

A Study in Analysing the Critical Economic Impact of Startup Schemes in South India

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ABSTRACT

Focusing on the functions of Awareness, Effective Utilisation, Promoting Entrepreneurship, and Empowering Communities, this paper investigates the important economic effect of startup initiatives in South India. By means of a thorough regression analysis, the study demonstrates that while awareness by itself has no appreciable effect on economic results, effective use, promotion of entrepreneurship, and empowerment of communities are very essential in generating economic progress. A key component turned out to be effective use, which emphasises the need for ideal resource management. Encouragement of entrepreneurship showed the most beneficial effect and emphasised the requirement of a favourable entrepreneurial environment. Emphasising the need for inclusive development, Empowering Communities also greatly added to economic influence. The results imply that the success of startup projects in promoting sustainable economic growth in South India depends on a comprehensive strategy including these fundamental elements.

Keywords: Startup India, Economic Impact, Multi-layer preceptor, Structural equation modeling.

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Introduction

The South Indian startup ecosystem, which is expanding at a fast rate, has developed into a vital focus for economic development and innovation, attracting the attention of politicians, investors, and academics alike. In recent years, the region has seen a substantial rise in the number of opportunities for entrepreneurial endeavours. This may be attributed to the dynamic mix of technical competence, entrepreneurial aptitude, and well-developed infrastructure that exists there. The purpose of this study is to investigate the considerable economic impact that startup programmes have in South India, with a particular emphasis on the effectiveness of these initiatives in fostering entrepreneurialism, fostering economic growth, and supporting regional infrastructure development (Maheshwari, 2022).

Over the course of the last several decades, India's economy has seen a tremendous transformation, shifting from being mostly dependent on agriculture to being driven by enterprises and innovation that are dependent on information. One of the most important contributors to this transition is the creation of the

startup ecosystem, which is being pushed by favourable government rules, greater access to finance, and a growing culture of entrepreneurship. The southern region of India, which encompasses states such as Karnataka, Tamil Nadu, Telangana, and Kerala, has emerged as a hub for new business opportunities. This is a result of its robust educational institutions, the workforce that is proficient in technology skills, and dynamic metropolitan hubs, all of which contribute to the creation of an atmosphere that is robust for innovation and entrepreneurial endeavours (Duval-Couetil, 2021).

India is home to a number of people who possess highly developed intelligence. Unfortunately, the youngsters have very little possibilities to achieve the goals that they have set for themselves. The fundamental purpose of Startup India, a significant effort by the Government of India, is to promote a favourable and all-encompassing climate for innovation and entrepreneurship in the nation. This is accomplished by fostering the development of the startup ecosystem and providing an attractive environment for the startup ecosystem. On August 15,

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2015, Shri Narendra Modi, the revered Prime Minister of the country, presented the Startup India initiative to the public. A robust ecosystem that encourages the growth of entrepreneurs and innovation inside the nation is the fundamental purpose of the flagship project, which aims to construct such an environment. Through the implementation of this strategy, the goal is to both encourage sustained economic growth and provide significant job possibilities. It is possible that young people would see this campaign as a fantastic chance to speed up their progress towards achieving their objectives (Davidsson, 2006). The Startup India Initiative, which was introduced on January 16, 2016, has undertaken a number of programmes with the goals of building a thriving startup ecosystem, supporting entrepreneurship, and converting India into a nation in which citizens create job opportunities rather than just looking for them. It is the responsibility of specialised staff from Startup India to manage these initiatives, and they report their activities to the Department of Industrial Policy and Promotion (DPIIT).

As a result of the complex nature of the word "startup" and the fact that it may be interpreted in a variety of ways, its popularity is always growing. Consequently, there is no definitive definition that can be given. The word "startup" is often used to refer to a company that has just been founded from the ground up (Krueger, 2000). Creating a product or service that the corporation feels will be in demand in the market is the goal of this endeavour. The Department of Promotion of Industry and Internal Trade (DPIIT), the Ministry of Commerce and Industry, and the Government of India issued a statement on February 19, 2019, intending to provide a definition of the word "startups" that is both clear and concise. One definition of a startup is as follows, as stated in this notice:

A startup will be considered to be the following:

In accordance with the provisions of the Limited Liability Partnership Act of 2008, the Partnership Act of 1932, and the Companies Act of 2013, the maximum duration for a partnership firm, limited liability partnership, or private limited company that is registered in India is ten years from the date of incorporation or registration. The company has never had an annual revenue that was more than one hundred crore rupees when it was first established or registered after it was established. The company is making an effort to innovate by developing new goods, processes, or services, or by adopting a business model that is scalable and has a significant

potential for producing revenue or providing employment possibilities (Putro, 2022).

As a result of the government of India's recognition of the potential of young entrepreneurs to act as drivers of economic growth and job creation, several strategies and initiatives have been put into place to encourage and support these individuals. Financing assistance, assistance with business incubation, coaching, and regulatory adjustments are some of the available schemes. They are designed to address the challenges that are faced by business owners and to equip them with the tools that are necessary for them to be successful in a very competitive market. In spite of this, the specific economic repercussions of these new business ventures in South India are still a topic of investigation, and they call for empirical research and analysis (Colombelli, 2022).

For policymakers, investors, and other stakeholders who are interested in using the potential of entrepreneurship for long-term and sustainable development, it is of the highest significance to have a full grasp of the economic repercussions of startup projects. By conducting an analysis of significant criteria such as job creation, revenue generation, innovation output, and investment inflows, the purpose of this study is to assess the effectiveness of startup efforts conducted in South India and to discover strategies to increase the impact of these initiatives. In addition to that, the purpose of this research is to investigate the challenges that are faced by ecosystem facilitators and beginning businesses. As well as fostering an environment that is conducive to the expansion of entrepreneurial endeavours, its purpose is to provide information for the formulation of policies that are founded on facts (Sabah, 2016).

