



TRANSFER OF LEARNING IN IT INDUSTRIES- FACILITATING AND INHIBITING FACTORS FOR EMPLOYEES' PERFORMANCES

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ABSTRACT

In today's workplace, employees need to improve their knowledge and skills continuously to be able to perform their jobs. Hence, leaders of organizations are seeking to apply the most effective training strategies to ensure maximum performance and profitability. In this context, it is vital to understand the factors that influence the transfer of training in organizational environment. The literature review on work environment and job performance shows the importance of training transfer. It is observed that transfer of learning will only occur when trainees have positive perception on the work environment. In IT Industries, it is utmost important to develop training systems, and applying new knowledge's in their workplace settings. Therefore, the purpose of this research is to investigate the facilitating and inhibiting factors influence employees job performances and motivation to transfer training through a proposed framework that relates the employees' perceptions of work environmental factors to effective training strategies. Thus, this research will attempt to fill the gap in the existing literature by investigating learning transfer in IT sectors.

Keywords:

Transfer of Learning, Training Transfer, Work Environment, facilitators, inhibitors and job performances.

INTRODUCTION

Despite the ambiguities surrounding transfer of training of management, the field of training research has recently undergone a major paradigm shift with the development of several integrative models designed to explain the measuring factors affecting transfer of learning and training (Holton et al, 2000). In general terms, the transfer of training refers to the process of the implementation of knowledge, skills, attitudes and other qualities acquired during a training programme to improve productivity, effectiveness and job satisfaction (Machin, 1999). In order to prevent losses associated with a decline in performance, it is essential to consider the transfer of training as a vital constituent of the training process adopted by managers and programme participants (Machin, 1999). The main purpose of the transfer of training

is to enhance the return on investment from training. Therefore organisations must understand the variables associated with transfer of training, so that they can promote those which enable transfer and intervene to limit those which inhibit it (Baharim, 2008).

"Training transfer is the degree to which trainees effectively apply the knowledge, skills and attitudes gained in training context to the job" Wexley & Latham (1991 cited in Park, J, 2007, p. 13). Furthermore, transfer of training outcomes is learning. Therefore, learning at work is defined as observed changes in workplace behaviour attributable to new knowledge and skills (Ivergard & Hunt, 2004). The production activities that follow a successful exploration programme involve some risks including training risks that impact on investment in the oil sector (Biltayib, 2006).



Clearly, identifying these risks, their impacts and developing detailed management plans to avoid or minimise them is a vital and integral part of planning these exploration and production activities (Biltayib, 2006). A common tool used to avoid training risks is to know the factors which affect the transfer of training. There is a lack of understanding of training needs assessment and training evaluation. This inhibits human resource development initiatives; the effectiveness of training and plays a major role in determining the utility of training and development in the human resource management area. (Elangovan & Karakowsky, 1999).

The need for transfer of training is an important aspect for organizations. This is shown by a clear definition of the training aims. In this context, over the years, an extensive literature on transfer of training has developed. Most of the research relating to this issue has been on identifying how transfer of training is perceived by different interested parties and factors influence management training. The majority of the research on transfer of management training has been conducted in developed countries (the USA, the UK, Australia, and Canada) with a little only in some developing countries (Malaysia, and Nepal).

Training and Transfer of Training

In order to survive and obtain advantages in any work environment, companies need to be able to innovate and assimilate new knowledge. Knowledge has therefore become an increasingly important asset for most firms (Handy, 2008). Therefore, training is one of important methods to obtaining knowledge and skills. Outcomes of training have historically been a critical topic of investigation in human resource development (HRD) and adult education research (Holton et al., 2003). The aim of training is creating learning processes that contribute to improving the performance of workers in their current job (Baharim, 2008).

In this context, in an HRD environment, training is often defined as a planned learning experience designed to bring about permanent change in an individual characteristic, knowledge, attitudes, or skills (Campbell et al., 1970). Tziner

et al., (1991) provided another definition that links the acquisition of knowledge and skills gained through training to an application in the workplace and noted that the fundamental purpose of training is to help people develop skills and abilities which, when applied at work, will enhance their average job performance in their present job.

Goldstein (1992 cited in Handy, 2008) provided a definition that related training to individual performance which is, arguably, a more apt descriptor of HRD objectives.

