Information Technology Policies for Organization Development & HR Practices: A Qualitative Review Of Indian Context

Rubeena Bano
Research Scholar

Department of Management
School of Management and Business Studies
Jamia Hamdard, New Delhi, India

Dr.N.Ravichandran
Professor
Department of Management
School of Management and Business Studies
Jamia Hamdard, New Delhi, India

Abstract:

Information technology (IT) industry in India has played a key role in putting India on the global map. IT industry in India has been one of the most major growth contributors for the Indian economy. The industry has helped India transform from a rural and agriculture-based economy to a knowledge based economy.

India is one of the universal leaders in information technology (IT) and a great exporter of information experts. India's achievements in science, technology, astronomy and other connected areas emphasize that the country has incredible potential as well as a developed vision and the strategies to address its transition to an information economy. India achieve the status of a information economy, needs to invest more in building education and skills of human resources, strengthening its innovation system, and supporting its information relations.

The occurrence of globalization empowering India as an IT resource in the global zone, it is crucial to have the Indian IT industry reformed in order to meet out upcoming challenges in the future. This policy paper throws light on the previous and current status of information technology in India and analyzes the various policy initiatives taken in the direction of organizational development of IT service providers companies. A deeper study of the paper reveals the extent to which such policy initiatives and variables are contributing to the development of the organization under the broader head of competency, engagement and performance and building inter and intra relationship between HR practices and its outcomes through intervention for the better development of the Organization for its future growth.

Introduction:

The Information technology (IT) industry in India has played a decisive role in putting the country on the global map; it has been a key contributor for the growth of the nation's economy. The industry has transformed India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs and a global player in providing world class technology solutions and business services. It has also helped in aiding the transition from a rural and agrarian economy to knowledge and skill based one. India is one of the global frontrunners in this field, and a considerable number of information experts across the world are from the country. The country's achievements in science, technology, astronomy and other connected areas emphasize that the country has substantial prospective in this sector, as well as a developed vision and the strategies needed to address its progression to an information economy. For the country to achieve the status of a renowned information economy it needs to invest more in improving the education sector and skills of human resources, with emphasis on innovation and strengthening it's the information infrastructure.

The Government of India envisioned the importance of electronics and information technology (IT) and the critical role it would play in the economic growth of the country, It established the Department of Electronics (DoE) in June, 1970 and the Electronics Commission in February, 1991. The objectives of the Department were to review the field of electronics with regards to research, development and industrial operations, to formulate policy in the field of electronics and IT and to direct implementation of all measures, both promotional and regulatory to attain self-reliance. In 1975, the Government of India decided to take effective strategic steps for the development of information systems and utilization of information resources. It introduced computer-based decision support systems in government ministries and departments to facilitate planning and program implementation for economic and social development (Informatics-led development).The Central Government created a new organization, the Ministry of Information Technology (MIT) in 1999 by merging the DoE, National Informatics Centre (NIC) and Electronics and Software Export Promotion Council. The 1970s saw the endorsement of policies of self-reliance and the promotion of an indigenous IT industry in India.

The notion that import of technology could accelerate national development in the field of electronics and computer, had gained support in the Policies and Statements of the Central Government announced between 1978and1984. A sizeable number of State and Central Electronics Corporations (i.e. KELTRON, MELTRON, UPTRON, WEBEL, HARTRON, ESPL, KEONICS, ELCOT, BEL, and ECIL) were established in the 1970s and 1980s to develop the electronics industry at the state level. Policy announcements like that of the Import Policy (1983), Computer Policy (1984), Electronic Policy (1985), and Software Policy (1986) laid the foundations for the growth of IT industry in the country, post liberalization. The country continues with its tradition of introducing extensive reforms in the information sector in order to sustain and aid its growth and progress. At present, the Digital India Programme is a flagship initiative of the central government with a vision to transform India into a digitally empowered society and a knowledge based economy

Post globalization it has become essential to reform the IT industry in the country, in order to consolidate India's position as an IT capital in the international market and to address upcoming challenges in the field.

In this context, this policy paper reviews the past and existing status of the information technology sector in India and analyses the various policies and practices of IT service providers. It shall attempt to construct a relationship between HR practices and their outcomes through interventions for improved development of the organization and possible future growth.

Objectives of the study
1. To review the growth and development of the Indian Information Technology sector.
2. To examine closely the policies of the Indian IT industry at the national and state levels.
3. To construct the relationship between HR practices i.e. competency, engagement, performance of Information Technology Service providers with the outcomes and interventions necessary for healthier organization development

HISTORY OF COMPUTING IN INDIA

The history of computing in India can be traced to 1955 with five distinct phases in this historical development; each phase was caused by changes in the supporting environment and was influenced by changes in government policies on the development of computers.

First Phase:
Self-reliant growth of the computer industry (1955 – 1970)

The initial period spanning 1955 to 1970 was a phase of investigation with no precise government policies guiding technological interventions. Jawaharlal Nehru, the first Prime Minister of India, had great faith in science and technology as engines of growth; he believed that the country required rapid industrialization in order to decrease the dreadful poverty of its people. In order to combat this lacuna in policies, the parliament of India passed the Scientific Policy Resolution in 1958.Further, during the 1950s electronics was not considered an important industry by the Government of India and there were no specific policy initiatives localized to the industry. The Government of India constituted a committee in 1963 with Homi Bhabha (Chairman of the Atomic Energy Commission) as its Chairman to examine the area of electronics in depth and prepare a plan for its development. It was only after the appointment of the committee in 1963 that the government realized that electronics and computers were integral to national development and progress. The committee suggested the establishment of the Department of Electronics (DoE) in its 1966 report to the Government of India (GoI) to promote rapid growth in the field. The Bhabha Committee also constituted a subcommittee on computers chaired by R.Narasimhan which projected the demand for various types of computers for the next ten years. Several important initiatives were undertaken by the DoE during this period, they are as follows:-

➢ The DoE established the National Centre for Software Development and Computing Techniques (NCSDCT) at the Tata Institute of Fundamental Research (TIFR) Mumbai. The Centre was set up in 1972 with a grant of Rs.2.85 million from the DoE and USD 2 million from the United Nations Development Programme (UNDP). In 1983, NCSDCT was branched off from TIFR and renamed the National Centre for Software Technology (NCST).(Ramani 1960).

➢ In 1975, the DoE instituted the National Informatics Centre (NIC) in order to provide assistance to e-governance initiatives of the central and state governments. The DoE invested Rs.31.72 million for the project and the UNDP provided funding amounting to USD 4.4 million (Seshagiri1975).

➢ The DoE initiated the creation of AREN which included mobile communication links from forward areas via several automatic electronic switches up to the Army Head Quarters. This project involved the contribution of multiple institutions which included the TIFR, the Electronics and Radar Development Establishment (adefence laboratory) and the Army's engineering departments.(Rao, 2012).

➢ Recognizing the room for growth in the field of software export, the DoE allowed import of computers exclusively meant for software export, the first policy paper on this was published in 1974 (BalaSubramanian,1974). One of the companies which used this opportunity effectively was Tata Consultancy Services under the leadership of F.C.Kohli.

➢ The DoE funded the establishment of Regional Computer Centers (RCCs) with mainframe computers in university campuses to promote the use of computers by industries and educational institutions in the region. For instance, the RCC at Jadavpur University started functioning in 1977 and had a Burroughs 6738 mainframe, itallowed free access to students in the eastern region of India. (Subramanian, 1992).

- Anticipating the departure of IBM from India, the DoE established the Computer Maintenance Corporation (CMC) in 1976 for the maintenance of imported computers and of those left behind by IBM. CMC was setup at an initial expense of Rs.53 million, it later became an indispensable organization which worked on many projects of national significance..

- Being made cognizant of the need for an air defense system for the country, the DoE funded the development of the Air Defense Ground Environment System Development (ADGES) project at TIFR, Mumbai. TIFR.

According to the aforementioned review of the first phase the important initiatives taken by the DoE during this phase reveals overall key variables such as leadership, training ,communication, interaction, equal opportunities, growth and development. These variables are interrelated with HR practices; the practices as mentioned in prior literature are beneficial and required for the development of the organization.

Second Phase:
Private Sector Enters the Computer Industry (1978 -1990)

The second distinctive phase began in 1978, after the government led by the Congress party was defeated in 1977 elections. IBM which was then refurbishing obsolete 1401 computers in India was asked by the government to reduce its equity, to include an Indian partner in its operations and to manufacture IBM 360 series computers. IBM refused the directive given by the Indian government and closed its operations in India in 1978.The new government decided to open up computer manufacturing operations to the private sector and a number of companies started making minicomputers using imported microprocessors. In these newly manufactured systems, UNIX was preferred as the Operating System. In 1984 and 1986 the government removed numerous controls, checks and measures on the industry and on imports when Rajiv Gandhi became the Prime Minister. In 1986 software companies were allowed to import computers at reduced import duty rates from preexisting ones, so as to enable them to successfully and profitably export software. This period 1978-90, like the first phase, was also marked by a number of initiatives commenced by the DoE, they are as follows:

- Initiated the expansion of computer education in the Indian Institutes of Technology(IITs) pioneered by IIT Kanpur which had started the first Master's Programme in Computer Science in the country and also initiated the first undergraduate programme in Computer Science in 1978.The Kanpur institution was the first IIT to start such a programme and did so beneath my leadership. (Rajaraman, 1978).

