

Factors Affecting the Growth of Start-Ups in India

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Abstract

Start-ups are new ventures that aim to create innovative products or services and achieve rapid growth. However, many start-ups fail to survive or scale due to various internal and external challenges. This study aimed to identify and analyse the factors that affect the growth of start-ups in different contexts and we analyse these variables that affect the development of start-ups in India using the VAXO (value, access, execution, and outcome) and ISM (interpretive structural modelling) models. Our paper demonstrates the significance of government policies, technological trends, and access to capital in driving the development of start-ups in India. In addition, we also assess the impact of the political environment, education and training, the impact of COVID-19, infrastructure, and stock market activity on the development of start-ups. Furthermore, we used the VAXO and ISM models to examine the interrelationships and hierarchical structure of these factors. Our research has significant implications for policymakers, investors, and other stakeholders in India who seek to foster the expansion and success of entrepreneurs. The VAXO and ISM models provide a comprehensive framework for comprehending the complex interactions between these factors and can inform the development of targeted policies and initiatives to support the growth of start-ups in India.

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I. Introduction

India has recently emerged as a top start-up destination on the planet, with a rapidly expanding start-up environment that has given rise to multiple unicorns and garnered large amounts of funding. The massive talent pool, supportive government policies, and expanding digital infrastructure of India are being used by a significant number of young, ambitious businesspeople to develop cutting-edge goods and services. India has over 1.3 billion inhabitants, a quickly expanding economy, and a significant pool of gifted and tech-savvy young workers, making it a desirable location for both entrepreneurs and investors.

With over 50,000 start-ups expected to exist in India by 2020, the country's start-up ecosystem has experienced tremendous expansion in recent years. In 2008, there were about 7,000 start-ups. Favourable government regulations, a rapidly rising internet infrastructure, a booming consumer market, and the accessibility of venture capital and other funding sources are just a few of the elements that have contributed to this rise. With start-ups operating in a variety of industries, including e-commerce, fintech, healthcare, edtech, and agrotech, among others, India's start-up ecosystem is distinguished by a high degree of innovation and entrepreneurial spirit. Several of these start-ups have become unicorns (start-ups valued at over \$1 billion), which has allowed them to attract significant investment from both domestic and foreign investors. However, the COVID-19 pandemic has presented the Indian start-up ecosystem with previously unheard-of difficulties, with many firms fighting for survival in the face of the global financial crisis and shifting consumer preferences. Despite these obstacles, the Indian government has taken a number of measures to support the start-up ecosystem, including financial relief, regulatory reforms, and the launch of initiatives to promote innovation and entrepreneurship. Programmes like Start-up India, Digital India, and the Atal Innovation Mission have given start-ups access to funding, mentorship, and other resources to help them innovate and scale their business by taking these steps, the pandemic's effects have been lessened and the Indian start-up environment has been preserved.

The government's encouragement of innovation and entrepreneurship is one of the main elements promoting the expansion of start-ups in India. The Start-up India programme, which aims to foster a supportive environment for start-ups by offering finance, mentorship, and other resources, was introduced by the Indian government in 2016. This programme has played a significant role in encouraging the development of start-ups in India and luring both domestic and foreign investors.

India's infrastructure, especially its digital infrastructure, is a key component in the rise of start-ups in that nation. A rise in digital transactions and new potential for entrepreneurs in industries like fintech, e-commerce, and digital health have resulted from the widespread use of smartphones and the quick expansion of the internet. Additionally, the government's Digital India plan has hastened the development of the digital infrastructure, allowing start-ups to innovate and expand their enterprises more successfully.

The development of start-ups in India has also been significantly influenced by technological breakthroughs, particularly in the fields of artificial intelligence, machine learning, and blockchain. Start-ups are increasingly utilising these technologies to produce novel goods and services that have the potential to upend established markets.

The Indian start-up sector was severely impacted by the COVID-19 outbreak as well. However, in reaction to the pandemic, start-ups in India have displayed tenacity and adaptation. Many entrepreneurs have changed their business models to adapt to the shifting consumer needs, and some have even created ground-breaking solutions to the problems the pandemic has brought about.

