

## The Role of Innovation in Economic Development

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**Abstract:** In the current scenario, as the Covid 19 pandemic escalates, the world screams the revival of the economy and many experts/ institutions or agencies have come out with ideas of Political and Socio-economic or technological development across the world. For this the mankind is restlessly waiting for an innovation of a vaccine for this deadly disease. The intensifying crisis puts the world under growing strain. Technology driven solutions are needed to improve this situation. The Global Economy is witnessing a plethora of changes, which is largely supported by Innovation. In the past, impetus was given to the quantity of goods produced, but today the significance is laid upon how the goods will be produced, and this has only been possible through Innovation. In other words, the Economic Development of any country depends upon its Innovation quotient. Innovation has helped to mobilize the growth figures, which was once considered to have reached its saturation point. The Government of India realized the importance of Innovation and has launched various programs to promote the same. Through this research paper entitled “**The Role of Innovation in Economic Development**” the researchers aim to get an insight as to how far Innovation has been embraced by the Government of India to stimulate the Economic growth of the country till now and how Innovation has helped (Innovation Index) India to be placed among the fastest growing Economies of the world.

**Keywords:** Innovation, Innovation Index, Economic Development

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### Introduction

India with a population of roughly 1.34 billion people has been contributing a lot lately to the Global Economy ever more than what it has over these years. What has been the central stage for all this has been the economic development India has seen since its independence.

Economic Development is defined as “an increase in a Country’s wealth and standard of living”. It is usually measured by an increase in the Gross Domestic Product or any other measure of aggregate income. Economic Development is necessary for a country to improve the standard of living through creation of Jobs, supporting innovation so as to reduce regional disparity and increase productivity, creation of higher wealth and the creation of an overall better quality of life. It includes objectives such as improving Infrastructure, Education and health. Innovation is an important aspect which determines a country’s Economic Development. As quoted, “Innovation is something which provides solutions to the Country’s challenges”. Innovation and entrepreneurship go hand in hand. Entrepreneurship means an innovation to the existing idea, which helps in the overall development of a country's economy.

Innovation can be defined as improvement in the already existing ideas. Innovation in a great way can help in Economic Development as innovation can lead to higher productivity, which means more goods and services are produced hence there is growth. New ideas and technologies are applied, generating greater output with the same input. Hence, more goods and services are produced, stimulating wages and business profitability.

Understanding the role of Innovation in sustainable growth of our country, various schemes such as Innovate India (launched in collaboration with NITI Aayog and My Government) Stand up India have been launched. Hence in changing times, the economic progress of any country now depends on its innovation quotient. Also, through Startup India, various new businesses have been established which account to an overall employment.

As the world moves fast on the highway of Innovation, In the year 2007, Cornell University in collaboration with INSEAD and WIPO (World Intellectual Property Organization) and in partnership with other

Organizations and Institutions released a report considering some 129 Economies and their rankings according to the tools decided by the committee. This year the Global Innovation Index Summit was conducted in India. Switzerland bagged the first position in becoming an Innovation giant followed by other big economies such as Sweden, The Netherland, and The US among others. Israel managed to come for the first time among the top 10 economies in the Innovation Index report. India improved its position from 57<sup>th</sup> in 2018 to 52<sup>nd</sup> in the year 2019. India has been continuously improving its position in annual ranking since the year 2015. In 2015, India was ranked in the 81th position. The following table shows the Global ranking of India in Innovation Index (Fig 1) from 2015 to 2019.

YEAR	RANK
2019	52
2018	57
2017	60
2016	66
2015	81

Global Innovation has helped India to identify its areas of Strengths and weaknesses. The major strengths have been computed as ICT service exports, increase in domestic market sale, ease of protecting minority investors among others and weaknesses include low Environmental performances, Ecological sustainability, Education and inbound mobility. An enhanced Innovation is only possible through proper funding. Hence, proper investments should be made for Research and Development. Developed Countries contribute a huge percentage for Research and Development which has helped them to be innovation giants. It's the time when the developing countries also invest a greater share towards Research and Development which will help in the furtherance of business worldwide.

### Literature Review

Dr. Sushma Shukla, (2017) in her research paper stated that there is a need to understand the importance of Innovation and lays stress on the need that the government should contribute more to the Research and development sector. As, in developed countries more revenue is spent on research , India being a developing country should also follow these steps to achieve success.

