

# Human Resource Development Practices in Indian Information Technology Sector – an Empirical Study of Emerging Trends



**Management**  
**KEYWORDS :** Software services, Business Process Outsourcing (BPO), Global uncertainties, Information and Communication Technology (ICT).

**Prof. V. Narasimha Rao** P.G. Department of Business Administration, Akkineni Nageswara Rao College, Guduwada – 521 301. Krishna District, Andhra Pradesh, India

**K. Srinivas** Associate Professor, Department of Computer Science and Engineering, Gudlavalleru Engineering College, Gudlavalleru – 521 356. Krishna District, Andhra Pradesh, India

**ABSTRACT** *Information Technology Industry is one of the fastest growing, knowledge and skill intensive industries in India. There has been a significant difference in the trends of human resource development practices in Indian Information Technology sector pre and post liberalization eras. The rapid development in the modern and competitive era is possible only through effective human resource development practices. In the IT industry attracting, nurturing talent, retaining and managing human resources have been the crucial issues. The growth of IT companies worldwide depends on the intellectual capital it possesses. Needless to say the emerging IT sector cannot be effectively managed through traditional human resource development practices. India retains its position as the world's leading global sourcing destination for IT – BPO services. In order to remain competitive in future, the IT sector in India has to enhance the skilled talent pool through good HRD practices. An attempt is made in this paper to study the emerging trends in Indian IT Industry.*

**I. Introduction:**  
 Information Technology covers all aspects of managing and processing information and have revolutionary effect on the lives of people. Information technology in its broader sense comprises of new communication and computing technologies. Information technology professionals usually design, develop and manage the computer hardware, software and internet. Technology constantly generates unexpected consequence. The simple ability to send information anywhere immediately, at minimum cost has so many ramifications. According to Bill Gates information induced changes are occurring at the speed of thought. In India since 1990 with the introduction of economic reforms, Indian human resource development scenario began to change, most of the organizations started to focus their vision and mission statements on the people who work for them.

There has been a significant difference in the trends of human resources development practices in Indian Information Technology sector pre and post liberalization eras. A look at the trends in managing people in this dynamic sector reflects that attracting, managing, nurturing talent and retaining people has emerged to be the most crucial issue. In the present scenario role of integrating employees into the information technology sector with ensuring high levels of performance become more essential. While the global macro-economic scenario remained uncertain, the information technology industry in India exhibited resilience and adaptability. Embracing emerging technologies, increased customer – centricity, deepening focus on new markets, adopting new business models are some successful growth strategies followed by the Indian IT-BPO industry. At present the Indian industry is providing direct employment to about 2.8 million and indirectly 8.9 million people.

**Growth and Performance:** Information technology industry has shown the highest growth rates consistently over the last many years as compared to any other industry especially during the last decade of the 20<sup>th</sup> century. Developed countries like U.S.A., Germany and Japan have been showing keen interest in hiring Indian Software professionals in their Information Technology sector which is evident from the fact that majority information technology professionals are Indians. India is among the three countries that have built super computer on their own, the other two are U.S.A. and Japan. India is among six countries, which has launched satellites. India's INSAT is among the world's largest domestic satellite communication systems and has the third largest communication network among the emerging economies.

The information technology industry in India has continued its robust growth since 1996 without effecting to the slowdown in the world economy during the first two or three years of this

millennium. The National Association of Software and Service Companies (NASSCOM), registered in 1988 under the Societies Act 1860 facilitate the business in software and continuously provides facts and figures about the growth of the information technology industry in India. NASSCOM is a global trade body with over 1497 members, of which over 250 are global companies from the U.S.A., U.K., Japan, China, EU. In Indian economy the share of information technology industry is 75 percent of Gross Domestic Product (GDP) in 2012 according to NASSCOM.

