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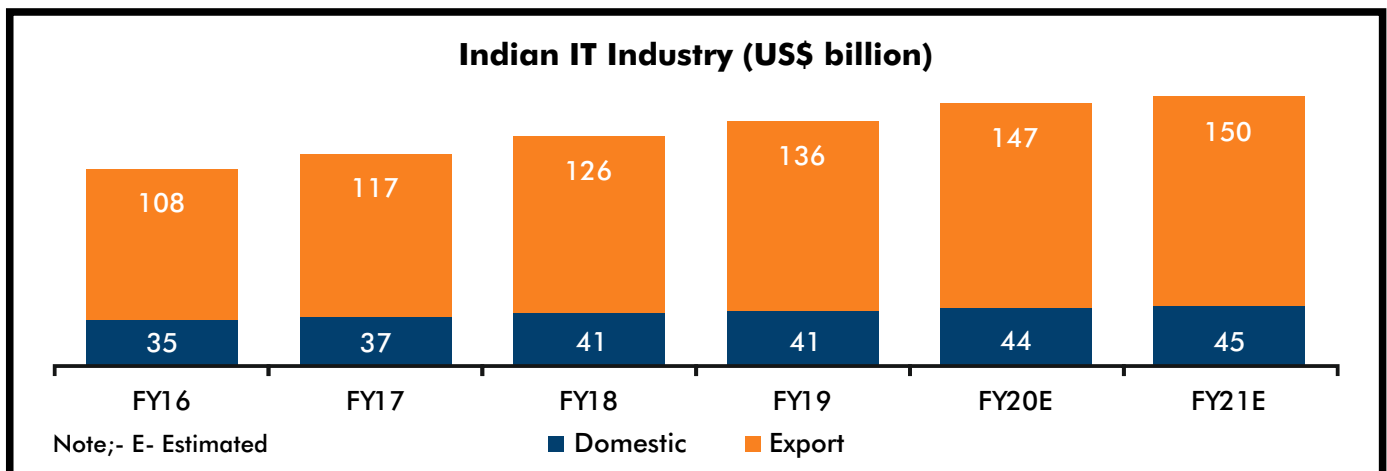
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1. Introduction

Information Technology is the lifeline of today's knowledge-sharing world. India is well informed with this trend of the global economy and thus India is positioning itself in a high position to leverage its benefit. The IT sector in India is flourishing at a good pace and it is contributing near about 7.7% of India's GDP and is expected to grow to around 10% by 2025. This is a digital era and technology is the best enabler in the scenario. The Covid-19 pandemic has opened up new avenues for the IT industry worldwide. India is thus enjoying its status as the largest IT sourcing destination with a huge number of technical graduates in its pool.

Looking at the tremendous global opportunities in the sector, the Indian government has a significant allocation of funds for the industry along with the progressive policy framework. The estimated annual budget for the Ministry of Electronics and Information Technology in 2021-22 is US\$ 1.3 Billion. The India IT and ITES (Information Technology Enabled Services) industry is contributing largely to the services export and employment generation globally. These trends are making India a preferred destination for investment and employment creation in the sector.



