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Innovation, investment, impact: A deep dive into India's startup ecosystem

By Madanmohan Rao

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This must-read book provides a wealth of insights into India's startup boom from 30 experts. Here are some key takeaways.

*Launched in 2012, YourStory's **Book Review** section features over 320 titles on creativity, innovation, entrepreneurship, and digital transformation. See also our related columns The Turning Point, Techie Tuesdays, and Storybites.*

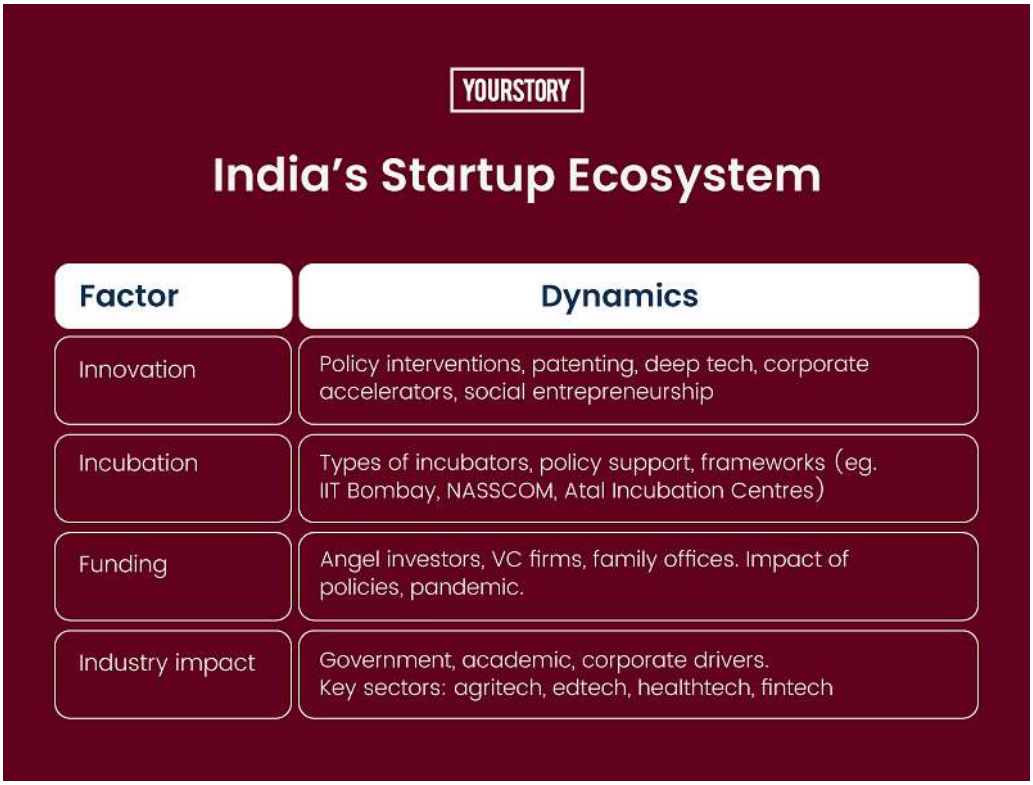
Looking for comprehensive research on the dynamics of India's startup boom? Check out ***Shifting Orbits: Decoding the Trajectory of the Indian Startup Ecosystem,*** published by the Innovation Venturing and Entrepreneurship in India Network (iVEIN).

iVEIN is a consortium of leading IIMs and IITs that aims to nurture the Indian entrepreneurial ecosystem through academic research and thought leadership. The book editors include the distinguished academics **Thillai Rajan A** (IIT Madras), **Srivardhini K Jha** (IIM Bangalore), **Joffi Thomas** (IIM Kozhikode), and **Rohan Chinchwadkar** (IIT Bombay).

The 22 chapters are written by 30 contributors, and the material is thoroughly referenced. The editorial advisory board is headed by **Kris Gopalakrishnan,** Chairman of Axilor Ventures and Co-founder of Infosys.