Access to talent, skills, and technology has also played a significant role in the development of start-ups in India. Although the nation has a sizable pool of smart people, start-ups frequently struggle to attract and keep the personnel they require to grow their company. However, programmes like the National Skill growth Mission and the Skill India Mission have assisted in addressing this issue by giving the workforce in the nation options for training and growth.

Finally, the expansion of the Indian start-up ecosystem has been significantly influenced by access to funding. While many start-ups still struggle to find funding, the growth of venture capital funds, angel investors, and other sources of finance has given companies the tools they need to expand their operations and compete on a global scale.

This research paper seeks to offer a thorough examination of these factors and how they affect the expansion of start-ups in India.

II. Literature Reviews

In order to gain a thorough comprehension of each factor's impact on start-ups, we have analysed a variety of reports based on each factor we've selected.

2.1 Government Policies:

The development of start-ups in India has been proven to be significantly influenced by government initiatives. According to a 2017 study by Subramanian and Mathirajan, government initiatives including tax incentives, regulatory simplification, and capital support have been extremely important to the expansion of start-ups in India. The Indian government's "Start-up India" programme, which was introduced in 2016, has also given start-ups in the nation a number of incentives and support systems. Through funding, mentoring, and tax breaks, this programme tries to encourage the expansion of businesses.

The Indian government has also launched a number of other programmes to encourage the development of start-ups in the nation. For instance, the Atal Innovation Mission seeks to encourage entrepreneurship and innovation among researchers and students. In a similar vein, the Make in India project aims to advance manufacturing and increase job growth in the nation. These programmes have improved the atmosphere in India so that start-ups can prosper.

2.2 Technological Factors:

Technology has been a major influence in the expansion of start-ups in India. Start-ups have been able to develop original solutions to a range of problems because to the accessibility of affordable technology and digital infrastructure. According to a study by Pandey and Kumar (2020), technology has been a major factor in the expansion of start-ups in India, especially in industries like e-commerce, fintech, and healthtech. Additionally, start-ups in India have used cutting-edge technology like big data, artificial intelligence, and the Internet of Things to develop fresh business strategies and goods.

The Indian government has also launched a number of efforts to encourage the development of tech businesses in the nation. For instance, the Digital India programme seeks to give all residents access to digital infrastructure and connection. Similar to this, the Smart Cities Mission aims to create smart cities with cutting-edge infrastructure and technology. Such efforts have given businesses the chance to come up with creative solutions to the problems the nation is facing.

2.3 Political Environment:

The development of start-ups in India is significantly impacted by the political climate. For attracting investment and encouraging entrepreneurship, a stable political climate and a supportive corporate environment are essential. According to a study by Pandey and Kumar (2020), the expansion of start-ups in India has been significantly influenced by a stable political climate. Additionally, company procedures have been streamlined and the convenience of doing business in the nation has improved as a result of reforms like the Goods and Services Tax (GST) adoption.

The development of start-ups in India, however, may be negatively impacted by governmental unpredictability and volatility. For instance, the COVID-19 outbreak and the ensuing lockdowns imposed by the

Indian government caused several companies to cease operations in the nation. In addition, there are worries about how India's recent farmer protests would affect the corporate environment and atmosphere for foreign investment.

2.4 Education:

The expansion of start-ups in India has been found to be significantly influenced by access to entrepreneurship education and training. A culture of innovation and risk-taking among students and entrepreneurs is fostered by entrepreneurship education, according to studies (Joshi, 2015).

To encourage students' development of entrepreneurial abilities, a number of educational institutions in India have implemented entrepreneurship programmes and courses. In order to advance entrepreneurial education and training in India, the government has also started a number of programmes, including the Atal Innovation Mission and the National Entrepreneurial Network.

However, there are still issues with India's entrepreneurship education and training. The curriculum of entrepreneurship programmes in India has to be changed to match the shifting needs of the start-up ecosystem, according to a study by Sahoo et al. (2020). In order to assist budding entrepreneurs, more useful mentoring and training programmes are also required.

