P-ISSN: 2204-1990; E-ISSN: 1323-6903 DOI: 10.47750/cibg.2021.27.03.205

A research study on the Sustainable Competitiveness and the Macro Economic Factors of the IT Sector in India which contributes to sustainability and the rise of social development.

VIVEK ARUNACHALAM¹, ANASTASIOS FOUNTIS²

Email:vivek.arunachalam@berlinsbi.com¹, anastasios.fountis@berlinsbi.com²

Abstract: The Indian IT Sector has grown at the very fast pace and since the IT Platform becomes the base for all the other industries to evolve post new normal, India has a great advantage of developing its most competitive sector into the most profitable sector. This could be possible when the firms in the sector are able to develop their sustainability through value creation and innovation. This research studies on the PESTEL factors of India and how it influences the sector's competitive advantage. The researchers study how the IT sectors support in the social and environment factors and contribute to sustainable development.

The research emphasises on the PESTEL factors and how the emerging of new platforms of technology could pave way for new firms to be innovative and thereby contribute to overall factors of development. Competitiveness and innovation in the technology sectors could be the philosophy for survival for the IT firms and thereby the nation needs to create an overall ecosystem for the firms to breed. This research studies on different factors relating to sustainability and competitiveness and its contribution to economic prosperity. The research has been conducted by studying the top 5 IT firms out of the Fortune 500 IT firms in India. Though the research is conducted considering the global and macro economic factors that affect both the internal and external environments. The chosen firms for study have been TCS, CTS, Accenture, Cappemini and Infosys. Though the paper focusses on different aspects relating to sustainability, competitiveness and the PESTEL factors, there is an aspect of Environmental Factors that contribute to sustainable development and the impact of economic prosperity and rise of social development thereby poverty alleviation also a part indirectly linked to the idea of this chosen topic.

Keywords: Value Creation, Sustainable Competitive Advantage, Internet Platform.

INTRODUCTION AND LITERATURE REVIEW

Trade Liberalisation in India and the IT Sector Competitiveness:

Since global trade is considered as one of the major factors that promotes economic development by integration of economies through exchange of goods, encouraging trade competitiveness and labour circulation, it stimulates the global economic machinery as well. Nations build their own competitive sectors and move ahead from the traditional sectors of agriculture, manufacturing and services to proceed specialising in other sectors based on their availability of resources.

As with the Washington Consensus policies beginning to materialise, India opened its trade liberalisation in 1991 and created a whole gambit of trade and investments. It opened up investments to the world and helped in building its own competitive sectors. The liberalisation helped India in access with free flowing foreign capital through FDI, FPI, exports and developmental assistances. Apart from capital inflow it helped in technology transfer which helped India in building its own industrial clusters and build its own value system in industrial sectors. As various researches have been done to show the growth of India's manufacturing sector and exports possess intensive capital and skill intensive goods (Sonal & Panchandra, 2018). India has three main challenges as per the work of (Anthony & E., 2004). They are 1) even though there is rapid sectoral expansion, the position in the global market is still marginal 2) India's exports largely have low value outputs 3) even the domestic market is very small in size as compared to the exports. Due to the overt dependence on the US exports, the innovation of domestic industries have been affected. The author suggests that a). decoupling the software sector from the hardware sector would benefit the growth of the industry, b). disconnecting the software industry from the domestic industry and c). specialised division of software industry bifurcating into service and products. The researcher finally suggests that there are two important suggestions that the industry can incorporate which are 1) large investments in Manufacturing 2) diffusion of software applications throughout the economy.

