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INDUSTRY OUTLOOK

IT INDUSTRY: RESHAPING A NEW DEVELOPMENT PARADIGM

28 February 2022

Introduction

The Information Technology (IT) industry of India has come a long way from the modest beginning in 1967 when the Tata Group in collaboration with Burroughs established the first software zone, SEEPZ in Mumbai. Since then, the IT industry has grown manifold in terms of income, output, employment and exports and emerged as a major driver of economic growth and structural transformation in India.

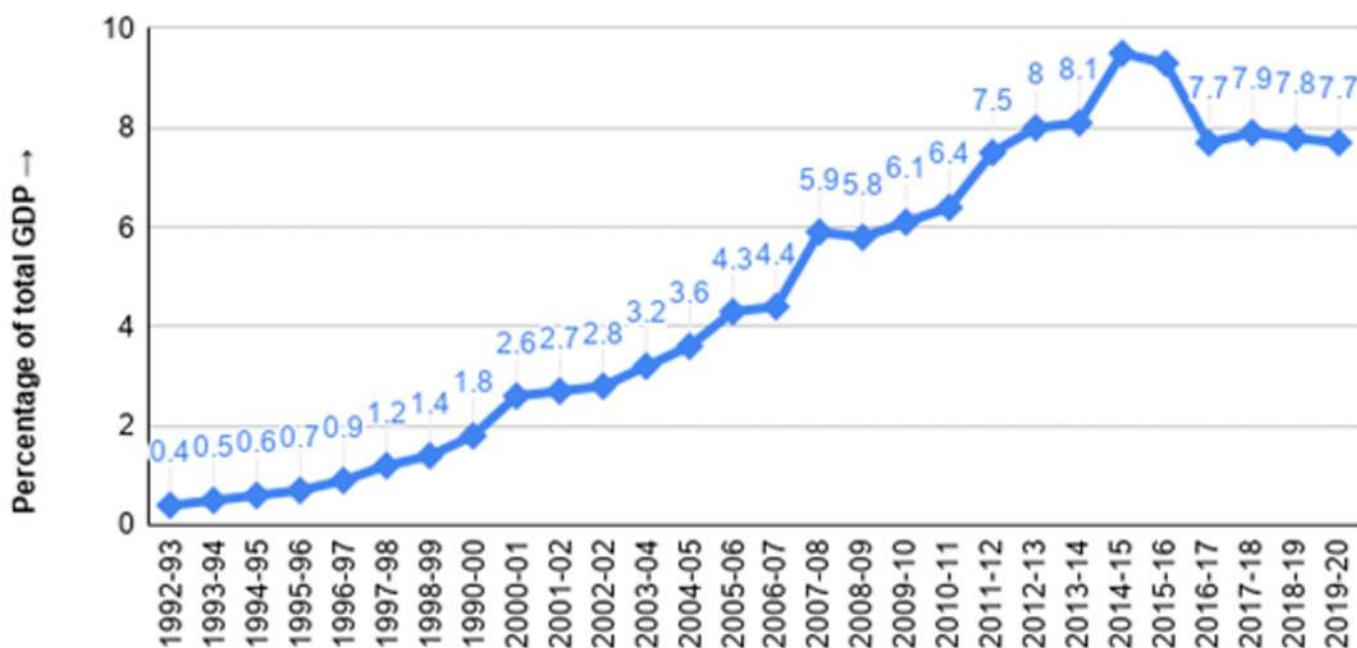
The IT industry includes companies in the computer hardware and software, semiconductor, electronics, telecom equipment, Internet services, and e-commerce sectors. In other words, Information Technology in India is an industry consisting of two major components: IT services and business process outsourcing (BPO). The NASSCOM's flagship report the Strategic Review: The Technology Sector in India, published on 15 Feb 2022, highlighted that FY2022 marks an inflection point for the industry; in which the industry crossed \$200 billion in total revenue and 5 million in total workforce.



Further, the report has analysed six global megatrends (namely, global talent pool transformation, supply chain replanning, big tech regulation, ESG-led business models, formalisation of Circular Economy and Technology for Good @Pace and Scale) [1] that have become prominent as a result of the pandemic and the leveraging of technology to address these areas.

Historically, India took strategic steps to position herself as a 'Knowledge Superpower' and these well-conceived steps have certainly yielded results over the years. Paul Taylor wrote in Financial Times "India has a new mantra-Information Technology, and almost everyone is chanting it. The success of India's export-led software development industry has helped to put IT at the top of the political agenda and turned it into a model for the modernisation of an otherwise troubled economy".[2] In an even more telling manner, late AB Vajpayee stressed eloquently, "India has what it takes to be a 'Knowledge Superpower', and the government will do all it can to make it happen. It is often said that the first industrial revolution bypassed India. Let it not be said that India was not in the vanguard of the knowledge revolution".[3]

Figure 1: IT Industry's Share in GDP (IN %)



Data source: IBEF, Ministry of Commerce & Industry, Government of India

Arora and Athreye show India's comparative advantage in software. For example, using indexes of value added in manufacturing and software revenue as the comparators, India is better placed in software than in manufacturing vis-à-vis the US.[4] The IT industry is expected to add USD 30 billion of incremental revenue in FY22, which will drive its growth to 15.5 per cent (possibly the most impressive growth in the last eleven years). The cost competitiveness together with talent pool, innovation, inclusion and sustainability will take the roadmap towards USD 350 billion by 2026.

The growth of the IT industry will be further incentivised by high digital demand. The revenues of the IT & business service industry rose by 6.4 per cent yoy in the first-half of 2021. The export revenue of the IT industry is estimated at US\$ 150 billion in FY21, which is further augmented to US\$ 178 billion in FY22, with 51 per cent share in services exports (IT-enabled services). India's software services exports (excluding exports through commercial presence) increased by 4 per cent in FY21 compared with FY20. With sustained steady growth, the Indian software product industry is expected to reach US\$ 100 billion by 2025. Indian companies are focusing to invest internationally to expand global footprint and enhance their global delivery centres.

