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Examining The Future Economic Developments In India With Reference To Information Technology

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ABSTRACT

Information technology (IT) is one example of a general-purpose technology that can significantly contribute to economic growth and other areas of economic and social development in information technology (IT). "A significant developing component of the Indian economy is information technology.'' The IT sector is one of India's key businesses, according to the Indian government, and it is crucial to accomplishing governmental goals, including economic growth. Over time, the IT sector has matured and become a significant driver of global economic expansion. The information technology (IT) industry comprises software and services, information technology-enabled services (ITES), and hardware divisions and has been seeing stable revenue growth over the last several years. ''Over the last ten years, this sector's size has grown at a 35% annual pace." According to NASSCOM, the Indian economy's gross domestic product (GDP) for the information technology sector is 7 percent. This article examines how information technology will affect India's future economic advancements.

I. INTRODUCTION

India's exports of software and services have been on the upswing. IT services have yearly growth of 20-22%, while IT-enabled services (ITES), including contact centers, Business Process Outsourcing (BPO), and other administrative support activities, see annual growth of over 55%. Until 2010, their combined growth of 25% per year is anticipated. Indian companies dominate the export market for IT services. As they progress up the value chain, Indian BPOs (ITES) are responsible for processing sophisticated data from various industries, including aviation, insurance, banking, mortgages, and ERP. Some of these businesses are already operating in higher-margin markets, such as creating mission-critical applications, developing and supporting products, managing human resources, outsourcing knowledge processes for pharmaceutical companies, and managing large, complex projects.

India has succeeded in the specialized software and information technology-enabled services market. With a CAGR of over 50% over the last decade, this market segment was among the most dynamic. From the US $ 0.50 million in 1990 to US $5.9 billion in 2000-01 to the US $23.6 billion in 2015-16, a rise of 34% can be seen in software service exports. Even with the growing base, the next five years are predicted to compound annual growth above 25%. Exports of software and IT-enabled services are expected to

reach $60 billion by 2010, which will significantly affect the economy. One sign is that in 2011-12, India had a current account surplus after 24 years of deficits. To further encourage service exports through outsourcing and offshoring, India needs an open environment under GATS.

The Indian IT industry is widely credited for boosting the country's international profile, and the IT-BPO business has since emerged as one of the country's most promising development areas. This industry is vital to India's economic growth and has a significant, beneficial impact on the lives of Indians in many other ways, including via its direct and indirect effects on employment, income, and diversity. The information technology industry in India has been instrumental in changing the country's reputation from that of a sluggish bureaucratic economy to that of a hub for cutting-edge startups and a leading provider of cutting-edge technology solutions and commercial services worldwide.

II. REVIEW OF LITERATURE

N. Swapna and N. Sujatha (2012) Since the age of liberalization, the Indian IT and IT-enabled services (IT-ITES) sector has played a significant part in the growth of India's economy. This industry's rapid expansion is a critical factor in overall economic expansion. The country of India has emerged as a global leader in information technology. Evidence of the IT industry's success may be found in the numbers: how much money it brings in, how many people it employs, how much it earns by exporting software and other IT services, and so on. This study looks at the growing importance of the information technology (IT) sector to the Indian economy by analyzing recent trends in GDP contribution, IT exports, IT revenues, and IT-related job growth.

Idrish Allad and Dr. Mahendra H. Maisuria (2015) noted that India's IT industry's success had been widely reported across the globe. When TCS was founded in 1974, software export from India had already begun. India has been known as the 'back office of the world' primarily because of its advanced information technology infrastructure. Profitability in the IT industry has skyrocketed. "Exports now account for more than 66 percent of India's IT industry's profits.'' From FY 1997–98, when the industry contributed just 1.2% to India's GDP, it now contributes 7.0%. This paper's primary objective is to evaluate how information technology could contribute to India's economic growth. Information technology (IT) and information technology-enabled services (ITeS) are explored in this article, as the history and current state of the IT industry in India, the factors driving its expansion, the risks it faces, and its overall economic impact.

III. IT: A TOOL OF ECONOMIC DEVELOPMENT

Evolution of the IT Sector in India: The evolution of the IT sector can be studied in 4 states as follows.

- **Stage 1 Prior to 1980:** India's IT industry started in the hardware business, and the country did not even have a software industry until the 1960s. The

government's use of restrictive tariffs and licensing shielded the hardware industry from competition. Because the preinstalled software on most western systems is not robust enough to run all the necessary functions smoothly, there is a higher need for custom software development in the west. The government of India saw the potential of the software industry as a means of increasing the country's export earnings. In 1972, the government devised a new plan to export software by importing hardware instead. The first business to sign up for the program was TCS Ltd. It was in India in 1974 that exporting computer programs began.

