
15. Indian business incubation ecosystem: a multilevel analysis

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INTRODUCTION

The entrepreneurial process is marked with challenges of working with the unknown and building resources for survival (Brush et al. 2001). Several micro and macro level factors including the personality and attitudes of the entrepreneur (Rauch and Frese 2007), identification and creation of opportunities (Shane 2003), regulatory frameworks and market conditions, presence of other startups, cultural makeup of the location (Gnyawali and Fogel 1994), and access to trained talent, technology, market, finance and mentors (Spigel 2017) influence the success (or failure) of a young enterprise.

Over the history of business, support for young enterprises has been available in a variety of forms. In the family or community business context, young enterprises receive significant nurturance and support (Lester and Cannella Jr. 2006; Sharma and Manikutty 2005); this nurturance could be in the form of access to resources, information sharing, and passing of wisdom over generations, among others. In the modern business context, trade associations and chambers of commerce replicate such community-like support, not just for small but mid-sized businesses as well (Wilts and Meyer 2005). For technology businesses and startups, incubators are known to provide this critical support and, thereby impact the economy positively (Lamine et al. 2018; Ogutu and Kihonge 2016).

India, acknowledged as one of the hotbeds of entrepreneurship, is known to have well over 20 000 startups across various domains and focus areas (Tracxn 2019). In 2018, over US\$65 billion was invested in about 1,800 rounds in startups in India; this was about 4 percent and 6 percent of the global investment amount and number of rounds, respectively (Tracxn 2019). While these numbers may seem small to the critical eye, the rate of growth in the Indian ecosystem is inspiring. A study published in 2018, observed Bangalore and Delhi to be among the top 20 cities that attracted most venture capital investment between 2015–2017 (Florida and Hathaway 2018). A recent study also ranked India third (after USA and China) on the number of incubators (Sharma 2017). Much of this growth in the startup ecosystem has happened over the last three decades. Therefore, insights from India are likely to be relevant for economies pushing towards creating more vibrant startup ecosystems (Lalkaka 2006).

This chapter lays out the historical, spatial, activity and policy landscape of incubation in India. We examine the temporal or evolutionary pattern of incubation in India. Data was collected and examined from four distinct sources – ecosystem, incubation schemes, incubators, entrepreneurs – to understand incubation in India and identify the opportunities for incubation in future.

OVERVIEW OF INCUBATION

Incubators are typically known to support new enterprises during their early stages. Mainly, categories of incubator's support include '(1) access to physical resources, (2) office support services, (3) access to capital, (4) entrepreneurial start-up support, and (5) access to networks' (Carayannis and Von Zedtwitz 2005, pp. 104–105). This support is offered through a variety of services including shared office spaces, access to a pool of shared services, networking, and coaching etc. (Bergek and Norrman 2008). The services offered by incubators have been neatly organised into three categories by Hackett and Dilts (2004). Operating under the landlord model, an incubator provides physical resources such as an office, conference room, and high-speed internet connections at lower than market prices to fledgling businesses. The educational model of incubation focuses on training for fulfilling the gaps faced by the entrepreneur (knowledge of legal, financial aspects etc.); this training can be in the form of accelerators or bootcamps. Finally, the coaching and friend model enables new businesses to access funds and/or markets and networks as well as coaching and mentoring them towards growth and success (Hackett and Dilts 2004).

The concept of incubation and an incubator's role, services and outcomes have undergone change. Mian et al. (2016) specialised the support ecosystem for new businesses into three waves: pre-1980s – predominantly marked by research parks and technology development centres; 1980–1990s, where incubators lay impetus on specialisation and introduction of mentoring and networking; and the third wave from 2000–2014 that has been marked by the emergence of specialised incubators and accelerators. The evolution in the scope and focus of incubation further substantiates that incubators remain closely embedded in the evolving needs of startups and the ecosystem. Our analysis highlights the evolution of incubation in India including its drivers and sponsors and spectrum of services provided. We delve into the needs of incubated entrepreneurs to discuss the current gaps and challenges of incubation.

METHODS

Data for this study was collected from both primary and secondary sources, at various levels. An extensive online search was undertaken to compile a list of 284 incubators in India. The websites of these incubators were mined to record the date of establishment, affiliation, geographic location, services provided, focus areas, and funding sources. Four major incubator support policies and schemes were compiled largely from already published sources and websites of the relevant government bodies. Primary data in the form of an online survey was collected from 22 incubators supported by and affiliated to one such government scheme. The survey included questions on the activities, priorities, performance, and challenges facing the respective incubators. Finally, 24 startup founders were interviewed to understand their experiences and expectations from an incubator. Our findings landscape incubation in India, outline its evolution, and subsequently move into highlighting extant gaps.

THE TOPOGRAPHY OF INCUBATION IN INDIA

Incubation, as we know now, found its way into India around 1991. The germination of ‘incubating’ innovation-driven entrepreneurship in India can be linked to the setting up of incubators in some of the eminent institutes of higher education in the country. The Society for Innovation and Development (Indian Institute of Science, Bangalore) was established in 1991 and the Foundation for Innovation and Technology Transfer (IIT Delhi) was established in 1992. However, early-stage entrepreneurial activities were supported through several initiatives of the central and state governments as far back as 1955. Particularly, the Ministry of Micro, Small and Medium Enterprises (MSME) set up the National Small Industries Corporation (NSIC) in 1955 with a charter to promote and support, through integrated support services, micro, small and medium enterprises. Initiatives undertaken prior to 1991 are detailed in the next section.

Pre-1991: Startup and Small Business Support in India¹

The Department of Science and Technology (DST), Government of India, MSME and financial institutions like Small Industries Development Bank of India (SIDBI) and National Bank for Agriculture and Rural Development (NABARD) have undertaken various initiatives towards supporting small enterprises. Almost 70 years ago, NSIC (an initiative of MSME) launched a variety of schemes and set up institutions to support small enterprises. These schemes facilitated bank credit, marketing, and assistance with raw material, infrastructure development, and tendering. MSME, through NSIC, set up Software Technology cum Business Parks to provide physical infrastructure to micro, small and medium sized enterprises in technology domains and Technology Incubation Centres (TIC) in public-private partnership mode.

NABARD and SIDBI were set up under Acts of the Indian Parliament in 1981 and 1990, respectively. NABARD focused solely on supporting rural development through various interventions, including support to enterprises and organisations working in agriculture or rural areas. In 2009, NABARD set up a Rural Innovation Fund ‘to support innovative, risk-friendly, unconventional’ experiments in farm, non-farm and microfinance sectors to promote livelihood and employment in rural areas.