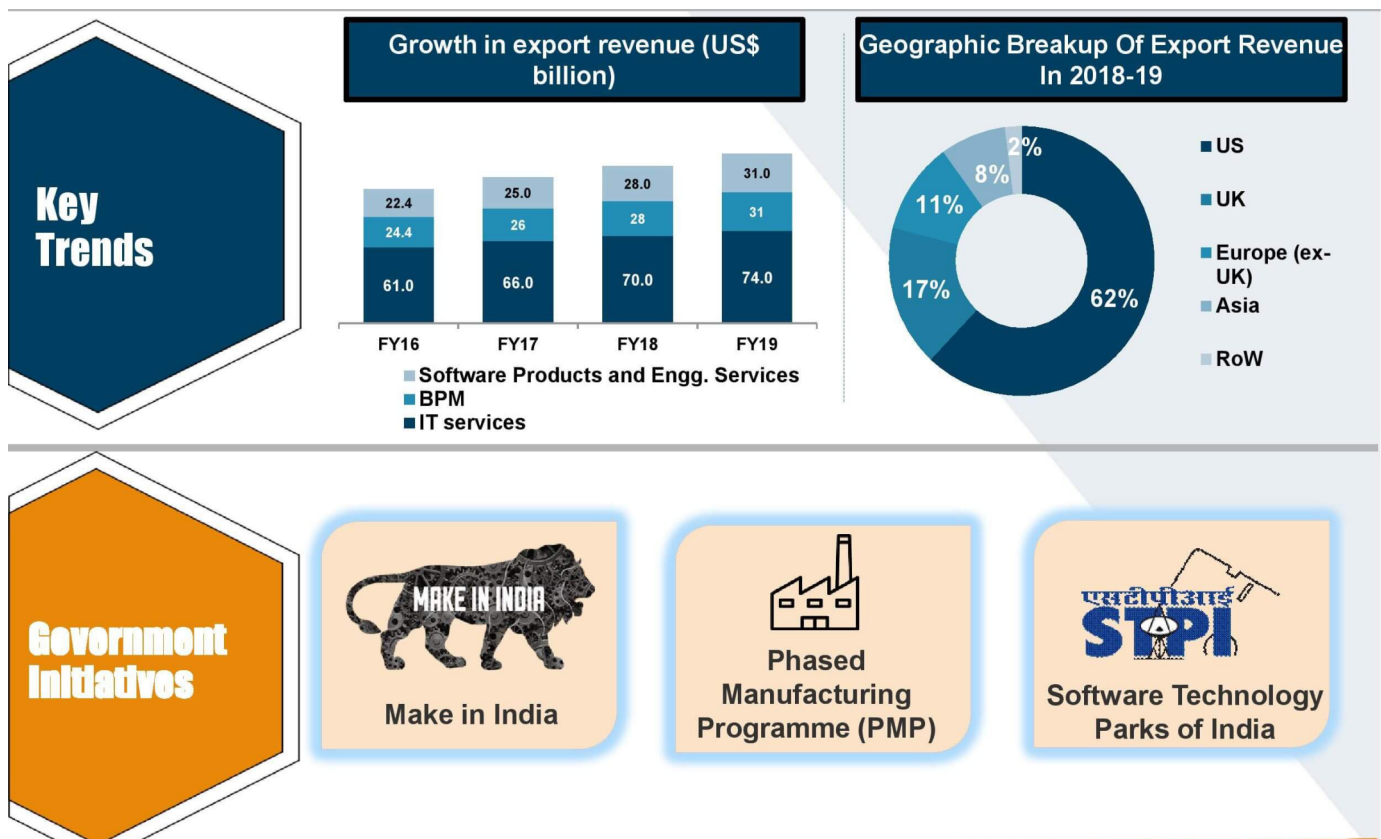
The National Policy on Information Technology, 2012 is also focused on the technology-driven approaches to create unprecedented changes in every walk of human life such as education, health, training, financial, governance, skill development, etc. The policy is well designed to utilize the potential of information and communication technology (ICT) for the betterment and evolution of Indian society along with the vision of establishing India as a global hub for IT services. The government (Both Union and State), private sector companies, academic institutions, and young professionals are working diligently to stand India as a world leader in all the facets of the IT industry.

India is all set to achieve the target of becoming a US\$1trillion digital economy soon. The share of India in IT outsourcing services is 52% as of 2020 and place India as a global leader. The Indian IT industry has been proved to be an adaptive and responsive sector during the two waves of the Covid-19 pandemic and get well along with the rapid work from home transition with better efficiencies. As per the report of Gartner, the IT spending forecast for India in 2021 will be US\$ 81.9 Billion. The

government and the corporates along with startups working hard to enhance the digital impact of the country by promoting the emerging technology trends such as Big Data Analysis, Machine learning, Blockchain, the Internet of Things (IoT), Cloud Computing, Artificial Intelligence, etc. Cyber security and augmented virtual reality are also showing emerging trends in the Indian IT industry.

The IT and ITES industry in India is capable of generating around 10 million direct jobs and contributing to US\$ 175 Billion in export revenues by the year 2020. These trends show the tremendous opportunities present in the global IT scenario for India as an offshore partner and technology provider to become a transformational leader in the sector. The Indian IT firms are diversified and have delivery centers in all the corners of the globe which shows its deep penetration and prospects of opportunities too. The growing number of internet and smart phone users in India with increasing fiber-optic network connectivity is paving the tremendous growth route for the increased use of IT hardware, software, and services facility across the Indian domestic market as well.