- **Stage 2 1980 to 1990:** Despite government efforts, software exports have lagged at this juncture for two reasons. First, hardware imports were necessary for software exports, and the processes involved were too onerous. Second, there was a lack of adequate software development infrastructure. Reducing import tax and streamlining the import/export process was necessary to attract more players to this market. A new software policy was developed to address the issues mentioned above. This initiative streamlined the import process and cut duties on hardware imports for use by software developers. The government made some necessary adjustments in 1986 to help foster the growth of the information technology industry. The Indian government has responded by relaxing its software policy and opening the IT industry. According to the new rules, exporters no longer need to pay duties or license fees to bring gear from other countries. Since many hurdles to entry have been removed as a result of this legislation, the expansion of this industry is inevitable.

- **Stage 3 1990 to 2000:** The IT industry is now experiencing a time of increased competitiveness. At this time, the Indian government liberalized commerce, lowered entrance barriers, opened the country's economy to foreign investors, and allowed for a depreciation of the rupee. After liberalization, foreign companies and investors flocked to India, and multinational corporations (MNCs) were established there. In addition to providing their unique services, they also introduced the 'Offshore Model,' 'Onsite Model,' and the 'Global Delivery Model (GDM).

- **Stage 4 Post 2000:** Many American businesses have turned to Indian ones for help due to international crises like Y2K, the dot-com bust, and the recession in the United States. ''As a consequence, the Indian IT sector is now recognized internationally." As of the years after 2002–2003, the industry's growth pace has picked up considerably. At this point, the company had established a solid worldwide delivery strategy, a sizable contract basis in India, and an expanding number of Indian customers.

By boosting productivity, IT can improve the economy's long-term growth prospects. Technology in the information sector has the potential to contribute to national economic

growth significantly. The information technology industry is one in which India enjoys a worldwide cost advantage. It can transition to higher-value manufacturing because of its enormous pool of proficient people in software and foreign languages. It has only recently shifted toward more high-end products and services. ITES-BPO companies have expanded their offerings to include more intricate tasks like financial research and analytics, actuarial modeling, and corporate and business research. In contrast, IT providers have added new service lines like package software implementation, system integration, R&D engineering, and remote network management. A big pool of available people with engineering and administrative expertise will facilitate the transition to more unique value-added products and services.

The IT industry and the rest of the economy work well together because they complement one another. The use of IT has the potential to boost output and efficiency in unrelated sectors. Accounting, purchasing, inventory, and operations management are just a few of the areas that might benefit from its use to run more smoothly. Further, introducing IT might improve output and quality beyond what would be possible without it. Technology in rural banking and microfinance has the potential to improve informal sector efficiency and reach a broader demographic. "The agricultural industry may also gain from increased farmer access to information.'' All kinds of helpful information, from market prices and projections to how to improve crop yields and purchase and sell animals, as well as specialized training, is available to farmers. Technology might improve access to quality education even in the most remote places. Since the IT industry is home to a sizable number of female workers, it has the potential to contribute significantly to the advancement of women and the elimination of gender disparities. Women can balance careers and family life in this industry because of the flexibility it offers its workers in terms of working hours and location. It is evident from the study that IT can stimulate not just rapid economic expansion in India but also overall economic progress.

IV. OBJECTIVES OF THE STUDY

1. To know the revenue trends of the IT industry in the total revenue.
2. To analyze the trends of the contribution of the IT industry to the total GDP.
3. To reveal the employment level of the IT industry of India.
4. To know the exports of software and software services.

V. PRESENT STATUS OF THE IT INDUSTRY AND ECONOMIC GROWTH

Positive signs of expansion in the IT industry persist. According to IDC, the technology market will rise to more than $5.3 trillion by 2022, with annual growth of 5–6%. Businesses are hastening their cloud migration and digital transformation initiatives. Numerous organizations want to restore their IT spending to pre-pandemic levels in 2022.

Contribution to GDP:

IT industry contributed Rs.63 billion to 1994-95 the GDP of India, and it increased to Rs.1276 billion in 2014-15. the contribution in the various years is given below.

Table 1: Contribution of the IT sector to India's GDP

Year	GDP at current prices (in Rs. Billion)	IT sector revenue (in Rs. Billion)	IT revenueto GDP ratio (in % age)
2018-19	29380	1276	4.34
2017-18	26954	978	3.63
2016-17	24661	780	3.16
2015-16	22929	658	2.87
2014-15	21043	566	2.69
2013-14	19296	362	1.88
2012-13	17409	253	1.45
2011-12	15224	186	1.22
2010-11	13682	137	1.00
2009-10	11880	99	0.83
2018-19	10128	63	0.62

Source: NASSCOM

Exports:

The exports of the IT industry have grown year by year since 2011. The share of IT-ITeS exports to total IT ITeS revenue of the Indian Software and Services industry has contributed from 74.5 % in 2011-12 to 78.9% in 2018-19. They are estimated at US $ 7.6 billion to the US $46.3 billion in 2018-19 with a CGAR of 28.6%. The contribution of ITES-BPO exports has increased from US $ 1.5 billion in 2011-12 to the US $ 12.7 billion in 2018-19, a CGAR of about 39.2 percent. BPO now accounts for about 27 percent of total exports. However, the fastest-growing segment is software products. It is growing at a CGAR of 48.5 percent.