Innovation is the key to any country's economic growth, and proper allocation of funds can change the long economic growth of India. India can be a leader country rather than being a follower country by contributing more to Innovation. But the result claims that India's present development is not driven by Innovation. As at present the country has high GDP it will decrease the contribution in R&D and education sector. Thus, the growth in India cannot be claimed for long term sustainable growth. The paper also initiates the need to effectively and efficiently allocate the existing funds.

Anil Nair, (2015) in his research paper identified that India has a huge potential for Innovation. As India has already produced goods at reasonable cost, it is the need of the hour to invest in these sectors more, so that a well defined structure can be produced. The researcher also argues that this is the time when India can raise both Innovation and entrepreneurship together. Also it was stated that more investments must be made in infrastructure, health and Education where innovation can be developed. It was also pointed that lack of successful patent filings had several hurdles which required assistance. It was also brought into light that more innovation must be inclined towards rural areas so that the economy can reduce its regional disparity. Thus, Innovation must be done for the upliftment of rural areas, so that India can become an innovation giant.

Yograj Singh, Charu Agrawal, (2011) concluded that India has a huge scope for entrepreneurship. Innovation and Entrepreneurs both go together. The budding Entrepreneurs are successful because of the unique things they produce. The government of India should not only help in financial terms but also provide the Entrepreneurs with adequate training. It was also concluded that there was an emerging need for the installation of new incubation centers where the students could develop their existing talents .It also concluded that India had huge potential and this could only be optimized when synergies between education, innovation and Entrepreneurship are encouraged.

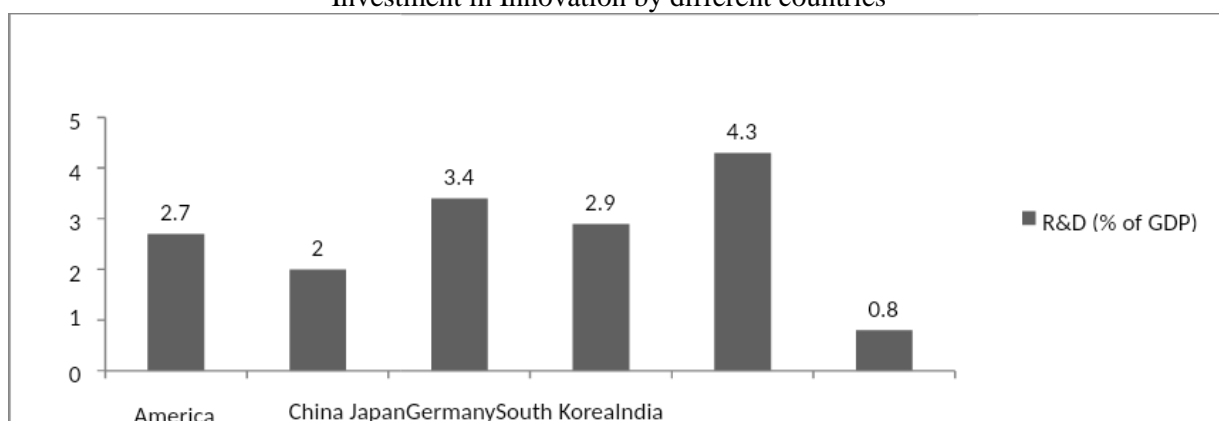
### Objectives of the Study

- 1) To analyze investment in Research and Development by different countries.
- 2) To compare the Research and Development of India with respect to its GDP.
- 3) To compare the ease of acquiring patent rights over the years.
- 4) To analyze the strength and weakness identified by the Global Innovation Index in context of Indian Economy.

### Research Methodology

For conducting the research, the data used is secondary data. It includes Journals, E- books published by the government of India, various websites, Newspapers; PDF from World Bank (Innovation Paradox) has been used for reference. The study investigates major contributions of different Economies in the area of research and development, the Global Innovation Index of India, ease of acquiring patent rights and the investment made by India for Research and Development.

Investment in Innovation by different countries

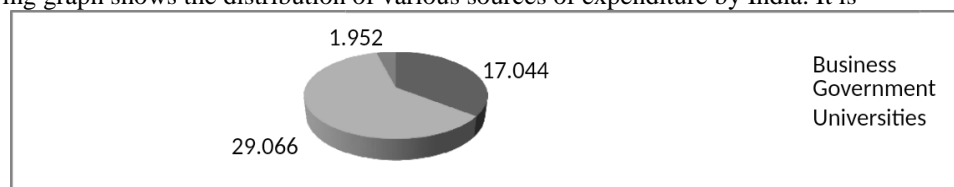


As it is clearly evident from the above America is the highest spender in terms of R&D Expenditure which explains its position as a superpower. India stands on the 7<sup>th</sup> position in the list shortly after South Korea and France. It is noticeable that though the US has the highest amount of R&D expenditure it is South Korea with the highest % of spend as a part of GDP on R&D which is about two times that of the US. It can clearly be understood that India does not even stand in the top 15 countries adequately for research and development.

