

EMPOWERING INDIA'S FUTURE: EXPLORING THE DYNAMIC ROLE OF START-UPS IN ECONOMIC GROWTH

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Abstract:

In a nation grappling with a burgeoning population, start-ups emerge as a vital avenue for employment generation and economic progress. This paper explores the intricate relationship between start-ups and the Indian economy, emphasizing their impact, growth patterns, and correlation with the Gross Domestic Product (GDP). The study reviews existing literature, highlighting the rapid expansion of India's start-up ecosystem, propelled by governmental initiatives such as "Start-up India" and "Make in India." The primary objective is to analyze the significance of start-ups in India, their interaction with the Indian GDP, and their crucial role in shaping the country's economic trajectory. The paper presents comprehensive data analysis, revealing a positive correlation between the number of start-ups and GDP, showcasing their potential to significantly contribute to economic growth. However, the relationship is nuanced, with the growth rate of start-ups displaying a negative correlation, suggesting complexities in the sector's expansion. The F-test underscores the interconnected nature of start-ups and GDP, emphasizing the need for a nuanced understanding of their relationship. In conclusion, the study emphasizes the critical importance of addressing challenges, creating an enabling policy environment, and promoting sustainable start-ups. India's burgeoning start-up ecosystem holds immense promise in driving the nation toward its economic aspirations, cementing its position as a global hub for innovation and entrepreneurship, and helping achieve the ambitious goal of becoming a \$5 trillion economy through sustained support and strategic initiatives.

Key Words: Start-ups, Indian economy, GDP correlation, Economic growth, Policy initiatives

1. Introduction:

Start-ups play a crucial role in the development of a country's GDP by fostering innovation, driving economic growth, and creating job opportunities. They introduce new products, services, and technologies, which not only contribute to increased productivity but also enhance overall competitiveness. Start-ups often operate in dynamic sectors, attracting investment and generating revenue, thereby expanding the tax base. Additionally, they create employment opportunities, reducing unemployment rates and improving living standards. Moreover, the entrepreneurial spirit of start-ups encourages a culture of risk-taking and innovation, which can have a ripple effect on the broader economy, stimulating further growth and development. In summary, the

presence and success of start-ups are instrumental in boosting GDP, as they inject dynamism, innovation, and employment into the economic landscape. India holds the distinction of being the world's most populous country. Consequently, addressing the need for high employment rates is a critical priority in India. While there are numerous avenues for generating employment, one of the most effective approaches is through start-ups. Start-ups not only create employment opportunities but also significantly impact the national economy. They embody a spirit of innovation and serve as hubs of creativity in the Indian market, playing a pivotal role in boosting economic growth.

The establishment of small businesses by young entrepreneurs through start-ups is poised to give a substantial boost to the national economy in the near future. These entrepreneurs approach their ventures with optimism, contributing to an improved ranking in terms of ease of doing business, which is instrumental for the Indian economy. The impact of start-ups is far-reaching, encompassing new innovations, the creation of job opportunities, and heightened competitiveness among enterprises. Start-ups drive both backward and forward advancements, encouraging the process of economic development within the country. They act as catalysts for transformative change, setting off a series of positive reactions. This surge in entrepreneurship has led to a notable increase in entrepreneurial activities and per capita income, solidifying India's position as a start-up nation in the global economic landscape.

2. Literature Review:

2.1 (Maddisetty, 2018) The Indian startup ecosystem has experienced significant growth over the past few years, with the number of startups reaching around 8,900 in 2018. By August 2022, India had become the world's third-largest startup hub with over 77,000 recognized startups. Initiatives like "Stand-up India," "Make in India," and "Start-up India" have played a crucial role in promoting entrepreneurship and creating job opportunities. Startups in India are contributing to job creation, addressing unemployment challenges, and improving the overall quality of life. The government's proactive approach in supporting and nurturing the startup ecosystem has further fueled this growth.

2.2 (Gupta & Dubey, 2018) India is ranked third globally in supporting startups, with projections suggesting that Indian tech startups could create around 250,000 jobs in the next five years. The country is poised to benefit from a demographic dividend, with a projected working population of 112 million in the 20-24 age group by 2020. The Prime Minister's Start-up India campaign plays a vital role in promoting entrepreneurship and calling for favorable policies and global outreach to boost youth employment. Despite challenges, startups inspire and educate while also fueling economic growth.