2.5 Covid- 19

In India, the rise of start-ups has been significantly impacted by the COVID-19 pandemic. The activities of various start-ups in the nation have been hampered by the lockdowns and social isolation restrictions implemented by the Indian government to stop the virus' spread. According to a study by Mukherjee et al. (2021), the COVID-19 pandemic has had an impact on start-ups' survival, operations, and financial performance in India.

However, the pandemic has also given Indian companies new chances. Start-ups in industries like e-commerce, fintech, and edtech now have more opportunities thanks to the rising adoption of digital technology and the move towards remote work. Additionally, the Indian government has launched a number of programmes to aid companies during the pandemic, including the Start-up India Seed Fund Scheme and the Atmanirbhar Bharat Abhiyan.

2.6 Infrastructure

The expansion of start-ups in India has been linked in large part to the country's infrastructure. For businesses to run smoothly, reliable and efficient infrastructure, such as highways, airports, and ports, are essential. According to a study by Chaurasia et al. (2019), start-ups in India choose their locations based in large part on the infrastructure available there. Additionally, accessibility to digital infrastructure, including fast internet and mobile connectivity, is crucial for entrepreneurs in industries like e-commerce and fintech.

The Indian infrastructure's quality is still a problem, though. Numerous infrastructure gaps exist throughout the nation, particularly in rural and remote locations. In addition, problems including land acquisition, environmental clearances, and regulatory delays have slowed down infrastructure construction.

2.7 Capital

The expansion of start-ups in India is greatly influenced by the availability of finance. According to a 2018 study by Sinha and Jain, the availability of finance significantly affects the development and success of businesses in India. With the rise of numerous venture capital firms, angel investors, and crowdfunding platforms, the funding for the Indian start-up ecosystem has significantly increased in recent years. Additionally, the Indian government has launched a number of programmes to aid in start-up funding, including the Atal Innovation Mission and the Start-up India Seed Fund Scheme.

However, start-ups in India continue to have difficulties in obtaining capital. According to a study by Banerjee and Duflo (2014), small firms in India face significant challenges due to a lack of loan availability. Additionally, the majority of investment for start-ups in the Indian start-up ecosystem is focused on a small number of industries, such e-commerce and fintech, whereas businesses in other industries have a tough time raising money.

2.8 Stock Market Activity:

In recent years, the Indian stock market has been a significant source of capital for entrepreneurs. The Innovators Growth Platform and the Start-up Listing and Disclosure Requirements are just two of the initiatives that the Securities and Exchange Board of India (SEBI) has launched to encourage the listing of start-ups on the stock exchange. According to a study by Mishra and Sahoo (2021), start-ups' growth and performance are positively impacted by being listed on the stock exchange.

The listing of start-ups on the stock exchange, however, is not without its difficulties. Start-ups must comply with strict disclosure and listing rules, which could raise their compliance expenses. Additionally, because of how erratic the stock market is, start-ups that are listed there may be subject to market dangers.

Overall, there are several, intricate elements influencing the development of start-ups in India. Even though the Indian start-up ecosystem has expanded significantly in recent years, there are still a number of issues that must be resolved if this expansion is to be sustained. To foster the development of start-ups in India, the government, educational institutions, investors, and other stakeholders must collaborate.

III. Methodology:

The growth of start-ups in India has been a topic of significant interest in recent years, particularly with the rise of the country's entrepreneurial ecosystem and growing economy. The concept of start-up growth refers to the process by which start-ups increase in size, revenue, market share, and overall impact. For start-ups to succeed and grow, they need to navigate a range of factors that impact their business and we have considered the following factors while assessing the impact on growth of start-ups:

3.1 Government Policies: Government policies are essential in fostering an atmosphere that allows start-ups to expand and develop. The development of start-ups in India can be strongly impacted by policies relating to taxation, funding, intellectual property rights, and labour legislation. For instance, tax breaks and incentives can promote start-up investments and aid in their ability to raise money. Similar to how intellectual property rights legislation can give entrepreneurs a competitive edge in the market by protecting their innovations and inventions.