### R&D vs GDP India

In the Indian context R&D expenses contribute only about 0.8% of its GDP which is quite an alarming figure when compared to the list of countries who have surpassed India, especially those countries which have GDP much lower than India but have still made it to the list of those countries spending more than India in this field.

The following graph shows the distribution of various sources of expenditure by India. It is

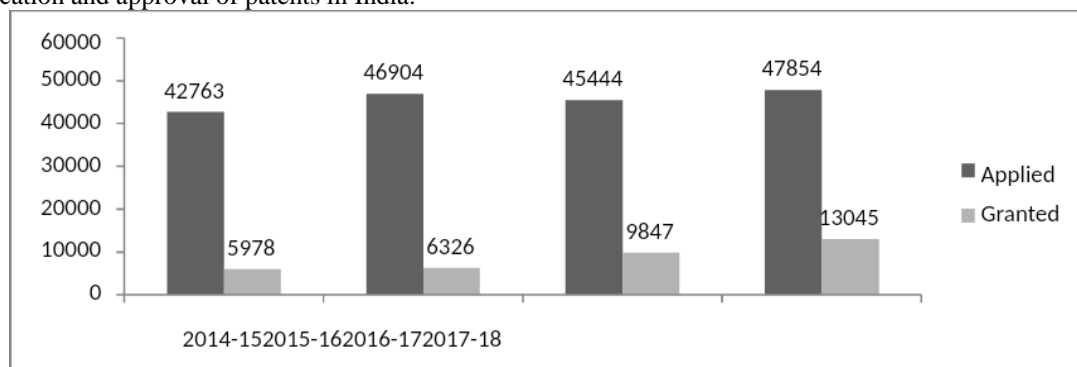


This is in total contrast with the other economies around the world where emphasis on investment by businesses is the highest.

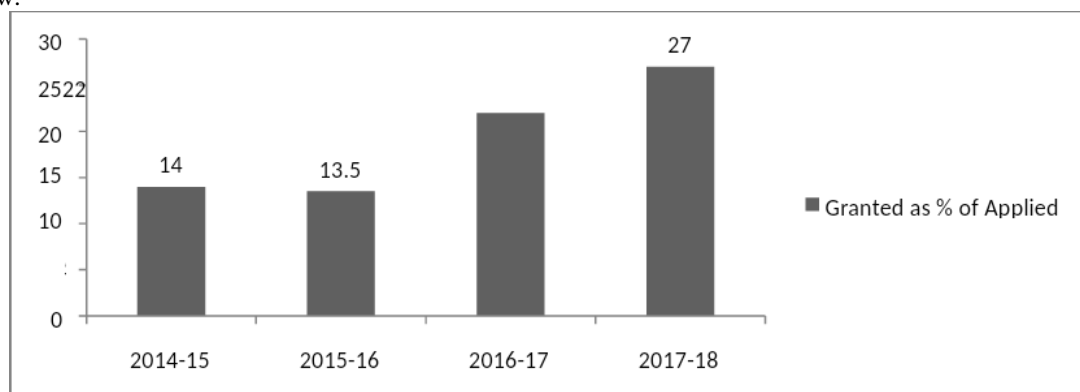
### Patent acquiring in India

Patent can be said to be the most important step towards making sure one's efforts towards innovation are duly recognized. Whenever a breakthrough is done in any field the novel innovative idea is patented to secure it from being duplicated by others hence saving the recognition which one deserves. In India as well many

people/organizations over the years have applied for patents which are both from Domestic and Foreign players, but ultimately it is the nation which gets to wear the feather cap as the new technology and breakthrough are done first in India and then this technology or Idea is exported or sold abroad. The following graph shows the application and approval of patents in India.



As it can be clearly seen the applications for the Patent have been mostly the same across the years but the granting of Patent has seen a good increase which can be seen better when compared as a percentage as shown below.