In light of the growing significance of new businesses in promoting economic growth and encouraging innovation, it is of the utmost importance to conduct an analysis of the substantial economic benefits that startup initiatives have had in South India. Within the context of the startup ecosystem, the purpose of this study is to shed light on the opportunities and challenges that are currently present. These actions are being taken to contribute to the ongoing conversation around inclusive growth, regional development, and entrepreneurial endeavours (Jayasudha, 2021). By applying rigorous empirical analysis and qualitative insights, the purpose of this study is to provide significant insights that may be used by policymakers, practitioners, and academics. Its ultimate objective is to make a contribution to the advancement of knowledge and the promotion of

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sustainable economic development in South India and beyond

Problem Statement

Over the last few years, India has seen a substantial rise in the number of entrepreneurial endeavours. This rise may be attributed to the advantageous environment that has been established by both the national and state governments. The federal government has initiated a number of startup projects intending to provide financial assistance, mentorship, support for infrastructure, and legislative reforms in order to encourage the growth of entrepreneurs in a variety of sectors. There are a number of significant startup initiatives that are available to entrepreneurs in India, including the following:

The Startup India initiative is a notable programme that was initiated in 2016 to foster innovation and encourage entrepreneurial endeavours throughout the country. In addition to providing tax deductions, self-certification compliance, and shortened regulatory procedures, the system offers a number of benefits to new businesses launching their operations. In addition, the Startup India Seed Fund Scheme provides financial help to aspiring business owners, making it possible for them to transition from the stage of ideation to the stage of putting their goods or services on the market (Cohen, 2007).

PMMY, which stands for the Pradhan Mantri Mudra Yojana, is a government programme that was initiated in 2015 to provide micro, small, and medium enterprises (MSMEs), including startups, with non-collateral loans in order to give them financial assistance. Entrepreneurs have the option to get loans ranging from 50,000 to 10 lakh Indian Rupees (INR) under this initiative. These loans are classified into three distinct categories: Shishu, Kishore, and Tarun (Sharma, 2015). The exact classification of each category is decided at the stage of the company's development.

An effort known as the Atal Innovation Mission (AIM) was launched by the National Institute of Technology (NITI) Aayog to encourage researchers, students, and new businesses to engage in innovative and entrepreneurial activities. Businesses that are focused on finding innovative solutions may get support in the form of incubation, coaching, and funding from the Atal Incubation Centres (AICs), which are one of the organization's primary projects. On top of that, the Atal New India Concerns (ANIC) project encourages businesses to address specific societal issues by using cutting-edge technology (Georgescu, 2020).

Stand-Up India is a government project that was launched in 2016 to foster entrepreneurial endeavours among women and members of underprivileged groups, such as Scheduled Castes (SCs) and Scheduled Tribes (STs). To initiate or expand their company activities, qualifying business owners have the chance to get loans ranging from 10 lakh to 1 crore Indian Rupees (INR) under this scheme (Ozyilmaz, 2011). The objective of the programme is to stimulate an all-encompassing growth of the economy while simultaneously enhancing the agency of sections of society that are disadvantaged.

In India, the National Small Industries Corporation (NSIC) offers a variety of programmes and initiatives that are designed to assist micro, small, and medium companies (MSMEs) as well as startups. The Single Point Registration Scheme (SPRS), the Marketing Assistance Scheme, the Credit Support Scheme, and the Technology Incubation and Entrepreneurship Development Scheme are the schemes that are included in this package. In order to accelerate their growth and improve their competitiveness, startups may make use of these programmes to get financial assistance, receive assistance in marketing, and gain access to technical incubation facilities. All of these things can help startups become more competitive (Liu 2022).

Technology Business Incubators, often known as TBIs, are programmes that are developed by the Department of Science and Technology (DST) to assist in the development of technology-based firms and assist in the transformation of such businesses into profitable commercial enterprises. Technology Business Incubators (TBIs) provide businesses with crucial resources such as infrastructure facilities, coaching, the opportunity to network with other business professionals, and financing choices (Martinez, 2020). These resources enable businesses to successfully transform innovative ideas into entrepreneurial ventures that are profitable and sustainable. The domains of biotechnology, information technology, renewable energy, and healthcare are among the areas that are given priority by these incubators along with others.

The initiatives for new businesses that are offered by the federal government play a significant part in the development of entrepreneurialism, the promotion of innovation, and the overall advancement of economic growth in India. Through the provision of financial support, mentorship, and infrastructure, these initiatives make an effort to foster an environment that is conducive to the growth of entrepreneurs and to

contribute to India's aim of achieving socioeconomic development. However, in order to maximise the impact of these programmes and cultivate a climate that is conducive to the growth of entrepreneurial endeavours throughout the country, it is essential to make certain that they are carried out effectively, to overcome any barriers that may arise, and to monitor the outcomes.

Literature Review

The Oslo Manual defines innovation as the implementation of a new or significantly improved product (manufactured item, service) or process, a novel organisational approach, or a new marketing strategy in economic activity, workplace organisation, or environmental interactions. Another definition of innovation is the use of a fresh organisational method. There is just one key requirement that must be met for an innovation to take place, and that is for the product, process, organisational, or marketing strategy to be either brand new or significantly improved for the company.

A corporation is considered to be innovative if it has been able to effectively introduce a new product, process, organisational approach, or marketing plan to the market within a period of time that is no longer than three years. Inventiveness is a concept that is used to describe the ability to come up with new experiences. Both the amount of innovation and the level of strength of the firm are intimately correlated with one another. In the context of innovation processes, the ability of a firm to acquire, collect, utilise, and improve information is one of the most important characteristics of an innovative business (Palma-Mendoza, 2019).

This information might be obtained from inside the organisation by making use of the resources that are already available to it. There is also the possibility that it is the result of a mix of the company's own capabilities and the experiences of other market players. This viewpoint on the genesis of invention makes it possible to classify inventions into two categories: closed innovations and open innovations. The intrinsic openness of innovation makes it easier for knowledge to be shared and distributed to a wide number of people, which in turn encourages innovation on a big scale and enables the maintenance of dynamic economic development. Knowledge sharing can improve the quality of products and increase the economic potential of companies that are engaged in manufacturing and the creation of new products. The use of open innovation not only reduces the amount of resources that are used but also

increases the consequences of ideas and activities that are shared, while simultaneously strengthening economic relationships (Matlay, 2008). There is a possibility that the connectivity of creative ideas and technology may result in synergistic benefits for the firms that are working together, as well as for the economy of the local and regional areas.