¹Berlin School of Business and Innovation

²Berlin School of Business and Innovation,

The Indian IT Sector has grown tremendously in the last three decades and has constantly evolved itself to the disruptive changes. The firms are found to be quick and responsive to the technological changes than the past. In terms of innovations, firms are improvising in process based innovation however in product based innovations firms are taking initiatives to encourage. Indian enterprises have increased the willingness to be more risk driven with new initiatives and are now considering to be active than reactive (Rajeev & Sam, 2013). The research also cites that the industry initially began as an offshore model serving customer needs with a low cost advantage model and currently non-linear business models, client expectations, challenges in skilled talent and competitors rivalry are making the IT firms to innovate new strategies to sustain. The paper focusses on the need for Indian IT firms to invest in research and innovations in order to build themselves for the upcoming challenges. The challenges are the new areas of disruption such as Business Analytics and Knowledge Services, Artificial Intelligence, Cloud Computing and mobility. The research also cites that it would open huge opportunities for small and medium firms if they are able to adapt to adopt collaborative innovation technologies, faster pace of understanding disruptive technologies and making risky investments.

Even though product development is very important for innovation, the strategies for growth are not just restricted to innovation but governance. Since the strategies in India are different certain firms like the Infosys which have become world leaders emphasises on governance strategies and skill development which had helped them to grow (Tarun & Krishna, 2004). The idea of adopting corporate governance would create a positive externality and thereby increase the investments for India thereby creating improvising the value chain and the value system of the sector. Thereby it could be understood the sustainability and competitiveness is not restricted to product innovation but also governance has an impact on a IT firm's growth in India.

Since most of the Indian firms are MSMEs, there is a big challenge when it comes to innovation and investments on research. Responsible innovations (RI) tend to support them in managing financial costs and bringing positive impacts on society. Even though SMEs tend to be cautious over their business models and try to emphasise on brand name and quality they don't greatly spend on innovation fearing the cost involved. They also understand that without innovation sustainability becomes a challenge as bigger firms are already existing in the market. Thereby firms start to understand their competitive advantage and be caution with RI. The research paper (Doris, 2020) well structures the challenges faces by the SMEs. The research highlights the importance it has to be given for process based innovations and product innovations.

The advent of Internet of Things (IoT) would change the business patterns around the world and will have great influence in India as well. The research paper of (Hastimal & Keshab, 2019) cites that the current disruption could be called as fourth industrial revolution or industrie 4.0. The research work cites that the Indian IT sector has many challenges such as technological disruptions, changing business models, competition from other countries, protective policies and an upsurge of anti- outsourcing sentiments. Since the future of the IT sector is with new technologies relating to cloud computing, IoT, Big Data and analytics, automation, robotics and blockchain technologies, India has a uphill task of upgrading its skill development and resources for the new industrial revolution.

The (WEF, 2018)report cites that cloud computing, ubiquitous high speed mobile internet with the introduction of 5G Technology and above, big data analytics and Artificial Intelligent would be the driver for the next few years (2018- 2022) of market and jobs. The report also cites that it would have a great effect on emerging economies, middle class population and greener technology bound changes. It also cites from the research conducted that most firms are willing to adopt to big data technologies. Bigger firms are also to adopt cloud computing and relating technologies such as virtual reality, augmented reality and machine learning. Robotics usage is bound to increase and especially the financial sector will be more influenced due to the humanoids in the industry. Nearly half of the firms of the surveyed report cite that with the advent of automation technologies, the full time work force would be dissolved. However many firms also feel that the change of new technology would lead to skill enhancement of the work forces, remote and convenient working beyond the physical offices and decentralised operations. The research predicts that jobs in the area of AI, Big Data, Process automation, machine learning, human machine interaction designing, robotics, blockchain technologies, information security would be the new fields where jobs would increase. These could be classified specialised and skill oriented jobs other than the human connection based jobs such as marketing/ sales/ people and culture etc. Thereby it could be understood that new jobs are bound to created however there is demand for upgradation of the current skilled resources for the future demand.

A few of the challenges for the IT Sector remains that of having skilled talent resource. As (Agrawal, 2016) cites lack of skilled talent and poor interpersonal skills affect the IT industry and the economy. Thereby the poor competency affects the sector and has more unemployment in the fresh graduates level. Thus the government has to take measures to map skill development training in support with the industries and educational institutions.