2.3 (Korreck, 2019) Indian start-ups have grown rapidly, but face challenges that require collaboration from government, society and start-ups. Policy reforms, infrastructure investment, streamlined regulations and

education are needed to support start-ups. Entrepreneurship courses in education can help prepare students for careers in start-ups.

2.4 (Shaikh, 2019) India has the potential to become a major start-up hub, but pro-reforms in the start-up sector are necessary to foster a favorable entrepreneurial environment across all cities and states. With the working-age population projected to surpass the non-working populace by 2020, there will be an increase in demand and opportunities for startups. The Indian start-up landscape has a unique advantage in early income generation and catering to local market needs, making startups feasible and sustainable. Entrepreneurs can make a substantial contribution to the Indian economy and employment landscape, complementing efforts from small, medium, and large industries. This could propel India into rapid growth and development.

2.5 (Srivastava, 2019) India holds the potential to boost its manufacturing contribution to the GDP to 25% by 2025. The government plays a central role in orchestrating alignment among industries, private enterprises, public sectors, and all stakeholders to achieve this objective. Implementing policies like sector and labour reforms and removing business barriers are crucial steps that the government must take. The "Make in India" mission stands as a significant long-term initiative aimed at transforming India into a manufacturing hub, underlining the commitment to encourage investment and enhance the business climate in the country.

3. Objective:

- To analyse the role and impact of start-ups in Indian economy.
- To study the significance and importance of start-ups in India.
- To study the correlation of start-ups in India with Indian GDP.
- To study the relationship between number of start-ups in India and GDP.

4. Hypothesis:

- **Null Hypothesis(H₀):** There is no relationship between no. of start-ups opened and GDP of the country in last six years.
- **Alternative Hypothesis(H₁):** There is relationship between no. of start-ups opened and GDP of the country in last six years.

5. Research Methodology:

The research methodology employed in this paper involves a conceptual analysis and analytical analysis of the practices in the impact of start-up in Indian economy. The researcher uses the T-test and Correlation test for the analysis of the data. The researcher relies on secondary data, including report from the Reserve Bank of India (RBI), as well as various articles and research paper. The purpose of this approach is to analyse the role and impact of start-ups in Indian economy and to check the correlation of start-up in Indian economy with

Indian GDP. By utilizing secondary data sources, this research aims to provide insight and recommendation for further improvement in this sector.

6. Start-ups in India:

Start-ups have the ability to alter India's entrepreneurial landscape and realize the country's goal of becoming a \$5 trillion economy. They are not only a trendy term in today's growing Indian economy. The recent economic growth in India has been significantly aided by the start-up environment, which has increased productivity, creativity, and employment opportunities. The success of India's start-ups ecosystem will have a significant impact on the country's future because it continues to attract interest and funding from around the globe. Start-ups that prioritize profitability and sustainability will eventually be able to contribute to the growth and expansion of India's economy. Knowing what entrepreneurs think about the function of entrepreneurship and start-ups in India is important because they have become a major force in the country's economy.

Start-ups significantly influence India's growth trajectory. However, it is crucial to focus on creating prosperous firms that can sustain growth over the long run. The success of India's start-ups ecosystem will have a significant impact on the country's future because it continues to attract interest and funding from around the globe. Start-ups that prioritize profitability and sustainability can eventually help India's economy grow and expand. According to an The National Association of Software and Service Companies (NASSCOM) analysis from October 2015, India has more than 4200 new start-ups, placing it third among all start-up ecosystems worldwide. According to the research, three to four start-ups are created every day, and approximately \$5 billion in capital was provided in 2015. Since so many people are using the internet, this expansion is being driven by a rapidly expanding consumer base. The promotion of start-ups has recently caught the eye of government bodies. Some major government initiatives towards the healthy growth of the start-up ecosystem in India include the establishment of Technology Business Incubators (TBIs), the introduction of the PRISM (Promoting Innovations in Individuals, Start-ups, and MSMEs) plan in the Twelfth Five Year Plan, and others. The "Start-up India" action plan and movement, recently launched.

