

“Understanding the significance of training in IT industry”**Chandrakala T M****Contact details: tmchandu@gmail.com, 9741226058****Name of the co-author: Dr.Nijaguna G****E-mail id: guna1912@gmail.com****Abstract**

IT companies invest a vast amount of money in educating their employees to deal with their ever changing environment, in the hope of bringing down development time, cut down project failures, etc. The purpose of this study was to observe the situation of training in IT companies at Bangalore and trying to answer questions such as how significant the training is and how beneficial it is. To find answers to these, a questionnaire was administered with IT employees at five IT companies and interviews were held with department managers at two of them. The major results show that training is valued as an important tool to sustain and increase knowledge.

Key words: Training, Performance, IT employees

Introduction

According to CIPD “Training is an instructor-led and content based intervention leading to desired changes in behavior and which, unless it is on-the job training, involves time away from the workplace in a classroom or equivalent”.

The Information Technology sector is a field which is undergoing rapid evolution and is changing the shape of Indian business standards and as such the present research paper focuses on significance of training in IT sector. This sector includes software development,

consultancies, software management, online services and business process outsourcing (BPO). According to an article in the Times of India, India's liberalization was possible due to its IT industry. In the 1990s, the industry started off with an export of nearly \$100 million with around 5,000 employees. The evolving nature of technology necessitates the constant updating and adapting of the IT training contents to respond to the present market conditions.

The areas of training in IT industry include a wide variety of curriculum including but not limited to those listed below:

Architecture and Engineering, Cloud computing, Cyber security, Data storage, Databases/Database management, Mobile App Development, Networking and Wireless, Product training (SaaS, Adobe, Microsoft, Citrix, Red Hat, etc), Unified communications, Virtualization, VoIP and Telephony, Web Design and Programming.¹

Human capital theory states that the skills acquired from training makes workers more productive, so they receive higher wages (Becker 1975; Mincer,1974)

IT employees must constantly obtain new skills and knowledge all through their professional life since the field of information technology is continuously developing technically as well as in organizational sense.

Training employees costs time, money, and resources. However, not training employees also comes at a cost to the organization. Untrained employees feel inadequate to contribute to the organization thus resulting in poor quality performance by the employee. When an employee is not completely equipped with required skills provided through training, he cannot fulfill his responsibilities and may consume long time to complete the task. Any mistake committed in the

workplace by an employee while delivering his duties can be directly owed to the absence or inadequacy of required training. The costs as a result of these are often ignored or unseen.²

What is training?

Training is a process by which any skills or knowledge of a person is enhanced for a specific competency. Training aims at improving one's capability, capacity, productivity and performance. IT Training is specific to the Information Technology (IT) industry, or to the skills necessary for performing information technology jobs. IT training includes courses related to the application, design, development, implementation, support or management of computer-based information systems.

Why training is important?

Training, in the most simplistic definition, is an activity that changes people's behavior. Increased productivity is often said to be the most important reason for training. But it is only one of the benefits. Training is essential not only to increase productivity but also to motivate and inspire workers by letting them know how important their jobs are and giving them all the information they need to perform those jobs. It is believed across that the training provided to an employee in the organization elicit the efficiency and productivity in the workplace.

When effective training is provided, an organization not only reduces its turnover rate, but employees also perform efficiently in their roles.

In the past IT companies helped clients to run the business efficiently, but now there are also expectation that they should boost growth and enable high quality customer service and relation

management. So training of IT employees and their all round development has attracted a lot of attention with special emphasis on soft skills training.

IT Training is an important aspect as technology is growing knowledge and technology awareness should also increase for organization development.

IT Training is vital for organizational development and success. It is rewarding to both employers and employees of an organization. An employee will become more competent and dynamic if he is trained well. Training is given on four basic grounds:

1. New candidate who joins an organization is given training. This training makes him acquainted them with the organizational mission, vision, rules and regulations and the working conditions.
2. The existing employees are trained to rejuvenate and improve their knowledge.
3. If any up gradations and amendments take place in technology, training is given to manage with those changes. The employees are trained about use of new technology and implementation methods.
4. When promotion and career growth becomes important training is given so that employees are prepared to contribute to the responsibilities of the higher level job.

As mentioned by Carl Duncker following are the five major benefits of employee training:³

1. Impact on bottom line

When the training programs are effective it increases the productivity of the employee and thus contributes to improved bottom line.