In order to improve the competitiveness many firms link by merging or through strategic alliance as it helps to access markets, understand the unknown in technology and innovations, reducing the risks of uncertainties,

sharing of resources helps in saving financial costs. The research work of (Rakesh & Pankaj, 2004) cites that such linkages and alliances help in creating knowledge spillovers and it is beneficial for improving the competitiveness of the firm.

(Florian, 2008) cites that Indian entrepreneurship stands at second spot in the Total Entrepreneurship Activity among 37 countries of the world as per the Global Entrepreneurship Monitor, 2002 statistics. There are other factors that support industry as per the research such as the generic factors of the Indian Economy in the context of outsourcing and offshoring which as per the researcher is that well educated and English speaking resource available at a low cost.

Even though the data suggested with the ranking of the entrepreneurial activities is old, India still enjoys the privilege of having the low cost competitiveness with the English speaking and well educated resources. As with regards to the data of entrepreneurial report, GEM cites that the NASSCOM (National Association of Software and Service Companies) 2015 report indicates India only behind US, UK and Israel in the total number of IT start-ups.

The Indian IT Sector is a huge industry of USD 181 billion as in 2018-2019 and can be classified into the IT (Information Technology) and the ITES (Information Technology Enabled Service Sector). The Indian IT industry has the advantage of being the most preferred outsourcing destination accounting to an approximate 100 billion of global services sourcing business of the world. The Indian IT firms have also set up approximately 1000 global delivery centres in nearly 80 countries around the world. Considering the fast pace in economic growth in the last two decades India has constantly developed its industrial sectors to the needs and requirements. The IT sector has emerged as a dark horse of India's competitive sectors post the 1990s even though the other traditional sectors continue to grow at their own pace. The IT sector is being the supporting sector for every emerging technology in every sector. This is throwing new avenues and new ideas open for new businesses to thrive. NASSCOM predicts that the engineering R&D would invest approx. \$ 42 billion in India by 2022. New technologies such as Big Data, AI, Virtual Reality, Augmented Reality, Cybersecurity, Blockchain Technologies, Internet of Things, Advanced Robotics etc could create new industries to emerge and disrupt. This would change many existing sectors such as the Automobile Sector which would change from driving to autonomous, Health Sector which would witness robotics and IoT playing a major part in operations and surgeries. Smart technologies from mobile phones to watches would also change the hospital and health care sector with different mobile applications meant to support the health and medical sector. Education sector would witness changes with the smart classrooms and ICT module learning would change the learning industry and disrupt the classroom based traditional learning to E learning and M learning. The banking industry with the advent of IoT has been able to bring transparency and wide network through the software technologies. Security, transparency, mobile technologies have changed the pattern of banking industry from the paper works to mobile applications. This has reduced the usage of not only the human resources and physical presence but also the ATM machines. The concepts of virtual cash and e transfers through internet banking have changed the idea of traditional banking systems. Similar changes have emerged in every technology from the E- Commerce, logistics to the supply chain industry.