One notable aspect of the industry is its hiring spree for the talent pool; the industry has emerged as the biggest net hirer in the organized sector; for instance in FY22, 450,000 fresh recruitments have been done by the industry alone, with a total employee base of around 5 million. The industry added 445,000 net new hires in FY2021. [5]

Contribution to GDP

The IT-BPM sector has been contributing more than 7.5 per cent on an average to the GDP of the country (including e-commerce, the share in India's GDP is around 9 per cent). In 2020, the share fell marginally due to Covid-related impact (Figure 2).

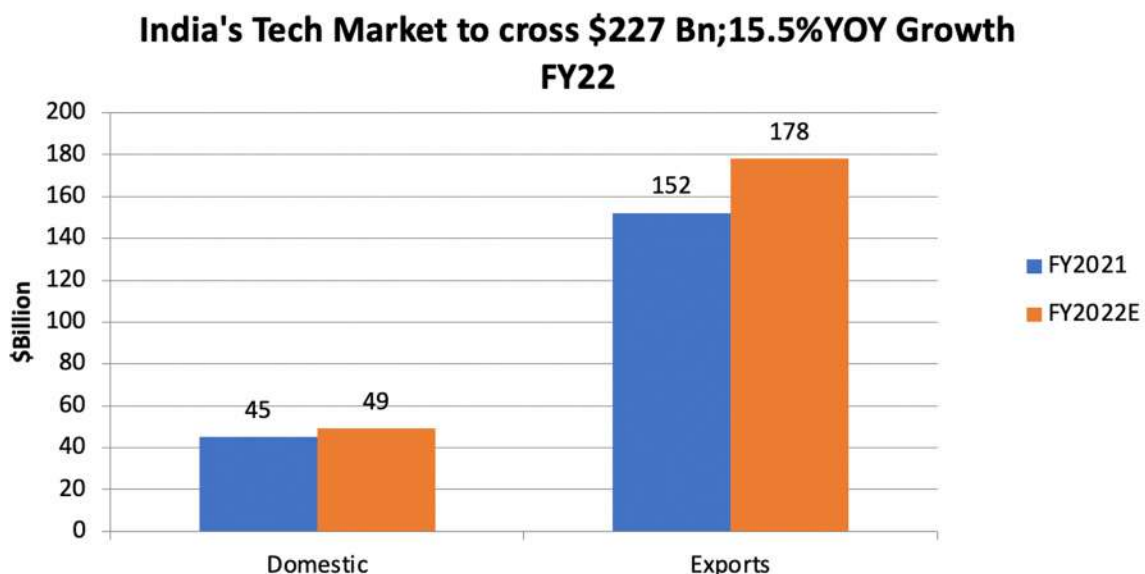
Figure 2: Contribution of Indian IT-BPM industry in GDP of India FY 2009-2020 (in Per Cent)



Source: Statista. Available at <https://www.statista.com/statistics/320776/contribution-of-indian-it-industry-to-india-s-gdp/>

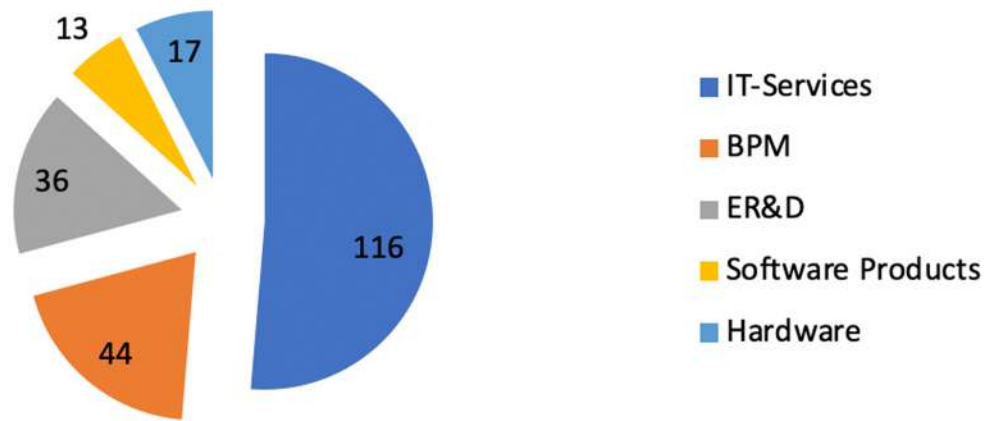
Segment-wise Outlook for the Industry:

Fig 3: Global and Domestic Technology Market Size (US\$ Billion) FY2021-22(E)*



*FY22 figures are estimated.

Fig 4: FY2022E-Segmented Break-up (US\$ Billion)



IT Services:

- ~17% growth;
- demand for infrastructure management and networking services in a distributed setting;
- cloud-based software testing services;

BPM

- 13.5% growth;
- this sector is building specialised capabilities in data monetization leveraging cloud-based AI & analytics;
- Growth in platform based services and automation;

Software products:

- The fastest growing segment at 19%;
- Customer enterprises continued their investments in communication & collaboration, cyber-security, content management solutions, etc.