He defined training as the systematic acquisition of attitudes, concepts, knowledge, roles or skills that result in improved performance at work. Generally, it has been found that most workplace training definitions in the international literature emphasise the current job as the focus. The understanding that employees learn both formally from training programs, and informally from their environment recognizes the contextual environment of the training program (Rein, 1997).

The previous definitions included both training and application for training. Therefore, the definitions involved a strong link between training and transfer of training. Transfer of training consists of two elements: general or specific transfer. On this view, general transfer refers to the application of learned knowledge and skills to a higher level or to a more complex work situation. It occurs when a trainee has understood the general skills or concepts and generalised their application. The transfer occurs when the trainee can apply what has been learned in the training environment to work (Cormier and Hagman (1987 cited in Handy, 2008).

Transfer of learning, the degree to which trainees apply to their jobs the knowledge, skills, and behaviours learned in training, is now widely acknowledged to be the paramount concern of organisational training initiatives (Baldwin & Ford, 1988; Tannenbaum & Yukl, 1992). Persistently low estimates of the application rates generated from corporate training expenditures suggest that, despite an explosion of literature attention to transfer in recent years, the “training problem” remains acute (Anthony & Norton, 1991; Garavaglia, 1993).



Unfortunately, estimates suggest that no more than 10 percent of these expenditures typically result in transfer to the job (Baldwin and Ford, 1988; Holton & Baldwin, 2000; Kupritz, 2002).

Theories and research fields have emerged to analyze how individuals, or trainees, apply the knowledge and skills gained in training to their real-world workplace environment. This aspiration to successfully transfer learning has intensified in recent years due to economic challenges, an evolving workforce, and increased organizational focus on measuring and justifying investments. Information Technology (IT) and Information Technology industries are the prime movers of the service sector.

The application of these skills has also been described as an ongoing exercise rather than a once-off task. In this sense, transfer of training has been described as the maintenance of skills, knowledge and attitudes over a certain period of time (Baldwin & Ford 1988). There are a distinction between near transfer and far transfer in a training context. In transfer context, near transfer occurs when trainees apply what was acquired in training to situations very similar to those in which they were trained. Far transfer, in contrast, occurs when trainees apply the training to different situations from the ones in which they were trained (Laker, 1990). Transfer of training is generally defined as the degree to which trainees apply the knowledge, skills and attitudes gained in training to their job (Wexley & Latham 1991; Tannenbaum & Yulk 1992; Ford & Weissbein 1997). Transfer of training needs to be considered as a multidimensional construct because different researchers view transfer of training differently, attributing a variety of features to its definition. For example, Wexley and Latham (1991) suggest that transfer can be measured as a positive, negative or a zero. Positive transfer occurs when learning in the training situation results in better performance on the job. This reflects the general assumption behind most definitions of transfer of training. Negative transfer occurs when learning in the training situation results in poorer performance on the job. Zero transfer, not surprisingly, occurs when learning in the training situation has no

effect on the job performance. Training that results in negative or zero transfer is either detrimental or of no value to an organization from a cost/benefit perspective (Wagner & Campbell, 1994). Thus, organizations leaders must establish strategies, which can enhance the transfer of training in workplace. These strategies must include the relationship between training programs, and workplace situations.

Motivation for The Transfer of Training

Many researchers have acknowledged that transfer of training will occur when the trainees have the motivation or desire to use the skills in the workplace (Baldwin & Ford, 1988; Noe, 1986; Wexley & Latham, 1991). Baldwin and Magjuka (1991) tested a model of motivation and its influence on transfer. Their study hypothesize that trainees will have greater intentions to transfer training to the job when they receive information about the training program, recognized that they would be accountable for their learning by their supervisor, and perceived a program as mandatory. During the study they asked trainees to comment on their training program and the extent of using what they learned in the job (Baldwin & Magjuka, 1991). Baldwin and Magjuka's (1991) concluded that trainees interpret these actions as management's encouragement for transfer and that trainees reported greater intentions to transfer learning to the workplace.

Naquin and Holton (2003) also examined the role of motivation. Their study focused on motivational influences that leads to improved work outcomes from training, the authors suggest that motivation should encompass both motivation to learn and motivation to perform using that learning.

