

# Start-ups: The Ladder towards a Developed and Innovative Economy, Opportunities and Vulnerabilities

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## ABSTRACT

Start-up Entrepreneurship is crucial for the promotion of research, innovative systems, and self-employment. Entrepreneurs with high potential and calibre are scarce and precious human resources for the country. This paper examines the role played by the Indian start-ups for innovation and economic development, opportunities, and challenges considering start-up survival. This research is descriptive in nature, we have studied the need, significance, and impact of start-ups on economic and innovation development, and also will investigate the causes and obstacles of the start-ups in India. Our analysis uses statistical techniques to examine the start-ups as the major success factor for an entrepreneur in India. We have evaluated the positive impact of start-ups on the economic and innovation development of the nation. There were larger policy implications for the promotion of this important sector. Start-ups are basically open organizations, certainly engaged in innovation processes. Research at the intersection between start-ups, innovation, and economic development is in demand. This paper attempt to organize the scientific knowledge related to the intersection between start-ups and innovation and economic development systematically

**Keywords:** Startups, Innovation Development, Economic development, Opportunities, Startup Ecosystem

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## 1. INTRODUCTION

Present world is the era of knowledge and Innovation. Our aim is not just to solve the economy's basic economic problems, but to find various innovative alternatives by utilizing capital, labour, and resources efficiently. Entrepreneurship is essentially about solving problems, bringing innovation, and farsightedness to avail the opportunities, with the objective of economic development, Entrepreneur development, and social welfare always all together. Entrepreneurship might be considered a national asset, as they work for innovation, new employment opportunities, and a competitive business environment. As nations transition into knowledge-driven economies Start-ups have emerged as a credible instrument of job creation, innovation, and wealth creation. An idea can be converted into a successful business start-up, even the crisis, social problem, and scarcity becomes an opportunity to create a start-up. There is not enough focus given on the very early stages of a company, i.e. start-up phase. Present the government of India takes further initiatives for the growth and development of indigenous production and export through start-ups.

Start-up Entrepreneurship is crucial for the promotion of research, innovative systems, and self-employment. A start-up can be working on a surely new idea or a new product to fulfill the changing wishes of the customers. The entrepreneurs with high potential are scarce and precious human resources for the country. The government has also identified the potential of start-ups for economic development and thus has introduced so many initiatives to nurture the start-ups in India.

The main focus of this study is to dispense an integrated understanding of drivers and the challenges faced by start-ups in India. Also, it investigates how the start-up ecosystem has grown over the past years and analyses the causes of success, failure, and other determinants that influence the start-up's development. Further, the study describes where at what stage we stand now and how long we have to go, and what kind of support is available for start-ups. While the primary focus is to provide insight and knowledge on the key opportunities and growth drivers of India's start-up ecosystem. A literature review was also carried out to gain basic and supporting background information about start-ups.

This study is divided into some sections, the first section provides a piece of comprehensive basic knowledge about start-ups, and the next discusses the causes of failure in start-ups, and factors of start-up growth in India. In the last section, the study will provide the relationship between start-up growth and economic and innovation development, at the end, it will focus on the achievement of start-ups and government policies to improve the position of Indian start-ups to make them recognized by the whole world.

## 2. LITERATURE REVIEW

Before it becomes an established and successful company, every company has been a start-up company. There is no exact definition of a start-up given by any entity if the definition

is based on its main characteristics and features however it can be defined as a young experimental company. A Start-up is a provisional business organization finding a scalable, repeatable, profitable business model, and this Start-up business model is a canvas with ideas and guesses, with no or little customer knowledge. Start-ups are potentially and intentionally established to become large corporations by creating an innovative market and need substantial support due to the high risk of failure. Start-up owners are risk-takers to create some unique products or services based on an idea or a problem to avail of significant business opportunities with high costs and limited revenue.