SIDBI was set up in 1990 for financing micro, small and medium enterprises in India. In the 1990s, SIDBI onboarded management institutes across various states of India to set up centres for training of tiny and small enterprises within the respective states. Future loan disbursement to the small businesses was linked sometimes to the entrepreneur attending the training programmes.

DST set up the National Science and Technology Entrepreneurship Development (NSTED) Board in 1982 with its charter – ‘to convert “job-seekers” into “job-generators” through Science and Technology interventions’. Table 15.1 presents the initiatives undertaken by the Board prior to and post 1991.

Post 1991: Incubation in India

NSTED Board organised all its innovation and entrepreneurship support initiatives under an umbrella programme – National Initiative for Developing and Harnessing

Table 15.1 Initiatives of NSTED Board

Period	Programme	Objective
Pre-1991	Science and Technology Entrepreneurship Development Scheme (STEDs)	Create entrepreneurial opportunities in lesser developed districts of India and Innovation.
	Science and Technology based Entrepreneurship Development (iSTED)	Identify local challenges/issues and technological/innovative entrepreneurial interventions.
Post 1991	Entrepreneurship Development Centres	Foster entrepreneurial culture in science and technology institutions.
	Science and Technology Entrepreneurship Park (STEP)	Provide physical and soft infrastructure to entrepreneurs.
	Technology Business Incubators (TBIs)	Evangelise and support entrepreneurship in higher education institutions.

Source: Websites of respective schemes.

Innovations (NIDHI). This initiative encompasses support for incubators (TBI and Centres of Excellence), scholarships and seed investment, scouting competitions, and accelerators and training programmes for entrepreneurs.

In 2014–2015, the Government of India had allocated, through its various schemes, about US\$2 billion towards startup incubation and investment. As of 2019, there were 13 central government ministries and departments that were supporting incubators (Table 15.2). In total, 284 incubators were identified in India and they included both government supported and private incubators. In the following sections we analyse various characteristics of incubators and key government policies supporting them.

Landscape of Incubators

The 284 incubators were analysed from various perspectives, including their age, tenure, focus areas, geographical locations to arrive at a landscape of incubation in India.

Age and tenure

Of the 284 incubators, over 90 per cent were established post 2000. Of which, about 70 per cent (about 220 in number) are less than 10 years old (set up between 2010–2019; Figure 15.1). One hundred and three incubators (~35 percent) were set up post 2015. Most of those founded before 2000 were set up as entrepreneurship support centres under various schemes of DST and MSME (such as those mentioned earlier). This spike in number of incubators in 2015 can be linked to the push by the Government of India towards promoting startups particularly with the institutionalising of the Startup India scheme in early 2016, which included a variety of interventions such as IPR facilitation, tax breaks, and funding opportunities in addition to enhancing infrastructure through incubation (Startup India 2019). With the acceptance and popularity of the incubation model older entrepreneurship support centres were also renamed as incubators under relevant schemes of various ministries.

Table 15.2 *Affiliating government bodies*

Abbreviation	Full Name
AIM	Atal Innovation Mission, NITI Aayog, Government of India
DARE	Department of Agricultural Research and Education, Ministry of Agriculture and Farmers Welfare, Government of India
DBT	Department of Biotechnology, Ministry of Science and Technology, Government of India
DoS	Department of Space, Government of India
DSIR	Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India
DST	Department of Science & Technology, Ministry of Science and Technology, Government of India
MDoNER	Ministry of Development of North-Eastern Region, Government of India
MEITY	Ministry of Electronics and Information Technology, Government of India
MoFPI	Ministry of Food Processing Industries, Government of India
MoSDE	Ministry of Skill Development and Entrepreneurship, Government of India
MoT	Ministry of Tourism, Government of India
MSME	Ministry of Micro, Small and Medium Enterprises, Government of India

Source: Published documents and websites of respective departments and ministries.

The overlaying of the affiliation of incubators on their growth numbers, makes it clear that DST and AIM have been the biggest drivers of numerical growth of incubators in India (Figure 15.1). Among the 103 incubators set up between 2015–2019, 59 are supported by DST, 18 by AIM and ten are privately funded. While, the number of new incubators affiliated with DST kept rising almost consistently over the last decade, about 20 of the 33 incubators affiliated with (AIM) were founded between 2017 and 2019.

Location

Over 60 per cent of the incubators are housed within educational institutions and the other 40 per cent are business led incubators (such as Coir Board, ICICI etc.), housed in foundations set up by industry bodies (such as Wadhvani Foundation, Deshpande Foundation, FICCI etc.) and business parks set up by various ministries (such as the BioTech Business Parks).

Approximately 40 per cent incubators (about 100) are located in large, metro cities and growth in incubators in non-metros is seen only recently (Figure 15.1). Over the period 2015–2018, most incubators have been set up in the states of Gujarat, Maharashtra (West India) and Karnataka (South India). During this period, incubators in some difficult-to-reach areas, particularly in the North-East and historically disturbed regions like Jammu and Kashmir were set up in a push towards facilitating entrepreneurial activity more evenly.

South India (often referred to as the area covered by the states, Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu) continues to be the most vibrant incubation geography over the last decade (Figure 15.2). Out of the 130 incubators in this region, 43