- In 1980, the Electronics Commission estimated thescarcity of human resources for the emerging computer industry in the country and created apanel on Computer Manpower Development .

- In 1981, the Electronic Commission appointed a committee with him as its chairman to promote software export by allowing import of computers. The committee recommended liberalization of import of computers for genuine exporters

- The CMC obtained fundingfrom the UNDP amounting to USD2.75 million for a programme called the InternationalEducation and Research for Application of Computer Technology (ProjectINTERACT). The project was instrumental in propagatingthe use of computer technology to neighbouringdeveloping countries by designing training programmes in softwaredevelopment and computer maintenance.

- The DoE received a grant from theUNDP equaling USD 1.5 million in 1983, from which it contributed Rs.340 million to establish Computer Aided Design (CAD) centres at IITKanpur, IITBombay, Indian Institute of ScienceBangalore and Jadavpur University.

- In 1984, the DoE in collaboration with theUNDP, funded a programme called Computer Aided Management in the threeIndian Institutes of Management at Ahmedabad, Bangalore and Kolkata, and atthe Administrative Staff College of India, Hyderabad.

- The first New Computer Policy (NCP-1984) consisted of a package of reduced import tariffs on hardware and software which reduced to sixty percent of its existing value. Other developments at this stage include   the recognition of software exports as a "de-licensed industry", this was done so that exporters could be made eligible for financing from banks and freed from license-permit raj, foreign firms were also given the go ahead to set up wholly owned subsidiaries. These policies, among others provided the impetus for the development of a globally recognized Indian IT industry.

- The Ministry of Human Resources Department of the Government of India awarded a grant of Rs.500 million (Rs.12 per USD) to the Indian Institute of Science, Bangalore in 1984, to set up a Supercomputer Education and Research Centre (SERC). A national committee was constituted for the task of selecting appropriate computers for the SERC. The committee undertook visits to two companies in the USA and to one in Japan, and suggested including a Cray YMP as the main supercomputer, a number of front-end computers and a multitude of high-end workstations.

- In 1985 the DoE negotiated with theDepartment of Telecommunication (DoT) to allow Texas Instruments(TI) to set up a dedicated satellite communication link to its centre in Dallas,USA. Consequent to the establishment of the dedicated satellite communication link,TI's centre in Bangalore developed software tools and sent them to the Dallas centre via the link.

- The DoE constituted a committee in 1985 withS.Sampath as its chairman, one of the suggestions made by the committee was to train teachers in ComputerScience for new colleges which were being set up under the.Knowledge Based Computer Systems (KBCS) development programme. The programme had been initiated in 1985, when the DoE had received a grant of USD 5.2 million from the UNDP, with Rs. 140 million being invested for the development of the KBCS project.

- The participating institutions in the KBCS development project were IISc Bangalore, IITMadras, ISICalcutta, TIFRMumbai and NCSTMumbai. The programme involved designing parallel computers, expert systems for diagnosis and treatment in medicine, soft computingincluding script recognition of Indian languages and research in speechrecognition and knowledge representation.A committee set up by the Reserve Bankof India (RBI) with R.Rangarajan as its chairman recommended that all banksshould install EDPaudit cells and that all back-office taskswere to be done through computers.

- TheScience Advisory Committee to the Prime Minister chaired by C.N.R.Rao set up acommittee in 1986 with me as its chairman to suggest methods of designing andfabricating high performance computers. The committee was formed in the aftermath of the impediments encountered by India in buying supercomputersfrom the USA and Japan. It suggested initiating mission mode project (MMP) tobuild parallel computers, with a speedsranging in gigaflops or above.

- In 1986, the DoE obtained a funding of USD 6million from the UNDP,distributed across 4 years. The Government of India provided funds equaling Rs.41 million for a project titled Education and Research in Computer Networks(ERNET) to support research and education related needs in the country.

- The computer first policy of 1984 and software policy of 1986 highlight the idea of software development and export during data communication and association. The objectives of these policiesincluded developing software by employing Indian experts on sophisticated computers, which were being imported duty free. In accordance with the policies of the national government, companies were allowed to establish data communication links with their own initial investments.

- "Software development and IT Enabled Services" have provided niche opportunities for India, in the global context. The government is taking all requisite steps and measures to make the country a global information technology superpower and a front-runner in the information revolution. Ithasdeclaredthat the promotion and propagation of Information Technology is one of the top priorities of the country, and has constituted a National Task Force on Information Technology and Software Development.

- Anumber of initiativesundertaken by the DoE during the time were given significant variables suchas technology development,for instanceSoftware Technology Parks(STPS) provided infrastructure such as buildings, work stations etc.Some projectsinvolved all the five IITs functional at that time and other institutes, namely, IITBombay,IIT Delhi,IIT Kanpur,IIT Kharagpur and IIT Madras, IIScBangalore, NCST Mumbai and the DoE's technical group as participants.A committee organized in in 1986 suggested methods of designing and assemblinghigh performing computers. The Supercomputer Education and Research Centre continued to receive support from the Government of India, and by 2010 it had an IBM Blue Gene supercomputer, three high performance computer clusters and an improved campus network. The participating institutions in the Centre's work were IISc, Bangalore, IITMadras, ISICalcutta, TIFRMumbai and NCSTMumbai. This programme led to the design of parallel computers, expert systems in medicine and soft computing.Thegovernment of India had also announced promotionof information Technology as one of the top priorities of the country has constituted a National Task Force on Information Technology and Software Development. A Panel on Computer Manpower Developmentwas formed to suggest solutions. In 1984, the DoE sponsored a programme called Computer Aided Management whichhad two dedicated aims. The first was to initiate research about the applications of computers in the field of managementto improve the overall efficiency of organizations. The other was to train the students at these institutes and practicing managers to use computers to improve the day to day functioning of organizations.

Third Phase:
Liberalization of the Economy and Growth of Software Export (1991-1997)

The third distinctive break came in 1991, when India was about to default on its foreign exchange debts, withan adversebalance of payments situation. This period was a stirring period for the information technology industry inIndia. India started with a near default economic situation in 1991 which forcedthe government to open up the economy to external investment, and dismantle thechecks and controls onindustry which had come to be known as the "license-permit raj". The value of theRupeesuffered (from Rs.17.5 to Rs.26 per USD), consequently foreign investmentsand industries were welcomed in order to improve the dismal financial situation. In the following years the earnings from exports whichwas around USD 128 million in 1991, increased to USD 1759 million in 1997 (Subhash Bhatnagar,2006).The average annual growth rate of 45% for the export of software services achieved duringthis period was a considerable accomplishment. The industry also provided employment to 160,000software engineers(Rakesh Basant and Uma Ravi, 2004). Thus by 1997, many were optimistic about the future of the Information Technology industry in India.Severalmajor initiatives introduced by the DoE during this time added to this optimism, they are as follows:-

- The establishment of Software Technology Parks (STPs) with dedicated satellite communication links, which enabled Indian software companies to develop software applications for their international clients from India. Indian software

companies also took advantage of the Year 2000 problem (Y2K) and the Euro conversion opportunities generated at the time to modify and improve a largenumber of legacy software systems.

➢ After the introduction of the economic reforms of 1991-92,major fiscal incentives were provided by the Government of India and the State Governments, which included liberalization of external trade, elimination of duties on imports of information technology products, relaxation of controls on both internal and external investments and foreign exchange, setting up of Export Oriented Units (EOUs), Software Technology Parks (STPs), and Special Economic Zones (SEZs),all of which cumulatively enabled India to flourish and acquire anassertive standing in the global IT scenario.

➢ After the economic reforms of 1991-92, liberalization of external trade, elimination of duties, relaxation of controls and the fiscal measures taken by the Government of India and the individual State Governments specifically for IT and ITES have been major contributory factors for the sector to flourish in India and for the country to be able to acquire a ascendant position in offshore services in the world. The major fiscal incentives provided by the Government of India have been for the Export Oriented Units (EOU), Software Technology Parks (STP), and Special Economic Zones (SEZ).

➢ The National Conference on Informatics for Sustainable Agricultural Development (ISDA), 1995,recommended that 3-6% of IT applications should be allocatedto the agricultural sector. In the present decade of this millennium, a high rate of investment in IT capital and a supportive, growth-oriented environment are expected to bring the country closer to achieving the status of a digitaleconomy. The National Task Force on Information Technology and Software Development (1998), formulated by the Central Government has suggested a plan of action and concrete strategies to make India one of the IT super powersof the World.