Salamzadeh and Kawamorita (2017) has defined a startup company at its early stage in forming a new venture or organization. It is a young, high-tech venture, at the initial sale level with a new idea usually for a period between one to five years. As per Cohen et al., (2019) start-ups at the youngest stage of the document have been invisible to the researchers, with less effort made by researchers on the startups. There are different dimensions of entrepreneurship motivation such as the need for achievement, independence of work, control, social status and contribution to the community welfare activities, personal development, economic gains, etc. (Nhemachena & Murimbika, 2018). But it has been found that Indian startups suffer from a lack of funds and ecosystem support; around 90% of startups fail to survive in the market due to a lack of funding and government support (Dwivedi, 2019). Internal market openness is an important factor for startup financing, the level of openness of the economy impacts the investment opportunities in the startup (Okrah et al., 2018). There was a need for government support for the development of start-ups, the study (Saberri & Hamdan, 2019) has been performed in GCC (Gulf Cooperation Council) measured the moderating role of government support in creating an interactive investment environment for new entrepreneurs and new entrepreneurship programs through which entrepreneurship can alive economic growth. government support found a positive effect of government support policies for startups on the sustainability of the startups (Lee & Kim, 2019). Start-ups are crucial for the economy, the "Startup India Movement" provides opportunities for new ventures such as interaction with government and regulatory institutions, commercializing IPRs, arrangement of seed capital, tax exemption, promoting R&D works, etc. (Meher & Puntambekar, 2016). It has been found that the government sponsor accelerators focused on regional economic development, the investors-led accelerators focused on maximum return on investment, and different devised accelerators affect the performance of startups differently. Thus, the government support, accelerator support, and the local mindset of people toward start-ups can influence start-up capabilities and performance and it was recommended by (Dwivedi, 2019) that awareness levels related to startups should be encouraged among the stakeholders and there should be more focus on creating a business model and innovative ways for enhancing the performance of startups

### 3. METHEDODOLOGY

This is a descriptive research paper, which describes the background of start-ups, their constraints, and opportunities, particularly in India, further in focus on two major objectives, to find out the impact of start-up development on the economic and innovation development of the country. The data were collected from a secondary source, various official reports, browser data, journals, articles, etc.

Table 1 : Variables

Independent variable	Numbers of start-ups registered under DPIIT
Dependent variables	Economic Development GDP at the current price GNI at the current price Employment creation
	Innovation Development Patent Registered Trademark Registered

#### 3.2 Hypothesis for the Study:

$H_1$ : There is a positive significant relation between start-up growth and the economic development of the nation.

$H_2$ : There is a positive significant relation between start-up growth and innovation development of the nation.

#### 3.3 Research Tools:

Pearson's Correlation Coefficient has been used to examine the relation between start-up growth and economic and innovation development.

#### 3.4 Scope of the Study:

This study measures the overall background of the start-ups, and start-up history and its evolution, further, this paper discussed the milestone achieved by start-ups in India, and the linkage between start-up development and economic and innovation development by the start-ups. As the start-ups in India are hampered by bureaucratic processes, which appear to lack underlying norms, including labour laws, intellectual property rights, dispute settlement process, etc. This study is useful for examining the role of start-ups and economic prosperity in India. Moreover, this study discusses the opportunities and problems faced by start-up entrepreneurs and the policies introduced by India's government to overcome those problems. The period taken for this study is five years; from 2016 to 2020, as the government of India launched Start-up India Initiative on January 16, 2016.

## 4. RESULT AND DISCUSSION

### 4.1. Opportunities and Growth of Start-ups in India

The Indian Start-ups ecosystem has significantly followed the play-and-win approach, and many influential factors have been integrated to aggrandize start-ups. Thus, the drivers of the growth of the Indian Start-up ecosystem need to understand thoroughly.

#### 4.1.1 Population as entrepreneurial opportunity

India is the second most populated country in the world with a population of about 1.39 billion by the year 2021 (UN World population Prospects, 2019). The population of India is a valuable asset for the country also India has the benefits of a demographic bonus as half of the nation's population is below the age of 25 years. The young generation is fresh blood for the country they have material ambition and hunger for status and have a high propensity for consumption, and high purchasing power with unique demographic advantages for start-ups. . In addition to it, India also has huge cultural, language, taste, customs, and religious diversity, this diversity also creates an obstacle to start-up growth as it makes it difficult to understand customer behaviour. Niche products and nascent entrepreneurship could be used properly to offer an abundance of several opportunities for start-ups.