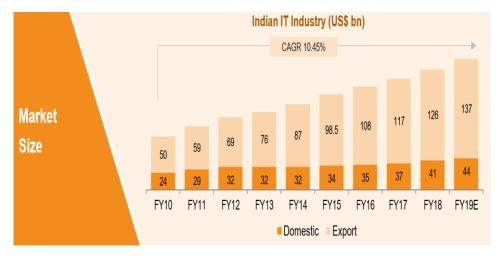


Fig: 1.1 IT industry in India broad revenue - Market Size

Source: IBEF Report - January 7 2020

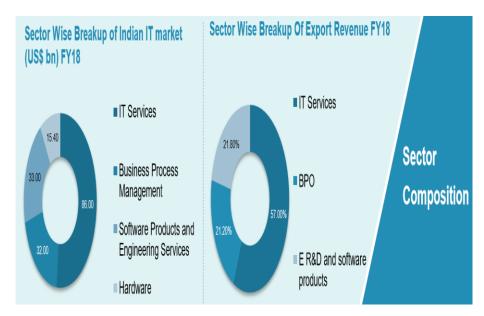


Fig 1.2: Indian IT Sector Composition

Source: IBEF Report - January 7 2020

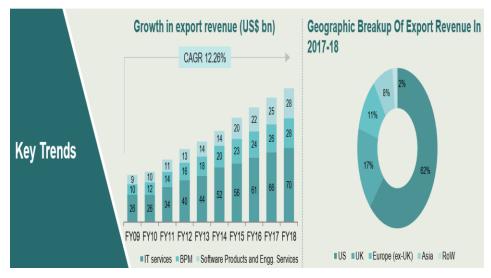


Fig 1.3: Indian IT Export Revenue and Market Composition

Source: IBEF Report - January 7 2020

As India has already started planning for the implementation of 5G technology though pilot projects, this is bound to disrupt the industries further. (Suparna, 2016) states that the IT sector in India has grown competitive and that it has helped brand India from an agrarian economy with very low industrial activities to a digitally progressive and knowledge based economy.

Applying the PESTEL factors on the Indian IT Industry

The research has been conducted by studying the top 5 IT firms out of the Fortune 500 IT firms in India. Though the research is conducted considering the global and macro economic factors that affect both the internal and external environments. The chosen firms for study have been TCS, CTS, Accenture, Cappemini and Infosys.

Political Factors

The political factors to be analysed are concerned with the political economy as on 2020 and analysing the short term impacts and long term impact

- Anti globalisation drive, anti migration phobia and protectionist measures with a political rhetoric affects global business and especially the Indian IT industry.
- Rigid policies in different countries also affect on the brand image of the firms. Eg: Infosys accused in the US over different issues relating to visa abuse.
- Even though the governments at state and centre in the ruling and opposition support the industries and ensure there is no negative political impact in business, certain state governments change policies when the governments change. This impacts on investors. Eg: The newly formed states of Telangana and Andhra Pradesh bred a lot of IT firms however from the time period the states were bifurcated it impacted largely on the business. As the new state of Andhra Pradesh was formed, the capital of the city was chosen to be Amravati but as the state government changed with the term and the new government preferring a different capital could be a political decision but it impacts on the investors as it does not give a clarity. This impacts on the long term sustainability.
- The GoI has proposed a data protection bill (NASSCOM, 2019) in order to bring in transparency and protecting
- The government at the centre is a party which is considered a right wing government however right wing and religion based politics creates socio political polarisation and this has an impact on investors and talent resources. Communal riots and religious polarisation will create an environment of brain drain.
- Instable governments such as the state of Karnataka in 2019 had a weakly elected government ruling on coalition. However with the political fiasco of elected representatives causing instability by not supporting or being kidnapped by the then opposition the BJP affects tremendously on the brand image of the silicon valley of India (Bangalore). Similar incidents have happened in Tamil Nadu, Goa, Maharashtra and Jammu and Kashmir. This uncertain climate is extremely impactful for a smooth business environment.
- Controversial political decisions lead to an environment with animosity and this leads to talent resources leaving the country for better opportunities and better living standards. Thereby governments should take the responsibility of a peaceful and a socially harmonious environment.
- Policies should be created to attract a reverse brain drain as it would tremendously help India get back
 experienced skilled talent who could also be guided to be entrepreneurs or in the areas of research and
 development.
- Since industries around the world are moving towards digitalisation, the government should forge new alliances, new pacts with Free Trade Agreements (FTA) with new emerging nations and help India export to the new markets. The existing pacts need to reworked with R&D as the focus.
- The brand of India IT Industry should be well promoted through international expos such as the World Economic Forum (WEF) and similar forums and should be promoted over the quality and differential innovation with competitive costs than mere a low cost outsourcing destination as it is now seen as.
- Digital infrastructure, digital class rooms, technology resources such as high speed internet should be implemented and ensured an equal and fast connectivity throughout the country. Even though the cost for upgradation could be higher, it is bound to support all the industries in the future. Low cost internet would help in boosting the number of start-up enterprises. These requires political support and investments.
- Government should invest in building high technology institutions, funds for research so that research and innovation is encouraged from the soil. With new technology such as Artificial Intelligence emerging in all industries, the government should actively play its role in skill development. This could be done by providing low cost affordance programs for lower economic strata and also simultaneously encourage private teaching institutes. Academicians to teach subjects like AI, Data Analytics, Virtual Reality, Augmented Reality, Cloud technology, Robotics etc are very few in number as they move to the US or other competitive markets due to various reasons such as better pay or better work environment. This has to be stopped by pulling them back with lucrative offers and encouraging them with competitive roles thereby stopping the brain drain. India faces an uphill task of creating an environment to bring back the high technology skilled labour and also ensuring to create skill driven workforce than just mere pass outs with certificates. In order to create this they should upgrade the academic pedagogy and make it more research oriented. This would help in creating new talents and patents thereby helping to build the technology further.
- Governments should also focus on easy availability of easy land, building more technology parks, continuous and greener energy as electricity shortages affect the industry tremendously, easy availability of loans recommended through professional bodies such as NASSCOM, Chambers of commerce etc as this