An index and a glossary of terms would have been a welcome addition to the book. Hopefully, future books in the series would focus on the **startup founders** themselves, with analysis of motivation, education, personality traits, entrepreneur journeys, and leadership behaviour.

Here are my key takeaways from this must-read 300-page book, summarised in the sections below. Check out *YourStory's* **Startup Hatch** section, with profiles of 30 accelerators and incubators.



Foundations

India's startup ecosystem is powered by incubators, accelerators, mentors, investors, and government policy, according to **Anand Mahindra,** Chairman, Mahindra Group.

The pressing need is to connect science and need-driven technology innovation, explains scientific advisor **K Vijay Raghavan**. "COVID-19 changed the way we do science, develop technology-based solutions, and innovate," he adds in the foreword.

The rise of the **IT services industry** in the 1980s and 1990s was a broad trigger for tech entrepreneurship, spurred more later by national digital penetration and the availability of venture funding.

Notable phases of the startup boom include **2006-2010** (Inmobi, Flipkart, Ola, Zomato, Paytm), **2011-2015** (entry of VCs like Sequoia, Accel; incubators), and **2016-2020** (37 unicorns; Jio, Startup India).

I. Innovation

The book divides India's innovation journey into three phases: **1950-1990** (led by government and academia), **1990-2015** (liberalisation, corporate GCC support), and **2015 onwards** (local needs, Startup India, Digital India, NEP). In fact, over 30 states have their own startup policies and initiatives.

Studies show tech and business patenting can improve the productivity, longevity, and profitability of firms. More awareness is needed by smaller startups on **patenting processes,** depending on the patent sensitivity of the sectors. Some investors are also attracted by patents due to their commercialisation potential and business protection.

Interviews with domain experts indicate that innovation with **deep tech** and **deep science** takes longer to gestate and calls for "patient capital" and tighter triple-helix integration. Indian startups are particularly creative in business model innovation.

An in-depth chapter explores 75 collaboration programmes between corporates and startups, including accelerators. They can be classified into four types: **enabler** (of corporate objectives), **orchestrator** (new layer of products), **transformer** (for non-digital sectors), and **explorer** (expansion into new areas).

Given India's large socio-economic disparity, several entrepreneurs and impact investors are focusing on **social enterprise.** They aim to fill the gaps of market exclusion or market failure, for example, education for students from poor families and employment for the disabled.

The drive for scale, however, can lead to "mission drift" and conflicts between the original social vision and the need for financial sustainability. Incubator support, **alignment of investor philosophies,** and better legal policies on funding can provide a boost to this sector.

II. Incubation

Studies show India has the third-highest number of startup incubators in the world (326 in October 2020), behind the US and China. The government support led to a steep rise in the number of academic incubators in **2015-2019.**

Academic incubators help provide the **'3 Ms' for startups – mentoring, money, and marketing.** Faculty and alumni provide a range of support services, beyond the risk, return, and horizon requirements of mainstream private investors.

MeitY's TIDE 2.0 scheme promotes linkages between incubators and support in unexplored regions. The book's findings indicate that infrastructural and business support for founders must also extend to attitudinal and emotional training. The pandemic has led to a push for virtual incubation, but this is a challenge for those that have physical requirements.

IIM Ahmedabad's CIIE.CO is a good example of a scaled-up incubator. It set up Startup Oasis in Jaipur, published a book on entrepreneurship (*Stay Hungry, Stay Foolish*) and an incubator handbook, and set up Infuse Ventures and the Bharat Innovation Fund. It has accelerated over 1000 startups since 2002 and received profitable exits from 30 startup investments.

Established in 2014, **IIT Bombay's BETIC** has supported 16 biotech and medtech startups through four stages (define, develop, deliver, and deploy). They span low risk (smart stethoscope), moderate risk (assistive devices), and high risk (implants) devices. It calls for more medical-grade manufacturing facilities and industry mentorship.

Virtual incubation has been around for years but was boosted by the pandemic. **NASSCOM's 10,000 Startups** initiative was supported by six state governments and extends to smaller towns via the FAME model (funding, acceleration, mentoring, enterprise connect). The online model has helped collaboration with investors from other countries, such as the US, Canada, South Korea, and the EU.