In addition to it, India also has huge cultural, language, taste, customs, and religious diversity, this diversity also creates roadblocks to start-up growth as it makes it difficult to understand customer behaviour. Niche products and nascent entrepreneurship could be used properly to offer an abundance of several opportunities for start-ups.

#### 4.1.2 Technological changes create opportunities

Technological change can bring advantages and opportunities for entrepreneurship. In the last few decades, technological change helps entrepreneurs to reduce the cost of manufacturing, create digital products and services, and have easy access to customers and the market. Technology companies continue growing to obtain a large share of the world economy and Indian start-ups are also working for the same. The total number of technology start-ups in India has increased to 8,900-9,300 with 1,300 start-ups have been added in the year 2020 (NASSCOM report). Technological changes improve communication, digital infrastructure, networking, easy market and information, etc which, creates the great possibility of customer acquisition and reduces market access barriers even for small businesses. As India improved digital connectivity, biometric verification processes, digital payments, social media marketing, and advertisement are widely used today to serve customers by small businesses or start-ups.

#### 4.1.3 Positive perspective for entrepreneurship and business

Most people come up with really great ideas but they are unable to stick around it in the business ecosystem, due to a lack of passion and motivation for the business activity or they have fear of risk. Those who are ready to take risks can put their ideas into practice to avail themselves of the opportunities. As the opportunities are increasing the fear of risk in

entrepreneurship also increased among people. Despite it, now traditional career paths will be giving way to space for Indian start-ups and there is a positive change has been observed that entrepreneurship intention in youth has increased from 20.6% to 33.3% in 2018-19 to 2019-20. Most start-up owners in India are internally motivated and have passion, curiosity, creativity, and willingness to serve the people with their innovative ideas. People who are benefitted from high remunerations, perks, and other monetary and non-monetary incentives in reputed corporate or big firms or government jobs are going for starting up their start-ups for better recognition or being their boss and getting media attention. Thus, a positive image of entrepreneurial activities has been developed among the young generation.

#### **4.1.4 Innovation for creating smart entrepreneurs**

Innovation is the key to success for any enterprise. The business environment is uncertain and dynamic thus innovation increases the chance to react to changes and seek opportunities. A successful entrepreneur must perceive new methods, new processes or new ideas, and new products for better customer satisfaction. Schumpeter suggested that an entrepreneur could earn profit by introducing innovation, thus large companies provide more emphasis on radical innovations to earn more profits, therefore, these giant companies are approaching start-ups to become a supportive partner to provide innovative guidance to them. As far as the importance of an innovative environment in India has been understood by corporate, governments, and customers, the overall position of India as per Bloomberg Innovative Index 2021 is at 50th rank and India move up by four places from the previous year. According to the report of the NITI Aayog Innovative index (second edition 2020), Karnataka occupied first place with 42.50 scores in state-wise innovation performance followed by Maharashtra and Tamil Nadu. Thus, India is successfully creating an innovative ecosystem for better start-up business opportunities.

#### **4.1.5 Administrative and legal support**

The Indian government has supported entrepreneurship culture to promote start-ups and other small business activities, even the state government has actively participated in this race for strengthening the start-up ecosystem, about 223 start-up events are organized by 21 States in the year 2018/19. The government agencies of India have changed regulatory norms to enhance ease of doing business, obtaining capital, and reducing costs and burdens from start-ups. The Modi government launch several schemes to promote start-ups. The Start-up India initiative proves the most successful of all the initiatives. This scheme has many measures such as financial support, the establishment of incubator institutions and research centres, tax benefits, easy registration norms, simplification of patent norms, etc.

#### **4.2 Vulnerabilities in the Growth of Start-ups**

There are many challenging tasks for most start-ups, fortunate start-ups confront numerous issues and survive. For the success of any firm, the start-up founders have to overcome several challenges and problems faced by entrepreneurs. The researcher found that 9 out of every 10 start-up fails due to issues, such as culture and awareness, social issues, technology

infrastructure, financial issues, sustainability issues, and regulatory issues. There are some causes of failure and challenges are discussed below in Figure 1.