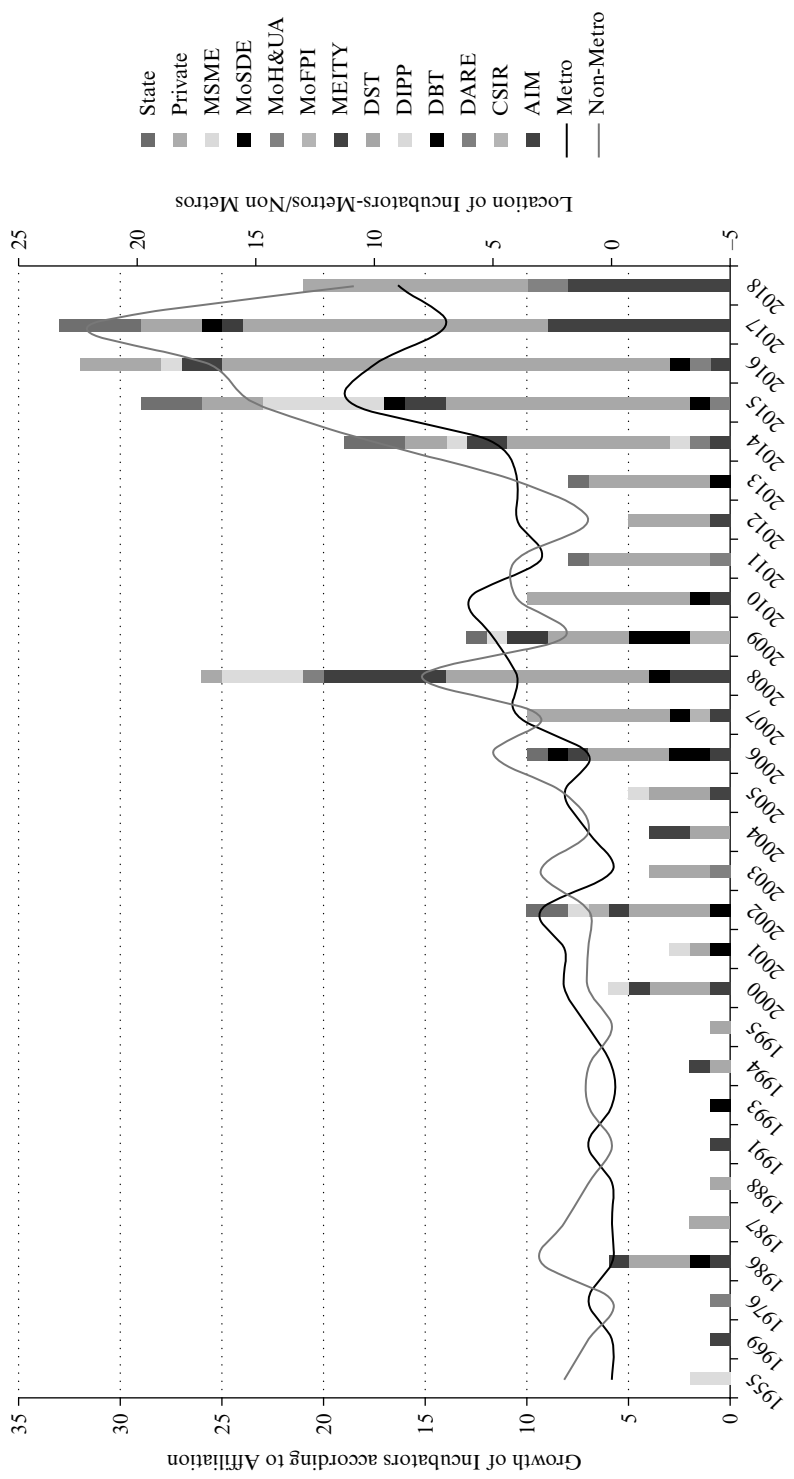


Figure 15.1 Growth in incubators according to affiliation and geography

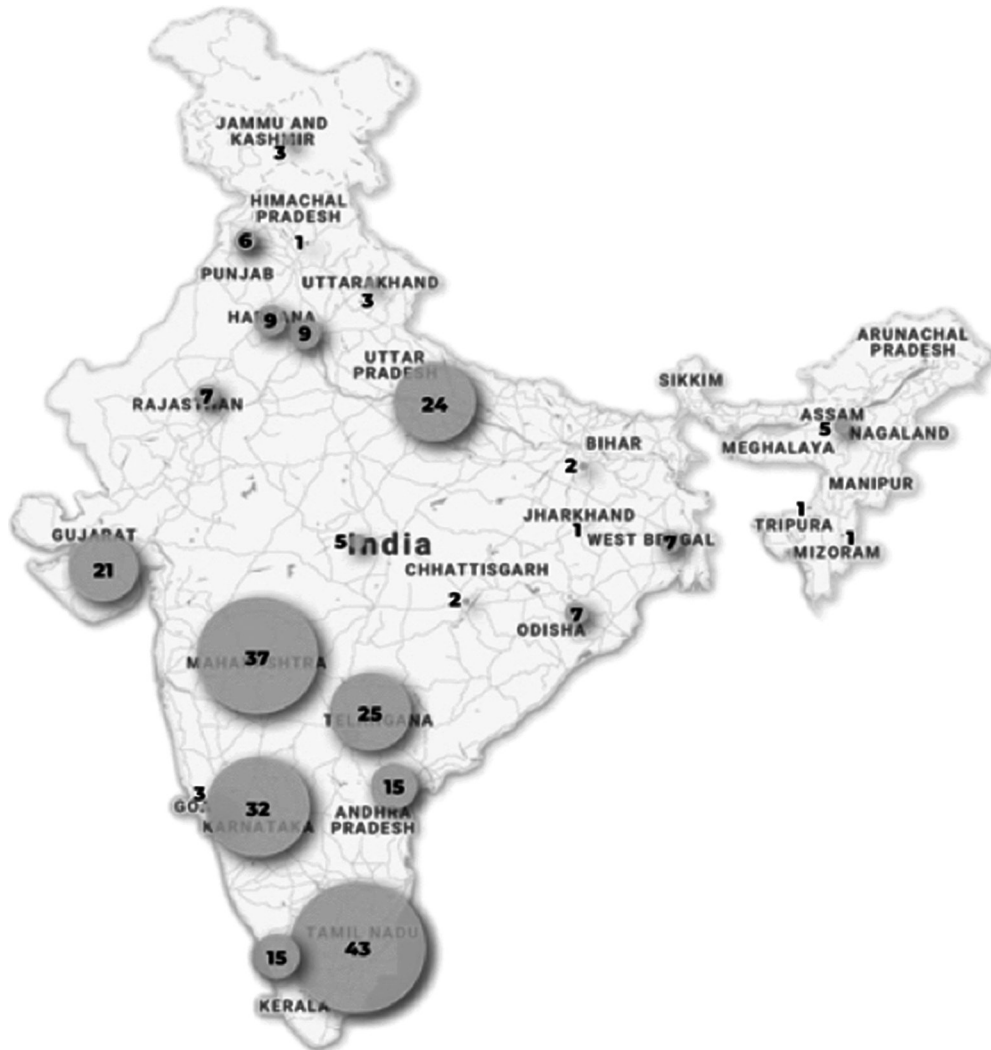


Figure 15.2 *Distribution of incubators across states*

are in Tamil Nadu and 32 in Karnataka. The large number of incubators in Tamil Nadu could be attributed to the higher density of higher education institutes (Department of Higher Education 2017–2018). Our data confirms that 85 per cent of the incubators in Tamil Nadu are housed in universities and educational institutions.