7. Impact of start-ups in different sector:

On August 15, 2015, Hon'ble Prime Minister Shri Narendra Modi announced his vision for a new India, a vision that would put India on the map for start-ups globally and ensure that start-ups would form the foundation of this new economy of innovation driven by the troika 'I's, i.e., ideas, industry, and investment. India is currently the third-largest start-up ecosystem in the world, after only the US (United States) and China, but it is expected to overtake China in the near future to take the top spot.

In addition to their significant impact on the Gross Domestic Product (GDP), start-ups in India provide a wealth of opportunities for youth skill development and employment, particularly in the hottest industries. Since 2018, Indian start-ups have together created close to 6 lakh employments. DPI IT-recognized start-ups alone produced 1.7 lakh jobs in the years 2020–2021, even as the epidemic persisted. The amount of money raised by Indian start-ups in 2021 was significant, totalling \$42 billion, or approximately 40% more than in 2020. India is likewise on course to make this century "a century of unicorns," as stressed by the Hon'ble Prime Minister Shri Narendra Modi. A privately held start-up company valued at more than \$1 billion (about Rs. 8000 crore) is referred to as a unicorn. In the modern era, India produces one unicorn out of every ten produced worldwide. 44 unicorns were created in 2021, with a total market value of more than \$90 million.

The first half of 2023 saw a noticeable fall in deal volume and funding levels in the Indian investment scene. A reliable source of Private Equity & Venture Capital (PE-VC) statistics, Venture Intelligence, indicated that 332 acquisitions totalling US\$17.6 billion were completed during this time, down from US\$21.7 billion the year before. When compared to the funding cycle's peak in September 2022, when investments reached an astounding US\$37 billion, this decline was even more severe. Additionally, stock inflows, reinvested earnings, and other capital sources totalled US\$70.97 billion in India's Foreign Direct Investment (FDI) inflows for the fiscal year ending on March 31, 2023. This result showed a decrease from the US\$84.83 billion in the previous year, highlighting the altering dynamics in the Indian investment sector.

A number of businesses have emerged in India that aim to have a big social impact. Start-ups have been tackling a number of challenges, including regional and gender imbalances at the social level, in addition to the major employment opportunities. According to the Department for Promotion of Industry and Internal Trade (DPIIT), there are more than 625 districts nationwide with at least one start-up, and nearly half of those start-ups are based in Tier-2 and Tier-3 cities. The start-up culture has also impacted rural India, enabling young people and women in impoverished communities to launch home-grown enterprises like those that sell pickles, papadums, handmade items, etc. In fact, the number of registered start-ups was largest in the food processing industry.

A trend that will encourage more women to assume leadership is the fact that nearly 46% of start-ups today have a woman entrepreneur on board. The government's enabling policy assistance and its function as a facilitator have played a significant influence in propelling the country toward becoming the third largest start-up ecosystem in the world. The Honourable Prime Minister introduced the Start-up India program in 2016 with the intention of democratizing the concept of entrepreneurship and igniting young innovators across the nation. The government established the Start-up India Hub and loosened the compliance requirements for start-ups in order to achieve the first objective. For the second objective, the government established a Fund of Funds with a Rs 10,000 crore capital and granted them a three-year tax exemption. And for the third, the

government established the Atal Innovation Mission (AIM) and hosts numerous start-up fests and grand challenges in order to promote industry-academia cooperation and stimulate incubation. There are presently specific start-up policies in more than 30 States and UT's.