**Figure 1**

*Common Causes for Start-up Failure*

## Common Causes For Startup Failure



Author

*Source: Author's compilation*

### 4.3 Financial Constraints

Availability of sufficient finance has a significant impact on the growth of any enterprise and there is always a problem with getting it. It is a difficult task to raise funds for experimental entrepreneurship or start-ups at the early stage of operation, they have to rely on options of using their capital or self-fund through their savings, loans from relatives and friends, or other unorganized sectors whereas, a bank loan is likely to improve the survival chances of a small business for many reasons. Unlike western countries, India has a lack of angel investors, venture capitalists, crowdfunding, etc. For the working of start-ups, it is necessary to obtain optimum working capital for hiring the workers, raw materials, developing products, and better marketing plans but, improper scaling of capital requirements often leads to failure in new ventures. According to a report financial problem is the cause of failure for 16% of the total start-up problems.

### 4.4 Markets Penetrating Problems

Lots of start-up fails due to the absence of good marketing strategy and tactics, many firms try to capture a large share in the market by focusing on all the customers but, a lack of marketing management fund and market timing, the expertise they do not perform well. In a recent study, it is mentioned that 56% of start-up problems are occupied by marketing problems, the biggest problem is an improper analysis of customer behaviour and inefficient marketing segments. Sometimes the new ventures launch products that do not fit in the market.

Another challenge for start-ups is to penetrate their product in Indian markets where large companies enjoyed a competitive advantage over start-up firms as they are more competent in dealing with bureaucratic norms, around 90% of start-ups fail to survive in this competitive market. Even the government is also preferred to bind contract agreements with the big market player rather than go with start-ups.

#### **4.5 Change in Technological and Innovation**

Technology has the potential to build a better nation, it offers limitless solutions to all problems faced by the industry. We all are amazed by the role of technology in bringing change in health, education, defence, manufacturing, and business activities. Technology and innovation are perceived as important ingredients of successful operation for any business enterprise but Indian start-ups struggle with a high failure rate with technology venture success rates at lower than 5% worldwide. India also struggles with a lack of innovation.

#### **4.6 Human Resource and Team problems**

Generally, start-ups face problems in creating a good organizational team and a good working environment. Start-up normally starts with a team consisting of trusted members with supportive skill sets. Start-ups fail to attract as many job seekers as many established companies can attract by offering huge salaries, incentives, perks, and stable jobs. Other reasons for HR problems in start-ups are the hunt for skilled workers, there is a gap in acquired knowledge and practical implementation of knowledge by job aspirants thus, start-ups have to bear the huge cost of training and developing workers. Also, a large number of intellectual and qualified persons moves abroad for better career option and a high standard of living. It is informed in Lok Sabha that over 1.37 crore Indians moved abroad from 2016 to March 2021, for employment purposes which is a matter of concern not only for start-ups but all over the country. On the other hand, start-up firms find it difficult to create an ideal team and trust team members with good skill sets. Integrating a good team is the first major requirement, this failure sometimes could demolish the start-up.

#### **4.7 Complicated Regulatory and Legal Environment**

The existing regulatory framework where start-up function is extensively seen as complex, inefficient, and indeterminable. Start-ups in India are hampered by bureaucratic processes, which appear to lack underlying norms, including labour laws, intellectual property rights, dispute settlement process, etc. Starting a venture required a lot of permission, licenses, and registration from government bodies. There are certain criteria as per the government's start-up definition, but few start-ups fulfilled them. Thus, many of them could not qualify for tax exemptions and further benefits. However, the government of India has introduced policies to ease the business environment for start-ups in India. India is still at 63rd rank among 190 countries as per the rating of World Bank ease of business report 2020. However, we jumped five ranks up from 79<sup>th</sup> in 2014- 19 to 63<sup>th</sup> in the year 2020.