would also bring in authenticity and support the start-ups, micro and small enterprises and the banks with more authenticity.

- There should also be corporate representatives from the industry working in the ministries to make policies fast and smooth.
- There should be transparency in NSSO data, government statistics report and economic valuations.

Economic Factors

- India has been witnessing a lower GDP in the last few quarters and the economy seem to have been having a free fall. Even though the global economy has been badly affected due to various global issues such as protectionism, US China Trade war, Brexit, rise of hard-line political environment with an antiglobalisation and anti-migration phobia and competitive markets due to the emergence of new nations such as Bangladesh in the same region and countries like Philippines, Mexico etc (Suparna, 2016), Indian economy has been also falling in domestic performance due to a poor demand. Economic decisions like Demonetisation and hasty implementation of GST have been catastrophic and have had harsh impact on micro and small enterprises especially.
- Government promoted activities such as Make In India, Digital India and Start Up India kickstarted well with promotion drives. Though it didn't bring the expected investments, it could do satisfactory promotions. Digitalisation drives has been progressing well with digital technologies being encouraged in tier 1 and tier 2 cities. This has also helped in promoting digital connectivity and bridging the urban- rural connectivity. Digitalisation has helped in promotion of education, commercial activities, financial activities and healthcare facilities. Software firms benefit in building technologies for these activities.
- The low cost internet has been a great boon as the number of internet and mobile users have increased. This has led to the innovativeness for micro entrepreneurs to build innovative applications for the users.
- Government has encouraged with bodies like Invest India which help in investments directly under the respective ministries, Prime Minister Office (PMO) and Niti Aayog (Formerly Planning Commission of India).
- Protectionism affects global trade and free trade has to be encouraged for smooth transitions. Domestic Competitiveness should be encouraged than protecting against Multinational enterprises. Though protectiveness could yield results in short term gain through populism it will affect the industry as a whole from grooming fine talents especially in highly skilled sectors.
- E- Commerce industries, supply chain industries, healthcare industries, banking and finance industries, manufacturing industries, education industries, entertainment industries etc are a few of the industries which are going to highly influenced due to the disrupted following the introduction of 5G and new technologies such as Artificial Intelligence. So the government and chambers of commerce, NASSCOM should be enough prepared with the required resources for the same.
- Even though the government predicts the IT industry to be a \$ 100 billion industry by 2025, the poor economic growth, weak demand and global economic woes make it challenging.
- The country size is an advantage as all resources are easily available such as Land, Labour and Energy.