**Table-1**  
**GDP and Information Technology Growth in India**

Year	GDP Growth (USD Billion)	IT Growth (USD Billion)	% Share of IT industry in GDP
1997-98	411.57	5.0	1.2
1998-99	440.59	6.0	1.4
1999-00	461.91	8.2	1.8
2000-01	473.05	12.1	2.6
2001-02	494.99	13.4	2.7
2002-03	573.17	16.1	2.8
2003-04	669.44	21.5	3.2
2004-05	783.14	28.2	3.6
2005-06	877.22	37.4	4.3
2006-07	1098.95	47.8	4.3
2007-08	1232.95	64.0	5.2
2008-09	1227.10	69.1	5.7
2009-10	1365.40	74.2	5.4
2010-11	1710.92	88.3	5.2
2011-12	1872.90	101.7	5.4

Source:i) [www.nasscom.org](http://www.nasscom.org)  
 ii) [www.adb.org](http://www.adb.org)  
 iii) [www.tradingeconomics.com](http://www.tradingeconomics.com)

**Software Services Growth and Foreign Exports:** Software and Service sector has made an impressive growth in Indian domestic as well as foreign market and attracting large foreign direct investment. Indian information technology industry has grown manifold during the period 1998-2008 i.e., USD 5.0 billion in 1998 to USD 64.0 billion in 2008. India is exporting its information technology services to more than hundred countries around the world. The USA market itself accounts for 65 per cent of the total software exports. Tata Consultancy Services, Infosys and Wipro etc. have been the leading software exporting firms (Table – 2).

**Table – 2**  
**Software Services:**  
**Growth of Foreign Exports**

Years	Exports (USD bn)	Percentage growth
2003	7.1	14.5
2004	9.2	29.6
2005	17.5	92.4
2006	23.6	33.3
2007	31.4	33.1
2008	41.2	6.4
2009	47.6	6.7
2010	50.3	6.5
2011	59.7	7.1
2012	69.4	7.5

Source NASSCOM – Mikinsey Study  
[www.nasscom.org](http://www.nasscom.org)  
 (Software includes ITES-BPO, hardware excluded)

## II. Significance of the study:

Corporate India has come a long way since Independence. Indian companies have spread themselves across the globe and are moving to a borderless world more particularly during the last two decades. Globalization led a large population of Indians become a part of multinational and foreign banks. Indian workforce and the industrial climate are both changing continuously. Thus in order to attain rapid development in the modern and competitive era, it is essential to give adequate importance to human resource. Only by investing in human resource, rapid and desired growth rate can be attained by any organization. It can be observed that in India only some of the large and knowledge-led organizations are adopting the human resource development practices. Information technology industry is one of the fastest growing, knowledge and skill intensive industries in India. A look at the trends in managing people in this dynamic industry reflects that Attracting, Managing, Nurturing talent and Retaining people have been the crucial issues. At this juncture the present study 'Human Resource Development Practices in Indian Information Technology Sector – An empirical study on emerging trends' has been taken up.

## III. Objectives of the Study:

1. To analyse human resource development practices in selected information technology organizations
2. To study the growth and performance of information technology industry in India
3. To guess how human resource development systems are helpful to attain knowledgeable and effective employees.
4. To analyse and observe various theoretical issues in human resource development changing over time.

## V. Review of Literature:

The significance of the current study can be well appreciated in context of growing importance of human resource development practices in information technology industry in India's present and future development. The following section has a brief review of some of the important research studies on human resource development practices in information technology industry.

T.V. Rao (1984) conducted a survey of human resource development practices covering 53 different industries in India, which by and large indicates, a positive trend of using open appraisal system, training function and employee counseling by the companies. However, no major breakthrough seems to have taken place in potential appraisal and development practices. Human Resource Development seems to be becoming a significant aspect of work and life in many organizations. Paul, A.K. and R.N. Anantharaman (2002) studies the 'Impact of Human Resource Management practices on competence of Software professionals in India: An Analytical Study' on 45 different software companies based in Bangalore and Chennai. The study revealed that there was a positive and moderate correlation between human resource management practices and competence. Whereas In-

centives, performance appraisal and selection process made a significant impact on the competence.