Work Environmental Factors and Trainees' Motivation

Although trainees may be able to apply the knowledge and skills from training program place to workplace, there are variables of the work environment that may impact on their abilities to transfer these skills. Noe (1986) argued that environmental favorability is an important factor influencing the subsequent transfer of training. The



study included both situational or task constraints and the perceived social support for training. Work environment may motivate trainees' to transfer their skills to the job, and may be discouraged trainees' to transfer what they learned (Tannenbaum & Yukl, 1992). There exist a number of variables involved in the training situation upon which the effectiveness of training may be contingent, many of which may lie outside the actual experience of the training (Clarke, 2002). Hence, transfer of training is complex and includes many factors that impact in many parts in work in organizations. However, significantly less has been done to understand how transfer-related factors present themselves in organizations and how these factors can be effectively changed or managed (Holton et al., 2003). A review of the literature included factors that most affect transfer of training can be classified into two categories: factors related to the work system and people-related factors (Handy, 2008). Some researchers (Baldwin et al., 1991; Holton et al 2001) have defined work environment factors also motivation in transfer of training. Measuring these factors separately makes it easier to delineate the specific factors in the work environment that impact transfer (Handy, 2008).

Concept clarification

Training:

The word "Training" is an encompassing term, which is often used, in describing changes occurring in our behaviours because of an experience we have encountered at some point in our lives. Training is defined as 'any attempt to improve employees' performance on a currently held job or one related to it (Bernardin, 2003). Training is a process, which is planned to facilitate learning, so that people can become more effective in carrying out aspects of their work (Bramely, 1991), Davis & Davis (1998) offer a comprehensive definition of training. Here are the key points of their definition:

- Training is always a process, not a programme to be completed.
- Through training skills are developed, information is provided, an attitude is nurtured.
- Training helps worker quality for a job.

- Training facilitates training.
- Training should always hold forth the promise of maximising learning.

Learning:

- A generally accepted definition of learning is "a relatively permanent change in behaviour that occurs as a result of practice or experience" (Bass and Vaghan, 1967:8).
- The term learning indicates 'any experience or event whose outcome (whether or not intended) develops or changes people's knowledge, skills, values or behaviour (Harrison, 2000)
- Learning is therefore a continuous process and 'learning to learn' is the most fundamental learning of all (Honey, 1998, Armstrong, 2001).

Transfer of Learning (TL)

- The terms 'transfer of learning' and 'transfer of training' are usually found mutually exclusive in training and development literature. However, transfer of learning relates to generating knowledge and information through education, which refers to the capacity to generalise and learn by analogy. Active learning is an important criterion for transfer to occur. Active learning requires the learner to be involved in the learning process by making conscious effort to learn. The psychological processes of logical thinking and reasoning facilitate the process of recognising and solving problems in new contexts by applying the solution or analogy from the previously acquired knowledge and skill (Misko, 1999). This process is also called 'case-based reasoning' in transfer of learning.

Facilitators and Inhibitors of transfer of learning from the place of training to the workplace:

Facilitating factors of Transfer of Learning:

- Favorable transfer climate
- Supervisory support
- Sufficient resources
- Support for freedom
- Support for creativity
- Coworker attitude



Inhibiting factors of Transfer of Learning:

- Heavy workloads
- Lack of supervisory support
- Lack of timely and proper feedback
- Rigid rules and conservativeness of the organization
- Lack of freedom to introduce change
- Lack of encouragement for innovation
- Lack of facilities and other resources.

Information Technology Industries

The IT industries in India are increasingly being viewed as a growth engine of the Indian economy, contributing substantially to increase in the Gross Domestic Product (GDP), urban employment and exports. As a proportion of national GDP, the sector revenues have grown from 1.2 per cent in the financial year 1998 to an estimated 27.8 per cent in the financial year 2024.

According to the NASSCOM Indian IT-BPO Industry 2012 report, the Indian IT-BPO industry is estimated to achieve revenues of US\$ 141.7 billion in the financial year 2022, with the IT software and service industry accounting for US\$ 60 billion of revenues. Furthermore, direct employment in the sector will reach nearly 2.53 million, an addition of 256,000 employees, while indirect job creation is estimated to touch 8 million. This amounts to the net value-added by this sector, to the economy as 12.5–35.1 per cent for the financial year 2024.

