

## A COMPREHENSIVE STUDY OF THE INDIAN STARTUP ECOSYSTEM

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### ABSTRACT

*Startups are the engine of economic growth and development. Startups generate innovative employment opportunities, especially for the young generation of a country. The present study analyses the overall scenario of startups in the Indian economy. The study also focuses on the growth of startups working in different sectors of the economy. The study also highlights the employment generation by startups in India. The various sources of funding for startups are also discussed in detail. The study is based on the secondary data sources. The result of the study revealed that Maharashtra is a leading state in terms of startup development. The study revealed that more startups are working in the enterprise tech sector followed by e-commerce, fintech, consumer services, and health-tech sectors. The study found that approximately 4.7 lakh jobs are created by startups. It is also found that bootstrapping is the main source of the startup funding in the initial stages of startup development. Therefore, startups are positively contributing to the growth of Indian economy by innovations and employment generation, increase in demand, decrease in imports, regional development, and increase in GDP etc.*

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**Keywords:** Startups, Sectors, Enterprise-tech, Innovation, Indian Economy.

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### Introduction

India is a developing nation. The country is confronting many problems like overpopulation, poverty, unemployment, and economic inequality. The country has the highest demographic dividend in the world. Employing the masses is the biggest challenge which the country is facing. The government of India has introduced various programs to utilize the demographic dividend, and channelizing the energy of youth into productive activities like Make in India, Startup India, Mudra Yojna, and Skill India to make manufacturing sector stronger, promote innovations among youngsters, provide financial loans for starting small businesses, inculcate skills among young people and make the Indian economy self-reliant. Through the Startup India Program government wants to create innovative employment opportunities, especially for young minds, and school and college dropouts. To promote startups government of India is giving various fiscal and non-fiscal incentives.

A startup is a company that provides a unique or innovative solution to previously existing problems. A startup company has to pass through the many stages to become a successful venture namely ideation, validation, early traction, and scaling.

According to the government of India, the definition of a startup is:

- Incorporated as a private limited company or registered as a partnership firm in India.
- Such an entity would be considered as a startup only up to 10 years from the date of its corporation.

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- Its turnover for any of the financial years since incorporation should not exceed 100 crores.
- It should be working towards innovation, development, or improvement of the product or process, or services.
- The entity should not be formed by splitting up or reconstructing a business already in existence.

In the last few years, large number of startups established in India in almost every sector of the economy. The main startups which are known to the common man in the country are Flipkart, Snap deal, Zoho, Bounce, Oyo, Make my trip, Ninja Cart, Way-Cool, etc. Startups have positive effects on the nation's economy. These startups create more jobs, income, and indigenous technology. The number of startups is increasing significantly. Studies found that approximately 41,000 startups were recognized by the government of India till the year 2020 and 4.7 lakh people were employed directly or indirectly by these startups (Government of India, 2020). Hence, startups are becoming the engine of growth by providing jobs to the masses.

In India, the Department for Promotion of Industry and Internal Trade (DPIIT) registers or recognizes startups. In the year 2023, 96,327 startups are recognized by DPIIT in India. But the growth of the startups is not uniform throughout the country rather it is regionally biased. The concentration of the startups is mainly in tier 1 or tier 2 cities of the country. It is because of the availability of better educational facilities, skill development, good academic institutes, and more awareness among the people in these cities.

The Indian startup ecosystem is also catching up with the world. India has the third largest startup ecosystem in the world after US and China. Indian startup ecosystem ranked 20<sup>th</sup> in the world in the year 2021. These rankings are secured based on the quantity, quality, and business scores comprising of the number of employees per startup, presence of unicorns, exit procedures, and pantheon companies, global startup events, presence of strategic branches and research and development centers, the overall startup ecosystem. The global ranking of the Indian economy is further improved to 19<sup>th</sup> in the year 2022 (Global Startup ecosystem index 2022). Bangalore city of India was ranked 10<sup>th</sup> among global cities having a good startup ecosystem in the year 2021 (NEDO, 2021).

### **Review of Literature**

Startups are becoming engines of growth and employment around the world. So it becomes important to study the growth of startups in the Indian economy. Some primary and secondary data-based studies have highlighted that the startup ecosystems are growing in advanced nations at a high rate due to business mind-orientation and government support. Studies found that these startups created employment, income, and added value in these economies. Different secondary data reports published at national and international levels revealed that the Indian startup ecosystem is flourishing very rapidly after the launch of the Startup India Scheme in the year 2016.

