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University-Based and Government-Established Business Incubators in India: A Comparative Analysis of Models, Governance, and Entrepreneurial Outcomes

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Abstract: *India's startup ecosystem is supported by two principal families of business incubators that are frequently conflated in policy discussion: incubators owned and governed by higher education institutions (HEIs) and incubators established by the central or state governments. This conceptual paper develops a structured comparison of the two models. Drawing on the Triple Helix framework, institutional theory, and the resource-based view, and on the contemporary Indian policy architecture—including the Department of Science and Technology's NIDHI–Technology Business Incubator programme, the Atal Innovation Mission, and state startup missions such as T-Hub and the Kerala Startup Mission—the analysis contrasts the two models across nine dimensions: sponsorship and ownership, legal form and governance, mission and strategic objectives, funding model and sustainability, knowledge and mentorship base, selection and sectoral focus, scale and infrastructure, accountability and performance metrics, and geographic reach. The paper argues that HEI incubators derive their distinctive advantage from embeddedness in academic knowledge, research infrastructure, and student talent, oriented toward commercialising institutional research and cultivating an entrepreneurial culture, whereas government-established incubators derive theirs from policy mandate, larger and more durable public funding, scale, and ecosystem convening power oriented toward regional development and employment. It further shows that the boundary between the models is increasingly blurred by co-funding and public–private–academic partnerships, producing hybrid forms. The paper offers a comparative framework, implications for policymakers and institutional leaders, and an agenda for empirical research.*

Keywords: business incubators; higher education institutions; government incubators; Triple Helix; NIDHI-TBI; Atal Innovation Mission; India
JEL Classification: L26, M13, O31, O38, H43
Paper type: Comparative Conceptual Paper.

I. INTRODUCTION

Business incubators have become a defining instrument of India's strategy to build an innovation-led economy, and the country now hosts one of the densest concentrations of public-supported incubation infrastructure in the world. To the casual observer, incubators appear as a single category of organisation offering similar services—space, mentoring, and access to finance. In practice, however, India's incubators arise from two distinct institutional lineages with different owners, mandates, and logics: incubators that are owned and governed by higher education institutions (HEIs), and incubators that are established by the central government or by state governments. These two families are frequently

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conflated in policy discussion and popular commentary, yet the distinction matters for how ventures are selected, supported, financed, and held accountable.

The conflation is understandable because the two lineages are deeply intertwined. Many university incubators are funded through government schemes, and several flagship government incubators are hosted on or partnered with academic campuses. Nonetheless, treating the two as interchangeable obscures real differences in governance, resourcing, and strategic orientation that shape entrepreneurial outcomes. The purpose of this paper is to make those differences explicit. It pursues three objectives: (a) to ground the distinction in the relevant theory; (b) to map the principal central, state, and university incubation instruments operating in India; and (c) to compare the two models systematically across a set of analytical dimensions, while acknowledging the hybrid forms that increasingly blur the boundary between them.

Clarifying the distinction has practical value. For a founder choosing where to incubate, the model shapes the kind of support available and the equity or accountability expectations attached to it. For an institutional leader or policymaker, understanding the comparative strengths of each model informs where public resources are best directed and how the two can be made complementary rather than duplicative. The remainder of the paper sets out the theoretical lenses, the review method, the Indian landscape, the comparative analysis, a discussion of convergence, and the implications and limitations.

II. THEORETICAL BACKGROUND

Three theoretical lenses illuminate why university-based and government-established incubators differ. The Triple Helix model conceptualises innovation as the product of interaction among three institutional spheres—university, industry, and government—and is explicit that each sphere can take the lead in creating hybrid organisations such as incubators (Etzkowitz&Leydesdorff, 2000; Etzkowitz& Zhou, 2017). University-based and government incubators can thus be read as incubators in which different vertices of the helix predominate: the academic vertex in the former and the state vertex in the latter, with industry participating in both. Indeed, several prominent Indian incubators are deliberately tri-partite by design, which is precisely why the model also explains their convergence.