Social Factors

- India enjoys the advantage of being a multicultural society with diversity in language, religion, cultural existence, heterogeneous race, ethnicity, dressings and behavioural patterns. Apart from being a multicultural society, it also enjoys democracy and a peaceful coexistence as a secular society. This has been as an advantage as social harmony is an important factor for a prosperous economic environment.
- The current government of India is a right wing government and certain policies seem to create a fear amongst minorities that India is moving towards a majoritarian state. This could be detrimental for the overall economic progress of the country. The IT sector could be one of the prime sectors that could be badly hit as talented and skilled resources would prefer to migrate from the society due to fears of communal tension. Creating a war phobia with animosity over neighbouring countries for political polarisation creates a bad environment for business climate.
- Attacks on students, polarisation through religion for political chauvinistic benefits are not healthy for a social progress as they tend to polarise the society till the grassroots.
- The polarisation since the right wing government has taken over has penetrated from the north to the south and from the west to the east and its certain policies and acts such as the removal of article 370 in Kashmir, the implementation of Citizenship Amendment Act (CAA) National Register for Citizens (NRC) have all had backlashes throughout the country. Students and protestors have been harassed by the government through fake police complaints and constant internet blackouts to suppress the information has created a tremendous impact on the social environment. The impact of social environment has an impact on the

business environment. Since the IT industry is integrated business with the world, the shock vibrates throughout. Thereby the government has to take responsibility to create a peaceful environment to harness smooth trade and investments.

- Since English is an accepted language in India and is highly spoken in urban and affluent societies and with English schools everywhere, India still enjoys English being a competitive advantage than its neighbouring countries. Even though the Indian languages are learned as regional languages, every employee has a good knowledge of English on the basic levels and helps them integrate with the world. Firms are also ensuring their sections of employees have strong knowledge in any of the European Languages, Japanese and Chinese in order to support in the industry.
- India enjoys a multicultural metropolitan/ cosmopolitan environment in most of the urban cities where the IT top industries are present and there by it has a diverse presence. This creates a good environment for international investors to also move into a heterogenous society than feeling isolated in a homogeneous society.
- The work culture in IT industries are ensured to be world class globalised environment with professionalism of global standards.
- Gender equality is greatly encouraged in the IT sector, women safety, equality in pay, action against sexual harassments and corruption are strongly handled as per the processes of the organisations and the laws of the country. Most of the Indian and MNC firms also spend high on Corporate Social Responsibility (CSR) activities on personal level and at firm level. They include on issues such as supporting the underprivileged for entrepreneurial activities, education for the weaker sections of the society, supporting in environmental causes such as water, energy etc.
- As markets and industries flourish, impacts are influenced on the socio economic progress of all sections of the society. Since the IT industry has given equal opportunities to all, there are cases where people from the families below the poverty line have got opportunities to work with multinational firms and drawing handsome salaries. In a feudalistic society like India, economic empowerment leads to the overall progress of all social injusticeThese build the faith on the industry and support in the growth.

Environmental Factors

- The IT industry is an organised industry and always been in forefront in implementing issues and solutions for global problems. Most of the major offices situated in India have a world of art technology with high importance given for a greener environment. They are built with solar and eco-friendly architectures. Since the image of Indian firms in the west had been created as International Sweatshops, the Indian majors are ensuring that the state of art infrastructure abides by global norms and are as superior in technology standards as compared to US market leaders.
- The impact of this does not restrict to the firms but also in the beautification of the city as well due to investment reasons. Solar cities and smart cities are planned with solar photovoltaic cells implemented in residential and commercial places. Airports and other infrastructure are as competitive and as modern as they are also reasons supporting investments.
- The progress of one city leads to the competitive development of other cities and states thereby helping the overall progress. It leads to the rise of awareness, implementation of sustainable technologies with greener eco-friendly technologies.
- Due to the increase of e- wastes and to reduce them, firms build technologies such that they are environment friendly.
- Many firms bring in technologies such as solar power technologies in order to support in power
 consumption. The ideas of collaborative commons are implemented in terms of energy sharing. Though it
 is slowly growing with the implementation of solar power photovoltaic cells and ideas of implementing on
 buildings, IT parks or private investors who utilise and also sell power to the government.