Grant Thornton Report (2016) highlighted that 10,000 startups were running in the Indian economy in 2016. The total number of non-technological startups was more as compared to technological startups and the report found that 800 new startups were added annually to the Indian economy. The government of India took policy measures like Make in India, Standup India, and Digital India to promote startups. To provide the financial assistance, the government of India started Mudra Scheme. KPMG (2018) highlighted the landscape of tech startups in the Indian economy. The study found that the country had around 5200 tech startups with a growth rate of 7% each year in 2018. Around one lakh jobs were also created by the startups. The results revealed that tech startups were running in e-commerce, health tech, fintech, travel tech, logistics, consumer services, enterprise tech, and deep tech sectors. The results further revealed that Bangalore city attracted more funding compared to other advanced cities of India.

The Government of India (2020) highlighted the milestone achievement of the Startup India Scheme in the Indian economy till 2020. The study showed that India's startup ecosystem was the most vibrant and fastest-growing among the world startup ecosystems. The results revealed that 41,000 startups were recognized by DPIIT in the country till 2020. 45% of the startup founders were from the tier 2 and tier 3 cities of the country. Startups created 4.7 lakh jobs in the Indian economy. The government invested 4500 crores into the startups through the Startup India Scheme. NEDO (2021) has shown the startup landscape in the Indian economy between 2014 and 2020. The results revealed that 38,815 startups were working in the Indian economy till 2020. Each sector grew substantially in this period. Enterprise tech startup was mainly a flourishing sector in the Indian economy. Grant Thornton (2022)

also highlighted the startup ecosystem expansion in India. The study revealed that 480 startups were recognized in the economy in the year 2010 which increased to 41,061 in 2020. There were seven incubation centers operational in 2010 which raised to 256 in 2021. The study also found that startup mortality rate is also declined to 0.04% in the year 2021.

Global Startup Ecosystem Index (2022) highlighted the startup ecosystem of 1000 cities and 100 countries based on the quantity, quality, and business environment comprising the number of startups, incubation centers, business environment, etc. of these economies. According to the report USA, and UK had the top startup ecosystem in the world. India has secured the 19th rank in the global startup ecosystem. Indian cities Bangalore, New Delhi, and Mumbai secured the 8<sup>th</sup>, 13<sup>th</sup>, and 17<sup>th</sup> ranks in the world in terms of the startup ecosystem.

After reviewing the literature on the Indian startup ecosystem it is found that startups are evolving in the Indian economy. The government is working as a facilitator to young innovative minds. The startup ecosystem is in expansion mode in metropolitan cities in the country. The international ranking of the Indian startup ecosystem is also improving.

### Research Methodology

The study is based on secondary data sources. To get an overview of the Indian startup ecosystem, various research papers, reports, government websites, the startup India portal, and newspaper articles are explored in detail. The main objectives of the study are the following:

- To know the status of startups in the Indian economy in 2023.
- To examine the number of startups working in different sectors.
- To know the employment generation by the startups in India.
- To highlight the various sources of finance for the growth of the startups.
- To study the impact of startups on the Indian economy.

### Status of the Startups in the Indian Economy in 2023

The number of startups is increasing rapidly in India. These startups are mostly non-technological in nature ([www.startupindia.gov.in](http://www.startupindia.gov.in)). Startups are mainly working in agriculture, animal husbandry, drinking water, education & skill development, energy, enterprise systems, environment, fintech, food processing, health & wellness, and industry 4.0. Thirty-one states and union territories out of the thirty-six have a startup policy to uplift the status of the startups in the economy. Whereas 27 states out of these 28 states have launched the startup policy after the launch of the Startup India Scheme. Almost all the states have DPIIT-recognized startups. Table 1 shows the number of startups working in different states, the share of female founders, and key sectors of startup development.

**Table 1: Status of the Startups in Different States of India**

S. No.	States	Total Number of Startups	Share of Female Founders	Key Sectors
1	Maharashtra	17533 (20.68)	8565 (48.8)	Food Processing
2	Karnataka	10904 (12.86)	4973 (45.6)	Product Development
3	Uttar Pradesh	8863 (10.45)	4360 (49.19)	Construction and Engineering
4	Gujarat	7116 (8.4)	3081 (43.2)	Business Support Services
5	Tamil Nadu	5765 (6.8)	2832 (49.1)	Application Development
6	Haryana	5052 (5.9)	2410 (47.7)	Food Processing
7	Telangana	5030 (5.9)	2479 (49.28)	Application Development
8	Kerala	4165 (4.9)	1606 (38.55)	Application Development
9	Rajasthan	3186 (3.7)	1452 (45.57)	Food Processing