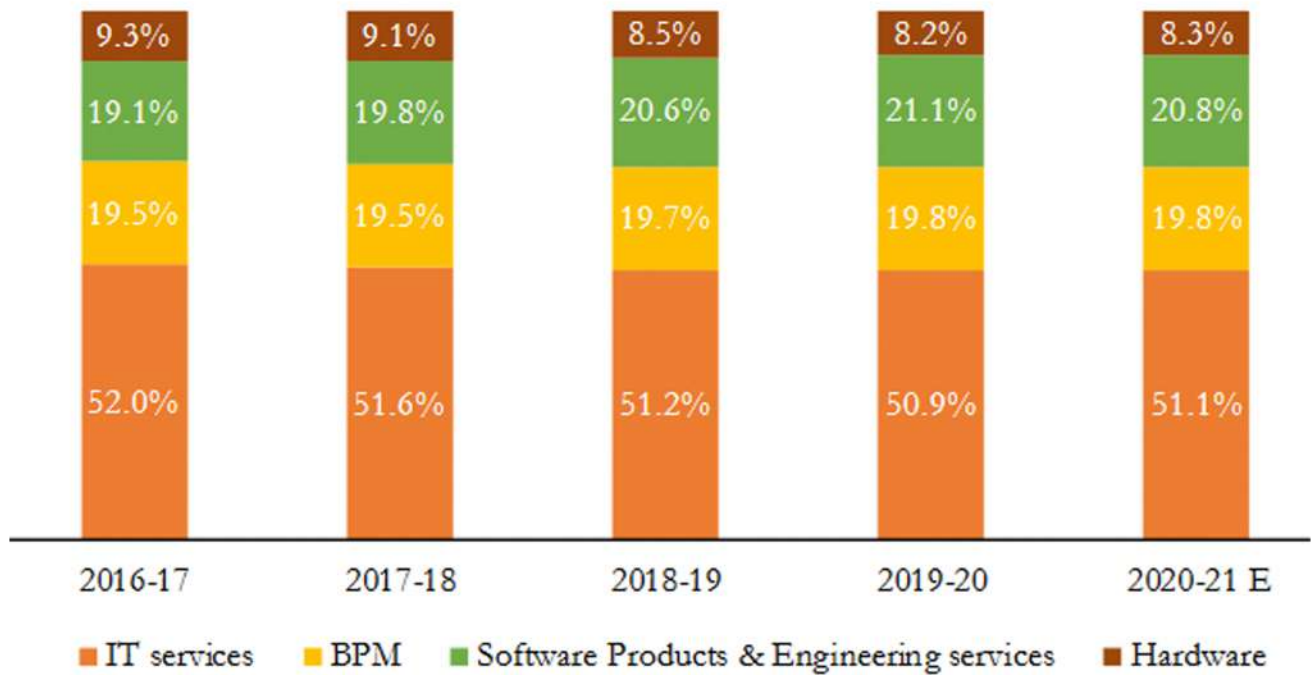
ER&D:

- Not only did this sector emerge out of a negative growth year (FY2021), but driven by pent-up demand, ER&D is likely to see ~17% revenue growth in FY2022, the most since FY2014.

E-Commerce:

- Growth rate has been exponential during the pandemic period as businesses rapidly expanded their online presence,
- Restrictions on mobility pushed online purchases.
- This segment is estimated to grow 39% over last year.

**Fig 5: Sub-sectors share in IT-BPM Revenue (excluding hardware & e-commerce)
[2016-17 to 2020-21E]**



Source: NASSCOM, Economic Survey(Jan'22).

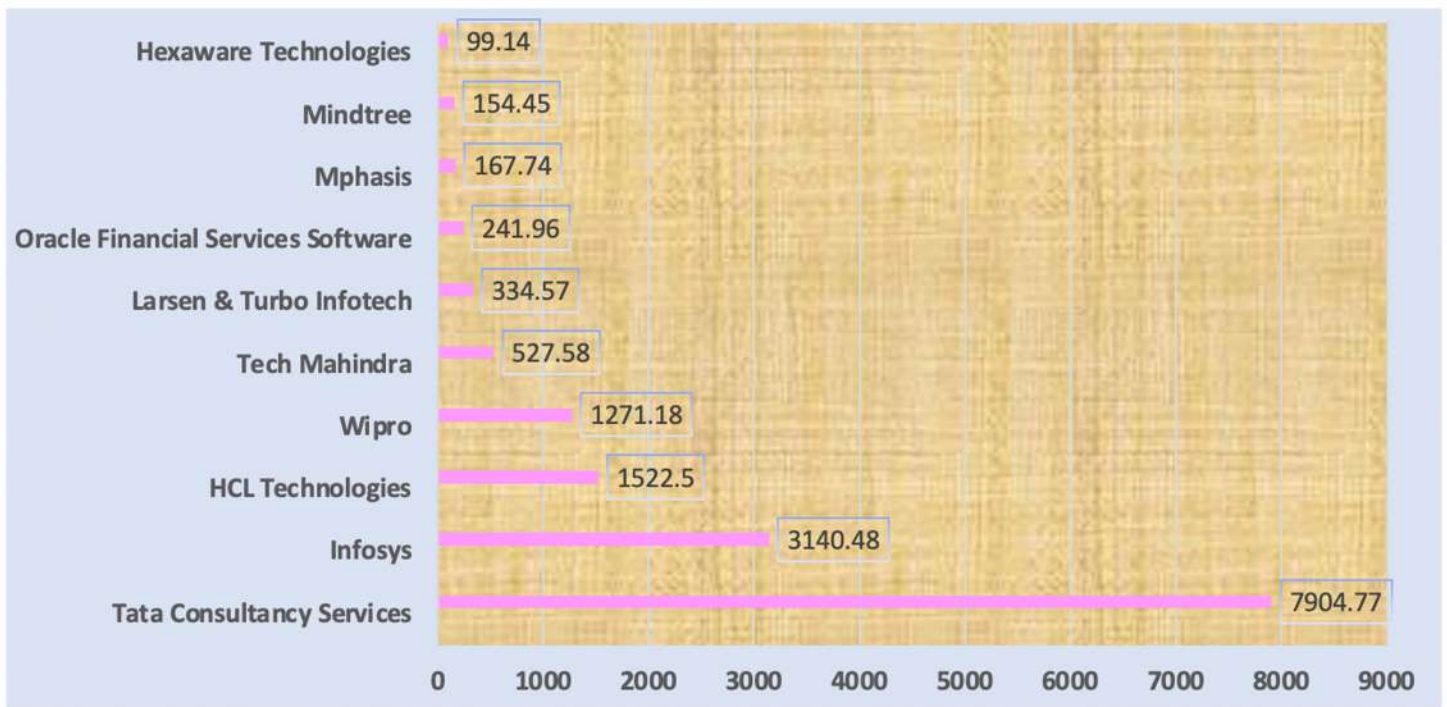
Defining Tech themes in FY22

- ☒ Digital & innovation went deep;
- ☒ Margin defense through operational excellence;
- ☒ Accelerated digital capability building;
- ☒ Platformisation play drives India tech adoption;
- ☒ Everything as a service becomes prominent;
- ☒ When tech start-ups started to scale-up fast;
- ☒ India as a digital talent nation;
- ☒ Leading in hybrid work models;
- ☒ The O+O shift in ecommerce;
- ☒ The tech value proposition evolution for this decade.