Sectoral focus

Analysis of sectoral and industry focus on incubation shows that 30 per cent incubators (about 85 in number) either have multiple focus areas or are agnostic to the sector of the enterprise they support. Information and Communication Technology (38 per cent) and Agriculture (19 per cent) sectors rank the highest (Figure 15.3).

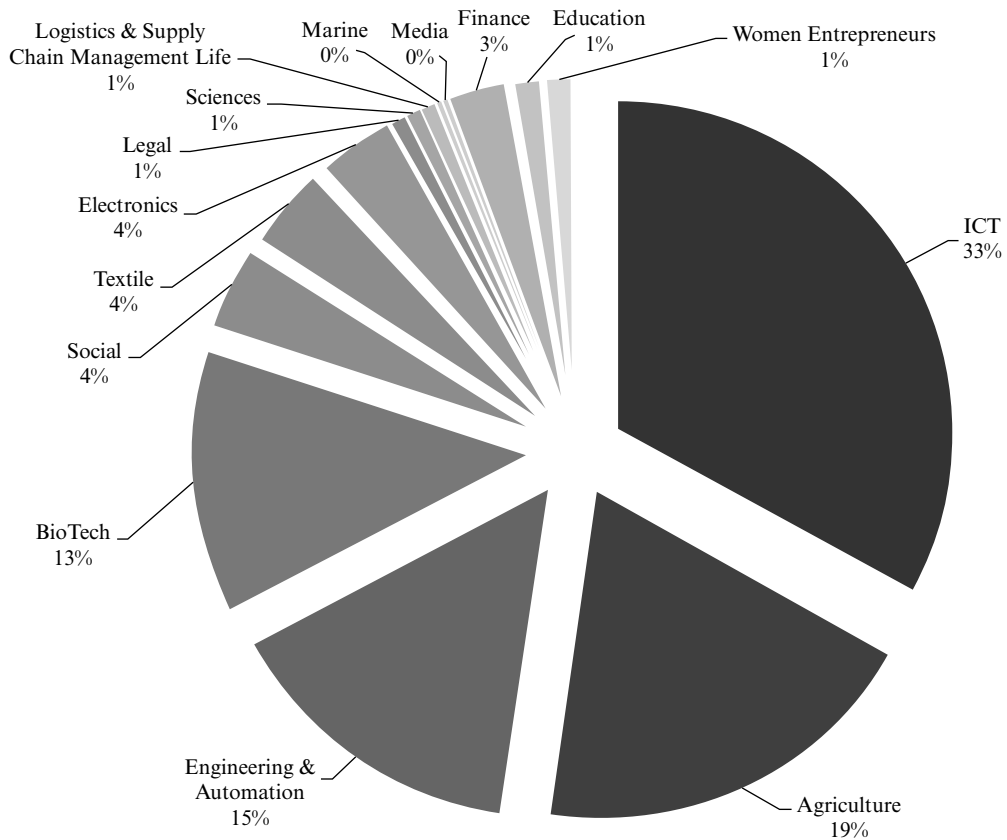


Figure 15.3 Sectoral focus of incubators

Services offered

Physical infrastructure is mentioned by nearly all incubators as one of the critical offerings for the startups. Many incubators highlight the availability of specialised labs, equipment and infrastructure. Most incubators also mention providing value-added services like mentoring, assistance with various IPR processes, legal, accounting and other business services. About 60 per cent of incubators also make a specific mention of providing access to capital.

Comparing Prominent Incubation Policies

Given that over 90 per cent of incubators are supported under a government scheme, we analysed the incubation policies of the top four government bodies supporting incubation (as shown in Figure 15.1) – DST, AIM, MEITY, and MSME.

MSME

This Ministry established NSIC in 1955 to support and promote skill-based small businesses making it one of the oldest known governmental institutions supporting small

businesses. Over its history (~60 years), NSIC has undertaken various initiatives largely aimed at enabling small businesses with inputs around tendering, market access and intelligence, promotion, credit and financing support, and training. As of 2018, NSIC directed and funded 80 training oriented incubators to offer skills-based training and subsequent support to trainees to establish their businesses. In 2008, MSME undertook setting up incubation centres to tap into and support the creativity and spirit of ‘individual innovators’.

In 2015, MSME launched a three-year-long scheme – ASPIRE – with an objective to set up (a) Livelihood Business Incubators (LBI) for rapid incubation involving skill building and setting up of live demo projects; and (b) TBI supporting existing incubators in academic institutions. Seventy-four LBIs and 11 TBIs were set up in three years.

DST

The largest supporter of incubation in India, DST, through NSTED Board, runs a scheme called NIDHI-TBI. The Board outlines several conditions for running and operating a NIDHI-TBI including requirements for the age of the host institutions, legal structure of the incubator, area of work, and facilities such as ‘Design, Dies & Development (3D)’ rooms, meeting rooms, video conferencing facility, high bandwidth net/WIFI, co-working space, recreational facilities, etc., in addition to having a social media presence and website of the incubator and companies incubated by them. NSTED Board also lays down guidelines for the incubator to unambiguously design and implement the selection, timelines, and graduation requirements for the incubated companies.

MEITY

Technology Incubation and Development of Entrepreneurs (TIDE) was launched by MEITY in 2008 to set up and support TIC in academic institutions. The scheme aimed to bridge the gap between R&D and commercialisation, promote product-oriented research and development, and encourage and accelerate development of indigenous products in electronics and information technology.

The TIDE scheme specifies requirements for the selection, infrastructure, financial support and graduation of incubated companies. Under TIDE, a significant part of the financial support given to incubators is for investment in startups. The scheme also mandates that incubators provide physical space for a period of two years.

AIM

In 2016, the Government of India launched the ‘StartupIndia’ programme to add thrust on innovation and startups. In this direction, NITI Aayog, a policy think tank headed by the Prime Minister of India, instituted AIM with an initial financial outlay of about INR1.5 billion. An expert committee on innovation and entrepreneurship was constituted to advise on the mandate, deliverables and scope of AIM (Khanna 2015).