When compared to other types of businesses, start-ups are distinguished by the large amount of innovation that surrounds their beginnings, beginning with the formulation of the concept for the company. They provide a cutting-edge product or service that often satisfies the wants of consumers who are quite particular and, at times, that are not even acknowledged. This makes it possible for new businesses to have a faster rate of development in comparison to previous companies and to aggressively expand into new industries. During the process of expanding their market, they often use innovative business strategies and make great use of the Internet (Linan 2009). They believe that this is the most effective way to attract modern customers who are interested in unique ideas. As a consequence of this, start-ups concentrate the majority of their efforts on cutting-edge technical businesses, such as information technology, telecommunications, or financial technology.

It is possible to assume, taking into consideration the one-of-a-kind characteristics of start-ups, that the industries in which they operate and the rapid dissemination of their influence via the use of the Internet make them well-equipped to encourage open innovation, which is available to a wide variety of users and supporters. Many of these firms are also formed via the use of open innovation, which, during the course of its development phase, encourages and supports the quick growth of such businesses, which are initially equipped with a limited amount of resources and experience (Steiner, 2019). The fundamental causes for the change from a closed to an open notion of innovation, in which the difference between the organisation and its surroundings becomes less evident, were the progress and broad usage of information and communication technology (ICT) and its extensive application. Within this framework, cities and the institutions that they generate via their engagement act as intrinsic external collaborators in the open innovation paradigm. This is done in accordance with the concept of sequential economic helices

Intending to foster economic growth, innovation, and entrepreneurialism via the provision of support, India

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offers a variety of initiatives designed specifically for new businesses. Numerous well-known startup courses are available to Indian entrepreneurs, and the following is a comprehensive description of each one:

1. Startup India Initiative

The initiative is known as Startup India was launched by the government of India in January 2016, to establish a healthy ecosystem that would provide support for innovation and enterprises occurring inside the country. Among the several benefits that the project offers are the following:

In order to alleviate the burden of complying with nine labour and environmental regulations, new businesses have the ability to self-certify their compliance with these regulations. This allows them to focus on expanding their businesses.

A tax holiday that lasts for three years and is offered to qualifying business owners provides significant financial help during the initial important years of the business.

Through the establishment of a Fund of Funds for Startups (FFS) with a corpus of 10,000 crore Indian Rupees, the government intends to promote venture capital firms' participation.

The project promotes the construction of research parks, business incubators, and centres of excellence in order to provide the necessary infrastructure and mentoring help. In addition, the initiative encourages partnerships between the industry and academic institutions.

2. MUDRA Yojana

Micro Units Development and Refinance Agency (MUDRA) Yojana is an initiative that was initiated in April 2015 to provide financial assistance to micro businesses and small businesses. The scheme offers three different types of loans, each of which is determined by the degree of development of the company:

Shishu provides loans of up to 50,000 Indian Rupees to new businesses that are in their first stages of development.

Companies that are in the process of expanding their operations are eligible for loans ranging from INR 50,001 to INR 5 lakh via Kishore.

Loans ranging from five lakhs to ten lakhs of Indian rupees are available to respectable businesses that are looking to expand their operations.

In particular, for those who come from disadvantaged parts of society, the MUDRA Yojana offers access to loans and instruments for the expansion of businesses to people who are starting their own businesses.

3. Atal Innovation Mission (AIM)

The Atal Innovation Mission is an initiative that was initiated by NITI Aayog to actively promote an inventive and entrepreneurial culture throughout the whole of India. The following are important components of AIM:

Students are encouraged to be creative and imaginative via the use of Atal Tinkering Labs, which are located in educational institutions.

4. Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)

It is crucial to encourage ideas that provide answers to critical problems in domains such as agriculture, education, and health by supplying solutions to the needs of society.

The development of a robust innovation environment and the provision of assistance to businesses at various stages of their growth are both dependent, to a significant extent, on AIM.

It is the fourth. (CGTMSE) stands for the Micro and Small Enterprise Credit Guarantee Fund Trust Programme.

Financial institutions that supply micro and small enterprises with loans that do not need collateral are eligible to get credit guarantees under the CGTMSE programme. Important components include the following:

The plan protects both newly created and well-established firms by providing loan amounts of up to two crore Indian rupees.

A maximum of seventy-five percent of the loan amount is guaranteed by CGTMSE, which reduces the risk for lenders and encourages them to provide funding to businesses without attaching collateral requirements.

This initiative makes it possible for company owners to get the necessary funds to begin and develop their firms, particularly for those who do not have collateral.

The Stand-Up India Scheme was launched in April of 2016, to foster entrepreneurial endeavours among women, as well as those belonging to Scheduled Castes (SC) and Scheduled Tribes (ST). In order to facilitate the establishment of greenfield firms in the manufacturing, commerce, or service sectors, the project aids financial institutions in the provision of loans ranging from ten lakh to one crore Indian rupees. Important components include the following:

There is a requirement that every branch of a bank must grant at least one loan to a firm that is owned by an SC/ST individual as well as a woman entrepreneur.

There is a longer moratorium period and favourable terms for repayment that are provided by the loans.

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By assisting groups who are underrepresented in the entrepreneurial ecosystem, Stand-Up India makes a substantial contribution to the promotion of inclusive development.

5. Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

PMKVY places a strong emphasis on skill development in order to provide young people with the skills necessary for being employed and starting their own businesses. Important characteristics include the following:

Short-term training courses covering a wide range of subjects adapted to meet the requirements of companies

Those individuals who possess current competencies are awarded Recognition of Prior Learning (RPL) certificates, which has the effect of boosting their employability and their capability for entrepreneurial endeavours.

After successfully completing the course and being evaluated, trainees are eligible to receive monetary advantages.

By providing support and encouragement for entrepreneurial skills and capabilities, PMKVY contributes to the development of a skilled workforce that can assist in the environment of startups.

6. Make in India

Make in India is an initiative that was launched in September 2014 to establish India as a global manufacturing base. It is the project's goal to:

To attract investments and assist manufacturing via the facilitation of company operations, the simplification of regulations and the improvement of the business environment would be beneficial.