The influence of variables like research, technological development and government contribution becomes evident after studying this period. The Government of India and the individual State Governments have played a pivotal role in the development of IT and IT enabled services allowing the sector to flourish in India

Fourth Phase:

The Phase of Rapid Growth of the IT Industry(1998 – 2010)

The fourth distinct phase began in 1998 when the new government under Atal Bihari Vajpayee declared "IT as India's tomorrow", and undertook various proactive measures to promote the growth of software companies.Theemphasis on hardware, production of computers, and their import,which had held center stage from 1955 to 1990,had graduallybegun to shift tosoftware services during 1991 to 1997. Multinational companies were encouraged to set up Softwareand Research andDevelopment (R&D) centers in the country. Exports in the software and services sector grew rapidly fromUSD 2 Billion in 1998 to USD 50 Billion in 2010.In 2010, the contribution of the Information Technology sector was 6.4% of the total GDP and it was providing employment to 2.4 millionsoftware professionals. In order to maintain and enhance the extensive progress demonstrated by the sector, the government had some initiative such as:-

➢ The National Information Infrastructure (NII) is evolving as a network of networks including such nationwide subordinate networks as NICNET, ERNET, HVNet & I-Net, in addition to an extensive Fibre Optic Telecommunication Backbone initialised by the Department of Telecommunication (DOT), the Railways, and the Private Sector. Until 1990, IT investment in the Government Sector had been negligible. The Vittal Committee (1997), constituted by the Department of Administrative Reforms, recommended a budget outlay of 2-3% for IT applications in Government Departments.

➢ The Information Technology Act (2000) and Communication Convergence Bill (2001) implemented by the Government signify that the country is moving towards facilitating a single communication network catering to all types of technologies (i.e. Internet, Datacom, Telecom, Wireless, Wireline, Fixed, Mobile, Cellular, Satellite Communication, etc.), and the e-commerce industry.

➢ Another major step put forth during 1998-2010 was the expansion of educationin IT, related areas and engineering. The introduction of relevant acts in 2002allowed private corporate bodies to set up Universities. Although private colleges were in existence earlier, during this period private Universities and private colleges proliferated extensively under government policies and measures.

➢ The National Board of Accreditation (NBA) for certifying engineering institutes was formed by the All India Council for Technical Education (AICTE), a statutory body that controls the technical and management education institutes in the country. The University Grants Commission (UGC) which controls Universities also set up the National Assessment and Accreditation Council (NAAC), an organization tasked with inspecting institutions, grading them, and accrediting themaccordingly. These initiatives were essential in the context of the recent splurge of students graduating from an increasing number ofprivate educational institutions.

➢ In the year 2000, the Parliament of India sanctioned the Information Technology Act, 2000 which was meant to catalyse the e-commerce industry. The Actgranted legalapproval to e-mail correspondence, allowed for the use of digital signature in documents, permitted the introduction of public key certifying authorities, and allowed for archiving legal documents in electronic form. Additionally, it also specified punitive action for various cyber-crimesincluding but not

limited to hacking private databases,introducing viruses, publishing objectionable material, financially fraudulent practices and creating legal framework to try those accused of cyber-crimes.(V.Rajaraman,2009)

➢ The recognition that information technology is closely enmeshed with communication technology was soon made and consequentiallythe Department of Electronics was merged with the Ministry of Communication to create a new body, the Ministry of Communication and Information Technology. In 1999,a new telecommunication policy was announced liberalizing this area, reducing stringency and allowing greater room for private players.

➢ A national broadband policy was announced in 2004with theaim of providing broadband access to at least 20 million individuals by the year 2010.In order to realise this milestone, Digital Subscriber Links (DSLs), fibre to home networks, cable networks, and Direct to Home satellite transmission (DTH) were installed by all licensed ISPs.

In the aforementioned section on the fourth phase of computing in India, it is evident that variables such as communication, contribution, research and technological development, technical and management education related initiatives etc.have been instrumental for the development and rapid growth of IT, engineering and related sectors. As the preceding sections have outlined, numerous committees, organisations and governing bodies were formulated during these phases of the progress of the information technology and computer industry, from 1955 to 2010.. These committees and the contributions that they have made for advancements in the sector are tabulated bellow:

COMMITTEESAND THEIR ROLES(1955 TO 2010)

First Phase: Self-Reliant Growth of the Computer Industry (1970-1977)	Second Phase: Private Sector Enters the Computer Industry (1978-1990)	Third Phase: Liberalization of the Economy and Growth of Software Export(1991-1997)	Fourth Phase: Rapid Growth of the IT Industry(1998-2010)
The year 1970 saw the establishment of the Department of Electronics (DoE) and the Electronics Commission (EC) with the responsibility of formulating policies and directives for the electronics industry.

M.G.K. Menon was appointed the secretary of the DoE and ex-officio chairman of the EC. Menon was the Director of TIFR prior to taking over the DoE. He closely relied onthe report on computer development submitted by R.Narasimhan who was a part of the Bhabha Committee (M.G.K.Menon, 1968).

Thiscommittee recommended that computers, other than the larger ones, must be manufactured locally. It opined that "attaining self-sufficiency in systems engineeringand fabrication is of fundamental importance from the point of view of the defence and security of our country" (Rajaraman 24). According to the committee, in consideration with a long-term perspective, India should upgrade its capability to design and manufacture smaller computers. Consequently the Electronics Corporation of India Limited(ECIL),was provided complete support for its manufacturing programme fully supported in its manufacturing programme with funding from the DoE.

However, ECIL was not very successful in selling data processing systems to private enterprises. Meanwhile computer technology was progressing expeditiously in the first world and with thedevelopment of | Despite an uncertain political climate of the political instability as outlined above, the computing industry progressed at a much faster rate during 1978-1990 as compared to the preceding interval from 1970 to 1978.

The period begun with the appointment of a committee with Mantosh Sondhi as its Chairman and B.Nag as its Secretary [Virendra Kumar, 1978]. The committeewas tasked to review the progress of the electronics and computing industry.Itobserved that there had been substantial delays in importing computers due to the cumbersomeprocedureinstituted by the DoE.

The Sondhi committee also suggestedthe liberalisation of the process of manufacturing computers, opening it to private players.According to the board,for the development of the minicomputeror microprocessor industryemphasis should be lent to setting up systems engineering companies which were not necessarily engaged in the manufacture of central processing units or peripherals.Additionally the committee also recommended that small scale entrepreneurs should be preferred for manufacturing special purpose computers for dedicated applications such as data entry, data acquisition, accounting, invoicing, typesetting, and for control engineering.

The policyinstituted by the committeealso stated that itwould continue to be restrictive in allowing use of computers in areas where labor displacement was likely to be involved. Technical or financial collaboration with foreign investors was usually not permitted. In particular cases foreign equity participation up to 40% was allowed in minicomputer | The DoE had set up Software Technology Parks (STPs) with dedicated satellite communication links which allowed software companies to develop software for offshore clients beyond India.

The import duty on computers used for exporting software was abolished. The earnings from export of software companies were made exempt from tax for 10 years. Procedures for multinational companies to set up branches in India were simplified. They could be 100% equity companies.

According to N.R.Narayana Murthy, a very successful entrepreneur (who had founded INFOSYS a software company in 1981 with six of his colleagues), three other policy changes significantly altered the contemporary business environmentThey were:
1. The process of conversion of Rupee to foreign currency was eased. This allowed companiesto:
i) Open office branches abroad
(ii) Convert Indian currency to foreign mediums of exchange to meet marketing expenses,
(iii) Send software engineers to the client sites at short notice
(iv) Hire foreign consultants.

2 The office of the Controller of Capital Issues (CCI) had earlier made it extremely difficult for companies to raise capital through Initial Public Offers (IPOs)because theCCI rarely allowed premiums on IPOs. This office was abolished allowing entrepreneurs and investors freedom toset prices pertaining to the market for share offeringand many software companies floated IPOs. | The newly elected NDA, soon after its ascendancy set up an Information Technology Task Force with the Deputy Chairman of the Planning Commission as its head.

The committee included bureaucrats, politicians, industry representatives, and the academia. The committee was set up with the intention of providing suggestions for wide ranging reforms and incentives to the IT industry so as to achieve a target of export earnings equaling USD 50 billion by 2008.

The Information Technology Task Force gave 108 recommendations to the government. A summary of the important recommendations is given below:

• To provide high bandwidth communication links to IT industries.
• To ensure zero licence fee wheninitiating Internet services.
• Dismissing the monopoly of VSNL (a public sector company)and to liberalize international internet gateways
•Granting private Software Technology Parks(STPs) the allowance to provide infrastructure to small and medium ITorganisations.