The Indian government's push to e-governance, financial inclusion through JAM Trinity, and the initiatives such as Digital India is significantly contributing to the growth of the Indian IT sector. Information Technology is a great enabler in this digital era and after the pandemic, there is much evidence that the future growth of the economy lies mainly in the growth of the IT sector of different global economies. The trend shows higher demand for talented and skilled professional human resources in this sector during the pandemic. India is also proved to be a preferred source for technology product testing services, as around 60% of the companies prefer India to be a testing destination before going global with their product. India currently houses more than 15000 IT-related firms out of which more than 1000 are the big names of the industry. This shows the capability and resilience of the Indian IT industry in the global IT scenario.



2. Governance Structure and Sectoral Insights

India as a top outsourcing country in the IT and ITES industry has also secured 3rd rank in the field of cloud experts across all the sectors. The industry is governed by the Ministry of Electronics & Information Technology of the Government of India. The industry also operates to the exchange of information and interaction with a range of information transmission technologies these are partially regulated by the Department of Telecommunications under the Ministry of Communications.

Some of the major corporate agencies and the chamber of commerce for the IT and ITES industry which works closely in association with the Ministry of Electronics & Information Technology are:

- **National Association of Software and Services Companies (NASSCOM)**

NASSCOM is the premier apex body and chamber of commerce for the IT industry in India. It is a not-for-profit association which is committed to providing short and long-term strategic support to the Indian IT industry for the last 30 years. It is also referred to as “revolution” as an organizational body by the Prime Minister of India. It has 7 dedicated industry councils to represent each segment of the IT industry namely IT Services, Business Process Management (BPM), Software Products, Engineering R&D, Global in-house Centers, Domestic Market, and Internet & Mobile.

The association also works closely with the Ministry to support the growth of existing IT markets and diversifications of the same. It also helps the industry to grow deep into the global IT market and increase its presence in emerging markets worldwide. The major institutions established by NASSCOM are:

- **NASSCOM Foundation:** This is established with the vision to focus on sustainability and Corporate Social Responsibilities (CSR) in the IT sector.
- **Data Security Council of India (DSCI):** The vision is to focus on the issues of data and cyber security.
- **National Institute of Smart Governance (NISG):** This is a partnership project of NASSCOM with the Government of India for the capacity building of e-governance in India.
- **IT-ITeS Sector Skill Council:** The council is responsible to work on skill creation under the Nation Skill Development Corporation.

- **Indian Software Product Industry Round Table (iSPIRT)**

The iSPIRT is a think tank that works diligently to find the cause of the IT industry. The not-for-profit organization is established with the view to spreading information and policy concerns related to software products. It works to showcase the need for a vibrant software product industry to frame the golden future of the Indian IT sector through its policy proposals, playbooks for software product entrepreneurs, and open IT market catalysts.

- **Other Service Providers Association of India (OSPAI)**

It is the industry body which represents the association of companies functioning in the area of Domestic & International Call Centers, BPOs, KPOs, IT, Medical Transcription, Financial Services, Tele-Medicine, Tele-Education, Tele-Trading, Billing Services and Network Operating Centers that covered under the “other service providers” by the government of India.

- **Electronic and Computer Software Export Promotion Council(ESC)**

The council represents the Indian Electronics and IT sector in domestic and international forums such as the International Trading Arena of the Electronics and Computer Software, Joint trade committees of Ministry of Commerce under the Government of India along with Joint Business Councils of many countries. The council has promoted the export of Indian IT services to more than 200 countries and made it globally competitive and quality-oriented.

- **Software Technology Parks of India (STPI)**

A registered autonomous society under the Ministry of Electronics & Information Technology, Government of India to establish and manage the infrastructure facilities, implementation of Software Technology Parks(STP) and Electronic Hardware Technology Parks (EHTP) schemes of government of India, and promotion of innovation in the field of IT and ITES sector in India.

The technology units registered under STPI have an account for around 50% of the total software export of the country in the financial year 2020-21. They also establish themselves in the Tier-II and Tier-III cities to tap the maximum potential for the benefit of the technology industry. They provide statutory and data communication services along with incubation services, training, and other value-added services for the promotion of the IT industry. They also closely work with state governments and local authorities to increase the capabilities of the IT software industry and thus promote export in the sector.