Market Share of Leading Players

The major hubs for the IT export sector are Bangalore, Chennai, Hyderabad, Delhi, Mumbai and Kolkata with Bangalore emerging as 'the Silicon Valley of India'. The IT industry is marked by large to medium players with large players like Tata Consultancy Services, Infosys, Wipro and HCL Technologies dominating the market. The graph below (Figure 6) gives the market size of major IT companies based on market capitalization.

Figure 6: Leading IT services and consulting companies in India as of 2020, based on market capitalization (in billion INR)



Source: Statista. Available at <https://www.statista.com/statistics/944948/india-leading-software-companies-based-on-market-capitalization/>

Major Deals and Developments in IT Industry

Some recent developments, which are crucial to understand the industry, are listed below:

- In March 2021, Tech Mahindra announced its partnership with Enate, a UK-based robotic process orchestration solutions company, to offer Enate's proprietary 'robotic process orchestration (RPO) technology', which offers a BPM, workflow and workforce management platform to help increase efficiencies and streamline operations between human employees and technologies, such as, RPA bots, OCR platforms and NLP/AI/ML technologies. [6]
- In Feb 2021,[7] Microsoft India announced its partnership with Intel to introduce Azure Stack HCI (a new hyper-converged infrastructure (HCI) solution) to the Indian market to empower organisations with advanced hybrid cloud capabilities. Part of the Azure Stack portfolio, Azure Stack HCI provides organisations access to Microsoft Azure for hybrid cloud scenarios across data centres, remote offices, cloud and edge locations.
- In February 2020, TCS bagged a contract worth ₹10,560 crore from pharma company, Walgreen Boots Alliance. In accordance with the terms of the contract, TCS will provide managed services including application maintenance and support, required infrastructure and security operations.[8] Further, in October 2020, TCS was selected as a strategic partner for manage IT services by AG insurance to help enhance the latter's digital channel and modernize IT systems.
- In July 2020,[9] Infosys won a multi-year deal worth US \$1.5 billion, from investment management company vanguard. This Digital Transformation project work can go up to 10 years, including design, development, deployment, and support, with the contract value growing over \$2 Billion.
- In July 2020, HCL technologies signed a five-year deal worth US \$600 million with Swedish telecom equipment maker Ericsson. HCL under this agreement will provide infrastructure management, cloud and application services to Ericsson. [10]

- In November 2020, WIPRO partnered with Cisco to deliver manage software-defined wide area network (SD-WAN) transformation services to Olympus, a medical devices and systems company headquartered in Tokyo, Japan.
- In February 2021, HCL Technologies (HCL), announced a five-year 'Digital Workplace Services' agreement with Airbus. HCL will create a modernized digital workspace for Airbus employees worldwide to improve customer experience and service quality.

Potential for the IT Industry

In the 'new normal' of the world increasingly becoming a global village ("vasudhaiva kutumbkam" as we in India have maintained for centuries together), there has to be an accent on knowledge, ideas and information to perceptibly alter the ground-realities in the emerging milieu of Intellectual Property Rights based on equity and ethics.[11] Given an enabling eco-system, policy support at various levels and synchronized and concerted attempts by all participants, including the National Association of Software and Service Companies (NASSCOM) is needed to accelerate the pace of transformation of the industry to emerge as the preferred enablers for global digital transformation.

What the National Task Force (NTF) on IT and Software Development's Basic Background Report (BR-3) on strategic policies stressed is needed to make India an IT superpower way back in November 1998 continues to resonate today. BR-3 maintained "these policies are oriented towards creating an appropriate investment climate and streamlining the procedures for minimising uncertainty, increasing velocity of business and growing proactive enterprises with market aggressiveness and inventive resilience". Further, the National Policy on Software Products (2019) [12] provided focused attention on the need to promote the creation of a sustainable Indian software product industry, driven by intellectual property (IP), leading to a ten-fold increase in share of the Global Software market by 2025.

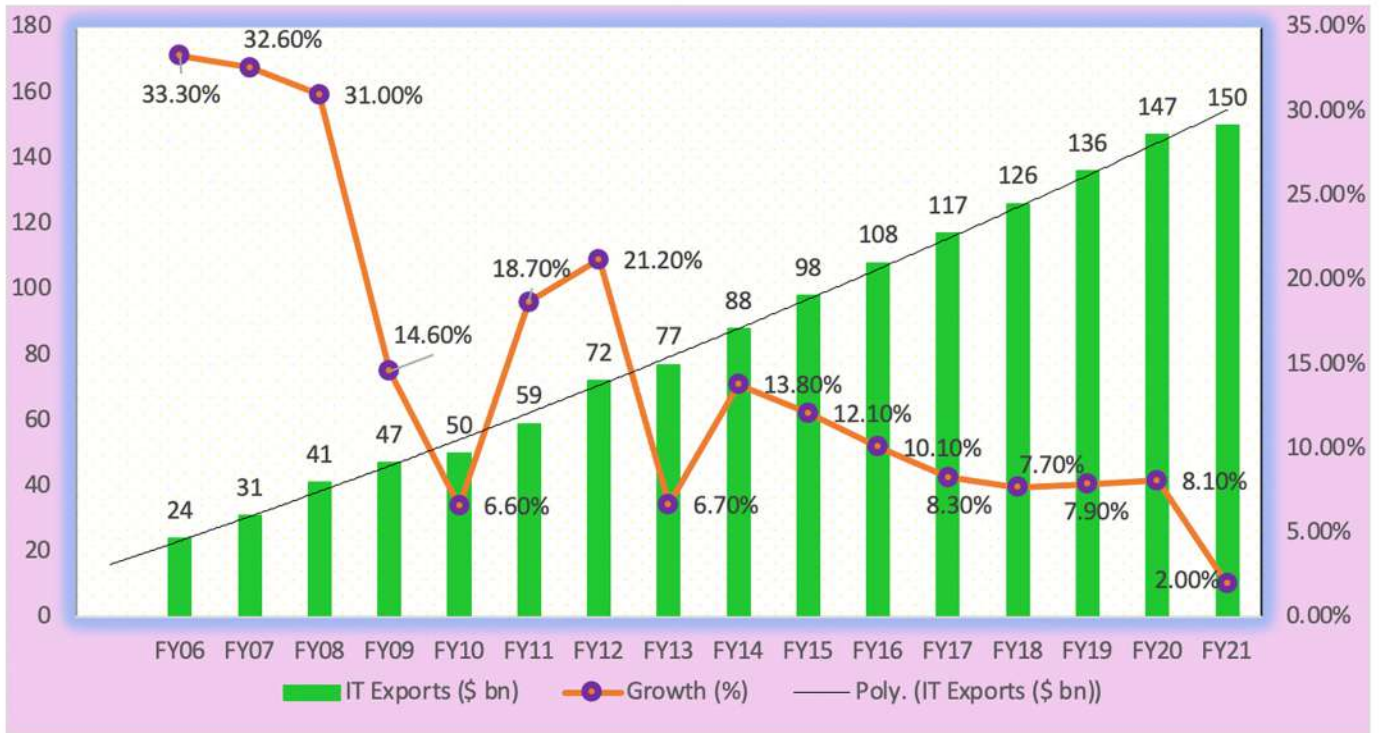
Essentially, the Indian IT industry has been regarded as a success of neoliberal economic reforms, driven by private initiative and export-oriented growth.[13] IT has a catalytic role in the process of innovation, because it affects the rate at which potential new ideas are converted into incremental body of knowledge in ways that nothing else can, i.e., the model of recombinant growth. [14]