Sector-specific initiatives are being implemented via the implementation of policies and activities across 25 main sectors, including the automotive, pharmaceutical, textile, and electronic industries.

Building Infrastructure: The funding of industrial growth and the support of manufacturing both need the development of infrastructure.

Start-ups in the manufacturing industry may benefit from Make in India since it provides an atmosphere that is conducive to the growth of businesses.

The objective of the Digital India initiative is to transform India into a society that is technologically proficient and a knowledge-based economy. Included among the essential components for startups are:

E-governance is highlighted by the simplification of government processes and the provision of online services, both of which contribute to an improvement in transparency and efficiency.

Enhancing the infrastructure of the internet will make it easier for startups to integrate technology for the sake of growth and innovation.

People and enterprises will be better able to participate in the digital economy if they are encouraged to improve their digital literacy.

In order for businesses to thrive in a highly competitive market, Digital India provides them with the tools and infrastructure they need.

When viewed as a whole, these startup programmes provide Indian businesses with a comprehensive support system that encompasses funding, mentorship, talent development, and infrastructural initiatives. Their objective is to construct a robust ecosystem that is capable of fostering equitable development, economic growth, and innovation as a method of propelling change.

Objectives

The key objectives of the study are:

To analyse the awareness towards central government schemes in enhancing startup initiatives in India

To understand the critical role of effective utilisation of startup schemes in influencing economic impact in the country

To apprehend the impact of startup India schemes in promoting entrepreneurial activities in India.

To investigate the role of startup India schemes in empowering communities and thereby enhancing economic impact.

Proposed Methodology and Analytical Tools

The research will employ both primary data and secondary data sources, the researcher proposes to use the following data analysis tools

Exploratory data analysis

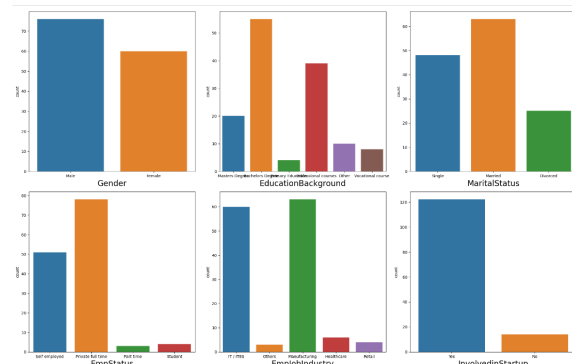


Fig 1: EDA of demographic data

A visual representation of numerous demographic elements of a study sample is provided by the charts that are provided. These charts are often associated with the research that is being conducted on the economic impact of startup projects in South India. Each of the charts tackles a different aspect of the

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demographic profile of the respondents, and as a result, they provide information on the sample composition.

The gender distribution of the respondents is shown in the first chart, which can be seen on the upper left. The results show that there were more male participants than female ones. There is probably a gender difference among the participants, particularly given the fact that there is a considerably higher proportion of males. In this particular setting, this would indicate that guys are more motivated or more willing to participate in research on new businesses that are just getting started.

The second chart, which can be seen in the top middle, displays the educational background of the individuals who made the survey. The majority of the participants have a Bachelor's degree, who are then followed by individuals who have completed professional courses. Individuals who have only completed elementary school and those who have earned master's degrees are far less common. Due to the fact that this distribution indicates that the majority of the respondents had a solid educational background, their entrepreneurial activity and perspectives on startup courses may be influenced by this foundation.

In the third chart, which can be seen on the upper right, the marital status of the respondents is shown. People who are married make up the largest group, while single individuals come in second. Divorced individuals are the category that receives the lowest amount of the three categories. Due to the fact that a person's marital status may influence their decision to engage in entrepreneurial activities, this demographic information may be significant in gaining an understanding of the support networks and risk appetites of different groups.

Moving on to the bottom row, the chart that displays the respondents' current employment condition may be found there. Full-time employees in the private sector make up the largest group, followed by those who are self-employed as the second largest category. We have fewer students and people working part-time. It can be deduced from this that a significant majority of the individuals who participated in the survey are employed in reliable, full-time employment. These occupations would provide them with the financial security and resources necessary to contemplate the possibility of founding their own businesses or investing in startups.

At the bottom centre of the figure, a description is provided of the various industrial sectors in which the

respondents are employed. The manufacturing sector is the most important industry, closely followed by the information technology and information technology-enabled services (IT/ITES) sector. Some other businesses, such as retail and healthcare, as well as some unspecified sectors, have a far smaller presence altogether. It seems from this that the respondents have a significant amount of job opportunities in the manufacturing sector, which may have an impact on their perspectives about the prospects and plans for new businesses, especially those that are geared towards manufacturing and industrial growth.

This is highlighted by the last statistic on the bottom right, which shows the percentage of respondents who work for startups. The vast majority of them are employed by startups, while just a small fraction of them do not participate in any startup activities. This high degree of engagement suggests that the sample is particularly relevant for analysing the economic impact of startup initiatives. This is because the majority of respondents are actively participating in the ecosystem that supports startups. Taking all of these graphs into consideration, we can gain a comprehensive picture of the demographic features of the people who participated in the study. They provide significant fresh perspectives on gender distribution, educational background, marital status, job status, industry of employment, and involvement in startup companies. Having an understanding of the context in which the respondents are employed is likely to make it easier to interpret the findings of the impact that startup initiatives have had on the economy in South India. This kind of demographic information is really important.

Correlation analysis

Table 1: Correlation analysis

	Awareness	Effective Utilisation	Promoting Entre	Empowering Communities	Economic Impact
Awareness	1	0.835	0.808	0.718	0.748
Effective Utilisation	0.835	1	0.816	0.717	0.794
Promoting Entre	0.808	0.816	1	0.713	0.822
Empowering Communities	0.718	0.717	0.713	1	0.764
Economic Impact	0.748	0.794	0.822	0.764	1

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Five elements make up the link matrix that is shown in the table. These variables include awareness, effective usage, fostering entrepreneurship, empowering communities, and economic impact. Each of the values in the matrix represents the degree of the link between two variables as well as the direction of that association; a value of one indicates a perfect positive correlation.