Launched by NITI Ayog in 2016, there now are over a hundred **Atal Incubation Centres** in 23 states. In fact, departments of science, space, agriculture, and MSMEs run several other incubators. AICs share metrics and best practices to continually improve incubator performance for tech and social entrepreneurship.

III. Funding

As the world's third-largest startup ecosystem, India has over 70,000 startups. The book's research indicates although the number of angels and networks and the size of the average funding rounds have increased, the **number of funding rounds** has decreased over recent years.

"Investors seem to be keen to increase the size of the bets rather than the number of horses they are willing to bet on," three authors caution. This has implications for the early stages of the startup funnel.

As compared to global benchmarks, Indian needs more funding for startups at early stages, not just at late stages. **"Benchmarking helps to avoid delusions of grandeur,"** two other authors observe.

India lags behind many other countries in **tax incentives for angels.** Some estimates indicate that it takes about 15 years for an Indian startup to reach IPO as compared to 10 in the US.

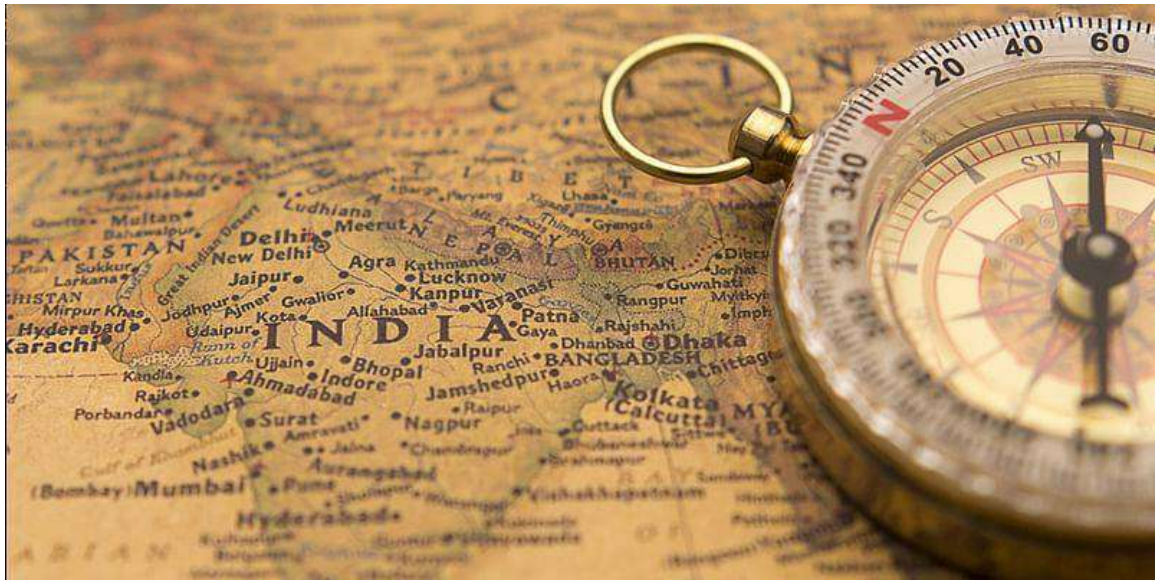
India has around 45 active angel networks and ranks four globally in the number of angel investments made **(387 deals in 2019).** Many successful corporate leaders and startup founders have themselves become angels. They are also motivated by the desire to give back and make an impact, and the opportunity to work with new dynamic founders.

Some angel groups have set up their own angel funds. Some angel networks report a notable increase in the number of submitted funding proposals over the years and the quality of business plans.

The initial success of startup hubs like Bengaluru has led to further successes in a spiralling model. **Sectors drawing the most funding are retail, fintech, logistics, and foodtech.** The

pandemic has adversely affected the travel and hospitality sector while boosting startups with largely digital offerings or those targeting sectoral digital transformation.

The pandemic has improved the efficiency of the selection process for investors and made it easier for larger numbers of investors to attend founder presentations.