Abraham, V. and R.R. Sharma (2005) in his work "New Technology and the Emerging Labour Market: A Study of Indian IT Industry" examined about education and training, models of rescaling the structure of job hierarchy etc. Prasad, Asha (2006) studied, "Power Sector Reforms in Delhi: Human Resource Perspective" in which an attempt was made to examine the relationship between privatization of the state owned Delhi Vidyut Board (DVB) and adjustment of human resources required for the process to be done smoothly.

Shailendra Singh, Naresh Kashi and Abijit Bhattacharya (2008), conducted a study on "High performance organizations: Relationship with Human Resource Policies and Practices". It was hypothesized that human resource policies and practices have a positive relationship with organizational performance. Ms. Amrita Garg, Ms. Anishka Sharma and Mr. Manish Ranjan Pandey in their research paper titled Emerging trends of human resource management (with special focus on Information Technology Industry) have tried to identify various aspects which came into existence as a result of technology revolution in the country and make a comparison between pre and post liberalization HR trends in IT industry.

## V. Data Source and Methodology:

The methods and data sources used to carry out the study to evaluate the research questions are stated below.

**Data sources and collection:** The data for this study is mainly from primary sources i.e., through the execution of a questionnaire and personal interview method. However, pertinent information and data was also extracted from secondary sources i.e., published research papers, reports, research studies and internet. Most of the information technology organizations were not interested in disclosing their human resource development practices and policies.

**Sampling:** Sample organization have been purposively selected to cover leading information technology organizations representing all the three segments i.e., Software, BPO and Hardware. The selection of employees depended on the basis of co-operation of employees and conveniences. The sample is a subset of population and is as per convenience sampling. The sample size is different in different organizations. For this 150 employees in various information technology companies in Andhra Pradesh were considered.

**Statistical Tools for Analysis:** After acquiring the responses on primary survey using questionnaire and interviews statistical tools were used for analysis. The survey used Likert five-point scale indicating degree of agreement or disagreement. The respondents indicate several degrees of agreement or disagreement with each item that constitutes the scale. The statistical tools used in the research paper includes Arithmetic mean, Standard deviation, Chi-square Test and ANOVA.

## VI. Analysis and Interpretation:

There has been a paradigm shift in the philosophy towards human resource development practices in Indian Information technology industry in the recent past. Human Resource Development practices relies on human resource development culture and human resource development learning processes. The significant aspects of employees' perception towards effective implementation of human resource development practices in information technology organization are explored in the following sections.

**1. Selection of Personnel:** Selection procedure plays a crucial role in the human resource development of any organization. To select right persons and keep them at right place generally written tests, interviews and practical tests are conducted by information technology companies. The survey in this study reveals that 70 per cent of the employees are selected through open interviews, followed by campus interview 14 per cent and

about 9 per cent through placement agencies. (Table – 3(a)).

As regards the fairness of selection 60 per cent employees felt that selection procedure in information technology organizations is fair. Near about 85 per cent of employees are satisfied with selection procedure and 85 per cent of employees agree that information technology companies are able to keep right person at right job. (Table – 3(b)).

**2) Training of Personnel:** In the human resource development practices training always plays a predominant role. Almost all the organization focus on training. In this concern also near about 89 per cent employees are in the opinion that information technology companies are providing adequate and multi-skill training. However multi-skill training is given mainly offered to new employees. (Table – 4(a)).

**3) Performance and Reward Management:** In fact multiple – skill drawing is provided to the employees for enhancing performance levels. Provision of adequate career development opportunities is also essential. In Indian IT companies nearly 80 per cent employees are of the view that companies adopting suitable promotion and career development measures. Performance is evaluated half-yearly, yearly and according to targets. At the same time formal methods of performance evaluation is considered in the information technology companies in the opinion of 85 per cent of employees. With a view to reward good performance companies consider salary increments, promotion, appreciation, study tours etc. In the perception of 87 per cent employees, salary increments is the most popular method for rewarding good performance. (Table 5(d)).