Designed to function as a platform for promotion of innovation and entrepreneurship, AIM’s vision document outlines the goal of setting up 35 new incubators in the private sector and supporting an equal number of existing ones housed within universities and academic institutions. The 35 new incubators were to be set up either solely by AIM or in collaboration with other government bodies like DST, DBT, MEITY,

Table 15.3 AIM's criteria to evaluate incubators*

Quantum Metrics (count of)	Impact Metrics	Financial Metrics
Startups supported till date	Number of jobs created per startup each year	Quantum of seed funding corpus
Startups graduated/exited till date	Annual taxes paid by supported startups	Non-grant revenue, not including any interest on seed fund
Physically incubated startups	Number of technologies patented	Sustainability (without access to any governmental or non-governmental grants)
Virtually incubated startups	Number of awards received by startups	
Associated academic institutions	Cumulative sales turnover of graduated startups	
Entrepreneurship development workshops organised annually		
Training programmes organised		
Active mentors		
Active industry/corporate partnerships		
Personnel at the incubation centre		

Note: The three categories of metrics are a result of the authors' analysis; this is not how it is represented by AIM.

Source: Published documents by the Atal Innovation Mission, NITI Aayog.

MSME, Department of Higher Education, and Department of Industrial Policy and Promotion.

AIM is unique in detailing evaluation parameters for incubators (Table 15.3). The evaluation metrics are to be used to determine quantum of grants disbursed to enhance capacity, including team, infrastructure, equipment, services, seed funding support, training programmes, outreach and/or other related activities.

These incubation support policies can be placed chronologically beginning with those by MSME, followed by DST and MEITY and AIM (Figure 15.4).

Table 15.4 compares the expectations from incubators, as laid down by currently operational schemes of respective government bodies. Juxtaposing these policies, we find an evolution at the policy level in the understanding of incubation and expectations from incubators. There are shared objectives of focus on aiding commercialisation and providing value-added services in the policies of DST's NIDHI-TBIs and MSME's ASPIRE schemes but not of AIM. The objectives of NIDHI-TBIs include promotion of 'technology and knowledge' in startups.

DST supported startups are expected to work in areas of national priorities, as against MSME's focus on agriculture. MEITY operates in the electronics and IT space, while AIM doesn't mention any focus areas. While DST and MSME focus on incubators 'providing' value-added services, MEITY's TIDE also mentions 'mobilising' these services. AIM's policy demonstrates sensitivity to the nuances of the incubation processes. This policy mentions how incubators could develop ecosystems by conducting programmes, networks, and events. AIM also emphasises the creation of value-added services by incubators, particularly around the objectives and goals of mentoring and creating networks.

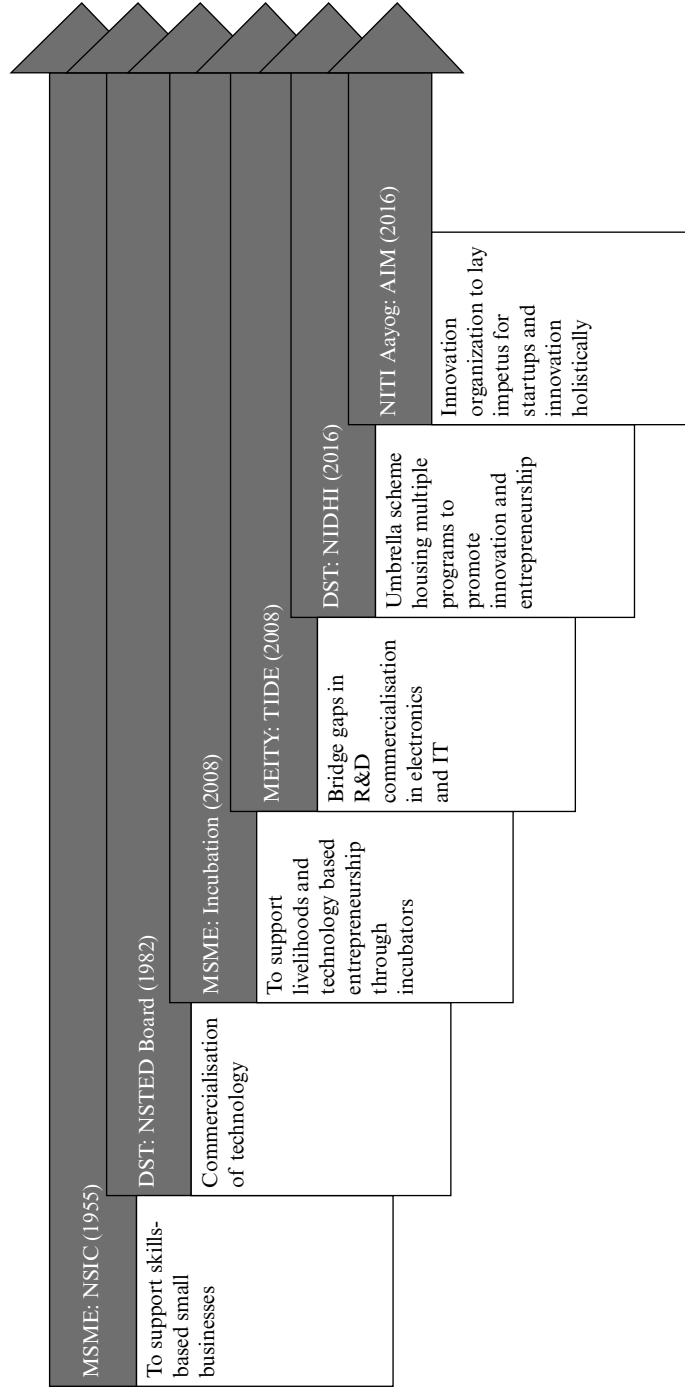


Figure 15.4 An overview of incubation support from central government institutions

Table 15.4 Comparison of objectives and expectations from incubators

	MMSME – TBI	DST – NIDHI-TBI	MEITY – TIC	Niti Aayog – AIM – AIC
Primary Objective	Promote speedy commercialisation of technology developed in the host institute.	Provide a platform for speedy commercialisation of technologies developed by the host institution or by any academic/technical/ R&D institution or individual. Promote new technology/knowledge/innovation based startups.	– no mention – Transparent selection process, on the basis of detailed technological proposal. A committee to evaluate the proposal on its technical merits and commercial viability. The committee would also recommend the level/duration/and terms of support to the entrepreneur(s). – no mention –	Assisting incubatees in creating sustainable, scalable and profitable business models.
Sector Focus	Promoting ideas and technology in agriculture. Network between industry, academia and financial institutions.	Create jobs, wealth and business aligning with national priorities. Build a startup ecosystem, establish a network between academia, financial institutions, industries.	– no mention –	Creating a strong network of mentors who would provide sector specific knowledge and practical guidance. Conducting inspirational programmes. Forging partnerships and networks with academia, industry, investors, incubators and others.
‘Value-Added Services’	Supporting development of new enterprises	Provide cost effective services to startups like mentoring, legal, financial, technical, intellectual property related services.	Mobilise technical/mentoring /managerial/financial / administrative/legal support.	Enabling access to prototyping facilities, test beds, markets, and pilot implementation. Providing training and mentorship.
Physical Infrastructure	– no mention –	Earmarked funds for infrastructure development.	Sufficient operating space – on rent for two years. – no mention –	Physical infrastructure and support services. Building a team with adequate knowledge and experience to guide startups on business plans, investments, and networks.
Incubator’s Teams	– no mention –	– no mention –	– no mention –	– no mention –

Source: Guidelines of ASPIRE 2018 (www.aspire.msme.gov.in); Guidelines and Proforma for submission of proposal 2016 (www.nstedb.com); Technology Incubation and Development of Entrepreneurs Scheme 2018 (www.meity.gov.in); Guidelines for setting up of Incubators under Atal Innovation Mission 2017 (www.niti.gov.in).