3.2 Technological Factors: Technological aspects are crucial to the development of start-ups in India. To be competitive and fulfil the shifting needs of clients, start-ups need to have access to the most recent technologies and advancements. The development of start-ups in India can be impacted by elements including innovation, R&D funding, and access to technology. For instance, having access to cutting-edge technologies can assist start-ups in creating novel goods and services, while spending money on research and development can help them enhance their current product lines and enter new markets.

3.3 Political Environment: The development of start-ups can be significantly impacted by the political climate in India. Stability, openness, and ease of doing business are a few factors that may have an impact on the expansion of start-ups in India. A stable and open political environment can support investor confidence-building and increase start-up funding. Similar to this, an environment that encourages business can assist start-ups in navigating the regulatory environment and gaining access to the resources they require to expand.

3.4 Education: The success of start-ups in India depends significantly on the standard of education and the availability of trained labour. In order to develop and stay competitive, start-ups require access to a qualified and trained workforce. The development of start-ups in India can be strongly impacted by elements like the standard of education, the accessibility of vocational training, and the need for particular skill sets.

3.5 Covid-19: The start-up environment in India has been significantly impacted by the COVID-19 pandemic. The pandemic has affected funding, disturbed supply networks, and prompted several firms to change their business strategies. In the post-pandemic era, factors including access to capital, the flexibility to work remotely, and the capacity to adjust to changing market conditions may have an impact on the development of start-ups in India.

3.6 Infrastructure: The expansion of start-ups in India depends on the availability of infrastructure such as transportation, communication, and logistics. A strong infrastructure can aid companies in expanding their customer base, lowering expenses, and increasing productivity. The development of start-ups in India can be impacted by elements including the standard and accessibility of transportation, communication networks, and logistics services.

3.7 Capital: Having access to finance is important for the development of start-ups in India. Start-ups require capital in order to expand their businesses, invest in R&D, and tap new markets. The development of start-ups in India can be impacted by elements including the availability of venture capital and angel investors, the simplicity of obtaining loans and grants, and the regulatory framework for fundraising.

3.8 Stock Market Activity: The development of start-ups in India can be significantly influenced by the stock market. The availability of capital and the mood in the start-up ecosystem as a whole can be affected by the stock market's performance. The development of start-ups in India can be impacted by elements including stock market performance, the accessibility of initial public offers (IPOs), and the existence of active angel investors.

IV. Research Methodology

4.1 VAXO Model

The start-up ecosystem is a complicated system, and the VAXO model provides a decision-making framework that can be used to analyse it. Values, actors, exchanges, and objects are the four dimensions into which the VAXO model divides a complex system. Actors are the people or groups involved in the system, exchanges are the interactions between actors, and objects are the system's physical and intangible parts. Values are the goals or purposes of the system.

The VAXO model could be used to pinpoint the values, actors, exchanges, and objects that are crucial for the development of start-ups in the context of researching the factors influencing the growth of start-ups in India. For instance, the actors dimension could include stakeholders like the government, investors, and educational institutions while the values dimension could include elements like financial access. Interactions between various actors, such as funding rounds and mentorship programmes, may be included in the exchanges dimension. The objects dimension could comprise both tangible (infrastructure) and intangible (India's innovation culture) elements.

4.2 The ISM Model

The Interpretive Structural Modelling (ISM) model is a method for examining how factors interact in a system. In ISM, a set of variables is identified, and the strength and direction of the correlations between the variables are then determined using expert judgement. The relationships are then graphically depicted as a network diagram, which can be used to pinpoint the major system drivers and obstacles.

The ISM model could be used to pinpoint the crucial elements that drive start-up growth as well as the connections between these variables in the context of researching the factors influencing the growth of start-ups in India. The variables might comprise elements like infrastructure, education, and financial accessibility, for instance. The strength and direction of the correlations between these factors might then be rated by subject-matter experts. The generated network diagram may be used to pinpoint the main factors influencing and impeding start-up growth as well as to guide strategic and policy decisions.