• Allowing Public Call Offices to provide Internet services to the public in addition to telecommunication services.
• Expanding the definition of IT to include IT enabled Services(ITES) apart from software development, these included sectors such as Business Processing(BPO).
• Eliminating existing import duty on disks, displays and many other items.
•Putting an end to import duty on capital goods used to manufacture IT |

Large Scale Integrated Circuits (LSIs), prices of computers werefalling. There was an increasing demand from private enterprises that were manufacturing electronic calculators to be extended the authorisation to manufacture computers.

The DoE was expected to announce a "minicomputer policy" which would state the ground rules concerning the manufacture of computers by private players. However the policy declarationwas delayed as the DoE was concerned with the requirement of foreign exchange,for components and peripherals needed for the manufacturing of minicomputershad to be imported. The DoE was also protectingECIL's interest in the minicomputer manufacturing sector which it hadprovided funds for.

A panel on minicomputers chaired byP.V.S.Rao,appointed by the DoE suggested that mini computers could be assembled in India without any collaboration with foreign enterprises or importing hardware or software related expertise. It further recommended standardization to reduce the variety of components which were required to be imported. The panelists argued that standardization would Allowfor bulk purchasing and hence reduce capital and maintenance related expenditure. However the recommendation to on standardise was not agreed upon as private companies wanted leverage in order to differentiate their products.

Meanwhile in the 1977 general elections, Indira Gandhi was defeated and a coalition government was formed, with Morarji Desai of the Janata Party assuming the Prime Minister's office. Menon, the secretary of the DoE, was soon replacedafter the formation of the new government. A policy on minicomputerswas finallyannounced in 1978, which was more or less along the recommendations of the minicomputer panel chaired by P.V.S. Rao.

manufacturing. In accordance with the norms of the period , all entrepreneurs had to apply to the government giving detailed plans of their manufacturing design in order to obtain a license.

During the time, there were various constraints such as total production value should not exceed Rs.20 million and a limit on the number of computers to be manufactured. Only the public sector company ECIL would be allowed to manufacture 32 bit computers.
Two other events had a far reaching impact on the government policy. They are:

The Asian Games were to be held in Delhi in 1982 and Rajiv Gandhi, the son of the Prime Minister Indira Gandhi, was asked to assume overall responsibility for their organisation. Gandhiwas an amateur electronics and technology enthusiast. He decided that computers should be used to draw up the schedule for the games ,the event records, announcement of results, and all other clerical tasks.. Locally manufactured DCM computers were used as terminals at various venues and connected to a common Hewlett Packard server. The entire software system was developed within a span of six months by the software engineers at the National Informatics Centre (NIC) of the Government of India. The computerisation undertakenfor the games was a resounding success. This was also instrumental in bringing N.Seshagiri, the Director General of the NIC, close to Rajiv Gandhi [Dinesh Sharma, 2009].

In 1984, Indira Gandhi was as assassinated and Rajiv Gandhi assumed the office of the Prime Minister. During prior interactions with private entrepreneurs while organizing the Asian Games he had gained insight into difficulties encountered in manufacturing computers due to the myriad and complex rules and regulations.

3. The duty on import of software tools was quashed. During this period the government also permitted private software companies to put in place dedicated satellite links with their overseas clients. Additionally the National Telecommunication Policy released in1994, allowed private companies to enter the telecommunication industry.

The devaluation of the rupee enabled Indian software companies to be competitive in selling their services and MNCs to start operating in India at reduced expenditure.

products.

Removing survey and inspection related directives and hence getting rid of the annoyance and corruption bred by repeated inspection visits by government andlocal bodiesofficials, such as boiler inspectors, excise inspectors, labour inspectors ,environment andpollution control inspectors to software and IT organisations. Such measures were considered irrelevant to the industry and hence were dismissed.

• Enabling state controlled banks to provide venture capital to the IT industry
without requirement of collateral.
• Instructing nationalized banks to provide working capital to the IT Industry, on concessional terms, giving them precedence over other industries.
• Allowing for "sweat equity" and "employee' stock option plans" which were alien
to industries in India and instituting them required alterations in existing company laws.
• Easing the use of foreign exchange earned by software companies for business
initiatives without getting prior approval from the Reserve Bank of India.
• Providing government subsidies for IT companies to participate in international
trade shows.
• Setting up a National Council on IT education to improve education standard in the field
and creating a community of good educators.
• Setting up one Indian Institute of Information Technology in each state toincrease the number of available human resources.
• Providing Internet connectivity to all Universities, colleges, hospitals and to a
selected number of high schools.

Fifth Phase:

Information Technology In India post 2010

The Indian IT and ITES industry has emerged as one of the most dynamic sectors of the country's economy and can be credited with acquiring global acclaim as a "soft" power. The consistent growth of the IT Segment has created exceptional wealth, employment, exports and a significantly large reservoir of highly competent technocrats and differentiated knowledge adept workers**.**The Information technology industry in India includes the following services namely IT and software services, IT enabled services, hardwareservices, e-commercebusinesses ande-governance associated with government services. The inroads made by the sector have created the nation's brand identity as an information economy. The IT–ITES industry has two key modules: IT Services and Business Process Outsourcing (BPO).

ITES AND BPO SERVICES:

The global market for IT enabled services was estimated at US $ 585 billion in 2004, of which 5%, or about US $30 billion, can be attributed to Indian companies, (Goldman Sachs Global Equity Research Report). The Indian IT sector has recorded a compound annual growth rate of 55% from USD 270 million in 1992 to 5.7 billion in the Fiscal Year 1999-2000. More than 40 per cent of the world's Fortune 500 companies use the services of Indian enablers. The phenomenal growth of the Indian IT Software & Services and ITES-BPO sector has had a positive cascading effect on the country's economy as a whole. It has created extensive openings for employment apart from its contribution to the national income.The industry has also set a precedent for talent practices in India. It has created career opportunities for the youth, provided global exposure and offered substantial training and skill development opportunities.

Major government initiatives augmenting growth of the industry:

The Department of Information Technology (DIT) controlled by the Ministry of Communications and Information Technology in India has been responsible for formulation, execution and reassessment of national policies related to IT, such as hardware and software, standardization of processes and procedures, internet ,e-commerce, education of IT and computer science, development of electronics and administration of IT related and cyber laws.

➢ The underlying directive for 2010 was that of steady recovery from recession, due to the accelerated recovery from the economic slowdown in emerging markets, worldwide spending in IT products and services increased significantly in 2011. In the aforementioned year, India's growth has reflected new demand for IT goods and services, with a major surge in the use of private and public cloud services and mobile computing on a variety of devices and through a range of new software applications.

➢ To support Research & development in the country and to promotenew business enterprises i.e Startups focused on technology and innovation, a weighted deduction amounting to 150% of the total expenditure incurred on in- house R&D is introduced under the Income Tax Act.

➢ The government has initiated the process of setting up an Open Technology Center through NIC aimed at giving the country significant avenues for progress in Open Technology and in the areas of Open Source Solutions, (OSS), Open Standard, Open Processes, Open Hardware specifications and Open Course-ware. This initiative will act as a National Knowledge facility providing synergy to the overall components of Open Technology globally.

➢ Cyber security and quality management are a few key areas of concern in the contemporary information age. In order to combat such concerns in the global IT scenario, an increasing number of IT- BPO companies in India have gradually started to emphasize on quality to adopt global standards such as ISO 9001 (for Quality Management) and ISO 27000 (for Information Security).

➢ In the present time, centers based in India account for the largest number of quality certifications achieved by any single country.The country hopes to transition toa truly developed and empowered society by 2020.As one of the biggest IT capitals in the modern world, India has presence of all the major players in the world IT sector. HCL, Wipro, Infosys and TCS are few of the household names of IT companies in India.

➢ Globalization has had a profound impact in shaping the Indian Information Technology industry. Over the years, verticals like manufacturing, telecom, insurance, banking, finance and lately the retail sector, have driven the growth for this sector. It is evident that the future growth of IT and IT enabled services will be fueled by the verticals of climate change, mobile applications, healthcare, energy efficiency and sustainable energy.

➢ The near future of Indian IT industry sees a significant rise in share of technology spend as more and more service providers both Indian and global target new segments and provide low cost, flexible solutions to customers. IT spending is expected to significantly increase in verticals like automotive and healthcare while the government, with its focus on e-governance, will continue to be a major spender.

Emphasis on National E-governance.

A large number of initiatives have been undertaken by various State Governments and Central Ministers to maintain leadership in the era of information technology.E-Governance in India has steadily evolved from computerization of Government Departments to initiatives that summarizethe finer points of governance such as citizen centricity, service orientation and transparency. To implementE-Governance initiativesacross the various arms of Government of National, State and local levels,a program-centric approach needs to be adopted, guided by a common vision and strategy.E-governance attempts in the country started with a strong impetus. The initial impetus came from the Ministry of IT, which produced a concept paper, outlining the method by which the state can deliver its services in the information age. The paper visualizes a SMART government and promises to establish the required institutional mechanisms to facilitate initiatives towards synergic utilization of IT to enhance effectiveness of governance. NASSCOM conducted a survey of ten leading states (Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Madhya Pradesh, Kerala, Uttar Pradesh, Rajasthan, Gujarat and West Bengal) and pointed out that all these states have IT policies, expert groups, e-governance cells, and some even have a separate IT departments. Some of them have also included specific policy measures that not only aim to facilitate IT investments in the state but also focus on using IT for governance-related issues (NASSCOM, 2003).