2. Staff retention

When companies invest on training of employees and prioritizes them the staff turnover reduces and saves companies money in terms of not requiring to train new employees.

3. Improved quality and productivity

Training that meets both employee and employer needs, it increases the quality and flexibility of business services.

4. The flow-on effect

The benefits of training are not particular to a department. It can flow through to all levels of organization.

5. Remaining competitive

Businesses must on a constant basis change their work practices to stay competitive in the market and that is possible by training employees to manage the implementation of business strategies.

Major trends impacting skill requirements for the IT Industry

The major trends that would impact the human resource and skill requirements in the IT Industry are outlined below:

- Continuing demand for a skilled workforce: The IT industry would continue to grow at healthy growth rates over the next decade leading to a continuing demand for a skilled workforce. This will be lead by demand for engineering graduates as well as an increasing component of Science and graduates from other streams.
- Continuing and building upon transformation from IT Services to include IT Consulting: The IT industry and its human resource would need to build

consulting capabilities (architecture, application selection, solutioning, process engineering/re-engineering) to help them tap into higher value projects which would have several downstream revenue spin-offs.

- **Ability to Innovate:** IT companies would need to straddle the value-chain right from inventing to innovating to implementing till enhancing.
- **Increasing play in Migration Projects:** While a large proportion of projects would be in the maintenance space, the industry is likely to see an increasing share of projects which would involve migration across systems and platforms. This would be on account of consolidations and Mergers and Acquisitions occurring in several industry sectors globally.
- **Green IT and Cloud Computing:** This could be one more potential area for building scale and innovation going forward. This spans aspects both internal and external to the industry. Adoption by industry of Green technologies and practices including Green buildings, Green computing infrastructure e.g. energy efficient data centers, power efficient computers, sharing infrastructure e.g. shared data centres, addressing issues like e-waste management is a potential growth area. This has also a vast business opportunity in terms of consulting with clients on Green IT.
- **Increasing share of other business verticals:** While the IT industry has been dominated by the BFSI segment, the industry is likely to witness increased share from segments such as Retail, Telecom, Healthcare, Technology, etc.
- **Increasing play of Infrastructure Management Services:** This is likely to be major growth areas with companies increasingly outsourcing much of their

infrastructure management to Indian IT vendors, including ITIL management, and IT Service Management. *f*

- Larger share of newer markets: The industry is likely to see increasing share from continental Europe, Japan, and even continents such as Africa and Latin America.
- Increasing play in the Indian market: With increasing propensity of the Government to outsource more of IT (as evidenced by the e-seva facility for passports), this would be a large pie waiting to be tapped. Indian IT professions need to have a domestic market focus – right from pricing to local language skills in order to cater to this demand. Even software programming could witness a larger portion of local languages. Evolution of newer pricing models: The emergence of newer pricing models such as ‘outcome based pricing’ will demand higher productivity levels from employees.

Impact of the training programs to the performance of employee described in different research studies as below:

- Training has a positive impact on the different dimensions of the performance of the firm: product quality, product development, market share and growth in sales (Kalleberg and Moody, 1994)
- Higher investment in training results in higher profits (Kalleberg and Moody, 1994; d’Arcimoles, 1997)
- Higher investment in training results in a lower degree of staff turnover (Arthur, 1994);
- Training has a positive impact on the relationship between management and the other employees (Kalleberg and Moody, 1994)
- Training has a positive impact upon perceived personal performance (Delaney and Huselid, 1996)
- Management development is positively related to profit (Leget, 1997)

- Focus on training is positively related to perceived profit, market share and investment in the near future (Verburg, 1998)
- Training practices affect perceived organizational performance positively (Harel and Tzafrir, 1999). (Boselie et al., 2001)

Types of training

1. **Induction or Orientation Training:** Introducing a new employee to the organization's environment comprising of a day to day functioning, products, services, rules and regulations are termed as Induction or orientation training. The purpose of such training is to reduce the nervousness of a new joiner, by making him accustom to the working environment. It is also called as an orientation training, which means giving a fair idea to the new employee about, what he is supposed to do in the organization.
2. **Job Training:** This training is job specific and is given to the employee who has to perform that job. Under this training, the information about the machine, the process of production, methods to be used, the safety measures to be undertaken, etc. are explained. Through this training, the employee develops the confidence and the necessary skills that enable him to perform his job effectively and efficiently.
3. **Safety Training:** The safety training is given to the employees so as to minimize the number of accidents caused due to the handling of machines or other equipment. Under this training, the employees are given the safety instructions on the usage of machinery and the other dangerous devices.
4. **Apprenticeship Training:** Under this training, the worker earns while learning. This training is generally given to the technical staff, craftsmen, plumber, etc. who are required to work under the superior for a relatively longer period, until he gains the expertise in that particular field.
5. **Internship Training:** Under this type, the educational or vocational institutes have an arrangement with the industrial institutes to provide practical knowledge to its students. Sometimes, the companies also offer the pre-placement offers to the trainees on the basis of their performance during their internship program.
6. **Refresher Training or Retraining:** As the name implies, the retraining or refresher training is given to the old employees with the purpose of improving their efficiencies. They are