Although the IT industries are somewhat similar, yet there are certain major differences in the level of people interface, professional demands and competence of the employees. The IT sector is specifically more knowledge-oriented, may be 24 × 7, flexible, and requires relatively more creative solutions to the business issues.

Transfer of Training: Literature Review

Formal employee training typically involves learning new knowledge, skills, attitudes or other characteristics in one environment (the training situation) that can be applied or used in another environment (the performance situation) (Goldstein and Ford, 2002). Presumably, what was learned in training should be applied to

performance on the job. However, a common experience is that learning from a formal training program is not carried back for application on the job. In their study of sales training at Xerox, Rackman and Ruff (1991) reported there was an 87% of loss of skills within one month of the completion of the training. Baldwin and Ford (1988) note some estimates that suggest only 10% of training outcomes are transferred back to the job. With reported annual training investments exceeding \$50 billion in the United States (Industry Report, 2000), the amount of dollars wasted by nontransfer can be staggering.

The issue of carry-over from training to the performance situation is referred to as the problem of the “transfer of training.” Baldwin and Ford (1988) define the positive transfer of training “as the degree to which trainees effectively apply the knowledge, skills and attitudes gained in a training context to the job” (p. 63). This basic definition has been elaborated in two related ways. First, there can be transfer to “near” situations (similar to the training conditions) and/or to “far,” dissimilar situations (Laker, 1990). A second elaboration is that of *generalizing* learned skills to different settings, people and situations (far transfer) as well as *maintaining* the application of learned skills over time (Ford and Weissbein, 1997). Given the stakes involved, it becomes very important to understand the dynamics of transfer in order to look for ways to minimize transfer losses while improving the yield from any training program. While the question of transferability of training has been present in the field of applied psychology nearly from the start (e.g., Thorndike’s work in the early 1900’s considered the transfer of learned behaviors from one setting to another), specifically focused interest on transfer in the context of formal organizational training only surfaced in the mid-1970’s. This paper was intended a primer on transfer of training in work settings. The early theoretical musings on transfer was examined first, followed by a review of the ways by which transfer was operationally measured. Then, the research literature on transfer was examined. Finally, the research findings were summarized in a series of propositions about managing transfer of training



Literature summary and research gap:

The proposed research on the topic, ‘Transfer of Learning in IT industries: Facilitating and Inhibiting factors for employees Performances’ is still in its infancy stage. So far, the researcher reviewed nearly 45 research articles on the proposed topic. Out of these 45 articles reviewed thirty-eight are foreign studies and seven are Indian studies. No much study conducted on transfer of learning in IT industries. Further, almost all articles examined but not much link between present research area. No study on proposed topic was made in software industry in India or in Karnataka. Therefore, it could be stated at this stage that the proposed field of investigation was under researched area.

OBJECTIVES OF THE STUDY

The specific objectives of proposed study are:

1. To identify major factors which facilitated transfer of learning
2. To understand major inhibiting to transfer of learning
3. To raise major implications for promoting transfer of learning in IT industries.

SURVEY FINDINGS

More than 130 survey responses came in the field of IT industries in Mangaluru city, out of that taken 100 responses that have filled questionnaires properly.

1. RESPONDENTS’ PROFILE

Particulars	No. of Respondents
Team or project/program Manager	36
Senior-level IT manager	11
IT Analyst	09
HR/T&D/Learning Manager	07
Other	37

2. More than 70 percent of the respondents positively agreed that managerial department involvement as part of the learning transfer process.

3. Nearly 60 percent of the respondents opined that a systematic approach at their organization that prepares a trainee to transfer or apply learning after training to their job and workplace environment and remaining 39.1 percent of the respondents not agreed.
4. 32.8 percent of the respondents agreed that a formal process or system for ensuring that training is applied successfully at their organization and major percentage that is 67.2 percent of the respondents not agreed. Here it is clearly understood that, company spends lots of money for their training but at the end the result is not up to the level.
5. 68 percent of the respondents’ opined that training or learning applied back on the job and nearly 32 percent of the respondents not agreed.
6. The primary method utilized to prove or measure this estimate of learning transfer:

Particulars	No. of Respondents
Informal feed-back	36.2
Surveys	20.1
Formal interview/discussion	13.2
Simply a guess	22.5
Detailed analysis	08.0

7. More than 58 percent of the respondents opined positively regarding trainee’s peer group, or co-workers, positively or negatively influence the ability to apply what they have learnt at their organization.
8. Program design strategies to ensure that the trainee is able to transfer the learning to the workplace.