Awareness: Effective Utilisation (0.835) demonstrates a significant positive connection with awareness, which indicates that as awareness grows, effective utilisation also often increases to a significant degree. The fact that there is a strong correlation with promoting entrepreneurship (0.808) suggests that raising awareness will almost probably lead to an increase in the number of efforts used to promote entrepreneurship. The fact that Awareness and Empowering Communities (0.718) and Economic influence (0.748) have correlations that are relatively moderately strong demonstrates that awareness has a considerable influence on these dimensions, although one that is slightly less important than the impact that efficient usage and promotion of entrepreneurship have.

Promoting Entrepreneurship (0.816) has a substantial correlation with this variable, which implies that making effective use of resources or efforts significantly boosts the amount of entrepreneurial activity. Its link with Empowering Communities (0.717) is especially noteworthy, despite the fact that it is somewhat lacking, since resources that are used effectively have the potential to empower communities to a significant degree. Due to the significant correlation between Economic Impact (0.794), it can be deduced that the utilisation of resources in an effective manner is essential to the improvement of economic outcomes.

There is a considerable positive connection between the encouragement of entrepreneurship and the Economic Impact (0.822), which is the highest value in the matrix. This indicates that actions to assist entrepreneurship are quite effective in producing economic development, as shown by the correlation matrix. Notable as well is the correlation with Empowering Communities (0.713), which demonstrates that the promotion of entrepreneurial endeavours contributes to the empowerment of

communities. Because of the strong link that exists between this variable and Awareness (0.808) and Effective Utilisation (0.816), it is clear that it is dependent on these components in order to be effectively used.

Empowering Communities has the lowest correlation in the matrix, despite the fact that it indicates substantial connections. Its strongest correlation is with Economic Impact (0.764), which indicates that initiatives to empower communities may have a significant impact on the outcomes of economic activities. However, the relatively strong connections with Awareness (0.718), Effective Utilisation (0.717), and Promoting Entrepreneurship (0.713) indicate that these aspects may not be as critical to community empowerment as they are to other variables. This is despite the fact that these factors are substantial.

There is a strong correlation between the factors of Awareness (0.748), Effective Utilisation (0.794), and Promoting Entrepreneurship (0.822), which indicates that these components are of the utmost significance in influencing the outcomes of economic activities. The correlation with Empowering Communities (0.764) is another factor that highlights the relevance of community empowerment in relation to economic development. The complexity of the economic impact, which is influenced by a variety of factors including knowledge, the effective utilisation of resources, the support of entrepreneurial endeavours, and community empowerment programmes, is brought to light by these interactions.



Fig 2: Heatmap

Regression analysis

Table 2: Regression analysis

R	R Square	Adjusted R Square	Std. Error of the Estimate		
.871a	0.759	0.752	0.636		
ANOVAa	Sum of	df	Mean Square	F	Si

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	Squares				g.
Regression	166.93	4	41.732	103.071	.000b
Residual	53.041	131	0.405		
Total	219.971	135			
Model	B	Std. Error	Beta	t	Si g.
(Constant)	0.061	0.134		0.458	0.65
Awareness	-0.005	0.085	-0.005	-0.056	0.96
EffectiveUtilisation	0.264	0.093	0.252	2.851	0.01
PromotingEntre	0.39	0.079	0.411	4.954	0.00
EmpoweringCommunities	0.297	0.067	0.294	4.426	0.00
a Dependent Variable: Economic impact					
b Predictors: (Constant), EmpoweringCommunities, PromotingEntre, Awareness, EffectiveUtilisation					

Overall, the regression analysis demonstrates that the model is quite good at predicting economic impact. This is due to the fact that promoting entrepreneurship, effective utilisation, and empowering communities are key predictors. However, from this point of view, consciousness is completely irrelevant and irrelevant at all. The model

helps to explain a substantial portion of the variety in economic impact, and as a consequence, it emphasises the need to make effective use of resources, encouraging entrepreneurial endeavours, and empower communities in order to improve economic outcomes.

Neural Network

Table 3: Multi-layer preceptor

Predictor		Predicted											
		Hidden Layer 1						Output Layer					
		H(1:1)	H(1:2)	H(1:3)	H(1:4)	H(1:5)	H(1:6)	Economicimp act1	Economicimp act2	Economicimp act3	Economicimp act4	Economicimp act5	
Input Layer (Bias)	-0.94	1.097	0.182	0.047	0.038	0.010	0.003						
	Awareness1	-0.452	1.438	0.219	0.047	0.045	0.024						
	Awareness2	1.511	1.605	1.121	-0.214	0.294	0.095						
	Awareness3	0.687	0.67	1.159	0.02	-0.02	0.00						

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			3	9	8	53	12					
							7					
	Awareness4	-1.498	0.997	1.579	0.518	0.156	0.433					
	Awareness5	-1.077	-1.707	0.071	-0.050	0.022	0.181					
	EffectiveUtilisation1	0.723	-0.297	-0.172	0.019	0.034	0.403					
	EffectiveUtilisation2	1.343	-0.995	0.078	0.047	-0.012	0.039					
	EffectiveUtilisation3	-1.419	1.505	-0.248	0.027	0.023	0.231					
	EffectiveUtilisation4	-0.175	0.806	0.259	0.023	0.164	0.426					
	EffectiveUtilisation5	-0.793	-0.663	0.102	0.035	0.033	0.256					
	PromotingEntrepreneurship1	1.478	0.358	0.153	-0.022	0.037	0.026					
	PromotingEntrepreneurship2	0.661	-0.279	0.106	0.047	0.077	0.259					
	PromotingEntrepreneurship3	0.12	1.779	0.063	-0.025	0.018	0.458					
	PromotingEntrepreneurship4	-1.019	0.299	0.103	0.065	0.048	0.468					
	PromotingEntrepreneurship5	-1.13	0.536	0.141	0.078	0.045	0.501					
	EmpoweringCommunities1	1.57	0.079	0.036	0.108	0.121	0.462					