Family offices of business families and HNIs are investing in startups and VC funds, though at lower levels than other advanced economies. **Some family offices also co-invest with VCs.** Startup beneficiaries have included Bigbasket, Nykaa, and Cure.fit.

An outstanding chapter tracks the **broader impact of VC funding on startups and the economy,** particularly in the pandemic era. In addition to employment generation and market competitiveness, such startups provided valuable contributions during the pandemic by ensuring many seamless services in education, healthcare, delivery, logistics, and SME workflow.

Many startups have also targeted their impacts at achieving the **UN SDGs.** VCs have helped startups with **speed and scale** in solving these large problems of India.

VCs and India-centric funds have helped startups develop **India-centric solutions using local innovations.** These can be classified into a 2X3 matrix of high/low purchasing power and rural, semi-urban, and urban markets. Offerings range from taxi aggregators and SMB finance to local language content and farmer credit.

India's number of ultra-HNIs may amount to the fifth largest globally, with VCs helping them channel some of this wealth into Indian startups.

Many founders in the current wave of startups do not come from established business families, hence the key role of VCs for this segment. This is particularly important for **women founders** – they are much less in number but seem to be more successful in getting funding.

IV. Industry perspectives

The last section of the book provides deep dives into startup activity in four key economic sectors: agriculture, education, finance, and health.

The evolution of **agritech startups** in India can be divided into four phases: initial (seeds, irrigation), experimental (digital workflow), scale-up (platforms), and growth (large $100 million deals).

However, there are fewer exits as compared to other sectors. Challenges include the **fragmented and dispersed market** and low paying capacity of many farmers.

The **edtech sector** comprises of segments like education, test preparation, and institutional digitalisation. The high supply-demand gap in India, as compared to many other countries, has led to a massive coaching and tuitions industry. The pandemic has given a further push to edtech startups.

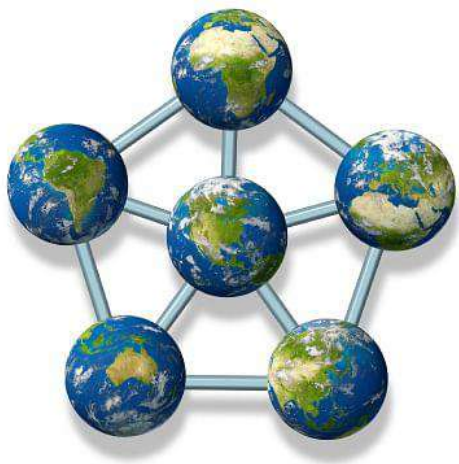
The VC-led model for educational apps calls for rapid growth, which has resulted in massive TV ad campaigns for brand building. Indian edtech players are targeting **global markets** like the US, thanks to perceived skills in Maths, coding, and English. Trends and challenges to watch include overcoming the digital divide in India, NEP, and global competition.

Fintech opportunities are in payment, lending, personal finance, wealth management, and insurtech. A handful of companies are the dominant recipients of investment in this sector.

The year **2015** is regarded as the “breakout year for fintech,” spurred by a range of infrastructure and policy developments.

Healthtech startups offer the opportunity to target India’s yawning infrastructure and talent deficit and the global market for remote healthcare support. Drivers include increasing health awareness, acceptance of internet business models, and the pandemic effect.

Segments to watch are e-pharmacies, devices, and data-led models for diagnosis and personalisation. The government has also announced a range of **digital and open health initiatives.** Interesting lessons can be learnt from the Chinese experience with e-healthcare.



Across sectors, the authors make several recommendations, such as the need for more industry associations to set up sector-specific **incubators and accelerators,** open innovation by corporates, and improvement of ease of doing business in India.

In sum, this is a must-read book for all stakeholders in India’s business and innovation ecosystem. **Each chapter is packed with a wealth of tables, charts and broader insights.** We look forward to future publications from this high-powered academic industry consortium.

*YourStory has also published the pocketbook **‘Proverbs and Quotes for Entrepreneurs: A World of Inspiration for Startups’** as a creative and motivational guide for innovators (downloadable as apps here: Apple, Android).*