#### **4.8 Lack of Supporting Infrastructure and Digital Divide**

Infrastructure is an essential foundation for the start-up lifecycle. An efficient transport network allows workers to get to work easily. Faster production activities and let finished products be moved to market cheaply and quickly. Many support mechanisms play an important role throughout the life cycle of a start-up. It includes easy transport facilities, Science and Technology Park, Research Centre, incubator institutions and availability of internet, etc. Entrepreneurial activities are affected by the lack of internet infrastructure and the digital divide in urban and rural areas, currently, more than 400 million people in India don't have access to the internet disconnects the link between start-up founders and the customers. Therefore, constructing a pan-Indian start-up is obscure because they are not able to fully understand customers from different regions of India.

#### **4.9 Government programs and schemes for removing vulnerabilities of start-ups and start-up development in India:**

The Government of India unleashed a wide array of start-up schemes and programs, which promises to create more and more contributions of government in the development of start-ups in India. There are many initiatives even before the 'Start-up India Plan' and lots of programs have been introduced over some time. The Indian government floated many schemes to support Indian start-ups, Research and Development institutes, SMEs, MSMEs, Incubators and Investors, and Accelerators along with many stakeholders. However, only a few are recognized as a milestone in the development and growth of entrepreneurship activities such as the Fund of Fund scheme, Tax exemption, Easy registration process, etc.

##### **4.9.1 The start-up India programme**

The Start-up India initiative was unveiled by the Prime Minister of India on 15th August 2015. The objective behind this initiative is to create a strong ecosystem for spurring innovation and creative thinking. The Government of India has made a high-octane effort the promotion of Start-up that will drive sustainable economic development and foster employment growth. The purpose of this movement is to give a spur to entrepreneurship & innovation, particularly among youngsters, it inspires several young minds, who will soon come out from colleges & universities with innovative & creative ideas. Thus, the institutes of higher education with lots of aspirants can become job givers instead of job seeking for themselves. Start-up in India will be the use of the intellectual property & young property in a single plan, for this 19 Action plan is announced on 16th January 2016 that proved very successful.

##### **4.9.2 MUDRA scheme**

The Micro Units Development Refinance Agency (MUDRA) Bank is a credit facility launched on 8<sup>th</sup> April 2015, to support rural start-ups and small business activities. The bank working under the Pradhan Mantri Mudra Yojana has provided loans of Rs 10 lakh to small ventures without any collateral security. Many small-scale foods and beverage start-ups are working due to support from the MUDRA scheme.

### 4.9.3 Credit guarantee scheme for Start-ups (CGSS)

CGSS scheme also emphasizes dispensing financial stability to micro and small industries. This scheme provides benefit to only Start-up that is recognized by DPIIT the Department for Promotion of Industry and Internal Trade and it will cover up to 75% of the credit fund facility up to Rs. 150 Lakh. This scheme provides zero collateral loans, with additional assistance in the form of subsidized interest rates. A Credit Guarantee fund for start-ups has been proposed with a huge corpus amount of Rs 2,000 Crore.

### 4.9.4 Atal innovation mission

AIM, Atal innovation mission is an initiative set up by the NITI Aayog in 2016 to promote innovation and entrepreneurship across the Nation. To enable a vibrant ecosystem of innovation, AIM is promoting active collaboration between Government, Academics, Industry, Individuals, and NGOs. Major Initiatives under this program were:

- **Atal Tinkering Labs:** Creating hassle fixing mindset in students across schools in India.
- **Atal Incubation Centres:** Developing world category start-ups and adding a new dimension to the incubator program model.
- **Atal New India Challenges:** developing product innovations and aligning them to different ministries.
- **Mentor India Campaign:** A countrywide mentor network in the program with the public sector, corporates, and institutions, to help all the initiatives of the mission.
- **Atal Community Innovation Centre:** To spur innovation and new ideas in the unserved /underserved areas of the country including Tier 2 and Tier three cities.
- **Atal Research and Innovation for Small Enterprises (ARISE):** To promote innovation and research in the MSME industry

### 4.10 Start-up India Seed Fund Scheme (SISFS)

This scheme is launched by Department for Promotion of Industry and Internal Trade (DPIIT) on 19 April 2021. The objective is to dispense financial help to start-ups for prototype development, product experimentation, market-entry, and commercialization. The Indian government rolls out the corpus of Rs. 945 Crore. It will support over 3,600 entrepreneurs with the help of 300 incubators, now India is no more deprived by a shortage of funds for start-ups. Capital sufficiency will strengthen the start-ups with good business ideas. The implementation period of this scheme is the next four years starting from 2021 to the year 2025.