With proper policy and operational support, the industry could continue to contribute around 8 per cent towards the GDP and may well achieve the target of 10 per cent. The graph below (Figure 7) shows the exports for the sector for roughly last fifteen years. As can be seen, IT exports have increased by more than six times from \$24 billion in FY06 to \$150 billion in FY21. But it is disconcerting to note volatile export growth ranging from roughly 33 per cent to 2 per cent (with a CAGR of approximately 13 per cent).

While this could justifiably be attributed to various reasons, some of the major reasons could be identified and isolated as the computer/internet revolution in the early 2000s, global financial meltdown of October 2008, or the more recent COVID pandemic, apart from the volatility of the business cycles inherent in this industry, as indeed in most industries.

While the industry has been hit by the COVID pandemic (like other industries), there has been some signs that stakeholders have not lost confidence in the industry. This is because the Computer Software & Hardware has emerged as the top sector during the first ten months of FY21 with 45.81 per cent in terms of the total FDI Equity inflow.[15] As per the trends in January 2021, the consultancy services emerged as the top sector with 21.80 per cent of the total FDI Equity inflow followed by Computer Software & Hardware (15.96 per cent) and Service Sector (13.64 per cent).

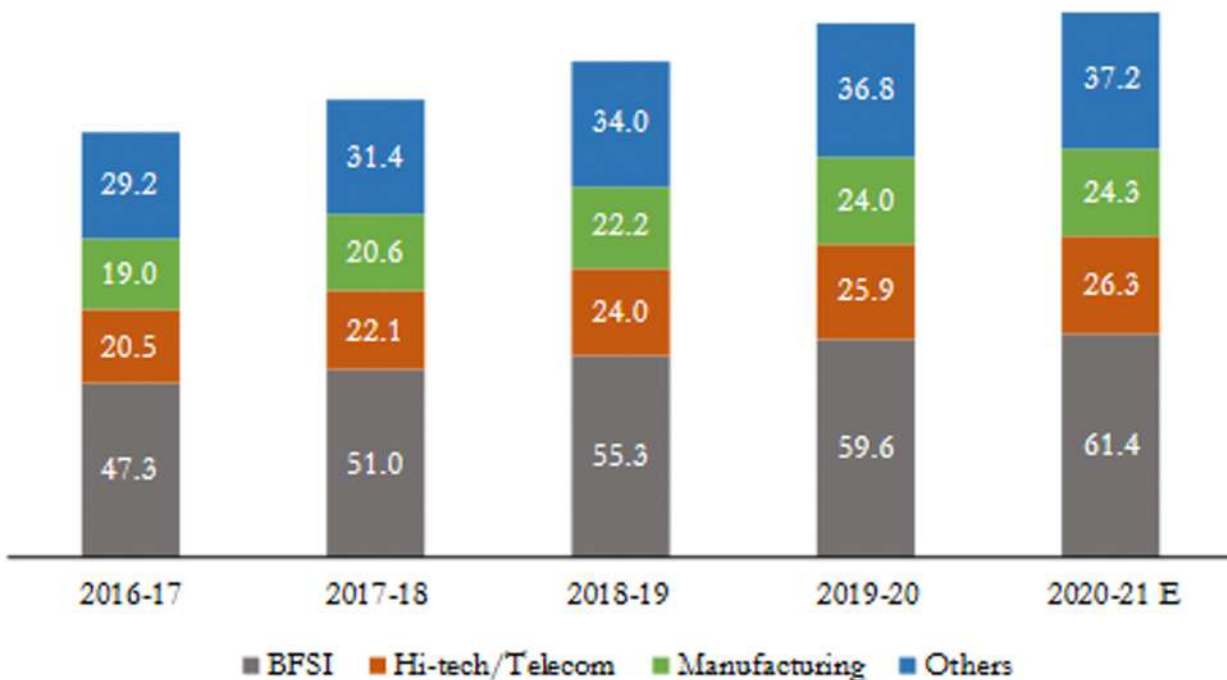
Figure 7: IT Exports (USD Billion) in recent years [FY06-FY21]



Source: Edelweiss (March 2021), Techolution: The Cloud Fission. Available at <https://www.edelweissresearch.com/Research/Download/9702>

As per the NASSCOM press release (31 March 2021),[16] “with the ongoing pandemic and the pace at which almost every sector has accelerated their digital transformation journeys, the increasing cloud consumption and other digital services like Artificial Learning (AI) and Machine Learning (ML) are making way for the digital and cloud services, with an opportunity to reach USD 600-700 bn by 2025. Coupled with cybersecurity and IoT digital spending, the technology services are expected to reach USD 300-350 bn in revenue by 2025.”