The Indian IT industry is expected to show tremendous growth in terms of revenue and its share in GDP during the financial year 2020-21. India will continue to be the favorite off-shore destination in the IT sector along with on-shore service delivery capabilities to global clients and prospects. Emerging technologies such as Artificial Intelligence, Machine Learning, IoT are opening up new avenues for the sector and will increase its revenue share significantly over time. The cost competitiveness of the Indian IT sector is its uniqueness and thus makes it more lucrative for foreign clients along with high quality, reliability with fast delivery of the projects.

Revenue Trend (in US\$ Billion)

Description	2016-17	2017-18	2018-19	2019-20	2020-21 (E)
Exports	117	126	136	147	150
Domestic	37	41	41	44	45
Total Revenue	154	167	177	191	195
YoY Growth%	7.69%	8.44%	5.98%	7.90%	2.09%

The Indian IT industry is also one of the largest contributors to employment opportunities and is expected to create employment for 4.47 million professionals in the year 2020-21. Out of which it has a significant share of women professionals (around 36% of total employees in the industry) that accounts for 1.4 million.

Description	2016-17	2017-18	2018-19	2019-20	2020-21 (E)
Employment (In Millions)	3.86	3.97	4.1	4.36	4.47
Net Addition	170000	105000	200000	205000	138000

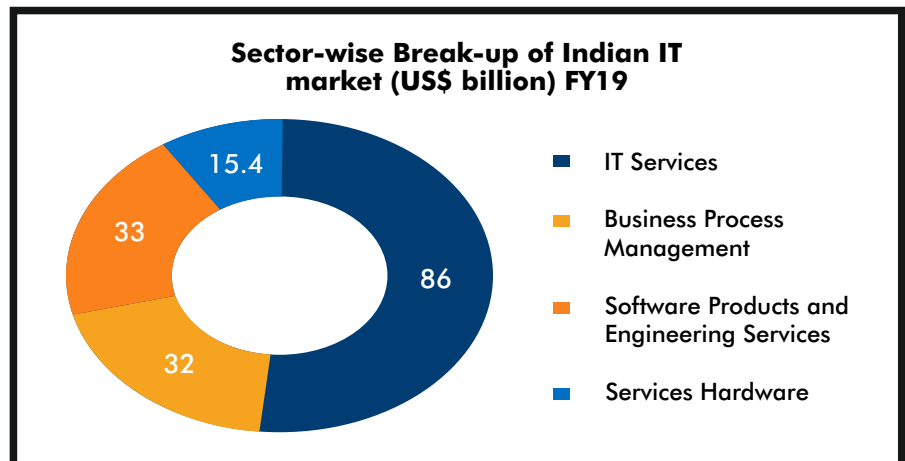
As per National Policy on Software Products 2019, the ambitious Digital India Programme launched by the Government of India has delivered tremendous results to make the IT industry a world-class IT services destination with an emphasis on quality service with cost-effectivity.



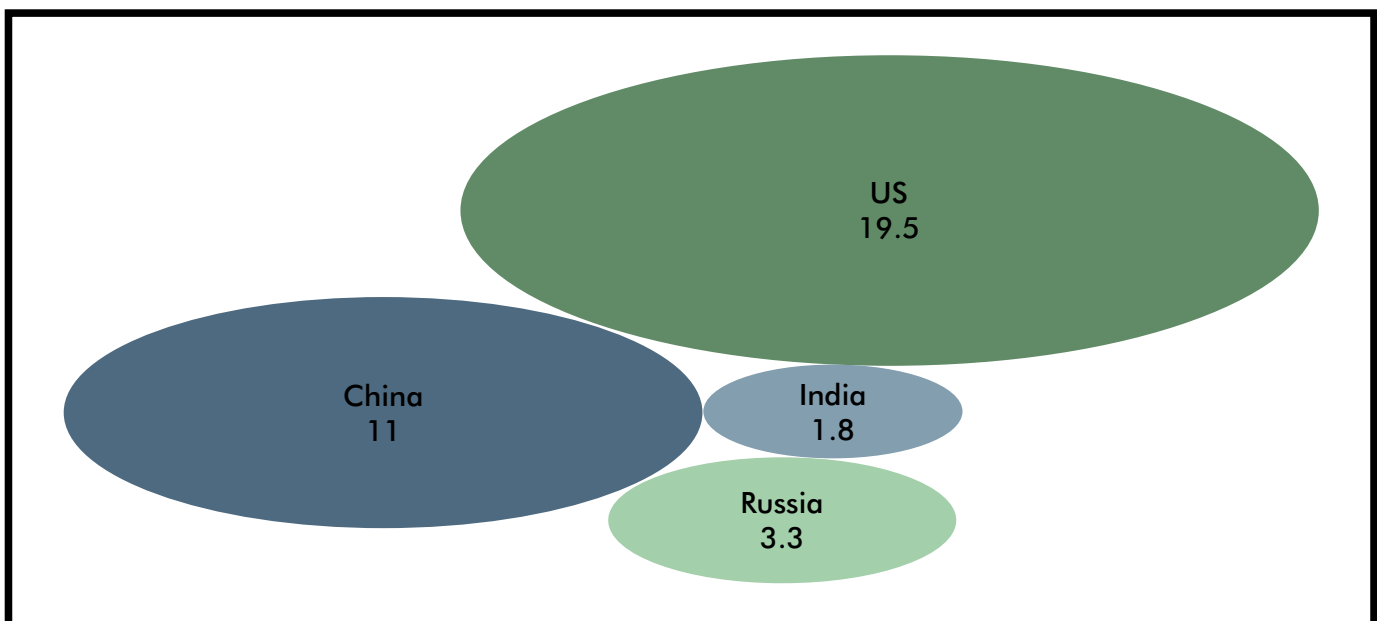
3. Key Drivers of Growth for Indian IT Sector