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	Empowerin gCommunit ies2	1.723	- 0. 99 8	0. 29 6	- 0. 13	- 0. 33 7	0. 09 8					
	Empowerin gCommunit ies3	0.652	0. 67 5	- 1. 67 6	0. 33 8	- 0. 49 3	0. 13 1					
	Empowerin gCommunit ies4	-1.562	0. 64 2	0. 01 1	1. 41 8	- 0. 02	0. 24 2					
	Empowerin gCommunit ies5	-3.772	0. 19 4	0. 08 8	0. 19 7	0. 25 2	0. 46 1					
Hidden Layer 1	(Bias)											
	H(1:1)							-0.125	3.524	-1.339	-1.967	0.431
	H(1:2)							2.111	4.646	-1.636	-3.717	-1.999
	H(1:3)							-3.768	2.079	1.644	2.29	-1.565
	H(1:4)							-1.769	3.383	-5.094	-0.522	4.55
	H(1:5)							0.177	1.43	0.579	-0.92	-1.662
	H(1:6)							-0.29	0.452	-0.169	0.435	-0.145
	H(1:6)							-0.022	-0.467	0.376	-0.211	0.375

The outputs of the economic effect are shaped by a complex interplay between the weights of the input and the hidden layers. These accumulated weighted components are responsible for providing each and every assessment of the economic effect (from Economic Effect 1 to Economic Impact 5):

Strong positive and negative weights from buried neurons have an impact on economic effect 1, which suggests that there is a significant amount of variability depending on the parameters that are considered.

There are specific hidden neurons that may be playing a more major role in economic impact, as shown by the strong positive weights from H(1:1) and H(1:4).

This is obviously influenced by H (1:3, which is driven by both positive and negative weights since it has an economic effect.

Similarly, the economic effect is influenced by different weights, demonstrating the diverse contribution of a large number of dormant neurons inside the brain.

The economic impact demonstrates positive impacts from a large number of hidden neurons, which seems

to indicate that certain nodes in the hidden layer 1 are a significant driver of this prediction.

This neural network model illustrates how intricately input predictors, hidden neurons, and output predictions interact with one another. Each predictor has a unique impact on the hidden layer, and the hidden neurons, when taken as a whole, contribute to the economic effect outputs with varying weights. This intricate pattern highlights the subtle interactions that occur within the model, as each layer builds on the one that came before it to improve the estimation of economic consequences.

Table 4: Area under the curve

Area Under the Curve	Area
Economic impact	Area
Strongly Disagree	0.962
Disagree	0.990
Neutral	0.995
Agree	1.000
Strongly Agree	1.000

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Furthermore, the AUC values for the economic effect categorization demonstrate that the model performs exceptionally well across the board in terms of degrees of agreement. Between 0.962 and 1.000, the high to perfect AUC values demonstrate that the model is rather well at differentiating between various answers regarding economic effects. While the somewhat lower but still good ratings for "Strongly Disagree," "Disagree," and "Neutral" categories also demonstrate strong performance, the perfect scores for the "Agree" and "Strongly Agree" categories highlight the model's great accuracy and dependability in these classifications.

Structural Equation Model

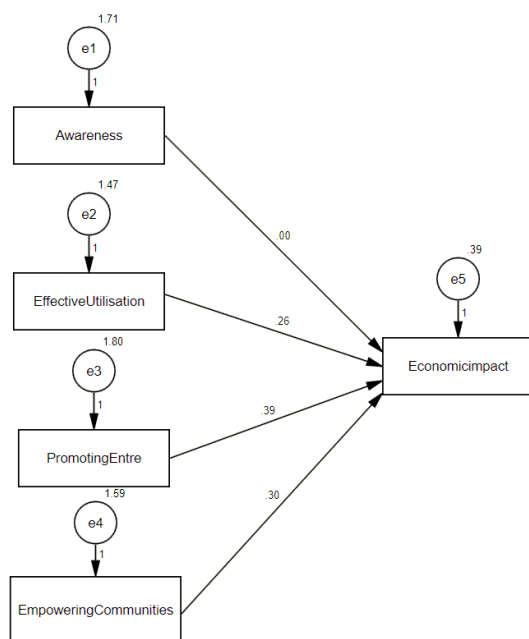


Fig 3: A path analysis

Table 5: Structural equations

Dependent	Independent	Estimate	SE	CR	P value
Economic impact	Awareness	-0.005	0.41	-0.115	0.91
Economic impact	Effective utilisation	0.264	0.044	5.957	0.00
Economic impact	Promoting entrepreneurship	0.39	0.04	9.731	0.00
Economic impact	Empowering communities	0.297	0.043	6.912	0.00

The following table presents the results of a regression analysis that was conducted to investigate

the influence of four independent variables—namely, awareness, effective usage, boosting entrepreneurship, and empowering communities—on the dependent variable, which is the economic impact. The data that were provided are analysed in great detail here:

Economic Impact and Awareness

An estimated -0.005 indicates that there is a negative association between Awareness and Economic Impact, albeit a relatively minor one. The standard error of 0.041 illustrates the variation that exists around this estimate. When the estimate is divided by the standard error, the critical ratio (CR) is -0.115, which is a number that is close to zero and indicates that there is a small amount of influence. Given that the p-value of 0.91 is far greater than the standard threshold of 0.05, this connection does not meet the criteria for statistical significance. Therefore, awareness has very little consequence on the economic effect when seen via this paradigm.

Economic Impact and Effective Utilisation

Effective utilisation indicates a fairly strong positive correlation with economic benefit, as shown by an estimate of 0.264. It may be deduced from this that the Economic Impact increases in proportion to the Effective Utilisation. Due to the very low standard error of 0.044, it seems that the estimate is accurate. The presence of a high critical ratio of 5.957 is indicative of a discernible influence. Due to the fact that the p-value of 0.00 is much lower than 0.05, this connection is statistically significant. Utilising resources effectively has a significant influence on the economic impact.

Economic Impact and Promoting Entrepreneurship

A high positive estimate of 0.39 is associated with the encouragement of entrepreneurial endeavours, which therefore has a large impact on the economic outcome. Considering that the estimate has a standard error of 0.04, it seems to be accurate. There is a significant effect magnitude, as shown by the relatively high critical ratio of 9.731. The p-value for this relationship is 0.00, which indicates that it is statistically significant. The support of entrepreneurial endeavours is a significant driving factor behind the economic effect.