Institutional theory adds that organisations facing the same environment tend toward isomorphism, adopting similar structures in response to coercive, mimetic, and normative pressures (DiMaggio & Powell, 1983). This helps explain why incubators of both lineages increasingly resemble one another in form—co-working space, cohort programmes, demo days—while differing in underlying logic. Coercive pressures (scheme guidelines, audit requirements) weigh more heavily on government incubators, whereas normative pressures (academic norms, disciplinary prestige) shape university incubators.

The resource-based view explains the distinctive advantage each model confers on its incubatees (Barney, 1991; Grimaldi & Grandi, 2005). University incubators command rare, knowledge-intensive resources—laboratories, intellectual property, faculty expertise, and a pipeline of student founders—that are difficult to replicate. Government incubators command resources of a different kind: durable public funding, regulatory access, convening power across the ecosystem, and, in some cases, scale of infrastructure unmatched on any single campus. The broader incubation literature, which distinguishes incubator models by sponsor, objective, and service intensity (Hackett & Dilts, 2004; Mian et al., 2016) and stresses that effectiveness depends on selection and ecosystem embeddedness (Bergek& Norrman, 2008), frames the comparison that follows.

III. METHODOLOGY

The study adopts a conceptual, comparative review design. Rather than collecting primary data, it synthesises peer-reviewed scholarship on incubation and the entrepreneurial university with authoritative Indian policy and programme sources, including materials of the National Science and Technology Entrepreneurship Development Board (NSTEDB) of the Department of Science and Technology, the Atal Innovation Mission of NITI Aayog, and state startup missions. From this synthesis, a set of comparative dimensions was derived inductively and used to structure an ideal-type

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comparison of the two models. The approach is interpretive and is intended to generate propositions for subsequent empirical testing rather than to provide statistical generalisation; this is acknowledged as a limitation. Because the two models exist on a continuum rather than as a strict dichotomy, the comparison describes central tendencies, not universal rules.

IV. THE TWO MODELS IN THE INDIAN LANDSCAPE

4.1 Government-Established Incubators

The Indian state's involvement in incubation predates the recent startup boom by decades. The NSTEDB, established under the Department of Science and Technology in 1982, pioneered public incubation through the Science and Technology Entrepreneurs Parks of the early 1980s and the Technology Business Incubator (TBI) programme of the early 2000s (Department of Science and Technology, 2025). These were consolidated in 2016 under the National Initiative for Developing and Harnessing Innovations (NIDHI), whose NIDHI–TBI, inclusive-TBI, seed-support, accelerator, and PRAYAS components now operate through a national network of more than one hundred and sixty incubators (Department of Science and Technology, 2025). Parallel central instruments include the bio-incubators supported by the Biotechnology Industry Research Assistance Council, the Atal Incubation Centres of NITI Aayog, and the technology incubation schemes of the Ministry of Electronics and Information Technology (Indian STEPs and Business Incubators Association, 2024; NITI Aayog, 2025).

State governments have become equally significant promoters. Telangana's T-Hub, launched in 2015 as a partnership between the state government and leading academic institutions, has grown into one of the world's largest incubation campuses and explicitly invokes the Triple Helix model in its design (Government of Telangana, 2024). The Kerala Startup Mission, the state's nodal agency, operates an extensive network of incubators and innovation infrastructure, while Gujarat's iCreate and several state startup missions provide comparable state-led platforms (Founderpin, 2026; Inc42, 2019). A defining feature of these government instruments is that they typically channel substantial, recurring public funds and frame their objectives in terms of regional development, employment, and strategic sectors.

4.2 University-Based Incubators

HEI incubators are owned and governed by the host academic institution and are oriented toward commercialising institutional research and cultivating entrepreneurship within the academic community. India's most prominent examples emerged from elite technical and management institutes—the Society for Innovation and Entrepreneurship at the Indian Institute of Technology Bombay, the incubation cell at the Indian Institute of Technology Madras, and the entrepreneurship centres at the Indian Institutes of Management, among others. The Centre for Innovation, Incubation and Entrepreneurship at the Indian Institute of Management Ahmedabad illustrates the intertwining of the two models, having itself been established with Department of Science and Technology support (Centre for Internet and Society, 2012). Beyond the elite institutes, the National Education Policy 2020 and the Atal Innovation Mission have driven the establishment of incubators across a much wider population of universities and colleges (Government of India, 2020; NITI Aayog, 2025). What distinguishes these incubators is less their funding source—often governmental—than their ownership, governance, and embeddedness in academic knowledge and talent.