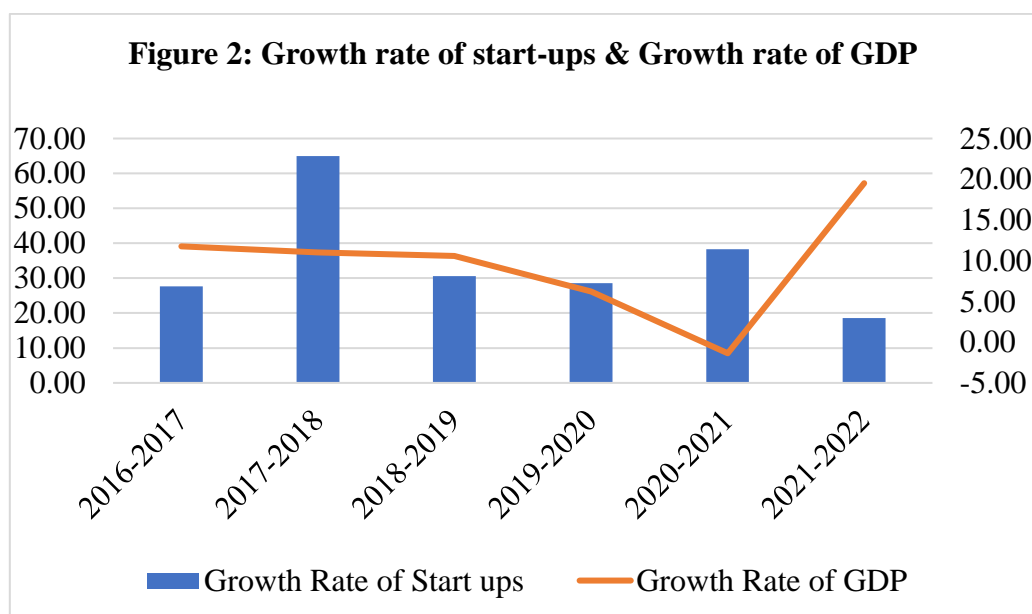
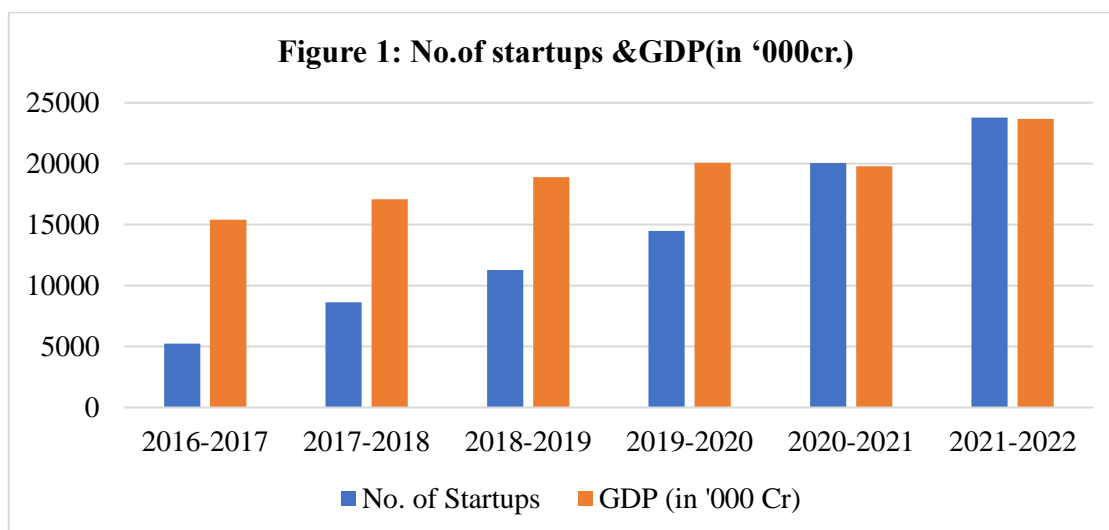
Through programs like the Start-up Runway on the Government e-Marketplace (GeM) portal, which gives start-ups a venue to promote their goods and services for public procurement, India has made tremendous progress in fostering start-ups. These initiatives have helped India move up 41 spots in just 7 years, placing it 40th out of 132 countries in the Global Innovation Index 2022. During its forthcoming G20 presidency, India hopes to highlight its successes in the digital and start-up sectors and hopes to expand its domestic digital and start-up revolution internationally. India has proposed the establishment of a new interaction group inside the G20 named Start-up 20 in order to address common issues encountered by start-ups globally, such as funding limitations, a lack of qualified mentorship, and a requirement for supporting policies.

8. Data analysis and interpretation:

This research analysis delves into the intricate relationship between the number of start-ups and India's economic landscape, particularly focusing on GDP and growth rates over a span of six years, from 2016 to 2022. The provided data reveals compelling insights, showcasing a strong positive correlation between the number of start-ups and GDP, underscoring the pivotal role of entrepreneurial ventures in economic growth.

Table: 1-No. of start-ups and GDP at current price ('000 Cr.)