Economic Impact and Empowering Communities

A positive correlation between Empowering Communities and Economic Impact is further shown by the fact that it has an estimated value of 0.297. An estimate that has a standard error of 0.043 is considered to be accurate. The magnitude of the impact is quite considerable, as shown by the critical

ratio of 6.522. The p-value for this relationship is 0.00, which indicates that it is statistically significant. The empowerment of communities has a significant positive impact on the economy.

The regression analysis demonstrates, in general, that Effective Utilisation, Promoting Entrepreneurship, and Empowering Communities have strong positive effects on Economic Impact. This is shown by the robust estimates, low standard errors, high critical ratios, and extremely significant p-values that are associated with these variables. Awareness, on the other hand, does not demonstrate any noticeable link with Economic Impact due to the fact that its estimate is virtually zero, its standard error is bigger, its critical ratio is very low, and its p-value is high. Based on these results, it may be inferred that programmes to enhance economic effect should prioritise the enhancement of efficient utilisation, the promotion of entrepreneurial endeavours, and the empowerment of local populations.

Discussion

South India's economic landscape has seen a significant transformation as a result of the implementation of several startup initiatives; these programmes are designed to encourage innovation, entrepreneurialism, and economic growth. The purpose of this article is to investigate the significant economic impact that these activities have by concentrating on four primary factors: awareness, effective utilisation, fostering entrepreneurialism, and community empowerment. The ability to recognise the interactions that occur between these components is essential for policymakers, company owners, and other stakeholders who are attempting to maximise the benefits that may be gained from startup ventures. Awareness is the most important factor in determining the success of new ventures. It addresses the knowledge and awareness of prospective and existing company owners of the existence of these programmes, the benefits they provide, and the application processes for their participation. Despite the fact that it is significant, our research demonstrates that knowledge on its own has very little impact on economic outcomes. The regression analysis revealed that there was no statistically significant correlation between Economic Impact and This implies that although knowledge is necessary for entrepreneurs to access programmes, it is not sufficient on its own to propel significant economic change. The p-value for this analysis was 0.91, and the estimate was -0.005. As a result, efforts that just focus on increasing awareness without also including activity in other

areas can not result in the anticipated financial rewards.

It came out that efficient utilisation was one of the most important elements that determined the economic impact. The extent to which the resources provided by startup initiatives are used to achieve the desired economic outcomes is a significant factor in this regard. It was discovered via the study that there is a significant positive connection between Effective Utilisation and Economic Impact. The estimate for this correlation was 0.264, and the p-value was 0.00, which is rather remarkable. This highlights the need of not just providing businesses with tools and assistance, but also ensuring that these resources are employed in the most effective manner possible. In order to make effective use of resources, it is necessary to engage in strategic planning, maintain strong financial management, and make use of the existing support systems. The significance of training and support programmes that allow firms to make use of the available resources is highlighted by this outcome. As a consequence, the overall efficiency of launching projects is improved.

There is a direct correlation between the promotion of entrepreneurial endeavours and the growth and development of new firms, which is why the success of startup ventures is largely dependent on this factor. According to the findings of our research, there is a pretty strong positive impact on Economic Impact, as shown by an estimate of 0.39 and a p-value of 0.00, which is quite significant. The evidence presented here demonstrates that the development of the economy is highly dependent on policies that are designed to encourage an entrepreneurial culture, mentorship, access to markets, and finance. Establishing an environment in which new ideas may flourish and in which entrepreneurs can take measured risks and build their businesses with the necessary assistance is what we mean when we talk about encouraging entrepreneurship. Because they suggest that concerted efforts to promote entrepreneurialism may result in significant economic gains, the considerable positive findings of this study underline the relevance of entrepreneurship in many startup initiatives. This is because the research indicated that the outcomes were positive.

Additionally, the empowerment of communities via the implementation of startup initiatives is a crucial component that influences the economy. This means making certain that the benefits of engaging in entrepreneurial activity are disseminated throughout a wide range of domains, promoting inclusiveness and

contributing to the expansion of the socioeconomic system. The findings of the study indicated that there is a substantial positive connection between Empowering Communities and Economic Impact. The estimate for this correlation was 0.297, and the p-value was 0.00. There is a possibility that empowering communities would result in a more robust and robust local economy. This is because diverse groups are being encouraged to participate in and benefit from local companies. The conclusion that may be drawn from this finding is that initiatives designed to support new businesses should not just focus on individual entrepreneurs but also on community-level interventions that encourage the growth and development of large groups

Conclusion

The analysis highlights the many different aspects of the financial effect that South Indian startup courses have across the country. Even if knowledge is very important, in order to achieve significant economic effects, it must be linked with the intelligent use of resources, the robust promotion of entrepreneurial endeavours, and the empowerment of the community. Because of the positive connections that have been established between Effective Utilisation, Promoting Entrepreneurship, Empowering Communities, and Economic Impact, it is essential to have a complete approach when it comes to the development and implementation of startup initiatives. To ensure that the benefits of initiating projects are fully achieved, policymakers and other interested parties should give these areas the highest priority. This would ultimately lead to the promotion of sustainable economic growth and development in South India. By emphasising five essential components, new ventures may be able to more completely achieve their potential to alter the economic environment and drive inclusive growth.

References

Ajzen, I. The theory of planned behaviour. *Organ. Behav. Hum. Decis. Process.* 1991, 50, 179–211.

Arafat, M.Y.; Saleem, I. Determinants of Entrepreneurial Startups in India: A Study Using GEM Data. In Proceedings of the Twelfth Biennial Conference on Entrepreneurship, Ahmedabad, India, 22–24 February 2017; Shukla Misra, S., Batthini, G., Eds.; Bookwell: Delhi, India; pp. 656–665.

Carter, N.M.; Gartner, W.B.; Reynolds, P.D. Exploring Startup Event Sequences. *J. Bus. Ventur.* 1996, 11, 151–166.

Cohen, B.; Winn, M.I. Market imperfections, opportunity and sustainable entrepreneurship. *J. Bus. Ventur.* 2007, 22, 29–49.

Colombelli, A.; Loccisano, S.; Panelli, A.; Pennisi, O.A.M.; Serraino, F. Entrepreneurship Education: The Effects of Challenge-Based Learning on the Entrepreneurial Mindset of University Students. *Adm. Sci.* 2022, 12, 10.