Services and Activities of Incubators

With the aim of developing a deeper understanding of the services, activities, experiences and challenges of incubators, data was collected using an online survey from 22 incubators affiliated with one of the schemes from the previous section. It was assumed that because all incubators were part of the same scheme and consequently had similar expectations placed upon them as well as had access to similar resources, any difference in their performance may be attributed to their characteristics (such as location) or other internal processes. Of the 22 incubators, 16 were affiliated with multiple government bodies and schemes, including DST, MSME, MEITY, and the Department of Biotechnology. One incubator was established as early as 1986, three in 2016, and the rest in the interim period (Table 15.5).

Eight and six incubators are in South and West India, respectively. Only one incubator is located in the North-East region. Three incubators are based in universities while the remaining 19 are housed in higher educational institutes such as Indian Institute of Technology (9), Indian Institute of Information Technology (3), Indian Institute of Management (2), and National Institute of Technology (2).

Incubation activities

Referring to Table 15.5, business advice, connection with mentors, domain experts and customers, and assistance with fund-raising are the most common services that the incubators offered to startups. Assistance with branding (1 incubator) and support with physical infrastructure (2 incubators) are the least common. The latter lack of service may be a function of the scheme provisions. Most incubators run accelerators, competitions for business plans, and demo days (where startups pitch to angel investors). Only one incubator holds mentoring clinic programmes.

Performance disparity amongst incubators

Figure 15.5 presents the performance of incubators measured in terms of numbers of startups invested in, ecosystem development programmes, IP/patents/trademarks registered, and jobs created by startups.

The range of startups invested in ranged from one (Incubator A) to over 20 (Incubator V). Incubator V organised approximately 15 programmes, while incubator F, housed within a prestigious technology institution, held more than 120 ecosystem development programmes and invested in six startups. Incubator G (the only incubator in the North-East region) was found to be performing below average on most parameters (Figure 15.5).

The primary concern or challenge, mentioned by incubators, was developing 'appropriate' infrastructure with specialised equipment that suited the needs of the startups. With regard to investment, incubators were concerned about the inflexibility of the scheme. Some incubators preferred extending debt or grants as against making equity investments. This concern was primarily linked to regulatory complexity of incubators in educational institutions making equity-based investments in companies. No incubator mentioned physical infrastructure or the amount of investment available as a challenge. This may be largely because most incubators are hosted within educational institutions which allot substantial physical space for incubation.

We also find that incubators typically struggle with managing the 'softer' aspects of

Table 15.5 Incubators under the analysed government scheme

Incubators ^a	Founding year	Region	Type of city	Affiliation	Support provided to portfolio companies*	Kind of programmes and initiatives [#]
A	NA	West	Non-Metro	Single	4,5	6
B	2010	South	Metro	Multiple	3,4	1,2,3,4
C	2016	North	Non-Metro	Single	3,4,7	1,2,4
D	2008	North	Non-Metro	Multiple	3,4,5	1,2,4
E	2013	North	Non-Metro	Single	4	4
F	2004	West	Metro	Multiple	2,3,4,5,7	1,2,3,4,6
G	2009	North-East	Non-Metro	Multiple	3,4,5,7	2
H	2006	South	Metro	Multiple	3,4,5,7	1,2,3,4
I	2016	West	Non-Metro	Multiple	1,3,4,5,6,	2,3,5
J	1992	North	Metro	Multiple	3,4,5,7	2,3
K	2009	South	Metro	Single	3,4,5,7	1,2,3,4,6
L	2008	South	Metro	Single	3,4,5,7,9	1,2,3,4
M	2000	South	Metro	Multiple	3	2
N	2012	South	Non-Metro	Single	1,3,4,5,7	2,3,4,6
O	2004	West	Non-Metro	Multiple	3,4,5	1,2,3,4
P	1991	South	Metro	Single	3,4,7	6
Q	2011	West	Non-Metro	Single	3,4,7	2,4,6
R	2008	Central	Non-Metro	Single	3,4,5,7	1,2,3,4
S	2016	South	Non-Metro	Multiple	3,4,7	2
T	1986	East	Non-Metro	Multiple	3,4,5,7,8	1,2
U	2009	East	Non-Metro	Multiple	3,4,5,7,9	1,2,3,4,5,6
V	2008	West	Non-Metro	Multiple	3,4,5,7,10	1,2,3,4

Notes:

a Names anonymised.

* (1) Access to R&D facilities; (2) Branding; (3) Business advise; (4) Connects to mentors, domain expert, customers; (5) Fund-raising; (6) Human resources and interns; (7) Legal and financial assistance; (8) Marketing; (9) Networking; (10) Physical infra support

(1) Accelerators and skill development programmes; (2) Business plan and idea competitions; (3) Demo days; (4) Hackathons; (5) Mentoring clinics; (6) Seminars, workshops and summits.

Source: Data collected by authors.

incubation such as getting access to subject matter experts and mentors and establishing connects with the industry and government departments to facilitate commercialisation. Some incubators also found it challenging to provide adequate support with the legal processes of investment, filing for IPs, and onboarding talent.