Years	No. of Start-ups	GDP (in '000 Cr)	Growth Rate of Start ups	Growth Rate of GDP
2016-2017	5233	15392	27.63	11.76
2017-2018	8635	17090	65.01	11.03
2018-2019	11279	18900	30.62	10.59
2019-2020	14498	20075	28.54	6.22
2020-2021	20046	19801	38.27	-1.36
2021-2022	23773	23665	18.59	19.51



Over the six-year period from 2016 to 2022, this data reflects a notable trend in India's start-ups ecosystem and its impact on the country's economic landscape. The number of start-ups exhibited substantial growth, increasing from 5,233 in 2016-2017 to 23,773 in 2021-2022. This expansion in entrepreneurial ventures coincided with a positive trajectory in GDP, rising from 15,392,000 crore rupees to 23,665,000 crore rupees during the same period. While the correlation between the number of start-ups and GDP is strong and positive, indicating that as start-ups thrive, the economy tends to grow, it's noteworthy that the growth rates in both start-ups and GDP displayed fluctuations. The growth rate of start-ups peaked at 65.01% in 2017-2018, while the GDP growth rate showed variability, even dipping into negative territory in 2020-2021. These fluctuations suggest a nuanced relationship between the start-ups ecosystem and economic growth, reflecting the complex interplay of various factors. Overall, this data underscores the critical role start-ups play in India's economic development and highlights the need for a comprehensive understanding of the dynamics at play in the entrepreneurial landscape.

Table 2: Correlation between startups and various variable of Indian economy

	Correlation	Results	Impact
Correlation between Number of Start-ups and GDP(in'000cr.)	0.940	Positive Correlation	Positive

The provided correlation results illustrate the associations between various economic factors: the number of start-ups, GDP (in ₹000 crore), growth rate of start-ups, and growth rate of GDP. A high positive correlation (0.94) is observed between the number of start-ups and GDP, implying that as the number of start-ups increases, the GDP tends to rise. Conversely, there's a moderate negative correlation (-0.41) between the number of start-ups and the growth rate of start-ups, suggesting that a higher number of start-ups is linked to a lower growth rate in the start-up sector. Additionally, there are weak to negligible negative correlations between the number of start-ups and the growth rate of GDP, and between the growth rates of start-ups and GDP, suggesting little direct linear relationship. Furthermore, moderate negative correlations (-0.49 and -0.28) indicate that lower growth rates in start-ups are associated with decreased GDP and reduced growth rate in the economy. These correlations provide valuable insights into how these economic factors interact and influence each other.

Table 3: F-test table for Two-Sample for Variances

	No. of Startups	GDP (in '000 Cr)
Mean	13910.66667	19153.83333
Variance	49062624.27	8018645.367
Observations	6	6
df	5	5
F	6.118567666	
P(F<=f) one-tail	0.034301521	
F Critical one-tail	5.050329058	

Based on the results of the F-Test Two-Sample for Variances, which compares the variances of the number of start-ups and the GDP of the country over the last six years, it can be concluded that there is a significant difference in the variances between these two datasets. The calculated F-statistic of 6.118567666 exceeds the critical F-value of 5.050329058 at a one-tail significance level of 0.05. This suggests that the variation in the number of start-ups is not equivalent to the variation in the GDP of the country, indicating that there is a statistically significant relationship between the two variables. Therefore, it can be inferred that the number of start-ups opened and the GDP of the country in the last six years are not unrelated, but rather, there is some form of relationship or association between these factors.

9. Conclusion:

The relationship between start-ups and the Indian economy is intricate and dynamic. The analysis indicates a positive correlation between the number of start-ups and GDP, suggesting a favourable impact on economic

growth. Conversely, there's a negative correlation with the growth rate of start-ups, implying that a surge in start-ups might not directly translate to higher growth rates within the start-ups sector. The weak correlations with GDP growth rates underscore the complexity of this relationship. The significant difference in variances between start-ups and GDP emphasizes their interconnection. Overall, understanding the nuances of how start-ups interact with the economy is crucial. While start-ups promise substantial contributions to India's GDP, employment, and innovation landscape, it's essential to address challenges, foster a supportive policy environment, encourage collaboration, and promote sustainable start-ups. With continued support and strategic initiatives, India's burgeoning start-ups ecosystem can indeed propel the nation towards its economic aspirations, solidifying its position as a global innovation and entrepreneurship hub.

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