The National E-Governance Plan(NeGP)

The plan outlines holistic view of e-governance initiatives across the country,integrating them into a collective vision,a shared cause.The ultimate objective is to bring public services closer home to citizens as articulated in the vision statement of NeGP."Make all government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man"(National e-Governance Plan. (n.d.)).The Government of India approved the National e-Governance Plan(NeGP), comprising of 27 Mission Mode Projects and 8 components, onMay 18, 2006. In the year 2011,4 projects-Health Education, PDS and Posts were introduced to make the list of 27MMPs to 31 Mission Mode Projects (MMPs).The government has lent approval to the vision, approach, strategy, key components, implementation methodology and management structure of NeGP.In order to promote e-governance in aninclusive manner,various policy initiative and projects have been undertaken to develop its core tactics and support infrastructure. The major core infrastructure components are:-

- ➢ STATE DATA CENTRES(SDCs)
- ➢ STATE WIDE AREA NETWORKS(S.W.A.N)
- ➢ COMMON SERVICES CENTRE(CSCs)

The important support components include core policies and guidelines on security, HR, citizen engagement, social media as well as standards related to metadata, interoperability, enterprise architecture, information security etc. My personal study introduces local state policies in 4 major states oriented towards IT human resource development in the following section. Some important variables are found on reviewing the policies of these four state governments. These policies are briefly described below:

INDIAN STATE POLICIES OF IT HUMAN RESOURCE DEVELOPMENT

PUNJAB (2001-10)	KARNATAKA (1991-2016)	MAHARASHTRA (2009-2020)	GUJARAT (2014-2019)
As per 2001 data, the state has 3,40,000 people working in the software and service sector in India, the second largest IT workforce after the US.	Karnataka began its journey in the outsourcing industry in 1991 with only 13companies .Human resources being the key for the Software Industry, Bangalore was able to take an early lead in this sector.	Maharashtra's strengths are in terms of availability of human resources, good connectivity and infrastructure, and the special significance of Information Technology (IT) for generating employment, increasing efficiency and improving the quality of life.	Gujarat is an ideal destination for creating a workforce and Industry with knowledge of global developments in the field, the state has the following objectives for the in the field :-
VARIABLES IDENTIFIED			
Knowledge, skills Turnover	**Technology**	**Support**	**Revenue turnover, productivity**
b) Accordingto the MIT Report, human resources in the IT field have been categorized into three categories: Category 'A' includes higher-end professionals, category 'B' comprises professionals mainly for IT services and category 'C' for ITES. It is necessary to formulate appropriate strategy and measures with respect to requisite infrastructure with special focus on human resource, taking into account emerging educational technologies, to achieve the projected turnoverof the Punjab IT industry.)	b) Further, the government set up an Exclusive Satellite Gateway in Electronics City to support the industry. It further supported theservices" industry quickly creating a big opportunity with the Y2K problem, which was a huge problem that required software engineers to look into practically every single computer globally. Highly cost competitive software engineering talent from Bengaluru that helped solve the Y2K bug put India on the world technology map. Multinational corporations began to review the period and put many Indian companies on a rapid growth path. The Internet boom, the boom in capital markets and global companies in 1991 to more than 1000 companies by 2000, with exports of US$ 1 Bn, contributing to more than 25% of national exports.	b) Among other achievements, and in addition to the specialized infrastructure provided by public agencies such as MIDC and CIDCO, 369 private IT Parks are being established in Maharashtra. 55 of these Parks have already been set up, generating employment for 1.27 lakh persons. Upon completion, the remaining IT parks will provide more than 6.62 lakh new jobs. Since the 2003 Policy, IT exports from Maharashtra have increased by 135%, positioning it among the top three States in the country. The growth rate of FDI in the State's IT sector has been the highest in the country.	b) To provide positive, hospitable and industry-friendly climate contributing forIT companies to flourish in a most competitive and efficient manner. The key objectives of this Policy during the policy period of five years are: 1. To increase the current investment in the IT/ITeS sector by 5 times. 2. To increase the turnover up to USD 15 Billion. 3. To increase IT exports from the State up to USD 1 Billion. 4. To promote and to develop employment opportunities in the IT and ITeS and provide direct employment to 10 lakh persons. 5. To focus, inter alia, on Financial Services, Mobile Applications, Animation, 3D-Gaming & Digital Entertainment.
VARIABLES IDENTIFIED			
Educational & technical Development	**Growth opportunity and talent development**	**Infrastructure development**	**Employment opportunities** and **Contribution**

c) In order to enhance quality, Punjab has to train 99,000 individualsfor high-quality manpower resources during 2002-2007. IT services (16,000), IT software products and technology services (6,000) and ITES (77,000). 1.Upgradation, including networking, of infrastructure of the engineering colleges. Training of faculty to meet the required standards. Interaction and exchange of faculty members with institutes of higher learning in India and abroad. 2.An IIT of an international standard should be set up to move up the value chain in the IT industry. It will helpthe statecatch up with other IT-developed states in India. It will also help to traverse the gap in the availability of quality human resources.	c)Karnataka (2001 – 2010):This was a period after which there was no looking back for Karnataka. Verysoon, Bangalore became the Outsourcing Capital of the World. 1. Bangalore has become the second largest technology cluster in the world. The city has seen balanced growth amongst high technology operations (VLSI Design, Telecom software, embedded software) and business IT applications and Back Office Business Outsourcing. 2. More than 30% of the total exports from Bangalore are high technology intensive like VLSI Design, Telecom Software, and Embedded Software. Hence over the years, Karnataka has led the way by developing technology, processes and manpower to build a cost-effective IT-BPO industry. During this unprecedented growth, the number of companies in Bangalore have grown to around 2,200 with total exports of around US$ 17 Bn, contributing to around 35% of national exports.	c) Maharashtra is also a leader in the telecommunications sector, and is home to over 20% of the broadband subscribers in India. 1.Special emphasis has been given to the development of human resources for theIT industry, particularly in the new areas of high potential and the Low HDI districts. 2. The Maharashtra Knowledge Corporation Limited (MKCL), the Maharashtra State Board of Technical Education (MSBTE) and other agencies will institute training based certification and placement programmes.They will collaborate with NASSCOM and other associations as well as the local IT-ITES industry to understand their resource requirements. Based on these requirements, a merit based, defined certification and placement procedure shall be instituted so that the manpower requisites of the industry can be appropriately fulfilled.	c)Assistance will be provided to MSMEs with a minimum of 20 on-roll employees at the rate of 50% of fee, subject to maximum Rs. 10,000 (Rupees Ten thousand only) per employee on obtaining industry recognized certification such as the following: 1.Net certifications, Networking certifications, Project Management, and others after implementation of this policy. The assistance under this category will be with a ceiling of Rs. 1 lakh per year per unit. If necessary obtaining help of IITIs and Gujarat Knowledge Society (GKS) for implementation of this incentive will be appropriately considered at a later 2. Support to R&D Institutions: In order to give impetus to Research and Development, need-based support will be provided to R&D institutions set up with the approval of the State Government. Apart from the new R&D institutions, testing facilities, incubation centres, etc. will also be covered. The assistance will be given up upto 60% of the project cost excluding land and buildingcost, subject to maximum of Rs. 50 lakhs.

VARIABLES IDENTIFIED

Quality improvement networking, educational and learning growth, interaction,	Contribution, technology and manpower development	Placement, collaboration ,manpower development	knowledge Support, project management
In order to ensure that high-quality IT manpower is being produced by both government and private institutions, it is recommended that the Punjab Government should set up a State Council for Computer and IT Education (SCCE), a body of experts responsible for monitoring and fixing minimum standards for the quality of ITeducation in the state.	From the year 2011 onwards, Karnataka's journey as a leader in Information Technology continues as it builds the agenda for the future by creating a sustainable and stronger eco-system to meet the global emerging needs of both the IT and the Electronic System Design and Manufacturing (ESDM) sectors. In the light of new global thinking, Karnataka must build a stronger path to progress. In 1997, the State Government of Karnataka had the foresight to create an IT policy. The policy has been widely recognized as a catalyst for the growth of the state. Now, Karnataka must demonstrate its vision of global leadership by bringing inclusive and balanced growth with a holistic approach oriented towards development and prosperity.	This is particularly important for small IT units which are not in a position to impart the required training in house. On the basis of the assessment of feasibility and other details by the Task ForceConstituted under the Empowered Committee, proposals will be prepared for theestablishment of centers of excellence and research and development, furnishingschools and other employment-oriented centers in Low HDI Districts.	Assistance for contract or sponsored research work from any industrial unit or industry association to recognized R&D Institution / Technical College approved by AICTE will be considered at 50% of the project cost, excluding cost of land and building, subject to a maximum of Rs. 50 lakhs.