10	West Bengal	3117 (3.6)	1589 (50.97)	Business Support Services
11	Madhya Pradesh	2908 (3.4)	1309 (45)	Construction and Development
12	Odisha	1735 (2.04)	835 (48.12)	Food Processing
13	Bihar	1725 (2.03)	774 (44.8)	Construction and Engineering
14	Andhra Pradesh	1511 (1.7)	697 (46.12)	Construction and Engineering
15	Chhattisgarh	989 (1.16)	401 (40)	Agri-Tech
16	Punjab	981 (1.1)	498 (50.7)	Food-Processing
17	Jharkhand	889 (1.04)	409 (46)	Construction and Engineering
18	Assam	858 (1.01)	353 (41.14)	Construction and Engineering
19	Uttarakhand	787 (0.9)	376 (47.7)	Food Processing
20	Jammu and Kashmir	529 (0.6)	182 (34.40)	Construction and Engineering
21	Goa	388 (0.4)	182 (46.9)	Business Support Services
22	Himachal Pradesh	303 (0.3)	130 (42.9)	Food Processing
23	Manipur	108 (0.12)	46 (42.5)	Oil and Gas Transportation Services
24	Puducherry	93 (0.1)	41 (44)	Application Development
25	Tripura	80 (0.094)	34 (42.5)	Construction and Development
26	Andaman & Nicobar	43 (0.50)	17 (39.5)	Construction and Development
27	Nagaland	37 (0.043)	18 (48.6)	Education and Technology
28	Meghalaya	32 (0.03)	16 (50)	Other
29	Mizoram	15 (0.017)	7 (46)	Apparel
30	Sikkim	10 (0.01)	4 (40)	Construction & Engineering
	<b>Total</b>	<b>84,752 (100)</b>	<b>39,676 (46.8)</b>	

Source: Self-compiled from data available on [www.startupgov.in](http://www.startupgov.in) (2023)

Note: The figures given in parentheses indicate percentages of female founders.

Perusal of the Table 1 shows that Maharashtra is a leading state in startup development with 17533 startups. Food Processing is a key sector in which more startups are developing in the state. The study found that Karnataka, Uttar-Pradesh, Gujarat, and Tamil Nadu are also the top five startup development states where startups are working in key sectors of product development, construction and engineering, business support services, application development, and food processing respectively. Andaman & Nicobar, Nagaland, Meghalaya, Mizoram and Sikkim are the least startup-developed states. It is also found that female participation in startup businesses is increasing in almost all states. The share of female startup founders is highest i.e. 50% in West Bengal followed by Punjab, and Meghalaya.

### Number of Startups Working in Different Sectors of India

The main sectors in which startups flourish in the Indian economy are enterprise software, fintech, health tech, marketplace, edtech, manufacturing and industrial services, consumer software, automotive, media and hospitality, logistics and travel hospitality, security, food-tech, and marketing tech etc. Table 2 shows the number of startups working in different sectors, the working models of the startups, and the popular startups in these sectors in India during the time period 2014-2020.

**Table 2: Startups Working in different Sectors during the period 2014 to 2020**

Sectors	Number of Startups	Working Models of Startups	Name of the Startups
Enterprise tech	6,987 (18)	Marketing & Automation, HR Tech, ERP, Data Analytics, Software Development, Others	Zoho, Fresh work, Mind Tickle, Zenoti, eightfold
E-Commerce	4,658 (12)	Vertical Ecommerce, D2C, Coupons & Deals, Ecommerce enablers, Marketplace, Others	Flipkart, Snapdeal, Udaan, lenskart, Quikr, Cars
Fintech	4,258 (11)	Payments, Investment tech, Fintech Saas, Insurance Tech, Lending tech, Others	Paytm, Phonepe, policy Bazar, CRED, Pine Labs
Consumer services	4270 (11)	Local Services, Discovery, Online Kitchen, Interior Design, Food delivery	Swiggy, Zomato, Grofers, Bigbasket, Livespace
Health tech	3882 (10)	Fitness & Wellness, Healthcare IT& Analytics, Online Pharmacy, Genomics, Medtech, Telemedicine, Others	Cure fit, Practo, Pharmeasy
Media & Entertainment	3105 (8)	Digital Publishing & Aggregators, Social Medias and Chats, OTT, Gaming Others	Dailyhunt, Dream11, ShareChat, Hike
Deep-tech	3105 (8)	AI & ML, EV Tech, Spacotech, Robotics & Hardware, Drones & UAVs, Blockchain & Web 3	Grey Orange, Ather, Servify, Saama, Samartron
Edtech	2717 (7)	Test Preparation, K12, Skill Development, Enterprise Edtech, Online Certification, Online discoveries, Others	Byjus, Unacademy, Vedantu, toppr, cuemath
Real estate tech	1164 (3)	Rent Property, Sell Property, Buy Property, Others	Nestaway, Nobroker Zolo, Square yards
Transport tech	1164 (3)	Offering electric ride-hailing services, App based platform for trip planning, Taxi-hailing services , Others	OLA, Bounce, Vogo, Zipgo
Others	3493 (9)		Ninjacart, OYO, Waycool, Agrostar, Delhivery, Rivigo,
<b>Total startups</b>	<b>38,803</b>		