**4) Wages and Working conditions:** Information technology is known for jobs with most attractive pay. As investment in personnel is treated as real strength in information technology companies they strive to increase productivity, profitability and brand image through it. Much variation takes place on pay from person to person and location to location in this sector.

**5) Job Security and Job changing:** The employees working in the information technology sector change jobs frequently mainly because of attractive offers about 70 per cent employees change jobs for higher salaries, 60 per cent for job satisfaction and about 50 per cent for better working conditions. N private companies attrition rate is also very high.

**6) Employee welfare and Social security:** In view of retaining talent in information technology jobs, several labour welfare amenities and social security measures are implemented. Most of the organizations provide, five days work weeks with Saturday and Sunday off. Among the surveyed employees 90 per cent accepted that there are adequate provisions of leave facilities. There are relaxed projects as well when there are not many projects and also give the option of flexible office time. Regarding working hours 45 per cent employees say that they work for longer hours than schedule and they are not paid any over time allowance for extra hours they work. Exceptional working hours takes place in the information technology organizations when they possess number of projects on hand. (Table – 5(b) & (c)).

**7) Recreational facilities:** Information technology industry is ever changing so employees face more stress and depression. Majority of the employees in this sector face various types of tensions related to competition, skill upgrading, market fluctuations. In order to overcome stress among employees companies provide recreational facilities like Gym, Games, Meditation / Yoga, Late night parties, Library, Club facilities etc. In the survey 95 per cent of the IT employees agree that organizations provide all these facilities. Employees get relaxation from these facilities and relieve their stress and work pressure.

**8) Industrial Relations:** The success of information technology majors i.e., TCS, Infosys, Wipro tell us that it is because of harmonious employee relationship. Employees openly communicate with each other to share their views and complete the pro-

jects through team work. Management promotes employees' participation in decision making process. In the study 75 per cent employees state that management attitude towards them is co-operative, friendly and inspiring. Whereas about 10 per cent are of the view that management attitude towards them is dictatorial and indifferent. In the information technology industry the management encourages their employees to do experiments and risk taking.

**9) Trade Union and Conflicts:** Generally, trade unions exist in all types of organizations but in information technology industry, trade unions don't exist. All the facilities are provided by organisation. On this aspect about 10 per cent employees feel that there is a need for trade union but 90 per cent do not want any trade union. In case of any conflict or dispute some formal committees with informal discussion, negotiation sort out them.

**10) Health Hazards and Health facilities:** Majority of the employees in information technology organizations face work related health hazards because of stress and extended working hours. The usual health problems are obesity, backache, eyes stress. Almost 80 per cent of the employees in this sector come across these problems. Keeping in view this situation, various types of medical facilities are provided and frequent health check-ups are taken up in Information technology industry.

**11) Equal opportunity and facilities for women workers:** In the information technology industry there is not any gender bias as expressed by about 90 per cent employees. Usually IT industry encourages the women employees to participate. Several facilities are provided to the woman employees for their welfare and to increase their participation ratio. About 70 per cent of women employees consider that special conveyance facility is provided to female employees, where as 60 per cent accept that exemption from night shift facility is provided to female employees.

**12) Other Amenities:** Information technology organizations provide several welfare amenities like housing, co-operatives, schools, hospitals, transport to the employees. Several organizations provide stock option i.e., buying the shares of the organization, but it is mainly extended to senior employees. About 50 per cent of the employees accept the existence of this facility in their organizations.