Particulars	No. of respondents
Design the training program around organization’s business needs	45
Establish specific goals between trainee and their direct report/manager-	32



The specific learning activities to specific business outcomes-	12
make sure the learning modalities simulate the actual work environment	07
Other	04

9. The main strategies, which felt the most important for the transfer of learning at their organization:

Particulars	No. of respondents
Trainee's ability (time, resources, responsibilities) to apply	29
Manager support	24
Instruction/training approach simulates actual work environment	22
Post-instruction reinforcement	11
Reward/consequences for transfer of learning	06
Preparation in advance of training instruction	05
Other	03

CONCLUSION

Transfer of learning is the objective of most learning programs and it has important implications for the extent to which a learning

program will benefit an organization and provide a return on investment. However, learning transfer continues to be a problem, and has not improved significantly over the last 15 years, with about one-third of employees not applying what they learn immediately, and only about one-third continuing to apply what they learn one year later. A number of barriers are associated with the transfer problem and occur throughout the learning process.

Organizations can improve learning transfer by including various activities before, during, and after learning. Activities at all three time periods were found to predict the learning transfer, especially those that occur before and after. The good news is that they are relatively easy to implement and they are not costly. Organizations have much to gain by including transfer-relevant activities. Therefore, it might be useful to conduct a learning transfer audit to determine the extent to which our organization currently uses the different activities before, during, and after learning, and on the basis of our findings, determine what activities we need to include and when. While learning transfer continues to be a problem for many organizations, it is possible to do something about it. By incorporating transfer activities, organizations can lower the barriers to transfer and increase the probability that employees will return to work ready, willing, and able to apply what they learned to their job.

References

- 'Applying Training and Transferring Learning in the Workplace: How to Turn Hope into Reality', ESI International, Inc. 2011, pp. 2-20
- Anupama Phene, Anoop Madhok and Kun Liu (2005), 'Knowledge Transfer within the Multinational Firm: What Drives the Speed of Transfer?' *MIR: Management International Review*, Vol. 45, No. 2, Knowledge Transfer in Multinational Corporations, pp. 53-74.
- Bernard L. Simonin, (2004) 'An Empirical Investigation of the Process of Knowledge Transfer in International Strategic Alliances', [Journal of International Business Studies](#), Vol. 35, No. 5, pp. 407-427.
- Bhawani Shankar Subedi (2004), 'Emerging Trends of Research on Transfer of Learning' *International Education Journal* Vol 5, No 4, pp. 591-598.
- Dale Curry, Robin Leake (2001), *Evaluating Level 3 (Transfer of Learning)*, pp. 55-73
- Dana B. Minbaeva (2007) 'Knowledge Transfer in Multinational Corporations', [Management International Review](#), Vol. 47, No. 4, pp. 567-593