#### 4.10.1 Support to Training and Employment Programme for Women (STEP)

The Scheme is supposed to advantage women who are the age of 16 years and above in the entire nation with aim of providing skills that give employment to women and provide knowledge and skill that makes women become self-employed entrepreneurs. It was initially launched in the year 1986-87, the Modi government redraft new guidelines for fulfilling the

present day's needs in sectors of food and beverage, handloom, agriculture, and horticulture activities, art and crafts, IT and computer skills, etc.

#### 4.11 Stand Up India

Stand Up India is an initiative to stimulate entrepreneurship and the creation of jobs with special emphasis on ST, SC, and women. This scheme aims to create a project plan to simplify the process of taking loans in the amount of 10 lakh to 1 crore Rs. And it also provides training in technical skills for women and SC, ST aspirants for setting up a greenfield manufacturing enterprise.

#### 4.12 Milestone achieved by start-ups in India

Start-ups place a vital role in the economic development of the nation. We all know that business activities not only satisfy customer wants but also help in generating new job opportunities. Most of us thought that start-ups can be successful only in the developed environment but they can prosper even in underdeveloped countries. Now government also believed that start-up has the potential to hike the economy.

**Table 2**

*Recognized Start-ups*

Year	Start-ups Recognised	Average annual growth rate
2016	504	-
2017	5425	
2018	8947	0.649217
2019	11701	
2020	14740	0.259721

*Source: Department for Promotion of Industry and Internal Trade (DPIIT)*

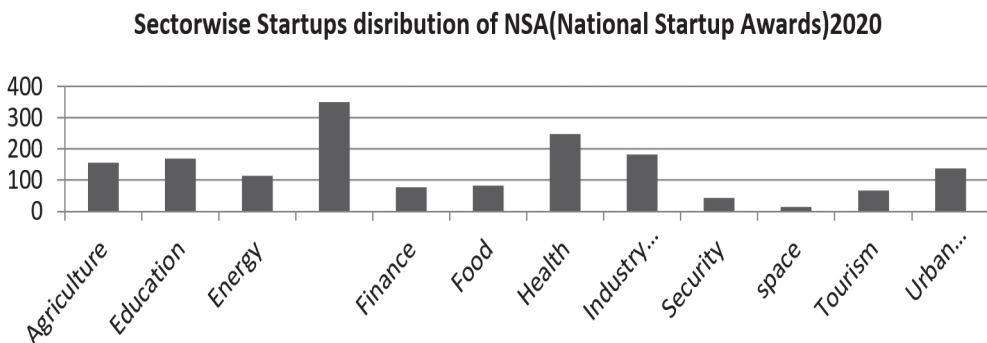
Under the Start-up India scheme, a body is constituted for the better implementation of the initiative and to make a proper record of all the improvements, and achievements gained by start-ups under the Star-tup India scheme. The Department for Promotion of Industry and Internal Trade (DPIIT), makes eligible companies get recognized as start-ups by DPIIT (Refer to table 1), to access a host of tax benefits, self –certification, easy patent, and public procurement norms. During the year 2021, about 53,000 start-ups are recognized and benefit from DPIIT. Here is the list of Start-ups that benefited from DPIIT from the year 2016 to 2020.

Reward and recognition have the power to boost the stagnant water into a large river –stream when start-ups get awarded. The Department for Promotion of Industry and Internal Trade (DPIIT) conceived the '**National Start-up Awards (NSA)**' to recognize and reward first-class Start-ups and ecosystem enablers that are constructing revolutionary products or solutions and scalable enterprises, with huge employment or wealth creation, or meaningful social

impact. The award criteria are categorized into 12 sectors and 35 sub-sectors including Agriculture, Education, Enterprise Technology, Energy, Finance, Food, Health, Industry 4.0, Space, Security, Tourism, categories, and Urban Services. The sector most acclaimed is Technological enterprises as most of the awards gained by it. The winner will award with a cash price of INR 5 Lakh from each of the subsectors. The winner and runner shall prioritize participating in many national and international events organized by DPIIT (Refer to Figure 2).