**Table – 3**  
**Selection of Employees**

(a) Criteria:			
Choice	No. of Employees	Percentage	
Open Interview / Test	105	70	
Campus Interview	21	14	
Placement Agencies	14	9	
Others	10	7	
Total	150	100	
(b) Fairness:			
Choice	No. of Employees	Percentage	
Totally fair	60	40	
Generally fair	90	60	
Total	150	100	
(c) Satisfaction (With selection procedure:			
Choice	Yes	No	Total
No. of employees	128	22	150
Percentage	85	15	100

Source: Primary Survey

**Table – 4**  
**Training in the Organisation**

(a) Provision:			
Choice	Yes	No	Total
Training	133	17	150
Multiple training	123	27	150

Need based or not	117	33	150
<b>(b) Level of Employees for Multiple training:</b>			
Choice	No. of Employees	Percentage	
New	14	9	
Junior Level	6	4	
Senior Level	9	6	
All	121	78	
Total	150	100	
<b>(c) Adequate Career Development:</b>			
Choice	Yes	No	Total
No. of employees	128	22	150
Percentage	85	15	100

Source: Primary Survey

**Table - 5**  
**Labour Welfare, Social Security, Performance Management and Rewarding Performance**

<b>(a) Facilities for Women workers:</b>		
Choice	No. of Employees	Percentage
Hostel	15	10
Crèche	30	20
Exemption from Night shift	93	62
<b>(b) Welfare Measures:</b>		
Choice	No. of Employees	Percentage
Housing	68	45
Schools	34	23
Transportation	143	95
Hospital	76	51
<b>(c) Social Security:</b>		
Choice	No. of Employees	Percentage
Pension	47	31
Provident Fund	143	95
Gratuity	78	87
Health Insurance	136	91
Compensation on death	56	37
<b>(d) Rewarding Performance:</b>		
Choice	No. of Employees	Percentage
Salary Increments	130	87
Promotion	123	82
Appreciation	128	85

Source: Primary Survey

The results of the empirical study reveals that in the Indian Information technology sector most of young and technical skilled people are employed belonging to urban areas and majority of

them are male employees. The participation of women employees is relatively lower because of socio constraints, night-shifting, long working hours and highly challenging nature of jobs. Data reveals that in this industry majority of employees are unmarried. Large organizations are offering high salaries and benefits to their workers as compared to their smaller counterparts. There is provision of adequate staff in this industry. Majority of employees feel that in information technology industry work is really stressful. In spite of this majority of employees are satisfied with the prevailing human resource development practices in Indian IT sector.

## VII. Conclusion and Policy Implications:

In the knowledge era and a skill based economy, throughout the world human resource development practices become one of the essential ingredients of success. The growth of IT companies worldwide depends on the intellectual capital it possesses. It is a known fact that Human Resource Management of the organization deals with the individuals towards achievement of organizational goals. As every individual is unique and have preferences, liking and attitude. The emerging trends of Indian Information Technology cannot be managed by the old human resource development practices. It is very difficult to attract, develop, retain and satisfy all employees simultaneously for an organization to get desirable outcomes. Human resource and information technology are the backbone of the economy and IT needs knowledge workers. Government of India is taking several important steps in promoting the growth of Information technology. As per the NASSCOM – Mckinsey report, the export component and domestic component are expected to reach, USD 175 billion and USD 50 billion in 2020. Despite, huge success there are still many constraints in the IT sector.

Human resource development is very challengeable because sometimes there is psychological aversion and fear of new technologies. Most of the IT companies in India are small and located in few regions, hence cannot explore full potential of global opportunities. Thus, there is a need for locational diversification for future development. As the success of IT industry mainly lies in knowledgeable and skilled workforce, HRD subsystems must be implemented and integrated effectively to get maximum benefits. It is necessary to develop good and satisfactory human resource climate for growth and survival of IT sector. In a volatile operating environment, the Indian IT-BPO industry continued to exhibit resilience. However, with the uncertainty, customer demands have also fluctuated, and the industry has had to exhibit change rapidly to stay ahead of the curve, and continue to be relevant. Even in the face of stiff competition, India retain its position as the world's leading global sourcing destination for IT-BPO services. The key themes for the Indian Information technology industry to remain competitive and profitable in the future are – enhance the skilled talent pool through good HRD practices, strengthen long-term entrepreneurial environment, innovation and research, increase operational efficiencies, and invent new business models for offering a transformed business proposition to customers.

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