Technology Factors

- Indian IT firms are improvising their technological superiority by incremental innovation and rising the standards of quality.
- Emphasis on R&D, adopting collaborative commons or sharing of technology, reacting and adapting quickly to technological discontinuities or disruptions and willingness to take risks over new investments (Rajeev & Sam, 2013). However the immense challenge is in the private sector adopting Artificial Intelligence technologies. Though the government sectors have been highly investing for the change, the private firms should also develop competitiveness and invest capital for the changes.
- Emerging new areas such as Cloud Computing would support the growth of many small and medium firms. Though the world leaders are few and in the US such as Amazon, Google, Microsoft, IBM and

Adobe due to high investments and technological superiority, Indian firms have to build to have its own cloud services as data and data based technologies would be the future for the next decade.

- Most Indian firms work on the basis of sharing of data and technology services due to the advantages of saving on the financial cost and investments which could be cited as non-linear revenue models.
- One of the most important factors in the industrial ecosystem is the cooperation and linkages between firms. As digital industry is slowly evolving as the spine of all the industries with IoT and data being the most important area of linkage, the Indian IT firms have a strong role in creating a good value system (Stig, Thomas, & Kjeld, 2013). In order to implement this there has to be an incremental innovation of the process innovation. Indian firms are implementing and the government has to ensure to increase the support through capital and policies favouring the firms.
- SMAC (Social, Mobility, Analytics and Cloud) (IBEF, 2019) would have a great influence in the market in the upcoming years and Indian firms have a great opportunity to explore.

Legal Factors

- 1. As the world is moving towards digitalisation, all the activities are moving towards the electronic modes of communication and business. Education, Healthcare, Finances, Industries, Supply chain and Logistics etc are a few industries out of the rest which are entirely dependent on digitalisation. However the issues which are concerning are data protection and privacy. Data and digital industries are accused of violating data protection or exploiting the loop holes in safety and privacy. Thereby the government in taking initiatives to enforce stringent rules relating to data protection and safety.
- 2. "The Personal Data Protection Bill 2019" which is to protect data and ask the consent of consumers before sharing data has been an important change in the vigilance over digitalisation. This is aimed at building trust amongst investors and create a strong legal framework for the future of the industry.
- 3. The current government which is a right win government has been accused of suppressing protests by adopting as an authoritarian government by constantly shutting down the internet. This is done in order to suppress the protests from erupting or seeking global attention. The state of Assam, Jammu and Kashmir etc, 106 cases in 2019 have been filed and has topped the list to which the country's top court had taken cognisance. This affects the business and the culture of free business and thereby alarms investors.
- 4. Firms have bigger challenges of data protection and developing strong software in order to prevent frauds and other criminal activities as these lead to building trust.
- 5. The government and the NASSCOM ensure transparency and a strong legal framework with the IT business and following the law of the land and other guidelines of international standards in terms of labour workforce, encouraging gender equality, corporate governance, tough measures to curb governance and other business legalities.