The Indian IT industry which is largely driven by technical professional youth is leveraging the benefit of its demographic dividend. India is a global partner in delivering many off-shore and on-shore mission-oriented services to global clients in enhancing the value chain for the industry. They are also providing services to every major corner of the globe. India has become one of the top choices for establishing Global Capability Centers (GCC) as the number suggests more than 50 % of GCCs have locations in India. The Indian IT firms are all set to put their best foot forward in the global market and set up their delivery centers across the globe too.

The government of India is working on the up-gradation of IT infrastructure and policy framework for the industry. But the global trends show that there is a huge opportunity lies in the global IT market for Indian firms and thus to leverage that the government needs to scale up the efforts and attract more investment in the sector.



IT Expenditure (In US\$ Billion 2019-20)



The major reasons for the growth and increasing demand of the Indian IT industry can be better understood in the light of the following developments:

- **The Rise in Demand of Information Technology**

As per projections, it is expected that the Indian IT industry will reach US\$100Billion by 2025. That will create a huge domestic market and will show an upward demand. To cater that there will be growth in all the areas of the IT/ ITES industry. The increasing digital literacy and higher access rate to digital resources and smart devices ensure a large demand in the future.

- **Invent of Digital India Programme:**

India is recorded as the 2nd fastest-growing digital economy. This took place because of the growth of technology platforms, products, automation tools, government-led ICT based initiatives such as the digital identity of Indian citizens, increased usage of mobile and internet banking, safe and secure cyberspace, free cloud storage is connecting the common Indian masses through technology and opening up the new avenues of growth in the sector. The trend is supported by the NASSCOM as the Indian firms have increased their investment in the technology industry at the rate of 4% compound annual growth rate and are now US\$ 45 Billion.

- **Startup Promotion**

The Indian government is promoting technology startups in the field of IoT, machine learning, artificial intelligence, healthcare, etc. India stands itself as 3rd largest technology startup hub in the world. With the rising investment opportunities in the startup domain, the number will increase further. To increase the business reach it is obvious to enable them through technology and thus the rising Indian startup IPOs are also developing a new trend that will benefit the Indian IT industry in near future.

- **Growth of Blockchain Technology**

Crypto is one of the fastest-growing technology industries globally and hence it has also created an impact on the growth of the Indian IT industry. In the same line, the Ministry of Electronics and Information Technology has released a draft of the National Strategy on Blockchain which will create a National level Blockchain Framework for tapping its benefits and addressing its constraints.

The blockchain finds its application in secure financial transactions such as trading accounts, peer-to-peer payment systems, and safe transfer of remittances. The increasing market of cryptocurrency, Bitcoin, etc is also showing the trends of growth in the Indian IT industry along with the regulations and regulatory reforms. These trends have shown 100 times growth in the decentralized finance market powered by blockchain technology.

- **Boost to Artificial Intelligence**

As per the NITI Aayog reports, it is expected that artificial intelligence will boost the annual growth of India by 1.3% by 2035. The government is promoting several initiatives through NASSCOM Future Skills along with Microsoft to develop AI skills in the 1 million Indian

students by 2021. All this will impact the future growth of AI technology in India. As the capacity building for the same is already started.