VARIABLES IDENTIFIED

Manpower, educational growth	Leadership	Training development and research development, employment and empowerment	Association

3.4 INDIAN MOST HIGHLY RANKED IT SERVICE PROVIDER COMPANIES

According to Gartner, the "Top Five Indian IT Services Providers" are Tata Consultancy Services, Infosys, Cognizant, Wipro and HCL Technologies. This sector has also led to massive employment generation. The first software export zone, SEEPZwas set up way back in 1973, the older avatar of the modern day IT Park. More than 80 percent of the country's software exports began out of SEEPZ, Mumbai in 80s.The IT industry has built a very valuable brand equity for itself in the global markets. The Indian IT Industry comprises of software industry and information technology enabled services (ITES), which includes the business process outsourcing (BPO) industry. The Indian IT Industry is considered as a pioneer in software

development and is a preferred destination for IT-enabled services. In contemporary time, IT companies from the country such as Tata Consultancy Services (TCS), Wipro, Infosys, HCLare well known in the global market for their competency. Indian IT Industry's development and contribution to the world's information technology sector is of highest significance. Information Technology (IT), a knowledge-based industry, has the exemplary potential of becoming an engine of enhanced economic growth, and to provide productivity improvement for all sectors of the economy and a means of proficient governance. It enhances access to information, protects consumers, provides access to government services, makes skill formation and training more effective, improves delivery of health services, and promotes transparency. It provides tremendous employment potential and affiliations between government and the people both at the rural and urban level. The Indian IT software and service industry has emerged as one of the fastest growing sectors in the country's economy, with a growth rate exceeding 50 per cent in exports and 40 per cent in the total IT industry over the last five years.

This review explained the national policies of IT sector in most reputed IT companies at the state level. These policies are described on the basis of the variables which are taken from the literature review of this paper.

THE POLICIES OF INDIA'S HIGHLY RANKED IT COMPANIES

IT SERVICE PROVIDERS	WIPRO	INFOSYS	TATA	HCL	TECH MAHINDRA
Responsibility	Reliable and responsible towards their work.	Extremely responsible and accountable towards their goals.	Responsibility to improve ethical standards & business practices.	Encouraging a sense of social responsibility.	Responsible & liable business practices.
Leadership	Support and implementation of ethics and business conduct.	Has encountered hypercompetitive market leadership & aggressive selling tactics of its competitors.	Strategy of full spectrum with investment in expanding applications, Infrastructure& BPO portfolio.	Consistently achieved business objectives through leadership quality and improved distribution networks.	Single focus and innovation in the telecom ecosystem has served us well to date & made us a leader in the domain.
Teamwork	Collaborative teams that consistently drive achievements.	Team work subsists for any decision making procedure	team members come up with innovative solutions to problems.	Building and motivating cross functional teams that exceed corporate expectations.	Developing and creating high performance teams and successful businesses.
Motivation	Extrinsic and intrinsic motivation provided to achieve their goals.	Monthly or quarterly evaluations are awarded to employees for their performance which encourages other employees to perform well.	Employees accept and offer nominal gifts, donations remuneration for their betterment.	Feedback given by the employees was remarkable henceit became motivational factor.	Rewards and remunerations are provided for their employees who perform exceptionally.
Relationships	Positive relationships between employees and managers.	Employees are given the right to freedom of association and collective bargaining.	Relationshipsarebased on mutual affection and common beliefs.	Better-quality relationships between employees and administrators.	Professionals excel in engineering, product development, and client relationship management.
Equal Opportunities	Offers egalitarian opportunities to all employees in the evaluation procedure.	Equal opportunities provided, and employer makes recruitment decisions based on merit and business needs, does not condone personal bias.	Promotes equal opportunities that help in individual progress and organisatio-nal building.	Equal unanimous opportunities in employment, upgrading, promotion or transfer, recruitment, layoff termination, wages or other compensations.	Employees are treated equally in any task or decision making processes
Loyalty	Employees are reliable towards their duties and assignments.	The highest standard of personal and professional integrity & honesty.	Reliable and dependableemployees fortheir tasks and towards team members.	Employees are trustworthy towards their projects.	The staff is loyal and dedicated towards their jobs andprofessional roles.
Communication	Encouraging open communication and employee development.	Any company policies and procedures shall be constituted only after verbal or written communication.	Pays special attention to improving open communication and soft skills among employees.	Open communication between supervisors and subordinates.	Effective communication is vital to avoid misrepresentations, Mis-statements andmisleading impressions.

Customer service	The spirit of WIPRO begins with anintensive approach towardswinning and the commitment to making our customers successful.	Creating value for our customers and building good service provider-client relationships.	Provide valued services to the customer and consumers.	The Employees First, Customers Second (EFCS) philosophy is used.	Stands to gain immensely because of the increased demand for IT services from tele communication services.
Quality of work	Responsibility to ensure that customers have faith in the quality of our services and products.	An acquisition in a new geographic location could help the company raise its profile.	Executing largeoutsourcing contracts to customers amounting to billions of dollars to provide good quality services.	Committed to supporting quality procedures for its work.	A good service quality offered to the customers through new models and applications.
Empowerment	Employees are fully empowered in decision making processes.	Employees are made more responsible towards their job.	Employees shall be responsible and allowed to take professional action.	Employees are fully authorised to work in accordance with their teams.	Every employee who worksis capable of creating more or less value.
Diversity & Discrimination	Everyone can work without inhibitions, and in an environment free of discrimination and harassment.	Employeefriendly surroundings free from discrimination and rich in cultural diversity.	Supply employment and opportunities without discrimination and with abundant diversity.	Promoting workplace diversity and supplier vendor diversity programs.	Work free of any discrimination based on sex and with socio-cultural diversity.
Harassment free workplace	Maintaining a workplace where each employee's personal dignity is respected and protected.	The professional environmentis free of sexual harassment.	Promoting a justand fair harassment free work place whether it is physical, verbal or psychological intimidation.	Ensuring and maintaining a professional environment free of harassment, intimidation and coercion.	Bringing "zero tolerance" approach to any act of sexual harassment, sexual abuse and sexual assault.
Work environment	Help create a work environment that focuses on building and sustaining relationships.	Protect and make efforts to restore a healthyproductive professional environment.	To construct a proper and safe healthy, supportive working environment.	To strive to make a positive difference to the community and the work environment.	To promote a healthy and respectful workplace environment.
Human Rights	Committed to the protection of human rights among our employees, business partners and suppliers.	Company ought to work to value and support the rights of human beings.	The enterprise should respect and promote human rights.	The company must revere and sustain human rights among itsemployees.	Committed to treating human rights with dignity and respect.
Volunteering	Employees may be permitted to work for non-profitor not-for-profit organizations, clubs and charitable institutions.	Employees are prohibited from engaging in any activity with other companies and business entities.	Encourages volunteering amongst its employees and helps them to work with communities.	Promotes volunteering along with the professional work profiles of its employees.	Encourages its associates to volunteer time forCSR activities.
Collaborations	Wipro is building computing systems designed to mimic human decision making abilities.	Infosys and peers may also collaborating & competing with global majors such as Google Inc., on artificial intelligence oriented projects such as self-driving cars among others.	TCS is moving upscale in search of lucrative contracts for driverless cars and projects such as online innovation changes and others.	The catchwords of today are "digital analytics robotics" HCL is using robotics to do away with manual testing for hardware.	To collaborate and cooperate with educational or other institutions.
Employability	Self-employment or commercial pursuit of hobbies and interests, interferes with the employee's ability to fulfill his or her professional	Its emphasis is largely on technical training through specific preparation to equip them with the skills required by the workplace units to which they are assigned.	The Initial learning programme campus , which is a combination of technical learning, skill development and orientation to company processes and practices.	Employees go through a mix of competency and project based training, the main focus of these initiatives is to stimulate employee	The enterprise promotes the concept of "education to employability", and runs the SMART (Skills-for-Market-Training) Programme.

	responsibilities to Wipro.			development.	
CSR	The three main CSR activities of Wipro include efforts in the environment, education and energy conservationsectors.	Strive for economic development that positively impacts the society at large with a minimal resource footprint.	The Asian CSR award for initiating community development work and implementing various programs.	Organising blood donation, eye donation camps, working in the health, education, environment preservation and social service sectors.	Involvement of all stakeholders in the decision making process and in operations.
Work life balance	Has constructed a heartening, vigorous Work-life balance for their workforce.	The enterprise offers dynamic work life balance prospectsfor its employees.	Encourages healthy work life balance for employees.	Is hopeful of ensuring a healthy balance between work and personal responsibilities.	One good way to compete with others is to offer a good work life balance for their employees.