As can be seen the percentage of Patents being granted is rising showing the increase in the Innovative ideas but still about 40% of patents are being carried out by non-residents which is a huge chunk of the innovative idea source. In this era of globalization more one country is able to boost its export more is the country valued amongst the League of Nations. Earlier it was based on what and how much a country could produce that brought about the importance of any country, but today it is how well any particular product can be produced or a service delivered all in all innovation is the king in today’s context.

**Global Innovation Index and India**

This year India hosted the launch of GII. For the year 2019 India has been ranked #52 in the Global Innovation Index which is a better score from that of the previous years. From being #81 in 2015 India has seen a big jump for any major economy. But this is not a score which India can boast about considering that India is one of the largest economies in the world to which the world looks forward to especially in the Asian region. India’s regional Rank was #1 in Central and Southern Asia. India has been ranked #2 among middle-income economies in quality of Innovation.

India has been able to rank high in some parameters thanks to the top Universities in India; it has been able to boost some very innovative ideas, which have been helping India stay up on the top over the years.

Indian government has been promoting Innovation in a very strong manner by introducing a number of novel initiatives like Stand-Up India and Make in India which have promoted new start-ups to spread across the nations. These start-ups being set up by entrepreneurs having innovative breakthrough Ideas has indeed helped India retain its top position amongst the region.

India has from the previous year launched the Indian Innovation Index to give impetus to Innovation among various states of the nation. In its first ever ranking Karnataka bagged the top spot. By the introduction of such rankings the government is looking forward to stimulating the fresh minds across the nation to work on their innovative ideas, and this ranking has helped in the state governments also taking initiatives towards the

promotion of Innovation, which overall will benefit the nation as a whole.

### **Findings**

- It has been found out that India lags behind for investment in Research and Development. Other economies have a larger contribution; hence India needs to increase its Investments in R&D for longer sustainable growth.
- The major contribution in R&D is mainly by the Central government, other public authorities need to invest in R&D including the state government, universities among others.
- Patent application in India is only 60% at the domestic level remaining being done by international players; this is not a favorable situation for faster growth in the innovation front.
- Even though the benefaction by the government is consistently increasing the Research and Development spent as a percentage of GDP has remained motionless. This is mainly due to lack of an effective Ecosystem.
- The present Ecosystem is neither effective nor efficient. Hence, proper plans need to be implemented for an effective Ecosystem.
- The ranking of India is consistently improving according to the Global Innovation Index from the past 5 years. And India can become an Innovation supergiant if proper funds are allocated and more emphasis is laid towards Entrepreneurship.
- India has been scoring good at the regional level of GII and also among some parameters but not across all.
- India has to put its innovative efforts to revive its economy by concentrating on the following areas
  - City development and village development
  - Industrial Development and Agricultural Development
  - Human Resource (the real wealth of any nation) Management
  - Health Management

### **Limitations of the Study**

The study was conducted on the basis of only Secondary data. The data collected from different sources had shown variations in figures when compared across various sources of information. So the researchers tried to present only those data given by the authorized government agencies. Thus, conclusions have been drawn ignoring the differences in figures which may restrict the authenticity of the result interpreted.

Also, the researchers didn't put any effort in connecting with the economic depression during this pandemic COVID-19, and the revival strategies associated with innovation which is being churned in every minute by various development economists across the world.

### **Conclusion**

On the international stage India lags far behind in the investment part, though the Government has launched a number of novel Initiatives the investment in the same have not been up to what it should have had been, those countries which are far behind India in the GDP are much ahead of us in the spending on Innovation part and this has helped those countries boost their growth figures as well.

India has a wide scope in growing in the innovation front as there is present untapped potential in the business and the private sector. As of now it is the Government and Universities which are spending highly in the Research and Development part hence the ranking in some of these parameters is favorable for India.

Patents which are considered to be the reflection of the innovation involved in what has been created is very much crucial for any country to be looked on upon. India though has a lot of patents being applied annually, but the granting part of such patents are slow which at times goes negative for the domestic innovators who are left behind. But if compared from previous years India is seeing respectable growth in the granting of Patents, which definitely is a good sign.

From the study, it can be concluded that though Innovation in India is continuously improving, it's the time when Innovation can be used as a superpower for the upliftment of rural areas so as to reduce regional disparity. Also, greater amounts of funds are required to be invested in Research and Development, with proper planning so that the investment can be effective and efficient. A proper ecosystem needs to be identified so that more innovation is possible through Entrepreneurship.

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