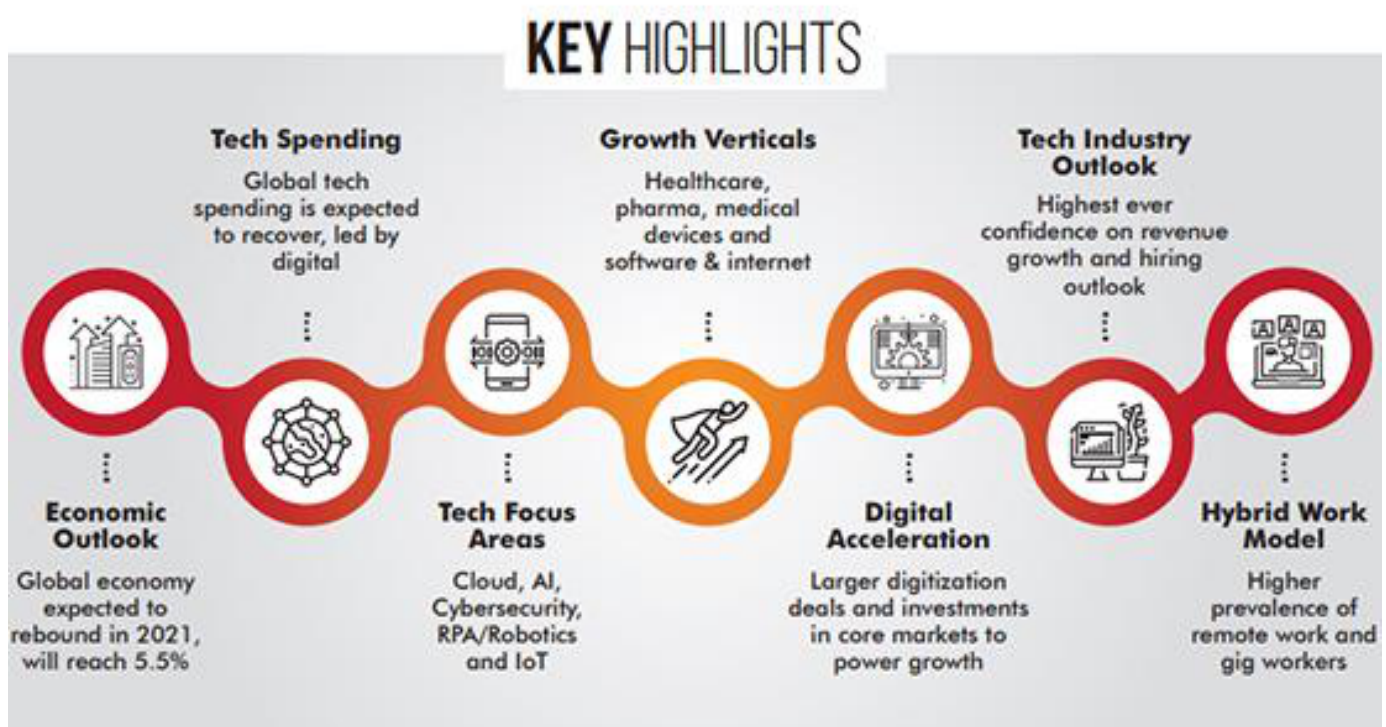
- **Rising Connectivity through National Optical Fiber Network**

India is working aggressively to connect 1,15,643 Gram Panchayats through optical fiber networks and provide broadband connectivity to the rural and hilly regions of the country. This will boost the domestic IT market scenario and present many opportunities in the sector. India is upgrading its fiber-optic infrastructure to timely roll out the 5G services at the pan India level.

- **Fastest Growing E-Commerce:**

India is one of the fastest-growing e-commerce markets and is expected to touch the mark of US\$ 100 Billion by 2025 as per the NASSCOM reports. After absorbing deep shock during Covid-19, the market is showing growth trends including all the segments like digital education, food delivery, etc. Due to its large market base, India is a preferred destination for e-commerce place. The diverse Indian demography with cost-effective technology infrastructure and services and enhanced supply chain management increased the growth prospect of the e-commerce industry over time.

In the financial year 2021-22, the government of India has allocated US\$ 205 million to promote digital payments in the country and US\$516 Million to implement a digital census program. Such budgetary allocation will surely boost the IT industry in India as the basis lies behind all these initiatives are technology.



