., Jain, R., & Jagwani, P. (2022). Studies on India's emergence as a major global startup ecosystem.
8. Nair, S., & Aggarwal, R. (2017). Studies on policy bottlenecks, regulatory friction and the Indian startup environment.
9. Jayanthi, R. (2019). Studies on state-level financial incentives and entrepreneurship.
10. Kumar, R., & Gupta, S. (2021). Studies on employment elasticity and direct and indirect employment generated by startups.
11. Chaudhary, S. (2024). Studies on startup contribution to national output and workforce formalisation.