**Figure 2**

*Sector wise Start-ups distribution of NSA (National Start-up Awards) 2020*



*Source: Department for Promotion of Industry and Internal Trade (DPIIT) report*

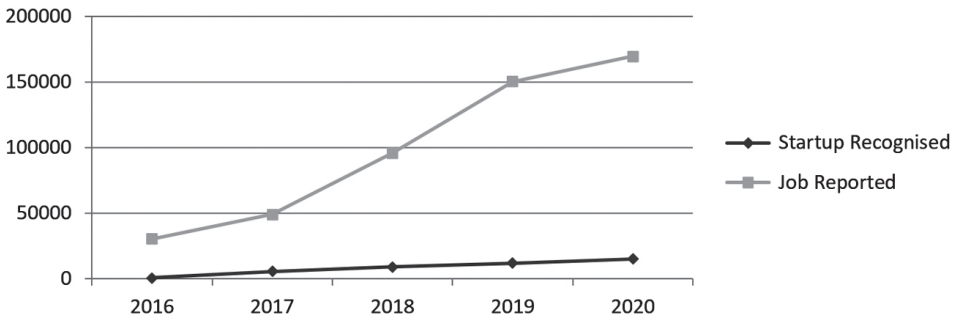
The main aim to recognize outstanding start-ups and ecosystem enablers including all incubators and accelerators is to provide incentives worth Rs. 5 Lakh to each winning start-up across all the categories and Rs. 15 Lakh to an incubator and an accelerator respectively.

#### **4.13 Relation between Start-up growth and Economic Growth: Generating Employment Opportunities**

Economic growth and start-up growth are studied with economic growth variables such as job creation, GNI, GDP, etc. Any business and entrepreneurial activities help in creating several job opportunities along with determination, and passion to serve the country. A start-up may be a small enterprise but it can play a key role in the economic development and growth of the country. New entrepreneurs can procure innovative ideas into practice which will need a lot of people to supply money, material, labourer, and management. Thus, start-ups create more jobs which means more employment which generates more income and more income encourage more consumption & investment which increase production activities, in this way start-up can create an improved economy. As per DPIIT start-ups in India are creating around 12 jobs per start-up.

**Figure 3**

*Relation between Recognized Start-ups and Job Creation*



Source: PIB (Ministry of Information and Broadcasting Government of India)

**Table 3**

*Correlation between Start-up Growth and Employment Generation*

Correlation between Start-up growth and Employment generation		
	Start-up Recognised	Job Reported
Start-up Recognised	1	
Job Reported	0.96958	1

As per the result of Pearson’s Correlation Coefficient (Table 2), there is a strong positive correlation between the number of start-ups increases and employment generation, with  $r = 0.96958$ .

In the year 2017 more than 49,000 were generated increasing up to 1.7 lakh. The average growth rate of increase in jobs by start-ups from the year 2017 to 2020 is 65.31% and has proved as a milestone in the growth of the country (refer to figure 3). A report by the Global Entrepreneurship Monitor (GEM) shows that start-up companies have more potential as it brings innovations, an entrepreneur with high potential can create 3 times more jobs than entrepreneurs with low potential thus start-up has the potential to cultivate a stable future for many youths.

**Table 4**

*The Relations between start-up registered and GDP and GNI during the years 2016-2020*

Years	No. of start-ups registered under DPIIT	GDP at the current price (Crore INR)	GNI at the current price (Crore INR)
2016	504	13,771,874	13,612,095
2017	5425	15,391,669	15,077,384
2018	8947	17,090,042	16,905,230
2019	11701	18,886,957	18,684,632
2020	14740	20,351,013	20,157,899

Source: World Bank Report

**Table 5***Pearson's Correlation between Start-up recognized and Economic Development*

	No. of start-ups	GDP at the current price	GNI at the current price
No. of start-ups	1		
GDP at the current price	0.992352	1	
GNI at the current price	0.990286	0.999747	1

Table 4, presents the relation between start-ups and GDP and GNI growth, with table we can see that GDP and GNI of India is increasing continuously, but to link this growth with start-ups growth we have performed Pearson's Correlation (Table 5). As per the result of the Pearson Correlation shown in table 4, we have found a strong positive correlation between start-up growth and GDP of India, also it has found a strong positive correlation between GNI growth and no. of start-ups growth during the year 2016-2020, thus we can conclude that the Start-up India initiative has a successful impact on start-up development and economic growth.