4. Investment Opportunities and FDI Policy

The Government of India is working aggressively for the regulation of the IT industry with a draft Data Center Policy that will project India as a focal point of Data Centers in the global arena. This will also attract an investment of around US \$4.9 Billion as per projections by 2025. The government interest and policy push towards data localization is one of the major factors in this regard and thus the major global cloud service providers, one from the US have already started setting up data centers in India.

This policy shift will benefit the Indian IT industry as well as improve the employment scenario in the country with increasing investment and IT infrastructure development in near future. This will also bring the investment for data center hardware, data storage systems, network infrastructure devices and equipment, Data Storage systems, etc. Some of the other major reasons to attract investment in the Indian IT sector can be seen as:

- IT-BPM sector in India is contributing significantly to the growth of the Indian economy around 9.3% of GDP and participating in the public welfare at large.
- India has a major share in the global technology sourcing market and has shown tremendous growth in export including hardware.
- A cost-effective destination for quality and reliable IT solutions which save billions of global clients and increase their competitiveness.
- The tremendous growth of IT infrastructure in the country and export promotion policies in the sectors.

Indian major IT firms like Infosys, TCS, WIPRO, and Tech Mahindra have shown high competencies in tested times to attract investment from major global economies. The data on FDI inflow in the financial year 2020-21 for the computer software and hardware sector of the Indian IT industry was US\$ 71.05 Billion and has ranked 1st in FDI investments with 44% participation of the total FDI inflows in the financial year 2021.

The Indian IT majors are diversifying themselves to cater to the momentum of the global market and putting major innovative ideas in the field of artificial intelligence, blockchain technology, and Data Analytics, etc. The Research and Development centers of these leading giants are generating innovative offerings for global clients with cost-effective solutions.

Based on the research findings of Amazon Web Services(AWS), it is expected that migration from physical on-site data centers to cloud infrastructure by Indian public sector organizations and private firms will lower the energy and carbon footprint of the country by 80% and help India to mitigate its commitments towards climate change. This is opening up a new avenue of investment in the sector and providing sustainable solutions to IT infrastructure in the country. During Covid-19, the demand for third-party data center services has been accelerated automatically in India and thus created opportunities for global as well as indigenous investments.

The Foreign Direct Investment (FDI) in the Indian IT sector through different routes has been regulated by the Government of India through the Department for Promotion of Industry and Internal Trade.



The marketplace model of e-commerce is also allowed to attract 100% FDI under the automatic rule as per the provisions made by the government of India but the B2C e-commerce model and inventory-based e-commerce model are not permitted under FDI. This lucrative FDI policy is drawing major global investment in the IT industry and helping them flourish in challenging times too.

FDI INDIA
Foreign Investment Facilitators

WHAT ARE THE BENEFITS ON FOREIGN INVESTMENT IN INDIA

- ECONOMIC GROWTH
- LINKAGES & SPILLOVER TO DOMESTIC FIRMS
- TECHNOLOGY DIFFUSION & KNOWLEDGE TRANSFER
- TRADE
- EMPLOYMENT AND SKILL LEVELS

www.fdi.finance

5. Strengths and Challenges of IT Industry in Post Covid-19 Scenario

The Covid-19 has embarked on the strength and weaknesses of the most robust economies of the world and thus the Indian IT industry has not been unaffected by its evil impacts. But the IT industry in India with the e-governance push by the government during the pandemic has proven itself as much adaptive and responsive industry. It has well absorbed the Covid-19 shock and stood taller than before in a short span. It also provided infrastructural and technical support to other sectors of the Indian economy when the economy was all on rest due to the pandemic.

The basic trend which the Indian IT sector has quickly adapted during the once in a century kind of crisis in 2020-21 are distributed workplace in the form of remote working which allowed IT employees to work from home or anywhere. It has opened up a new trend for a hybrid model of work from home and work from the office, cloud-based data centers and push the need to evolve the performance tracking and monitoring tools and methods.

During the first wave of Covid-19, when India put the safety of its citizens first over economic growth, it paves the way for long-term gains with some short-term difficulties. In that scenario, the Indian IT industry has played a major role to keep the economic circle rolling.