In general, investigating variables influencing the growth of start-ups in India may be aided by using both the VAXO and ISM models. The ISM model might assist identify the main drivers and impediments to start-up growth and provide guidance for policy and strategy decisions, whereas the VAXO model could identify the values, actors, exchanges, and objects that are crucial for start-up growth.

V. Result and Discussion

Using the VAXO and ISM model, we have analysed and interpreted the responses to our survey. Responses to the survey were collected from individuals spanning from students to business executives.

5.1 Analysis & Interpretation –

Table 1: The factors we have taken into consideration and their connotation

A1- Technology	A2- Government policies
A3- Political environment	A4- Education
A5-Covid-19	A6- Infrastructure
A7- Access to Capital	A8- Stock market activity

The factors we have considered while are research are shown in the table 2 below and according to the responses collected by different set of people ranging from students to business professionals .We have figured out our analysis through the VAXO or ISM model which has suggested us to choose the different aspects to be considered in our study and then understanding of the growth of start-ups in India, This study is performed for our basic knowledge that how the start-ups today are getting affected by various factors which we have come across to evaluate the level of effect of each of them on the other.

Table 2 – Structure self-interactive matrix

Factors	A1	A2	A3	A4	A5	A6	A7	A8
A1	1	A	O	X	O	X	V	O
A2		1	V	V	A	V	V	V
A3			1	O	A	O	V	V

A4				1	O	V	V	O
A5					1	O	V	V
A6						1	X	O
A7							1	X
A8								1

Now using the technique of VAXO the factors were numbered in the category of 1 or 0 based on the rule – For this, SSIM is converted into the initial reachability matrix by substituting the four symbols (i.e., V, A, X or O) of SSIM by 1s or 0s in the initial reachability matrix. The rules for this substitution are as follows:

- (a) If the (i, j) entry in the SSIM is V, then the (i, j) entry in the reachability matrix becomes 1 and the (j, i) entry becomes 0.
- (b) If the (i, j) entry in the SSIM is A, then the (i, j) entry in the matrix becomes 0 and the (j, i) entry becomes 1.
- (c) If the (i, j) entry in the SSIM is X, then the (i, j) entry in the matrix becomes 1 and the (j, i) entry also becomes 1.
- (d) If the (i, j) entry in the SSIM is O, then the (i, j) entry in the matrix becomes 0 and the (j, i) entry also becomes 0. This is depicted in table 3 below

Table 3- Reachability matrix

Factors	A1	A2	A3	A4	A5	A6	A7	A8
A1	1	0	0	1	0	1	1	0
A2	1	1	1	1	0	1	1	1
A3	0	0	1	0	0	0	1	1
A4	1	0	0	1	0	1	1	0
A5	0	1	1	0	1	0	1	1
A6	1	0	0	0	0	1	1	0
A7	0	0	0	0	0	1	1	1
A8	0	0	0	0	0	0	1	1

Partitioning RM is a process where three different sets have been obtained based on the behaviour of the attributes. These sets can be defined as:

- Reachability set: it is a set of all those attributes that are influencing other variables.
- Antecedent set: it is a set of all those attributes that are influenced by other variables.
- Intersection set: this set contains elements of intersection of reachability set and antecedent set.