- Daniel J. Williams (2008) An analysis of the factors affecting training transfer within the work environment, Wright-Patterson Air Force Base, Ohio, pp. 1-71
- Daniel Z. Levin and Rob Cross (2004), 'The Strength of Weak Ties You Can Trust: The Mediating Role of Trust in Effective Knowledge Transfer' [Management Science](#), Vol. 50, No. 11, pp. 1477-1490.
- David N. Perkins (1992) "Transfer of Learning" International Encyclopedia of Education, Second Edition, Oxford, England: Pergamon Press, pp. 1-13.
- Dennis Epple and Linda Argote , Kenneth Murphy(1994) 'An Empirical Investigation of the Microstructure of Knowledge Acquisition and Transfer through learning by Doing', Operations Research, Vol. 44, No. 1, Special Issue on New Directions in Operations, pp. 77-86
- Erik De Corte (2003) 'Transfer as the Productive Use of Acquired Knowledge, Skills, and Motivations', [Current Directions in Psychological Science](#), Vol. 12, No. 4 , pp. 142-146.
- Gustavo A. Perez (2006) 'Customer service training program delivered by line managers to Call center employees in a fortune 200 financial services company', University Of North Texas, 1-73.
- Harrison.R (2000), 'Employee development', London, Chartered Institute of Personnel and Development.
- James B. Thomas, Stephanie Watts Sussman and John C. Henderson (2001), 'Understanding "Strategic Learning": Linking Organizational Learning, Knowledge Management, and Sensemaking' [Organization Science](#), Vol. 12, No. 3, pp. 331-345
- Kailash. B.L., Sunita Deb., Srivastava., Prasad.A.P(2001) 'Evaluating Training Effectiveness and Customer Satisfaction in Tata Steel, A case study, Indian Journal of Training and Development, 45-55
- Kontoghiorghes (2001), 'Factors affecting training effectiveness in the context of the introduction of new technology- A US case study', International Journal of Training and Development; 5:4, pp. 248-260
- Liebermann.S., Hoffmann.S (2008), 'The impact of practical relevance on training transfer: evidence from a service quality training programme for German bank clerks', International Journal of Training and Development, 12, 2, pp. 74-83.
- Linda Argote., Sara L. Beckman and Dennis Epple (1990), 'The Persistence and Transfer of Learning in Industrial Settings' Management Science, Published by: Informs, Vol. 36, No. 2, pp. 140-154
- Michael Leimbach (2009), 'Learning Transfer Model: A Research-Driven Approach to Enhancing Learning Effectiveness' Wilson Learning Worldwide, published by Emerald Group, pp1-6.
- Norihito Furuya, Michael J. Stevens, Allan Bird, Gary Oddou and Mark Mendenhall, 'Managing the Learning and Transfer of Global Management Competence: Antecedents and Outcomes of Japanese Repatriation Effectiveness' [Journal of International Business Studies](#), Vol. 40, No. 2 (Feb. - Mar., 2009) (pp. 200-215)
- [Paula Bernsen](#), [Mien Segers](#), [Harm H. Tillema](#) (2009), [International Journal of Human Resources Development and Management](#), Vol. 9, No.4 pp. 358 - 373.
- Phillips. J.J, Phillips.P.P, and Hodges. T.K (2004), 'Make Training Evaluation Work', ASTD press, USA, pp-28
- Randi A. Engle • Phi D. Nguyen • Adam Mendelson (2010), 'The influence of framing on transfer: initial evidence from a tutoring experiment' Springer, pp. 603-628.



- Raquel Velada António Caetano, John W. Michel, , Brian D. Lyons Michael J. Kavanagh (2007), 'The effects of training design, individual characteristics and work environment on transfer of training', *International Journal of Training and Development*, [Volume 11, Issue 4](#), pp. 282–294.
- Reid Bates and Samer Khasawneh (2005), 'Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations' *International Journal of Training and Development* 9:2, Blackwell Publishing Ltd. 2005, USA, pp. 96-109
- Reid. M.A and Barrington. H (1997), 'Training interventions: Managing employee development' 5th edtn, London, Institute of Personnel and Development.
- Ruth Benander and Robin Lightner (2005) 'Promoting Transfer Of Learning: Connecting General Education Courses', [The Journal of General Education](#), Vol. 54, No. 3 ,2005pp. 199-208.
- S. N. Biswas (1998), 'Factors Affecting Training Effort: Influence of Involvement, Credibility, Utility and Training Transfer Climate' *Indian Journal of Industrial Relations*, Shri Ram Centre for Industrial Relations and Human Resources Vol. 33, No. 3, pp. 313-328
- Singh. P(1993) 'How to evaluate training programmes?' *Indian Journal of Training and Development* 23, 1, pp. 39-50
- Sirianni.M., Patricia and Frey. A.Barbara (2001), ' Changing a culture: evaluation of a leadership development program: Mellon Financial Services; *International Journal of Training and Development*, 5:4, pp.290-299.
- Stephanie Doyle (2002), *Putting Learning To Work: The Distance Learner And Transfer of Learning*, New Zealand Council for Educational Research, New Zealand
- Virmani. B.R (1989) 'Management training and development: an evaluation approach' *Indian Journal of Training and Development* 19, 5, pp. 61- 75