V. COMPARATIVE ANALYSIS

Synthesising the literature and the Indian landscape, the two models can be contrasted across nine dimensions, summarised in Table 1 and discussed below.

Table 1. Comparison of University-Based and Government-Established Business Incubators in India

Dimension	HEI (University-Based) Incubators	Government-Established Incubators

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Dimension	HEI (University-Based) Incubators	Government-Established Incubators
Primary sponsor	Parent university or institute, often with competitive scheme co-funding	Central ministry/department or state government (DST-NSTEDB, DBT-BIRAC, NITI Aayog, MeitY, state startup missions)
Legal form and governance	Usually a Section 8 company or society of the institution; board led by institutional leadership and faculty	Section 8 company, society, or special-purpose vehicle; board dominated by government nominees, often in public–private partnership
Core mission	Commercialise institutional research; build entrepreneurial culture among students and faculty (the "third mission")	Implement public policy; regional development; job and wealth creation; strategic or sectoral priorities
Funding model and scale of grant	Institutional resources plus competitive grants, CSR, and alumni support; typically modest budgets	Budgetary allocations and scheme funds, often larger and more durable (e.g., NIDHI-TBI up to several crore rupees)
Knowledge and mentorship base	Faculty expertise, laboratories, intellectual property, students, and alumni—deep technical and academic depth	Professional incubation managers, industry mentors, and ecosystem partners—breadth of market and industry linkage
Selection and sectoral focus	Often aligned to institutional disciplinary strengths; internal pre-incubation pipeline from students	Frequently sector-agnostic or policy-prioritised; open public calls for applications
Infrastructure and throughput	Embedded campus space (AIM requires a minimum built-up area); generally smaller cohorts	Can be very large standalone campuses (e.g., T-Hub's multi-lakh-square-foot facility); high throughput
Accountability and metrics	To the institution and funder; mix of academic and venture-creation metrics	To the ministry, legislature, and public; emphasis on jobs, startup counts, fund disbursement, and audit
Geographic reach	Tied to the host institution's location	Often statewide or national networks (DST's 160+ TBIs; state district-level hubs)
Illustrative examples	SINE (IIT Bombay), NSRCEL (IIM Bangalore), IITM Incubation Cell, GUSEC (Gujarat University)	T-Hub (Telangana), Kerala Startup Mission, iCreate (Gujarat), Atal Incubation Centres, NIDHI-TBIs (DST)

Note. The two models exist on a continuum; entries describe central tendencies rather than universal rules. AIM = Atal Innovation Mission; DST = Department of Science and Technology; NIDHI-TBI = National Initiative for Developing and Harnessing Innovations–Technology Business Incubator.

5.1 Sponsorship, Governance, and Mission

The clearest difference lies in who owns and steers the incubator and to what end. University incubators are governed by the academic institution and pursue the third mission of knowledge capitalisation; their boards and management are populated by institutional leaders and faculty, and success is partly defined in academic terms. Government incubators are steered by ministries, departments, or state agencies and pursue public-policy objectives—regional development, employment, and strategic-sector growth; their governance is shaped by public accountability and, frequently, by

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public–private partnership (DiMaggio & Powell, 1983; Etzkowitz& Zhou, 2017). This divergence in mission cascades into selection priorities, metrics, and risk appetite.

5.2 Funding, Scale, and Sustainability

Government incubators generally command larger and more durable funding—recurring budgetary allocations and substantial scheme grants—which supports large infrastructure and high throughput but also exposes them to shifts in political priority. University incubators typically operate on more modest budgets assembled from institutional resources and competitive grants, which can constrain scale but may encourage closer alignment with venture quality. Both models confront the recurrent challenge of achieving financial self-sufficiency once initial support lapses (Bergek& Norrman, 2008; Lalkaka, 2002).