The Demand Side Perspective

In-depth interviews with 24 entrepreneurs (from one of the incubators) were open coded (Charmaz 2006) to understand their expectation from the incubator. Codes from all transcripts were pooled and then classified into two broad headings – ‘Has’ and ‘Needs’

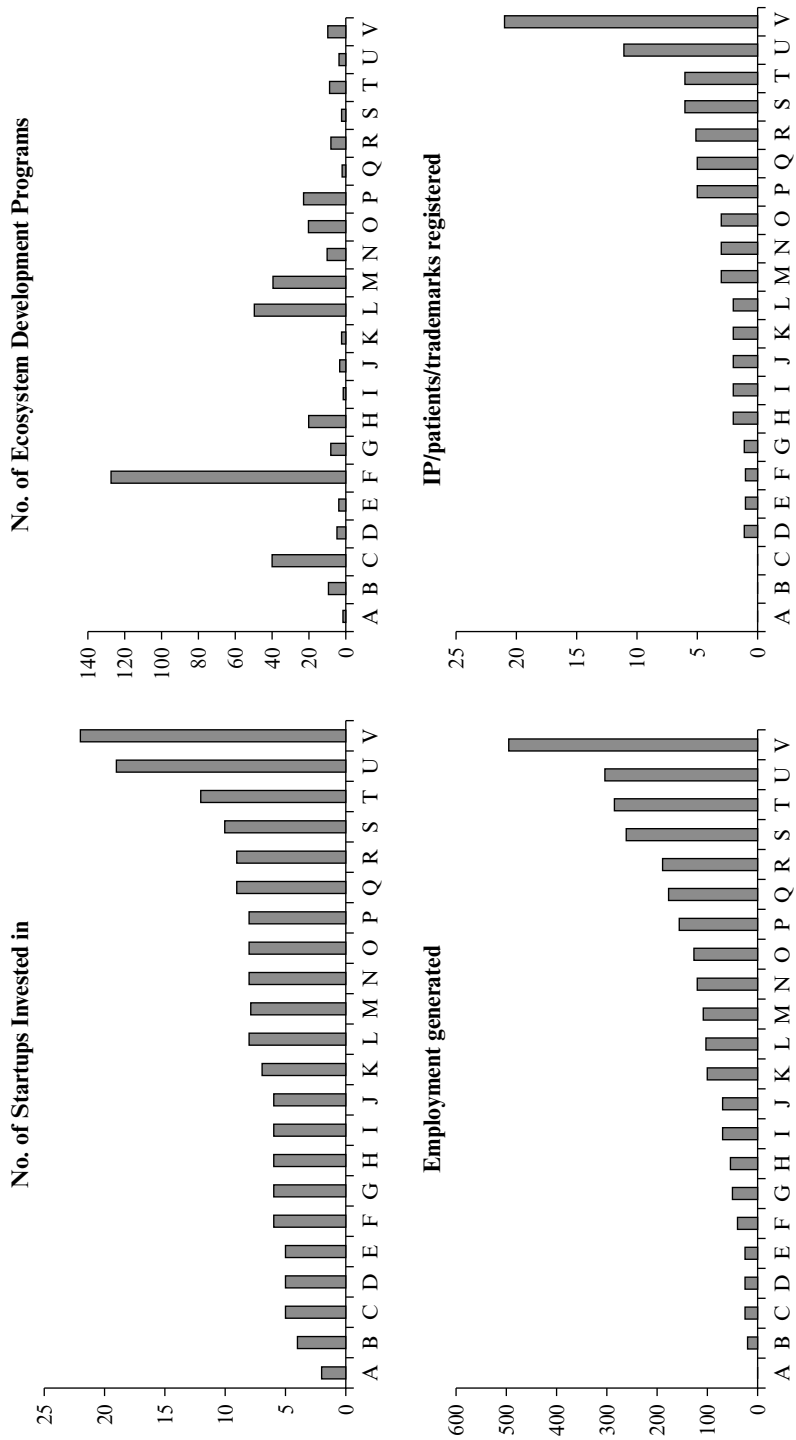


Figure 15.5 Disparity amongst incubators

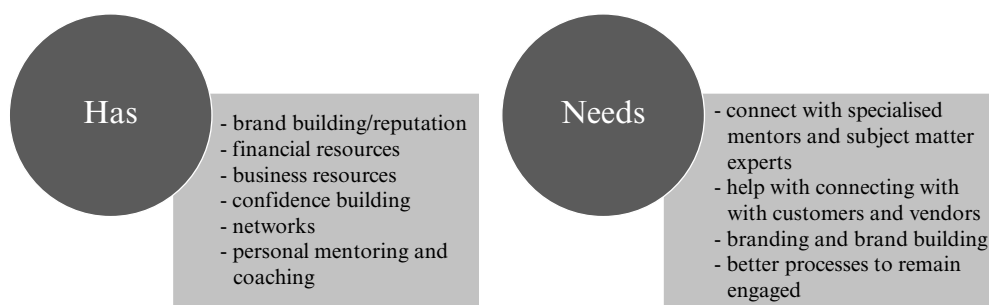


Figure 15.6 *Entrepreneurs' assessment of and expectations from incubators*

(Figure 15.6) – to indicate the services currently offered by incubators and those desired but not necessarily offered by them.

Within 'Has', the most prominent services and support are brand building/reputation, financial resources, business resources, confidence building, networks, and personal mentoring and coaching. Participating entrepreneurs often identified the incubator managers as 'friends who help'. Entrepreneurs also highlighted how incubator managers infused optimism, hope and confidence, which helped them persist on their path. Continued association with the respective manager even after s/he had moved out of the incubator highlighted the value of the personal connect of the incubator managers with entrepreneurs. The interviews also revealed that virtual or remote incubation was seen as less effective vis-à-vis the startup being physically located within the physical infrastructure of the incubator.

The three key services that startups 'Need' from incubators – (a) connect with specialised mentors, subject matter experts, customers and vendors, (b) help in building their brand, and (c) processes to remain engaged (especially critical for virtually incubated startups).

DISCUSSION AND LESSONS LEARNED

As we trace the history of incubation in India it becomes evident that until 1991 the focus was on supporting the rural, under-educated youth and livelihood oriented, and small businesses (as found in the policies of MSME, setting up of NABARD, and SIDBI). However, post 1991 the focus has shifted to supporting urban, well-educated youth, creating innovation driven, high value businesses (as evident in the policies of DST and AIM). Insights about the incubation ecosystem, landscape and practices also emerged.

The Salient Role of the Government

The government has had a large role to play in evangelising incubation. The number of ministries supporting incubation as well as improved versions of existing policies being launched by various government bodies stands testament to this.