Colombelli, A.; Panelli, A.; Paolucci, E. The implications of entrepreneurship education on the careers of PhDs: Evidence from the challenge-based learning approach. *CERN IdeaSquare J. Exp. Innov.* 2021, 5, 49–55.

Davidsson, P. Nascent Entrepreneurship: Empirical Studies and Developments. *Found. Trends Entrep. Theory Pract.* 2006, 2, 1–76.

Duval-Couetil, N.; Ladisch, M.; Yi, S. Addressing academic researcher priorities through science and technology entrepreneurship education. *J. Technol. Transf.* 2021, 46, 288–318.

Fayolle, A.; Liñán, F. The future of research on entrepreneurial intentions. *J. Bus. Res.* 2014, 67, 663–666.

Franco, M.; Haase, H.; Lautenschläger, A. Students' entrepreneurial intentions: An inter-regional comparison. *Educ. Train.* 2010, 52, 260–275.

Georgescu, M.A.; Herman, E. The impact of the family background on students' entrepreneurial intentions: An empirical analysis. *Sustainability* 2020, 12, 4775.

Hidayat, H.; Herawati, S.; Syahmaidi, E.; Hidayati, A.; Ardi, Z. Designing of technopreneurship scientific learning framework in vocational-based higher education in Indonesia. *Int. J. Eng. Technol.* 2018, 7, 123–127.

Jayasudha, J. Attitude of agricultural students towards agricultural entrepreneurship. *Madras Agric. J.* 2021, 108, 119–121.

Krueger, N.F.; Reilly, M.D.; Carsrud, A.L. Competing Models of Entrepreneurial Intentions. *J. Bus. Ventur.* 2000, 15, 5.

Kuckertz, A.; Wagner, M. The influence of sustainability orientation on entrepreneurial intentions—Investigating the role of business. *J. Bus. Ventur.* 2010, 25, 524–539.

Liang, C.; Chang, C.C.; Liang, C.T.; Liu, Y.C. Imagining Future Success: Imaginative Capacity on the Perceived Performance of Potential Agrisocio Entrepreneurs. *Think. Ski. Creat.* 2017, 23, 161–174.

Likert, R. A technique for the measurement of attitudes. *Arch. Psychol.* 1932, 22, 55.

Linan, F.; Chen, Y. Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrep. Theory Pract.* 2009, 33, 593–617.

- Liu, H.-C.; Ip, C.Y.; Liang, C. Demographic Analysis for the Social Entrepreneurial Intentions of Media Workers. In Proceedings of the 2017 International Conference on Business and Information (BAI2017), Hiroshima, Japan, 4–6 July 2017; Available online: <https://tinyurl.com/y8q2ybhx> (accessed on 5 July 2022).
- Liu, M.; Gorgievski, M.J.; Qi, J.; Paas, F. Increasing teaching effectiveness in entrepreneurship education: Course characteristics and student needs differences. *Learn. Individ. Differ.* 2022, 96, 102147.
- Maheshwari, G.; Khan, K.L. Investigating the relationship between educational support and entrepreneurial intention in Vietnam: The mediating role of entrepreneurial self-efficacy in the theory of planned behaviour. *Int. J. Manag. Educ.* 2022, 20, 100553.
- Martinez, I.M.; Crusat, X. How Challenge-Based Learning Enables Entrepreneurship. In Proceedings of the IEEE Global Engineering Education Conference, EDUCON, Porto, Portugal, 27–30 April 2020; pp. 210–213.
- Matlay, H. The Impact of Entrepreneurship Education on Entrepreneurial Outcomes. *J. Small Bus. Enterpr. Dev.* 2008, 15, 382–396.
- Maydiantoro, A.; Ridwan, R.; Tusianah, R.; Rachman, A.; Kesuma, P.; Isnainy, U.C.A.S.; Zainaro, M.A. Entrepreneurship in Higher Education Curricula: Evidence from Indonesia. *Psychol. Educ.* 2021, 58, 936–949.
- Ozyilmaz, A. The effects of demographic characteristics on entrepreneurial intention in the pre-venture stage of entrepreneurship. *Int. J. Entrep. Small Bus.* 2011, 14, 406–424.
- Palma-Mendoza, J.A.; Cotera Rivera, T.; Arana Solares, I.A.; Campos, S.V.; Velazquez, E.P. Development of Competences in Industrial Engineering Students Immersed in SMEs through Challenge-Based Learning. In Proceedings of the TALE 2019—2019 IEEE International Conference on Engineering, Technology and Education, Yogyakarta, Indonesia, 10–13 December 2019.
- Pindado, E.; Sánchez, M. Researching the Entrepreneurial Behaviour of New and Existing Ventures in European Agriculture. *Small Bus. Econ.* 2017, 49, 2.
- Putro, H.P.N.; Rusmaniah, R.; Mutiani, M.; Abbas, E.W.; Jumriani, J.; Ilhami, M.R. Social Capital of Micro, Small and Medium Enterprises in Kampung Purun for Improving Entrepreneurship Education. *AL-ISHLAH J. Pendidik.* 2022, 14, 1669–1680.
- Sabah, S. Entrepreneurial Intention: Theory of Planned Behaviour and the Moderation Effect of Start-Up Experience. InTech 2016, 186
- Sharma, N.K.; Kushwaha, G.S. Emerging Green Market as an Opportunity for Green Entrepreneurs and Sustainable Development in India. *J. Entrep. Organ. Manag.* 2015, 4, 1–7.
- Sieger, P.; Fueglistaller, U.; Zellweger, T. Student Entrepreneurship 2016: Insights From 50 Countries. KMU-HSG/IMU: St.Gallen, Switzerland; Bern, Switzerland, 2016.
- Steiner, A.; Teasdale, S. Unlocking the Potential of Rural Social Enterprise. *J. Rural. Stud.* 2019, 70, 144–154.
- Vagias, W.M. Likert-Type Scale Response Anchors; Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University: Clemson, SC, USA, 2006.
- Wilson, F.; Kickul, J.; Marlino, D. Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education. *Entrep. Theory Pract.* 2007, 31, 387–406.