introduced to the new methods and technologies that would result in the increased productivity and reduces the monotony in their daily work.

7. **Promotional Training:** This training is given to the potential employees, who can be promoted to the senior position in the organization. The promotional training is given in advance so that employee gets accustomed to the new roles and responsibilities and do not get nervous at the time of promotion.
8. **Remedial Training:** This training is given in order to overcome the shortcomings in the behavior and performance of old employees. Due to the invention of technology, the employees may resist accepting the change and cause a disturbance in the organization. Therefore, such training is given to make them understand the importance of change and its necessity in the operations of business. This training is generally given by the psychological expert.

Thus, different kinds of training are imparted to the employees depending on their job position and the skills required performing a particular kind of a task.

Types of training in IT sector

- *IT Infrastructure Training* focusing on building, sustaining, and managing technical infrastructure.
- *Programming and Database Training* involving database construction and management, programming language, and similar areas.
- *Enterprise Business Applications Training* involving software applications that manage organizations' processes, such as ERP, CRM, call center management, automated billing systems, etc.
- *Desktop Applications Training* focusing on how to use programs and applications for desktop users.
- *Certification Training* including certifications, compliance, exam preparation, or boot camp style training programs.

- *Cyber Security Training* involving courses and training programs centered on IT network and system security.

Literature review

Siddheshwar S Salvi opines that training is an educational process. People can learn new information, re-learn and reinforce existing knowledge and skills, and most importantly have time to think and consider what new options can help them improve their effectiveness at work.

Hughey *et al.* (1997) says that almost all companies provide some type of training to its employees and in some companies it is a very formal process. Whether it is done for appearance's sake or genuinely, the need for employee training is increasing in direct relation to the rapid technology changes, and companies are beginning to understand that employee training have a intensely positive impact on productivity, job satisfaction and ultimately profitability.

According to Potter (2000) it is important to demonstrate a connection between the IT staff training costs and the benefits received. But companies need to determine which benefits to offer, in order to retain employees. He also mentions that training is the most requested item from employees in IT industry when job hunting, ranking above flexible schedules and higher salaries.

Babu *et al.* (2004) states that in order to keep pace with the software industry's increasingly changing knowledge and development requirements, companies confront immense challenges in deciding how to train their employees. In that perspective, formal training is becoming recognized by companies. It is not just important for the success of their professionals but also for their overall competitive position in the market.

Blanton *et al.* (2005) said that when IT managers come across a situation when goals are not met by company's current IT employees, results in problems of bridging the gap between the new

requirements and IT personnel's ability. He suggests that the managers must decide between four options; internally developing the existing IT employees, hiring new employees to bridge the gap, outsourcing to a third party or a combination of all three. It makes sense, when the gap is thin and time is of the essence, to choose internal development of the existing IT employees through training.

Heidi Kramer (2007) mentions that constant IT innovation makes technical competencies a fundamental requirement and continuous IT skills training a necessity.

Jelena Vemic opines in her article Employee Training and Development and the Learning Organization that change in technology, especially information technology, generates knowledge spreading up at tremendous speed, as well as its quick obsolescence. In the period between 1900 and 1950, the amount of human knowledge doubled, and since then it has doubled every 5 to 10 years. Knowledge is becoming obsolete so quickly that all of us need to double our knowledge every 2 to 3 years in order to keep up with the changes.

Research Methodology

In the context of the paper, data was collected through questionnaire from the employees to understand perception of employees about training and in-depth interview with managers for detailed understanding of their view about the subject. The data was collected from five IT companies in Bangalore.