Fig 8: Sector wise break up of Indian IT BPM Export Revenues (excluding hardware & e-commerce) (US\$ billion)



Source: NASSCOM, Economic Survey (Jan'22).

Country wise Export of IT and IT-related products:

United States remained the biggest source of exports revenues amounting US\$ 92.1 billion in 2020-21, accounting about 62 per cent of total IT-BPM exports (excluding hardware and e-commerce). UK is the second largest export market for IT-BPM services with a share of around 17 per cent. The revenue from exports to UK amounted to US\$ 25.2 billion in 2020-21. Europe (excluding UK) and Asia-Pacific account for 11.5 per cent and 7.7 per cent respectively of the export earnings of India.

Changing Landscape

The prospect for the industry seems promising going forward given rapid developments across fronts like artificial intelligence (AI), machine learning (ML), etc. Biotechnology, for example, was used to identify the virus and test for infection. Similarly, the internet has helped mankind in diverse ways during the pandemic times-be it making people aware of the new COVID strains, its available treatment, vaccines, etc.

A deeper examination of the overall global digital tech reveals that the spend in healthcare is expected to exceed \$534 billion by 2025, up from \$180 billion in 2017, [17] with a majority part led by Artificial Intelligence (AI), Internet of Medical Things (IoMT), and Automation. The effects of these would also be seen in India as currently around 31 per cent of the patients use digital tools in India to search and schedule appointments and 27 per cent use online booking for diagnostic services. Also, over 80 per cent of the doctors in India claim that patients value convenience more and expect the doctors to answer queries through mobile. [18]

India is also expected to contribute to this digital health domain as the 'Digital India' mission is expected to bring about huge investments in the IT sector. A snapshot of the expected spending in 2021 is provided in the table (Table 1) below, which shows that overall spending in IT is expected to be robust at 6 per cent growth rate in 2021 as contrasted with a negative growth rate of 8.6 registered in 2020 mainly attributed to COVID-19 pandemic. Given the current scenario, it seems that the health sector as well as the overall IT sector is well poised for sustained development and structural transformation to enhance business levels and achieve much higher levels of efficiency and productivity.

Table 1: IT Spending in India

Items/Category	2019		2020		2021	
	Spending (\$ million)	Growth (%)	Spending (\$ million)	Growth (%)	Spending (\$ million)	Growth (%)
Data Centre Systems	3738	4.8	3475	-1.2	3670	8.3
Enterprise Software	6647	17.1	6693	7.0	7415	13.6
Devices	38279	15.5	26460	-26.5	26780	3.8
IT Services	15410	12.6	15043	3.7	15838	8.0
Communication Services	27943	1.0	27592	4.9	28193	4.8
Overall IT	92017	9.9	79263	-8.4	81896	6.0

Source: "Gartner Forecasts IT Spending in India to Grow 6% in 2021", Gartner Press Release (23rd November 2020). Available at <https://www.gartner.com/en/newsroom/press-releases/2020-11-23-gartner-forecasts-it-spending-in-india-to-grow-6--in->

Institutional Initiatives

Historically, the liberalization policies (e.g., reducing trade barriers and eliminating import duties on technology products) of the Government of India and an enabling eco-system like setting up Software Technology Parks (STP), Export Oriented Units (EOU), Special Economic Zones (SEZ) and foreign direct investment (FDI) played a catalytic in the growth and development of this industry in India.

According to the latest Annual Report (2020-21) by Meity, Several “Centres of Excellence” have been setup to promote innovation in emerging technologies like 5G, Internet of Things, Advanced Data Analytics, Artificial Intelligence, Cloud computing, Augmented and Virtual Reality, 3D printing, robotics and blockchain etc. Efforts are also on to enable Indian IT professionals attain world class skills in these disruptive technologies through a Future Skills Programme. A National Programme on ‘Artificial Intelligence’ has been envisaged, which will be catalysed by the establishment of National Centre on Artificial Intelligence as a hub along with Centres of Excellence. The National Supercomputing Mission is progressively bringing the manufacturing and design of supercomputers into India, which will augment High Performance Computing within India to support the growing requirements of computing for nationwide data platforms and artificial intelligence.

Further, the Annual Report 2020-21 of MeitY highlights the achievements of Digital India 2.0 with a vision to harness digital technology & foster innovation. The recent and continuing rapid innovation in IT make it a dynamic sector with implications for inclusive, strong, secure and sustainable Digital Economy.

The GoI has also embarked upon “GI based cloud computing” for its digital India vision.

Other initiatives are as follows:

- Atal Innovation Mission (AIM) – The AIM was set up by the NITI Aayog with an objective to create and encourage an environment of innovation and entrepreneurship across schools, educational organisations, research institutes and industries including MSMEs. It is supported by Atal Tinkering Labs and Atal Incubation Centres. [19]
- AI driven detection of COVID via WhatsApp – ARTPARK (AI & Robotics Technology Park), a not-for-profit foundation established by the Indian Institute of Science (IISc), Bengaluru, with support from the Department of Science & Technology (DST), Govt. of India, in collaboration with Bangalore based HealthTech start-up Niramai and the Indian Institute of Science (IISc), has developed XraySetu specifically designed to identify COVID positive patients even from low-resolution Chest X-Ray images sent over WhatsApp. [20]
- Production Linked Incentive (PLI) for IT Hardware – PLI for IT Hardware was notified on 3rd March 2021. The PLI Scheme extends an incentive of 4 per cent to 2 per cent/ 1 per cent on net incremental sales (over base year of FY 2019-20) of goods under target segments that are manufactured in India to eligible companies, for a period of four years (FY 2021-22 to FY 2024-25) over which the scheme is expected to lead to total production of about Rs.1,60,000 crore of which IT Hardware companies have proposed a production of over Rs. 1,35,000 crore, and domestic companies have proposed a production of over Rs.25,000 crore.[21]
- MyGov Corona Helpdesk - With misinformation and fake news being circulated on social media about the Covid pandemic, MyGov-the country’s citizen engagement platform, along with the Ministry of Health in collaboration with Haptik launched MyGov Corona Helpdesk chatbot. The goal of this chatbot is to enhance awareness and prepare the nation effectively to combat Covid 19. The AI-enabled ‘MyGov Corona Helpdesk’ also bagged two awards under two categories “Best Innovation for Covid-19 – Society” and “People’s Choice Covid-19 Overall Winner”, at the CogX 2020, which is a prestigious Global Leadership Summit and Festival of AI & Emerging Technology held annually in London. [22]