The Covid -19 has affected organizations and individuals across the globe including India. Many IT companies have managed their working with low working capital and minimal human resource possible. But this has no doubt have shown the importance of embedding technology with business processes and made IT an integral part of each small or big, government or private organization. It helped India to scale high digitally.

As we are coming out of the pandemic scenario with rapid vaccination drives by the government of India, the IT companies are making enough investment for enabling distributed workspace for them and increasing their focus towards data and cyber security. The companies are getting prepared for a staggered opening approach to get back to work from the office. In the post-pandemic scenario, the Indian IT industry is designing a strategy for cost-optimized sales growth and responsive IT infrastructure.

The major priorities outlined by the Indian IT industry to take care in the post-Covid-19 scenario are moving to cloud-first policy, Technology-based digital operations as many of the companies in the sector have reported an increase in the number of calls at help desks and IT customer support during the pandemic. The industry needs to work higher on automation using artificial intelligence, continuous and redundant use of resources to cater to the increased demand, request prioritization, etc. This all can be best achieved through the collaboration of corporate entities through technology enablers and tech startups in the industry.



6. Government Policy Initiatives and Incentives

The Government of India has played an ace role in the unprecedented growth of the sector during the last decade through major tax and export incentives. The incentives provided for the IT units established under Special Economic Zones (SEZ) and benefits under State industrial and IT policies are also boosting the growth of the sector.

Some of the major policy frameworks and initiatives of the Government of India to support and strengthen the Indian IT sector are as follows:

- **National Policy on Information Technology 2012**

The policy is envisaged to increase the revenues generated by the Indian IT industry (including BPM). The target was set to achieve the US\$ 300Billion revenue by the year 2020. It also advocated to create access to information and communication technology to the Indian masses and enhance the capabilities by enabling the Indian IT and BPM industry as preferred IT destinations in the world and project it as a global IT hubtill 2020.

- **National Policy on Software Products, 2019**

The policy envisages a plan to prepare and develop India as a Software Product Nation and place India as a global leader in all the aspects of software product development including conceptualization, design, development, and production. This is helping the Indian IT industry to accelerate its growth at the maximum pace.

- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**

The prescribed rules provide a framework for Social Media Intermediaries to enable a three-layer grievance redressal mechanism to resolve the complaints in case of any violations. The rules advocate the appointment of compliance personnel through Social Media Intermediaries to identify the first originator of the content and can make the best use of technology to identify certain types of content.

- **National Cyber Security Strategy, 2020**

The strategy is formulated by the office of the National Cyber Security Coordinator and aims to improve the awareness towards cyber security through strict regular audits. Under this, the auditors will check for the security features of the organizations at the implementation level. There will be an incorporation of cyber crisis management exercises to check cyber preparedness.

- **National e-Governance Plan (NeGP)**

The plan is envisaged by the government of India to provide a collective and holistic view on e-governance initiatives throughout the country by various administrative and governing authorities including Union and State governments. This will help to connect Indian citizens with public services through various common services delivery centers. This will enhance the participation of citizens in the governance and make it more efficient, responsive, reliable, and transparent.

The Government of India is supporting the Indian IT sector through major policy reforms. The extension of tax holidays for Software Technology Parks of India (STPI) and Special Economic Zones (SEZ) are some of the major applauded steps to boost industry growth at the global level.

7. Conclusion

The IT industry of India plays a critical role in the economic growth of the country and makes India capable of leveraging the benefits of Information Technology in different sectors of the Indian economy such as agriculture, education, health, manufacturing, communication, etc. The technology works as a facilitator and projects India as a knowledge economy at the global platforms. The growth of the IT industry also empowers Indian society through its digital literacy. The e-governance structure and digitization of the Indian economy by the Government of India has provided a significant push to the Indian IT sector and re-energizing the sector after the Covid-19 pandemic.

India is all set to deliver the best IT solutions to its on-shore and offshore global prospects and can emerge as a global technology hub soon. The sector in India enables the government to common Indian citizens to enhance their effectiveness and efficiency through digital means. Thus the sector is best getting the momentum and playing the role of steady growth driver of the Indian economy.



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AG Group

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The integration and coordination of our in-house experts delivers the pragmatic, valued solutions expected in the markets of today. Quality and Service delivery are key elements of AG Group corporate philosophy and are upheld by a professional management team. The highly motivated, experienced and multi-disciplined team, plans, develop and implement that meet, and often exceed client expectations. We can synergies our experience with your projects to make it a success.



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