Research questions:

1. How important is training?
2. How beneficial is training?

Research results

The research sample from five companies consisted of 228 employees and only 123 have answered

a) Profile of the respondents

More than 66% were male and the most common age distribution was 22-35 years with university degree from either Information technology or Computer science.

b) Hypotheses

Independent variables: Moderation of training, Areas of training

Dependent variables: Performance of employees, Regularity of implementation of skills acquired through training

a) H_0 : There is no relationship between the level of performance and the moderation of training provided by the company.

H_1 : There is relationship between the level of performance and the moderation of training provided by the company.

Moderation of training Performance	Intensive	Good	Average	Total
Above average	42	20	8	70
Average	8	18	7	33
Poor	2	5	13	20
Total	52	43	28	123

The critical value of the chi-square at 5 percent level of significance with 4 degrees of freedom is given by 9.488. The computed value of the chi-square (172.735) is higher than the critical value (9.488). The computed value of the chi-square falls in the rejection region and therefore the null hypothesis is rejected and it can be concluded that there is a relationship between the level of performance and the moderation of training provided by the company.

b) H_0 : There is no relationship between the areas of training and the regularity of implementation of the skills acquired through training.

H_1 : There is relationship between the areas of training and the regularity of implementation of the skills acquired through training.

Areas of training Regularity of implementation of skills	Technical	Business related	Personal development	Total
Very often	61	8	4	74
Sometimes	23	9	1	40
Rarely	6	10	1	9
Total	90	27	6	123

The critical value of the chi-square at 5 percent level of significance with 4 degrees of freedom is given by 9.488. The computed value of the chi-square (39.5) is higher than the critical value (9.488). The computed value of the chi-square falls in the rejection region and therefore the null

hypothesis is rejected and it can be concluded that there is a relationship between the areas of training and the regularity of implementation of the skills acquired through training.

Discussion

The result shows that the moderation of training does have an effect on the level of performance and the areas of training and the regularity of implementing the skills acquired through training are related.

Conclusion

The significance of training in the corporate world has been highlighted in the previous literature. The paper attempts to understand the importance and benefits of training particularly in the IT industry. Though in the real world numerous factors affect the level of performance of employees, training among them plays a vital role in improving the performance and productivity of employees. Thus, the organizations get placed in better positions to face the competition. Trainings provided to IT employees not only improve their overall performance to perform the current job but also enhance the knowledge and skills that would be necessary for the future job. The result of the research attempts in the paper suggests that moderation of training has an impact on performance of employees with regards to their jobs. The results also indicate that the implementation of skills acquired through training also is dependent on the areas of training.

References:

- Babu, R. and Devaraj, S., 2004. How to measure the relationship between training and job performance, Communications of the ACM, vol. 47, no. 5, pp. 63-67.

- Deepak Chawla and Neena Sondhi., 2011. Research Methodology, Concepts and cases, Vikas Publishing House Pvt Ltd, pp. 403 – 404
- Jelena Vemic, Employee Training and Deveopment and the Leraning Organization, Vol 4 2007. [Online] Available from: <http://facta.junis.ni.ac.rs/eao/eao2.pdf>
- Karim, M.R., Huda, K.N. and Khan R.S. (2012). Significance of Training and Post Training Evaluation for Employee Effectiveness: An Empirical Study on Sainsbury's Supermarket Ltd, UK. International Journal of Business and Management, Vol. 7 (18), pp. 141-148
- Potter, J., 2000. Show me the Money, In IT Training!, *SIGUCCS '00*, Richmond, Virginia, USA. ACM, p. 252-257.
- Siddheshwar S. Salvi, What is Training and Developement? [Online] Available from: https://www.amherst.edu/offices/human_resources/training/whatistraining
- Susan D. McClelland. A Training needs assessment for the united way of dunn country Wisconsin, August 2002. [Online] Available from: <http://www2.uwstout.edu/content/lib/thesis/2002/2002mcclellands.pdf>
- <http://www.indiaeducation.net/computers-it/the-future-scope-of-the-it-industry-in-india.html>
- <https://trainingindustry.com/wiki/it-and-technical-training/it-training/>
- <https://www.autodesk.com/redshift/importance-of-employee-training/>
- <http://articles.submityourarticle.com/five-business-benefits-of-employee-training-programmes-7892>
- <https://trainingindustry.com/wiki/it-and-technical-training/it-training/>
- <http://www.wagonslearning.com/it-ites-training-services/>
- <https://glpc.guj.nic.in/pride/ADMINUI/Resourcefiles/Res220IT%20ITES%20Industry.pdf>