- Responsible AI for Youth - National e-Governance Division, Ministry of Electronics and Information Technology, Government of India, and Intel India have designed a National Program - Responsible AI for Youth. This program aims to empower youth to become 'AI-ready' and help reduce the AI skill gap in India. The program is aimed at reaching out to students from the government schools pan India and provide them with an opportunity to become a part of the skilled workforce in an inclusive manner. [23]

The Government undertook a major reform of liberalizing the Telecom regulations in the IT-BPO sector. New revised and simplified Other Service Providers (OSP) guidelines were first issued in November 2020 and further in June 2021.[24] Prior to this, the OSPs were regulated under the Revised Terms and Conditions- Other Service Provider 2008. IT and IT enabled service companies carrying out services like tele-medicine, e-commerce, call centre, network operation centre and other IT Enabled Services, by using Telecom Resources provided by Authorised Telecom Service Providers were required to be registered as Other Service Provider (OSP) and comply with the onerous obligations of the OSP Regulations.

Fundamental Features of Revised Guidelines: [25]

☒ The applicability of new guidelines is limited to entities that provide "Voice based BPO services" to its customers. Voice based BPO services is defined to mean call center services. The new guidelines have explicitly clarified that non-voice-based entities will not be governed by the OSP regime.

☒ Removal of registration requirement: No registration certificate will be required for OSP centres in India.

☒ Removal of requirement of bank guarantee: No bank guarantee whatsoever will be required for any facility or dispensation under these guidelines.

☒ Removal of distinction between domestic and international OSPs: The categorization of OSPs has been done away with and one single OSP category has been introduced regardless of their domestic/ international business operations.

☒ Work from home and remote locations allowed: The agents at home/anywhere shall be treated as remote agents of the OSP centre. The interconnection between remote agents is permitted using any technology including broadband over wireline/wireless. The remote agent can now directly connect to customer Electronic Private Automatic Branch Exchange (EPABX) /centralised EPABX without the need to connect with the OSP centre.

☒ Interconnectivity between OSPs allowed: Interconnection between two or more OSP centres of the same or unrelated company is now permitted.

☒ Sharing the infrastructure: Infrastructure sharing among OSPs is now allowed. The guidelines allow the use of EPABX at foreign locations.

☒ This reform will provide a big stimulus for growth of IT-BPO industry in India and help in creating more income and employment.

A NASSCOM Survey (Oct-Nov'21) found the following: [26]

☒ 92 per cent of the participants stated that the OSP reforms have helped reduce compliance burden.

☒ While 28 per cent of the participants reported that their compliance burden reduced by more than 50 per cent, 20 per cent of participants acknowledged compliance reduced by 40-50 per cent.

15 per cent of participants reported that compliance reduction by 30-40 per cent. 24 per cent of the respondents expected that OSP reforms will help in generating new employment opportunities, 10 per cent expected that it will reduce the cost of doing business in India, whereas 64 per cent expected all these benefits to accrue.

Further, 83 per cent of the participants responded that these reforms will help in reducing the financial burden; 24 per cent of the respondents stated that these reforms have significantly enhanced productivity of their organization; and 94 per cent said that these reforms will increase competitiveness globally.

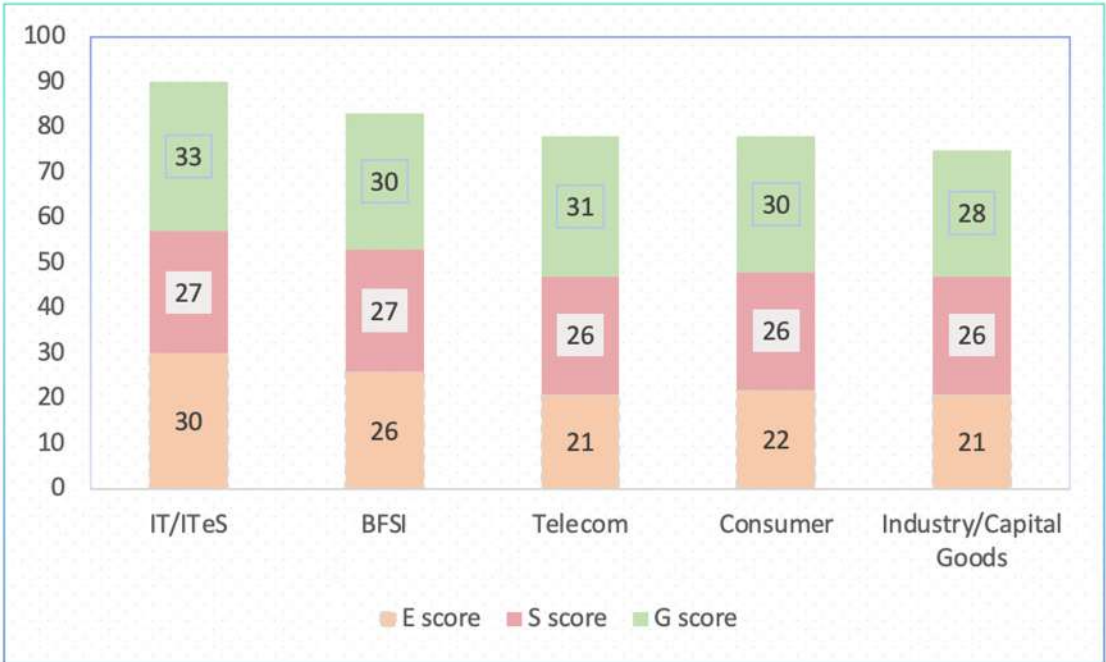
Industry Risk

There are several negative global cues, which complicate the task of planners, policy-makers and even those at the helm of affairs in this steadily burgeoning industry. Mention may here be made of the imminent Fed rate hike, geopolitical tensions in Russia-Ukraine tussles, likely spike in oil prices, global inflation, among others.