Objectives

- Studying the Competitiveness and changing prospects of the Indian IT Sector
- Applying the PESTEL Factors on the Indian IT Sector

CONCLUSION

Competitiveness and Sustainability in the IT firms have to constantly be encouraged to create a value for the firm. The following are a few observations from the conducted research. India's political and economic policies should be created to favour a supporting environment for industries to innovate. The awareness of latest technologies in the market should be well aware to the designers and top executive teams. In many cases it is studied that though people are aware of bigger firms that disrupted, smaller firms or disruption in different sectors are lesser known. All firms or nations do not want to be the leaders in adopting in new technologies. They await till the technology has been accepted in the market and then are willing to race to adopt. Most firms also believe that adopting to new technologies would slow down the ongoing projects and business and therefore adopting is not a priority till consumers demand. Thereby India needs to create a perfect ecosystem to encourage the IT sector SMEs to thrive with easy availability of capital, digital infrastructure, political stability and value creation. The IT industry is an organised industry and always been in forefront in implementing issues and solutions for global problems. Most of the major offices situated in India have a world of art technology with high importance given for a greener environment. They are built with solar and eco-friendly architectures. Since the image of Indian firms in the west had been created as International Sweatshops, the Indian majors are ensuring that the state of art infrastructure abides by global norms and are as superior in technology standards as compared to US market leaders. The impact of this does not restrict to the firms but also in the beautification of the city as well due to investment reasons. Solar cities and smart cities are planned with solar photovoltaic cells implemented in residential and commercial places. Airports and other infrastructure are as competitive and as modern as they are also reasons supporting investments

REFERENCES

- 1. Agrawal, N. M. (2016, January 28). Labour Market and Recruitment: Education and Employability Learning from the Indian IT / ITES Industry. India: Preparation for the World of Work, 311-329.
- Anthony, P. D., & E., S. (2004). The Indian Software Industry in the Global Division of Labour. Palgrave Macmillan.
- 3. Doris, S. (2020). RI A Drain on Company Resources or a Competitive Advantage? In RI A Drain on Company Resources or a Competitive Advantage? SpringerBriefs in Research and Innovation Governance.
- 4. Florian, A. T. (2008). Diversity and the Geography of Technology Entrepreneurship: Evidence from the Indian IT Industry. Sustaining Entrepreneurship and Economic Growth, 189-204.
- 5. Hastimal, S., & Keshab, D. (2019, December 4). Technological Disruptions and the Indian IT Industry: Employment Concerns and Beyond. Digitalisation and Development, 119 143.
- 6. IBEF, I. B. (2019). ADVANTAGE INDIA. NASSCOM, DIPP, Aranca Research.
- 7. NASSCOM. (2019). Cloud Next Wave of Growth in India.
- 8. Rajeev, M., & Sam, T. (2013). Indian IT Industry Firms: Moving towards an Active Innovation Strategy. India School of Management Studies, CUSAT. Netherlands: International Federation for Information Processing.
- 9. Rakesh, B., & Pankaj, C. (2004). Capability Building and Inter-Organization Linkages in the Indian IT Industry: the Role of Multinationals, Domestic Firms and Academic Institutions. India in the Global Software Industry, pp 193-219.
- 10. Sonal, A. D., & Panchandra, K. N. (2018, June). Trade Liberalisation, Capital-Intensive Export and Informalisation: A Case Study of India's Manufacturing Sector. Indian Journal of Labour Economics, 61(2), 377-392.
- 11. Stig, B. T., Thomas, D. B., & Kjeld, N. (2013). From EcoDesign to Industrial Metabolism: Redefinition of Sustainable Innovation and Competitive Sustainability. IFIP International Federation for Information Processing, 111-118.
- 12. Suparna, D. (2016). A Research Paper on Competitive Advantageof Indian IT Industry . AIMA/ AMU PhD Scholar , Article No 24.
- 13. Tarun, K., & Krishna, G. P. (2004, October 21). Globalization and convergence in corporate governance: evidence from Infosys and the Indian software industry. Journal of International Business Studies, 484-507.
- 14. Thomas, K. M. (2010). Prophet of Innovation: Joseph Schumpeter and Creative Destruction. Cambridge: Harvard University Press, .
- 15. WEF, W. E. (2018). The Future of Jobs 2018. Swiss: Center for New Economy and Society.