5.3 Knowledge Resources versus Ecosystem Convening

The resource-based view captures the complementary strengths of the two models (Barney, 1991). University incubators offer depth: proximity to laboratories, intellectual property, specialist faculty, and a renewable supply of student founders, which is especially valuable for research-intensive and deep-technology ventures. Government incubators offer breadth: professional incubation management, dense industry and investor networks, and convening power that connects ventures to corporate pilots, public procurement, and cross-state markets. For a given venture, the appropriate model depends on whether its principal constraint is technical depth or market access.

5.4 Accountability and Performance Metrics

Because their principals differ, the two models are held to different standards. Government incubators answer to ministries, auditors, and ultimately the public, which privileges measurable, aggregate outputs—numbers of startups incubated, jobs created, and funds disbursed—and rigorous utilisation reporting. University incubators answer to institutional governance and funders and blend venture-creation metrics with academic indicators such as research commercialisation and student engagement. These differing metrics can shape behaviour, sometimes encouraging government incubators toward volume and university incubators toward selectivity.

VI. CONVERGENCE AND HYBRID FORMS

The comparison should not be overdrawn. In practice the two models increasingly converge. Government schemes such as the NIDHI–TBI programme are deliberately housed in academic institutions, so that a single incubator is simultaneously university-based in ownership and government-funded in resourcing (Department of Science and Technology, 2025). Flagship state incubators are designed as tri-partite partnerships among government, academia, and industry, embodying the Triple Helix in organisational form (Government of Telangana, 2024). Institutional isomorphism further drives the two models toward common structures and practices (DiMaggio & Powell, 1983). The most useful conclusion is therefore not that the models are opposites, but that they occupy different positions on a continuum defined by ownership, funding, and mission—and that the richest part of the ecosystem lies in the hybrid space where their respective strengths combine.

VII. DISCUSSION AND IMPLICATIONS

The analysis suggests that university-based and government-established incubators are best understood as complementary instruments with distinct comparative advantages rather than as substitutes. The distinctive value of HEI incubators lies in embeddedness in academic knowledge and talent; the distinctive value of government incubators lies in policy mandate, durable funding, scale, and ecosystem convening power. Effective policy would exploit this complementarity. For policymakers, the implication is to design government instruments that leverage rather than duplicate academic strengths—for example, by channelling public funding and ecosystem linkages through university incubators where research-intensive ventures are concentrated, while reserving large standalone platforms for sector-

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wide convening and scale. For institutional leaders, the implication is to cultivate the academic depth that government incubators cannot easily replicate, and to partner with state platforms for market access and follow-on capital. For founders, the practical implication is to match the choice of incubator to the venture's binding constraint.

VIII. LIMITATIONS AND FUTURE RESEARCH

This paper is conceptual and comparative, and its propositions await empirical validation. The ideal-type comparison necessarily simplifies a heterogeneous reality, and the reliance on secondary programme sources—whose details and figures change over time—limits precision. Future research should test the proposed differences empirically: comparative studies could measure whether venture survival, growth, and follow-on funding differ systematically between the two models after controlling for sector and stage; case studies could examine hybrid incubators to identify the governance arrangements that best combine academic depth with public scale; and longitudinal work could assess how shifts in public funding affect the sustainability of each model. Such research would convert the comparative framework offered here into actionable, evidence-based guidance.

IX. CONCLUSION

India's incubation landscape rests on two institutional lineages that are easily conflated but meaningfully distinct. University-based incubators are owned and governed by academic institutions and draw their strength from research, infrastructure, and student talent; government-established incubators are promoted by central or state authorities and draw theirs from policy mandate, durable funding, scale, and convening power. Across sponsorship, governance, mission, funding, knowledge resources, selection, infrastructure, accountability, and reach, the two models differ in instructive ways, even as co-funding and tri-partite partnerships increasingly blur the boundary between them. Recognising both their differences and their growing convergence is essential for designing an incubation ecosystem in which academic depth and public scale reinforce, rather than duplicate, one another.

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