With loss of incremental new clients in FY21,[27] the IT firms have planned to change their business model in relation to the practice of working from home. This strategy also entails consolidating vendors to reduce cost. However, this does not necessarily mean more attrition rates, as big companies are looking forward to add more than 1 lakh employees in FY22 as markets are looking optimistic after re-opening outside the Indian subcontinent. [28]

NASSCOM Foundation in partnership with CGI consultancy took inputs from 548 organizations, of which 119 were established companies, 124 were social enterprises/start-ups, and 305 were NGOs. The results demonstrated that the brunt of COVID-19 was faced by NGOs – over 50 per cent had to temporarily shut down and around 57 per cent found it difficult to monitor their programs. But with established companies, the issues were slightly different – almost 42 per cent saw increased administrative bottlenecks to perform their day-to-day operations and around 39 per cent even had issues with basic infrastructure setup like the internet.[29] However, as far as the overall industry is concerned, it performed much better than many other industries adversely impacted by the Covid-19 pandemic. This thesis can be substantiated by a study by Edelweiss Securities Limited in its report titled “ESG 100: A Sophisticated Scorecard”. This report brings out that the IT/ITeS sector invariably tops the chart (see Figure 9 below). [30]

Figure 9: ESG Score



<https://www.edelweissresearch.com/Research/Download/11082>

The Way Forward

Given the receding Covid-related disruption, the Indian growth prospects seems brighter. This is why the Indian CXO sentiment, as assessed in NASSCOM's Enterprise CXO Survey 2022, is net positive on overall growth, and bullish on technology spend. The NASSCOM Strategic Review (Feb'22) highlighted that 60 per cent companies plan 6 per cent higher technology spend in FY2022. Banking on the R & D, over 75 per cent CEOs have expressed confidence in achieving double-digit revenue growth.

With the COVID pandemic bringing greater opportunities to the IT industry because of its non-contact-intensive nature, the industry must seize the rapidly unfolding opportunities and consolidate its position in the global pecking order. The adoption-and adaptation- of new technologies is expected to accelerate growth of BFSI vertical. The need for undertaking investment in IT will also be required for gaining competitive advantage instead of solely reducing operational costs. This should be the driving force of all public and private investments. The NASSCOM (Feb'22) report has highlighted the following aspect:

"The need to keep businesses running even during the lockdown phases pushed enterprises to look at technology as a panacea; consumers also spent heavily on online platforms – gaming, digital content, social media and e-Commerce. These factors pushed global technology spend (excl. hardware) to over \$1.7 trillion in 2021, at nearly 9% y-o-y growth, and is expected to reach \$1.8 Tn at 6.5% growth in 2022. The global sourcing market also witnessed significantly higher growth at 12-14 per cent reaching \$238-243 billion in 2021." [31]

Further, the role of new technologies like artificial intelligence (AI), machine learning (ML), cloud, etc. is likely to increase significantly. As per an IBM study, 78 per cent of IT professionals in India report that it is critical to their company to build and run AI projects wherever the data resides and 72 per cent of IT professionals in India are confident that their company has the right tools in place to do so and turn data into insights.[32] All these developments place the industry on a sound and robust footing. But the realisation of the humongous potential of this industry is contingent on a judicious and optimum use of varied resources properly. This would also help to consolidate IT industry and India could emerge as an even stronger IT hub.

Seventy per cent of companies in a NASSCOM Enterprise CXO Survey 2022 indicated significantly increasing their digital investments in 2022. With rapid digitalization across the value chain, end user industries are primed to adopt holistic and high-end enterprise performance solutions in an evolutionary journey over the near to long-term, with the aim to contribute \$350-400 billion to the \$1 trillion digital economy of India by 2025.

NASSCOM TECHScope offers a view of the 25 highest priority technology solutions that will invite large investments; these solutions will have a strong impact on the core industry, the value chain, and the overall Indian economy. It has highlighted that the FY2023 growth opportunities are likely to be motivated by demand for Infrastructure and managed services, consulting services; Platform BPM, data management & RPA; ER&D will see deeper penetration of engineering cloud as ER&D firms up their Softwarization component. The software product segment will see greater off-take of productivity software, cybersecurity solutions – as enterprises further salsify their tech portfolio. Finally, e-commerce industry is set to get further disrupted by the fast-growing interest around metaverse, driven by the need for more personalised experiences.

The IT industry has to meet the challenges of the incessantly rising expectations of the customers and well-funded start-ups with innovation and push. There are also headwinds like geopolitics, macroeconomic fluctuations, supply chain disruptions, and the after-effects of the pandemic. Against this overarching backdrop, the IT revolution in India received an impetus from the heightened consciousness of patenting knowledge, ideas and information, the substitution of the manufacturing industry globally by the services industry as the fastest growing part of the economy, the plummeting costs of hardware and the rising costs of software and the sustained 'Make in India' and 'vocal for local' campaigns.

Game-changing developments, such as, interdependence and networking, the globalisation of research and development (R &D), defining and setting new benchmarks of quality together with cost-competitiveness and greater customer-centricity are certain to salubriously influence the growth of the Indian economy in general and the IT sector in particular.

The industry would continue to display grit, resilience and agility. According to the Nasscom Tech CEO Survey 2022, more than 70 per cent CXOs believe that FY23 is poised to be another growth year for the industry. "The current demand trends on technology spending and economic growth point to a positive outlook on technology spending and hiring. The industry has also set itself an ambitious target of \$350 billion by FY26 growing at a rate of 11-14%".

The potential is humungous but the realization of this immense latent potential is a function of meticulous planning, careful execution and mid-course correction, as and when necessary. But it has to be realized that in the ultimate analysis, the IT sector is only a means to the end in itself, the end being the quality of ideas, not of the technology. This view is, however, not to detract in any way from the power and versatility of IT as an instrument of transformation.

ENDNOTES

1. "Resilience to Resurgence: Technology Sector in India in 2022"(February 2022) NASSCOM; <https://nasscom.in/knowledge-center/publications/technology-sector-india-2022-strategic-review>
2. Paul Taylor, 'Better Routes for Decision-Makers', Financial Times IT, London, December 2, 1998
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