Source: NEDO (2021)

Note: The figures given in parentheses indicate percentages of startups.

Table 2, shows that the enterprise tech sector has the highest number of startups in the Indian economy, followed by e-commerce, fintech, consumer services, and health tech respectively. Whereas startups in other sectors of the Indian economy namely edtech, deep tech and agritech were also growing. It is also found that the number of startups is very less in real estate tech and transport tech sector. Table 3 represents the comparative analysis of the top five startup sectors of the Indian economy during the time period of 2014-2020.

**Table 3: Comparative analysis of top Five Startup Sectors during the period 2014-2020**

Sectors	Enterprise Tech	E-Commerce	Fintech	Consumer Services	Health Tech
Total Number of Startups	6987	4658	4270	4270	3882
Funding (in \$ bn)	5.6	16	12	7.4	2.5
Total Funding Deals	922	801	733	705	518
Number of startups funded	608	404	773	372	327
Unicorns	8	11	10	6	2
Soonicorns	4	6	16	7	5

Source: NEDO (2021)

Perusal of Table 3 shows that the enterprise tech sector has the highest number of startups 6987. Whereas the E-commerce sector has attracted the highest funding of \$16 bn. The e-commerce sector has the highest number of unicorns followed by the fintech sector. But the number of soonicorns is

more in the fintech sector, which reveals that the fintech sector has more growth prospects in terms of startup development in future. Consumer service sector and health tech sectors have 4270 and 3882 total startups respectively.

#### Employment Generation by the Startups

Startups are generating employment in the Indian economy. Startups have generated around 4.7 lakh employment directly or indirectly between 2015 and 2020 in the Indian economy (Government of India, 2020). Studies show that these startups are hiring fresher candidates for the jobs. So, startup companies are a good source of employment generation for the young generation. Table 4 represents the employment generation by the startups during the time period 2015-2020 in the Indian economy.

**Table 4: Employment Generation by the Startups in the time Period 2015-2020**

Year	Number of Recognized Startups	Total Jobs	Average Employment per Startup	CAGR (Calculated)
2016	504	5040	10	27.53%
2017	5425	49,000	9.03	
2018	8947	96,000	10.7	
2019	11,701	1,50,000	12.8	
2020	14,740	1,70,000	11.5	
Total	41,317	470,040	10.8	

Source: Government of India (2020)

Table 4 shows that job opportunities created by the startups are increasing year on year positively. It is also found that on an average a startup is employing 11 persons. It implies that startups can solve the problem of mass unemployment in the country. Study finds that compound annual growth of employment generation is 27.53%.

#### Financial Sources for the Growth of Startups

Funds are pivotal for the growth of any business. A startup is a highly risky venture. Because of high-risk associated in the business raising fund is very difficult. The government of India has infused 4509 crore investment in 384 startups through the Startup India fund Scheme (Government of India, 2020). The main sectors in which startups got government funding are food and beverages, consumer services, artificial and intelligence, edtech, IT&ITES, healthcare & life sciences, finance technology, e-commerce, and logistics.

There are various funding sources available for the growth of the startups. But funding availability vary from one growth stage to another growth stage of the startup establishment. Table 5 shows various sources of finance according to the different growth stages of the startup establishments.