Table 2: Segment wise exports Revenue Trends in IT-ITeS Industry

Year/Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
ITeS-BPO	1.5	2.5	3.1	4.6	6.3	8.4	10.9	12.7	39.2
IT Service	5.8	5.5	7.3	10.0	13.3	17.8	23.1	26.5	23.2
Software Products, Engineering Services	0.3	1.5	2.5	3.1	4.0	4.9	6.4	7.1	48.5
Total IT-ITeS	**7.6**	**9.5**	**12.9**	**17.7**	**23.6**	**31.1**	**40.4**	**46.3**	**28.6**

Source: NASSCOM

Revenue:

The IT-ITeS industry has been growing tremendously since 2011-12. The total IT-ITeS exports and domestic industry revenue are estimated at the US $ 10.2 billion in 2011-12. It reached the US $ 58.7 billion in 2018-19, with a CAGR of about 26.9 percent.

Table 3: Contribution of the IT sector to India's Revenue

Year/ Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
IT-ITeS Domestic	2.6	3.0	3.8	4.8	6.7	8.2	11.7	12.4	22.2
IT-ITeS Exports	7.6	9.5	12.9	17.7	23.6	31.1	40.4	46.3	28.6
Total (US $billion)	**10.2**	**12.5**	**16.7**	**22.5**	**30.3**	**39.3**	**52.0**	**58.7**	**26.9**

Source: NASSCOM

Domestic market:

In addition to being a significant contributor to the IT industry's overall income, the domestic market is also quite important. The domestic software and services sector is expected to generate US$12.4 billion in sales in 2018–19, up from US$2.6 billion in 2011–12. This represents a compound annual growth rate (CAGR) of roughly 22.2 percent. Its domestic income is dominated by software goods and engineering services, although this sector's proportion is falling, from US$0.4 billion in 2011-12 to US$202 billion in 2018-19.

Table. 4: Segment-wise Domestic Revenue Trends in the IT-ITeS Industry

Year/Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
Software Products, Engineering Services	0.4	0.4	0.4	0.7	1.3	1.6	2.2	2.2	23.7
ITeS-BPO	0.1	0.2	0.3	0.6	0.9	1.1	1.6	1.9	44.5
IT Service	2.1	2.4	3.1	3.5	4.5	5.5	7.9	8.3	19.5
Total IT-ITeS	**2.6**	**3.0**	**3.8**	**4.8**	**6.7**	**8.2**	**11.7**	**12.4**	**22.2**

Source: NASSCOM

Employment:

IT Software and Services employment was estimated at 2.20 million in 2018-19 and only 0.52 million in 2011-12. The direct employment contribution in the estimated employment is about 8.0 million in 2018-19. This translates to creating about 10.20 million job opportunities attributed to the sector's growth.

Table 5: Segment-wise Employment Trends in IT-ITeS Industry

Year/Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Domestic Market	0.25	0.29	0.32	0.35	0.38	0.38	0.45	0.50
IT Services& Exports	0.17	0.21	0.30	0.39	0.51	0.69	0.86	0.92
BPO Exports	0.11	0.18	0.22	0.32	0.42	0.55	0.70	0.79
Total Employment	**0.52**	**0.67**	**0.83**	**1.06**	**1.29**	**1.62**	**2.01**	**2.21**

Source: NASSCOM

Export destinations:

USA and UK are the major markets for IT and software exports. The share of the USA has declined from 68.3 percent in Financial Year 2015 to 60 percent in Financial Year 2018. At the same time, Europe has increased from the same period. The markets across the

Asia Pacific countries are also growing year-on-year growth from 8.60 in the Financial Year 2015 to 9 percent in Financial Year 2018.

Table 6: Segment-wise Export destinations Trends in the IT-ITeS Industry

Market	FY15	FY16	FY17	FY18	FY19
Europe (incl. UK)	23.10%	25.13%	30.10%	31%	23.10%
Americas	68.30%	67.18%	61.40%	60%	68.30%
Rest of theWorld (incl. APC)	8.60%	7.69%	8.50%	9%	8.60%

Source: NASSCOM

VI. CONCLUSION

India's information technology (IT) sector has been a significant driver of its economic development, exports, revenues, and employment during the last several years. Exports of Indian information technology software and services have been on the upswing. ''IT services have yearly growth rates of 20–22%, and IT, IT enabled services (ITES) such contact centers, Business Process Outsourcing (BPO), and others have annual growth rates of around approximately 55%." The information technology business is rapidly expanding, providing services to new industries such as the aviation, insurance, financial, and real estate markets.

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