#### 4.1.4 Relation between start-ups growth and innovation development of the nation: Patent and copyrights

Innovation and start-ups are taking over the world. Intellectual property rights are the exclusive rights granted by a country to inventors or innovators or any person with creative and unique ideas which allow the person to stop others from making, selling, or using that invention in that particular country. We study the time since the patent application variable was very less than the time when there are more than 5,000 start-ups applied for patents after which it counted the number of years since that application was made the time since patents granted variable was constructed identically for patents granted. These time clock variables capture potential or growth) of the value of a start-up's past patenting activity over time. Here is the list of Patent and Trademark applications and grants.

**Table 6***Patent and Trademarks Facilities for Start-ups*

Year	Patents		Trademarks	
	Filed	Granted	Filed	Registered
2016-17	215	37	4	2
2017-18	718	141	1430	1092
2018-19	974	175	2596	1789
2019-20	1851	127	4130	2428
2020-21	1396	16	4629	183
(Till Dec.2020)				
Total	5154	4961	12789	5494

Source: Department for Promotion of Industry and Internal Trade (DPIIT)

**Table 7**

*Correlation between Start-ups Registered under DPIIT and Innovation Development through Paten and Trademark Registration*

	No. of start-ups	Patent Filed	Trademark Filed
No. of start-ups	1		
Patent Filed	0.890785	1	
Trademark Filed	0.991347	0.936293	1

It is identified from the study that there is a significant positive correlation between the number of start-ups registered under DPIIT and the Innovation development in the country (Refer Table 6 and 7). There is a significant growth in the IPR of Patent and trademark registration with the growth of Start-ups in India as the application for Patents and trademarks rose after the “Start-up India initiative”. But start-up growth has more correlated with trademark registration, which shows more branding of products and services have been introduced, compared to innovative invention ideas for start-ups. Thus, there is a positive and strong relationship between the growth of start-ups and the growth of the economy’s innovation development.

## 5. CONCLUSION AND RECOMMENDATION

The purpose of this study was to investigate the fundamental knowledge of start-ups, and the opportunities, and challenges faced by Indian start-ups through analysing their present operative situations. This study emphasizes the role of start-ups as a tool for economic and innovation development and the betterment of society. This paper was an attempt to know imperative changes that come in the economy through start-ups along with the knowledge about the problems faced by the start-up to scale their business and we would know the causes of failure of start-ups particularly in developing countries like India. This paper has discussed the concept that would be implied in such a situation where a new business is starting, and a start-up ecosystem is emerging. The government of India added countless initiatives to enhance the ease of doing business in India start-ups in India and several initiatives and policies, such as Start-up India, Digital India, AIPAC, Atal Innovation Mission, and Small Industries Development Bank of India (SIDBI) which helps in creating a favourable environment for start-up and venture capital growth in India. However, the ecosystem actors and incubators are geographically concentrated in some metro cities like Bangalore, Mumbai, etc., and start-ups that are not placed in metro cities face difficulty to get succeed. However, there is a lack of awareness about start-up policies, e-registrations, and tax benefits among the population. As this paper found the significant impact of start-

ups on economic and innovation development, we should move forward to inculcate more effort to steer new businesses in India. Followingly, there are some recommendation that are enacted as below:

- Building and maintaining a good state ecosystem portal under start-up policy for every state
- Promote more awareness about start-up initiatives and policies.
- Linking entrepreneurship with academic learnings.
- Developing more incubation centres for assisting start-ups
- Real-time implementation of policies and incentives announced by the Government

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