The government-academia partnership has been among the most significant contributor to growth of incubation in India. Our data substantiates that the government's incubation

activities have been carried out mainly in partnership with higher education institutions. Several among the prominent institutions (e.g. IISc Bangalore, IIT Delhi, IIT Mumbai, IIM Ahmedabad) started with theoretical work on innovation led by faculty, moving on to taking innovations to market, setting up of technology transfer offices (commonly known as TTOs), and supporting students who wanted to become entrepreneurs out of their own resources (Narayanan and Shin 2019). When the policies of the government were favourable, the same institutions became the first beneficiaries of the financial support for incubation. We believe that this government-academia partnership has been a win-win for both sides – the centres for entrepreneurship, innovation and incubation received financial support and gained legitimacy for their activities, while the government found reliable homes for it to test its policy and take its agenda forward.

It is also easier for the government to oversee the utilisation of the financial support disbursed to an academic institution vis-à-vis a private entity. Our findings also show that most successful, well-known and highly regarded incubators, housed within educational institutions in India, crafted their strategy in line with the local ecosystem and strengths of the incubator. Partnering with academia instead of creating its own incubation infrastructure also appears more efficient because it allows for a significant part of the resources available for incubation to be used to support startups, rather than spend on creating incubation infrastructure.

Incubation Presence is Geographically Lopsided

Though there are 284 incubators in India (as presented earlier), we believe that there is still scope for more especially in certain regions. Figure 15.2 presents the lopsided density of incubators in India. More incubators are needed in Central, Eastern and North-Eastern India. India's development, in terms of infrastructure, education access, economic growth, is not uniform (Rao 2017). East India has large minority groups, lower economic growth, and citizens are often seen as low on entrepreneurial inclination (Goel et al. 2007). Notwithstanding the slow germination of incubation activity, there is sparse awareness and engagement with entrepreneurship in the east and North-East India (Vohra et al. 2017).

It may be argued that it is unviable to set up incubators in small towns. As part of our study, we observed an interesting experiment by Incubator V of creating regional entities that work with the local youth to stimulate innovative ideas and build enterprises. Three years of focused work towards regional outreach (to an area within 200 kms of the centre) has yielded several interesting startups from far-flung areas that have had an almost negligible startup ecosystem. This substantiates that incubation requires continual nurturing ideas and evangelising entrepreneurship. To remain viable, incubators could choose to be located in urban regions but design innovative ways to reach the semi-urban and rural areas in its region.

Yet, there is merit in incubators localising their services. Incubators could play a role in helping startups to overcome the cultural and societal lethargy in starting up (Spigel 2017). The government bodies need to make a concerted effort in enabling incubators to energise local ecosystems and build sustainable partnerships. The incubation policy could encourage localisation of offerings by each incubator to enable adequate support to local entrepreneurs and startups. Perhaps, this could help address the current lopsidedness in incubation.

Need for Incubators to Evangelise

Even though it is easy to be overawed by the number of incubators, startups, amount of investment, idea competitions etc., evangelisation and promotion of innovative ideas still needs attention in India. Given the recent focus on providing financial support, it may be easy to overlook that the core of a startup is the entrepreneur's ability to identify either unsolved problems or newer solutions to difficult problems; the seed of enterprise in the innovative idea. At an incubator based in Western India (out of the top ranked business schools in the country) where the authors are involved in various roles, experiences of frustration with the 'clonish' nature of the ideas are common. In an idea competition held in 2018, where one of the authors participated, out of the 15 top ideas chosen among 19000 submitted, six were on developing food delivery apps; about ten years ago, five of the top 15 ideas were to create devices to clean fans! Thus emphasising the need for incubators to find continuous ways to engage people to think of ideas, have them evaluated and improved.

Incubation is More Than Physical Infrastructure

Government regulation, availability of cheap capital, qualified personnel, and access to markets prevent failure of startups. An incubator can help navigate the challenges that startups face owing to their smallness or newness (Mireftekhari 2017). Starting from access to cheap capital, relevant mentorship, training to fill skill gaps, access to hard-to-reach networks, creation of a mutually supportive community, referrals to expert services at reasonable costs, are few of the services that effective incubators provide (Table 15.5). Our data shows that most incubators are unable to provide the 'softer' services (particularly concerning relationships and people). While, the evolution in incubation policies is a promising trend (Table 15.4), most government policies do not focus on incubators' inputs, particularly in the form of softer skills. There is a need for incubator managers to connect better with startups and provide inputs on softer aspects, in addition to infrastructure, networks etc.

Capabilities of the Incubation Personnel Matter

An incubator's ability to provide highly specialised and critical services to startups is linked to the quality of its talent. Our study also confirms that dedicated managers, who understand the enterprise creation process and are motivated to work for startups, are critical for an incubator's success. However, talent for the incubator is difficult to find and retain (Akcomak 2009; Somsuk et al. 2012). We find that the government policies do not pay attention to this issue, nor do they earmark specific support for the incubators to hire and build their talent adequately. It may be said that incubation in India still functions under a landlord model (providing inputs such as physical infrastructure). Practicing incubation at a more sophisticated level, i.e. facilitating the startups' take-off, would require upgrade of skills and human capital of incubator personnel (Akcomak 2009; Ayatse et al. 2017; Hackett and Dilts 2004).

Measuring Success of Incubators

Data on number of startups incubated, applications received, services provided by the incubator, satisfaction with support provided by the incubator, innovations by incubators, extent and effectiveness of the curated human, financial, and other resources were unavailable for a large majority of the incubators included in the study. Measuring the impact and effectiveness of incubators is an area that remains neglected. The aphorism ‘what gets measured gets improved’ (credited to Peter Drucker) also stands true for incubators. While the incubation policy of AIM mentions performance measures, there is no information about the outcomes of it being implemented. Detailed indicators of performance have most often been developed by institutions that support incubation (Torun et al. 2018). We believe that given the diversity amongst incubators, relevant performance metrics need to be devised to measure the performance of incubators by policy designers and researchers of incubators. Nuances in assessment could include new incubators being assessed on the number and quality of startups that they are able to attract while more mature ones be evaluated on the success of supported startups as well as the ability to generate resources and become sustainable.

CONCLUSION

To conclude, incubators catalyse economic growth and support fragile enterprises spawned and conceived largely by first generation entrepreneurs. They make it possible for innovative technologies and research originating in universities and research labs to be converted into businesses, therefore unlocking economic and social value. The partnership of government and academic institutions for nurturing of startups through the incubator is symbiotic. Most importantly, for incubation to remain effective and make a stronger impact, onboarding talented and motivated incubator personnel and development of relevant performance measurement metrics are imperative.

NOTE

1. Information sourced from websites of respective organizations – DST, MEITY, NABARD, SIDBI, etc.

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