As per the provisions of the code of conduct of IT service provider companies like Wipro, Infosys, Tata, HCL and Tech Mahindra, employees are responsible and liable towards their work in the organization ,to improve the ethical standards and the organisation's business practices. These are major aspects which reflect the performance of the employees for organization development. Good leadership is one of the primary outcomes of employee competency. These enterprises have consistently achieved business objectives through improved leadership qualities and distribution networks. If employees have leadership skills, then the quality of their work will be enhanced and they can easily achieve their goals, hence effectively demonstrating greater contribution in the development of the organization. Rewards and remunerations are provided for employees with exemplary professional performances, employees admit and offer nominal gifts, donations remuneration for enhancement of performances. Building and motivating cross functional teams which exceed corporate expectations. Professionals excel in engineering and product development, client relationship management for enhancement of productivity. Promote equal opportunities to all the employees that help in individual growth as well as organisation building. The support and implementation of ethics and business conduct is considered. As a company COBEC employ individuals and works with business associates who represent a rich mixture of backgrounds, skills and cultures. To attract and retain talented and dynamic individuals from around the world, it is vital to have a supportive work environment, based on mutual respect. The companies encourage and promote favourable service conditions and positive relationships between employees and managers which encourage open communications and employee development.

Protection of Human Rights is a standard support measure, which is of fundamental significance for all people. The companies live up to and champion a commitment to human rights among their employees, business partners and suppliers, and comply with the applicable laws in every country in which they operate. The CSR policy has been developed in consonance with Section 135 of the Companies Act 2013 (referred to as the Act in this policy) on CSR and notified by the Ministry of Corporate Affairs, Government of India in 2014.The Policy shall apply to all CSR projects or programmes undertaken by the Company in India, as per Schedule VII of the Act. Volunteering is one of the core human resource strengths at all the companies. The companies are encouraging their associates to volunteer time in CSR activities. The Foundation works in engaging associates with disadvantaged communities so as to promote empathy and understanding of social inequalities. The primary philosophy of the companies should be that employees who are focusing on the development of the organization, also place significant emphasis on ensuring the respect and dignity of other employees. Employees are empowered to drive innovation, transforming client engagements and markedly improving client satisfaction. The companies are committed to supporting quality processes and employee productivity through a working environment and culture in which they feel appreciated and allow innovation to thrive. They should be responsible corporate citizens, who believe in encouraging a sense of social responsibility and to give back to society. Retention of the best talent is a major problem for most of the organizations in the software service sector. The major players in India in this sector include Wipro, TCS, Infosys and HCL. Among the domestic IT companies, TCS has the lowest employee turnover rate. Employees stay with the company not for the size of the pay packet alone. There are several other factors such as job security among others. The company has a performance improvement plan that takes into account any personal problem the employee may be facing. On the basis of above policy analysis,the HR practices adopted by the company have the ability to absorb people, to manage them from sourcing to deployment and engaged them to utilize for the growth and the development of the organization.

Employee Engagement Practices in Indian IT Service Provider Companies

Companies have the responsibility to engage their employees and ensuring their job satisfaction. Employee engagement helps to generate a feel of belongingness with the organization and thus the employee feels 'connected' to the organization. Research in the area has shown that there is a direct link between the end of employee engagement in a company and the company's overall financial and working output. An example of this is explained below.

❖ Infosys focuses on the skill set of the individual and hence it gives all members of the in organization proper training of all the activities so that employees are engaged and do not deviate from their main duties. They also focus on family at work which refers to bringing employees family to the workplace and letting them know the main operations of the IT sector and how the company manages to achieve its goals. Employee engagement is only possible with the provision of incentives provided by the company, so Infosys provides a lot of services to keep its employees engaged, like retirement plans, stock plans and health and welfare benefits. Rewarding progress is a primary motivational tool which helps an individual in remaining engaged in the work. Associates who perform well in monthly or quarterly are awarded for their performance which encourages other employees to perform well so they engage more efficiently in the activities of organization.

❖ TCS engages its employees by taking into account their competency level with their job preferences while creating job profiles. It borrows ideas from all the levels in the organizational structure and innovative and creative ideas which can increase the profit horizon of the company are rewarded in monetary or non-monetary form. Employees are said to be 'engaged' when they get a proper working environment, adequate equipment or machines to carry on their job and a proper system of control so that they don't have to face the problem of shortage of any such resources. A supportive environment also means that organization will keep in mind the incentives given for their innovations in the performance management system.

❖ In Wipro, senior executives guide team members coming up with innovative solutions to problems faced by employees. This has spawned the development of a number of useful products that have resulted in successful business ventures. Their inclusive approach involves making the employees feel that they belong to the organization and they are the highly valued in the organization in order to increase their personal morale. The employees should feel that they can blindly trust on the organization and their operations and the relationship is based on mutual affection and belief, only then an employee will be well engaged in their work. More incentives do not necessarily translate intogreater employee engagement in the organization, individual's needs should be kept in consideration while strategizing the incentive plan. The organization needs to give a proper responsibility and authority to the employees so as to make them feel a sense of purpose and fulfillment in their professional lives. Employees feel responsible and purposeful if they are given other opportunities that help in organization building.

❖ In case of HCL, the company believes that the training and engagement are the main impetuses to engage employees. The various engagement programs of the company include the employee first council which is platform that encourages HCL employees to pursue his or her make a difference. Recognition programmes at HCL include a platform called Make a difference, JMBOREE and MADJAM. This is an essential platform which recognizes the contribution of those employees who had a made a sizeable and positive contribution to the organization. Another recognition program is XTRAMILES that inspires HCL employees to recognize and appreciate colleagues for a job well done. To help employees learn and grow, HCL has tied up with two leading institutions-U21 GLOBAL and Harvard Business School Publishing.

For best results of IT companies individual roles should be very clear and goal oriented so that as to give the employees a sense of accomplishing challenges for a proper reward mechanism. New and advanced technology ensures that the individuals perform in a challenging work environment. They are used to sharing, gaining information and expand their learning horizon. It gives them a great platform for career development and advancement. Additionally, it presents a new level of collaboration with the functions and the verticals leading to more commitment of employees towards organizational goals.

A CONCEPTUAL FRAMEWORK OF HR PRACTICES AND ITS INFLUENCES ON ORGANIZATION DEVELOPMENT THROUGH I T POLICIES
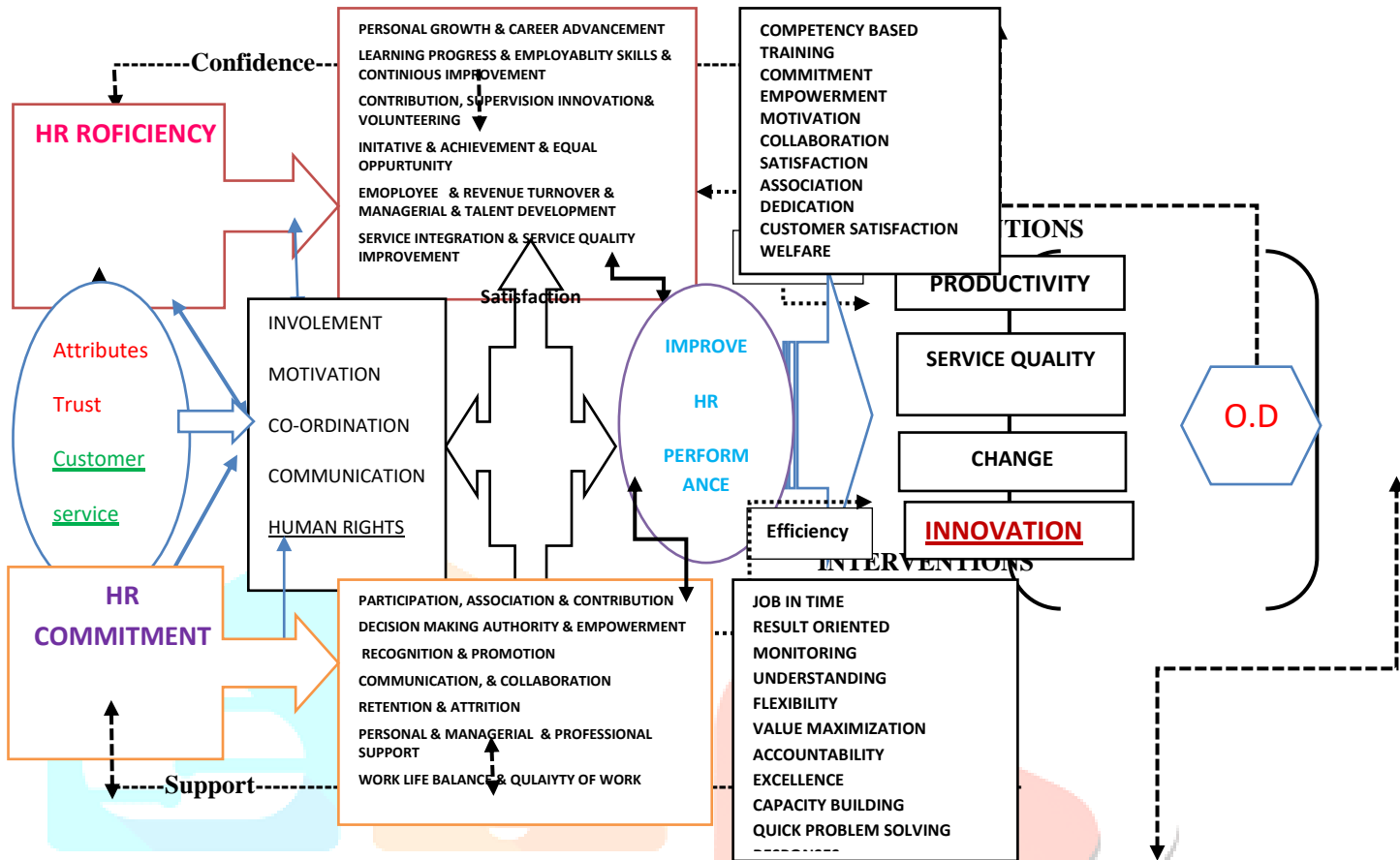
Conclusion:

In this study a conceptual framework of the improvements in HR performance for the development of the organization depends upon the HR practices such as HR proficiency, HR commitment which are designed through reviewing IT policies. HR practices intended to enhance the knowledge, skills, abilities, motivation, and opportunity to contribute, of the employees are associated with positive outcomes such as greater commitment, lower turnover, higher productivity and service quality. The effectiveness and efficiency of the organization's development depends upon the outcomes of HR proficiency and HR commitment through interventions which increase the level of satisfaction, profitability, innovation, technology and growth. After reviewing policies innovation, has come across as a major outcome of the organization development. The drive to innovate comes from the engagement of an employee toward their work so that an individual voluntarily creates or constructs something new for the betterment of the organization. An organization is developed with the support of involvement, motivation, coordination and human rights of an employee towards their tasks which enhances employee satisfaction towards their work which affects their overall performance. Companies ought to value and support Human Rights among employees, business partners and suppliers so that they can engage better and remain competent. Human rights added as a common variable increases professional support through recover service quality. The outcomes of the performance of an employee such as productivity, technological development, quality of service and innovation leads to improved overall performance for the entire organization.

However, the organization's development is deeply rooted in the ability of attributes such as knowledge, skill, ability behavior (KSAB), trust, and customer services to create value for our customers and to build good relationship through policy analysis among organization members. The quality of customer services are directly associated with the performance of an organization. The one important way to enhance the performance of the organization is to focus on motivation through participation and contribution which boosts personal growth, career advancement opportunities and educational improvement. HR commitment is essential for an organization to scale challenges and gain competitive advantages. HR engagement is a key driver of individual attributes (KSAB) and as well as the performance of the organization which can be evaluated by measures such as productivity, retention, financial performance and innovation. The ultimate objective of HR practices is enhanced customer service which increases and improves the performance of the entire organization. Consequent to the analysis between literature and policy framework, it can be claimed that outcomes such as educational improvement, volunteering, equal opportunity, revenue turnover, talent and manpower development and quality improvement through competencies expose the effectiveness of organizational development. HR commitment through these policy initiatives that focus on human resource development and support variables such as contribution, empowerment, recognition, promotion, collaboration, professional support, quality of work, efficiency leads to productivity and innovation.

REFERENCES:-

- A.Balasubramanian, "Policy – Import of Computers for Software Export Activities", IPAG Journal, Vol.1, No.8, May 1974, p.816.
- Annual Report 2007-2008, Department of Commerce, Government of India, New Delhi
- Annual Report 2009-2010, Department of Information Technology, Government of India, New Delhi
- Annual Report of 2009-10 of the Department of Telecommunication, Ministry of Information and Communication Technology
- Brockbank. If HR were really strategically proactive: Present and future directions in *HR*-Human Resource Management; Winter 1999
- C.R.Subramanian, "India and the Computer – A Study of Planned Development",Oxford University Press, New Delhi, 1992
- Dinesh Sharma, "The Long Revolution – the Birth and Growth of India's IT Industry", Harper-Collins India, New Delhi, 2009
- Gartner, 2011says Top six Indian IT Services Providers Grew 23.8 Percent In 2011.Gartner.com.2012-05-07.s
- Government of India, Report of the Electronics Committee (Bhabha Committee),Bombay, 1960.
- Hofer, C. and Schendel, D. (1978), Strategy Formulation: Analytical Concepts, West Publising, St Paul, MN.
- Hindustan Times (2004a), "Internet on train", Hindustan Times, 20 May. Hindustan Times (2004b), "Software exports up 30.5% at $12.5bn",
- Hindustan Times, 4 June, p. 17. India (2003), Ministry of Information and Broadcasting. India 2003: A Reference Annual, Ministry of Information and Broadcasting, New Delhi.
- India Brand Equity Foundation ,IBEF IT & ITES Sector report- August 2013

- sIndia (2004), Ministry of Information and Broadcasting. India 2004: A Reference Annual, Ministry of Information and Broadcasting, New Delhi.s
- India Economic Survey (2003), Economic Survey 2002-03. Government of India Press, New Delhi, Ministry of Finance and Company Affairs, Economic Division.
- Information and Communication Technology Official Website of the Ministry of Statistics and Programme Implementation of Government of India, www.mospi.nic.in
- Information Technology Policy, Government of Punjab, 2001.
- IT Task Force, Ministry of Information Technology (2002-07), Government of India.
- Information Technology Policies of Andhra Pradesh, Karnataka, Maharastra, Kerala, Haryana, Rajasthan, UP.
- Government of India, "Case History of Computer Import", Report of the Review Committee on Electronics, New Delhi, September 197
- NASSCOM website (www.nasscom.in)
- NASSCOM 2004, Indian ITES- BPO Industry Handbook 2004 New Delhi.
- NASSCOM (2002), "National Association of Software and Services Companies", The IT in India: Strategic Review, NASSCOM, New Delhi.
- NASSCOM (2003), "National Association of Software and Services Companies", The IT in India: Strategic Review, NASSCOM, New Delhi.
- NASSCOM-Mckinsey Reports, 1999 and 2002.
- New CSR Guidelines for Indian Public Sector Enterprises Focus on Sustainability Reporting. 24 April, 2013
- N.R.Narayana Murthy, "The Indian Software Industry: Past, Present and Future",
- Ministry of communication and IT, Government of India, Departments of electronics and information Technology (Deity)
- Ministry of Information Technology (MIT), Report for Tenth Plan (2002-07).
- M.G.K.Menon, "Homi Bhabha and Self-Reliance in Electronics and Information Technology", pp.107-118.
- Mohi Mukherjee, "The first Computer in India", in Computer Education in India –Past, Present and Future", Editor:
- Utpal Banerjee, Concept Publications, New Delhi, 1996 (pp.13-16)
- N.Seshagiri, "National Informatics Centre: Evolution and its impact", pp.64-92.
- P.V.S.Rao, Personal Communication, May 2012. See also tifr.res.in/~sanyal/national.html
- R.Narasimhan, "Meaningful National Goals in Computer Development, Production and Use", Proceedings, National Conference on Electronics, TIFR, Bombay, 1970,pp.371-378
- R.Narasimhan, "On the System and Engineering Design of the General PurposeElectronic Computer at TIFR", Proceedings of the Indian Academy of Science,Vol.52, Sec.A, pp. 45-57, August 1960., pp.349-360
- Report of the Panel on Minicomputers, IPAG Journal, Vol.1, No.5, New Delhi, February, 1974, pp.78-89.
- Research Paper on Human Resource Challenges & Practices in IT Industry (Reference - Proceedings of the 5th National Conference; INDIACom-2011)
- Source: http://careers.wipro.com/why_wipro/development_training.htm
- S.Ramadorai, " The TCS story…and beyond" ,Penguin India, New Delhi, 2011.
- S.Ramani, "R and D in Software Technology at the National Centre for Software Technology1960-2001", pp.17-49
- Srinivasa, P. (2004), "ISP float 'win-win' plan to slash costs", Hindustan Times, 1 June, p. 19.

- Utpal K.Banerjee, "Computer Education in India – Past, Present and Future",Concept Publishing Co., New Delhi, 1996, pp.411-438
- Virendra Kumar," Committees and Commissions in India: 1978", Vol.16, Part 1,pp.662-669.
- V.Rajaraman, "Impact of Computer Science Education at IIT/Kanpur on InformationTechnology in India",1978.
- www.archive.india.gov.in/sectors/communication/index source: National Portal Content Management Team, Reviewed on 10-01-2011
- World Summit on the Information Society (2003), Plan of Action (Geneva-2003), available at: www.itu.int/wsis/