Table 4 – Level partition of each iteration

Variable_Names	Reachability_Set	Antecedents_Set	Intersection_Set	Level
A1	A1 A4 A6 A7 A8	A1 A2 A4 A5 A6 A7	A1 A4 A6 A7	0
A2	A1 A2 A3 A4 A6 A7	A2 A5	A2	0
A3	A3 A6 A7 A8	A2 A3 A5	A3	0
A4	A1 A4 A6 A7 A8	A1 A2 A4 A5 A6	A1 A4 A6	0
A5	A1 A2 A3 A4 A5 A6	A5	A5	0
A6	A1 A4 A6 A7 A8	A1 A2 A3 A4 A5 A6	A1 A4 A6 A7 A8	1
A7	A1 A6 A7 A8	A1 A2 A3 A4 A5 A6	A1 A6 A7 A8	1
A8	A6 A7 A8	A1 A2 A3 A4 A5 A6	A6 A7 A8	1
Variable_Names	Reachability_Set	Antecedents_Set	Intersection_Set	Level
A1	A1 A4	A1 A2 A4 A5	A1 A4	1
A2	A1 A2 A3 A4	A2 A5	A2	0
A3	A3	A2 A3 A5	A3	1
A4	A1 A4	A1 A2 A4 A5	A1 A4	1
A5	A1 A2 A3 A4 A5	A5	A5	0
Variable_Names	Reachability_Set	Antecedents_Set	Intersection_Set	Level
A2	A2	A2 A5	A2	1
A5	A2 A5	A5	A5	0
Variable_Names	Reachability_Set	Antecedents_Set	Intersection_Set	Level
A5	A5	A5	A5	1

5.2 Findings-

The table above is signifying the column “Level” highlighted in green and labelled as “1” consists of variables such as infra(A6), capital(A7) and stock market activity(A8) which have been extracted initially therefore they have come up at the top inn the figure , these variables are most influenced by other attributes (present in middle level as well as in top level).Whereas in second iteration or middle level ,Technology(A1),political environment(A3),education(A4) and government policies (A2) is the attribute which influence the top-level attributes (A6,A7,A8) but is getting influenced by the low-level attributes which is covid-19 (A5). Therefore, these are those characteristics which must be involved in affecting the growth of start-ups in India. Further, the last iteration and the last level of Figure, respectively, indicate that the most influential variable which ought to influence growth of start-ups in India is Covid-19. From this analysis, it can be interpreted that the presence of this attribute solely claims that it is the highest influential parameter for deciding about how the growth of start-ups is affected in India.

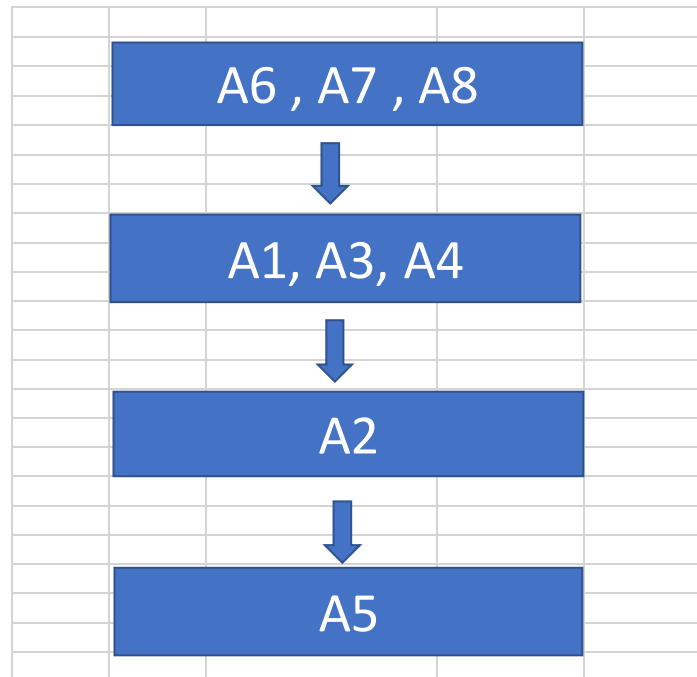


Figure 1:

5.3 Conclusion-

The analysis of the variables in Table 4 and Figure 1 provides insights into the factors that affect the growth of start-ups in India. The top-level variables, including infrastructure, capital, stock market activity are most influenced by other attributes. The middle-level attributes, including Technology, education, political environment, and government policies influence the top-level attributes while being influenced by low-level attributes. The most influential variable in the last level is Covid-19, which suggests that it is the primary factor driving changes in growth of start-ups. Overall, this analysis provides a useful framework for understanding the complex interplay of factors that affect the growth of start-ups in India.

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