**Table 5 Sources of Funds According to the Stages of the Startup Business**

Stages of the Startup	Sources of Funds
<b>Ideation (Pre-seed stage)</b> When idea is on initial stage.	<ul style="list-style-type: none"> <li>• Bootstrapping</li> <li>• Friends &amp; Family</li> <li>• Business Plan/ Pitching Events</li> </ul>
<b>Validation (Seed stage)</b> When the prototype of the product is ready.	<ul style="list-style-type: none"> <li>• Incubators</li> <li>• Government Loan Schemes</li> <li>• Angel Investors</li> <li>• Crowd-Funding</li> </ul>
<b>Early Traction</b> When the product is launched into the market.	<ul style="list-style-type: none"> <li>• Venture Capital Funds</li> <li>• Bank/Non-Banking Finances</li> <li>• Venture Debt Funds</li> </ul>
<b>Scaling</b> Startup experiences a fast rate of market growth & increasing revenues.	<ul style="list-style-type: none"> <li>• Series A, B, C, D &amp; E Funding</li> <li>• Venture Capital Funds</li> <li>• Private Equity Funds/ Investors</li> </ul>
<b>Exit Options</b>	<ul style="list-style-type: none"> <li>• Mergers &amp; Acquisitions</li> <li>• Initial Public Offerings</li> <li>• Selling shares</li> <li>• Buy Backs</li> </ul>

Source: Self-Compiled

In the Table 5 various sources of funds are shown according to the stage of the startup growth. It becomes evident from the table that at the initial stage of the idea development, self-funds play important role in the idea development. Whereas investors, banking institutions, and venture capitalists invest in the later stages of the startup development. Table 6 shows the annual funds raised by the startups from the 2014 to 2020.

**Table 6: Year-wise Funding raised by the Startups (2014-2020)**

Year	Fund Raised by Startups (in \$ bn)	Number of Deals
2014	5.3	379
2015	9.3	987
2016	5.7	1057
2017	13.2	1000
2018	11.9	833
2019	12.8	812
2020	11.5	924
<b>CAGR (%)</b>	<b>11.70</b>	<b>13.58</b>

Source: NEDO (2021)

Table 6 shows that the total funds raised by the startups were \$5.3 bn and funding deals were 379 in 2014. The fund raised increased to \$11.5 bn and total deals increased to 924 in 2020. The funds raised by the startups grew with the rate of 11.70% in the period of 7 years from 2014-2020. Whereas number of deals increased by 13.58% during this time period.

#### **Impact of Startups on the Indian Economy**

Indian economy faces a lot of challenges in the field of technology, medicine, education, science, and different infrastructural and institutional areas. Startups are mainly technology-oriented companies that have the potential to explore the untapped sectors in the country. Therefore, startups can play an important role in the development of Indian economy. Following are some of the positive impacts of startups contributing to the growth of the Indian economy.

- Startups introduce new technologies in the country and boost production in the economy.
- Unemployment is a major problem of India. India is a country where 100 million jobs are required every year which can be generated by startups. So startups can be the engines of employment generation for the Indian economy.
- Technological progress is very important to improve productivity in any economy. Startups are more agile and able to invest more in new technologies and innovations compared to old firms.
- Startups are able to produce substitutes for the imported goods, therefore help in solving the problem of adverse balance of payments.
- In India, a large population resides in the villages and use obsolete means of production. Startups invent new means of production, new products and services for backward regions also in order to cater the demand of this section, which remove the regional disparities.
- Startups add value to the economy, therefore increases the GDP. According to a study, startups have the potential to contribute 4-5 % to India's GDP (Sneha et al., 2023).
- Startups boost the production of other industries due to their backward and forward linkages.
- Startups attract foreign investment also, therefore flow of foreign currency increases in the economy.
- Startup companies demand technicians and managerial persons. To cope up this demand similar skills are developed among the youth to make them employable.

#### **Findings and Conclusion**

- Maharashtra, Karnataka, Uttar-Pradesh, Gujarat, and Tamil Nadu are the top five states in terms of the startup development in India.
- The startups are mainly originating in the sectors namely food processing, construction, engineering, and application development in the country.
- The share of the female startup founders is highest at about 50% in West Bengal, Punjab, and Meghalaya states of the country.

- Enterprise tech, e-commerce, fintech, consumer services and health tech are the top five sectors in which more startups are flourishing.
- The study found that after the launch of the Startup India Scheme approximately 4.7 lakh employment is generated by startups in the Indian economy.
- On an average a startup is providing employment to 11 people, it means startups are solving the problem of unemployment.
- Funding raised by the startups is increasing year on year, but the rate of fund raising is slow.
- Startups are benefiting the Indian economy in many ways like creating innovations and employment, decreasing imports and regional development, increase in GDP, development of related goods & services, increase in the level of education and flow of the currency. Therefore, startups are very important for the economic development of the Indian economy.

The study concludes that startups are contributing to the development of Indian economy and are solving the problem of unemployment. Government should give more incentives to promote startups in the economy.

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