Impact of Training Transfer on Learning and Development in Information Technology Services: A Literature Based Analysis of further Scope for Research

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Abstract: Training transfer literally means that learners are able to "transfer" their knowledge and skills learned in a training session in their jobs during their real time work execution. The significance of training transfer cannot be overemphasized in the current scenarios. Organizations spend billions of dollars each year on training, yet only a fraction of that investment results in improved performance if training transfer is not supported by stakeholders. These include managers, peers, customers and the employer. Stakeholders also assume responsibility for supporting transfer. The goal of training is not simply to gain knowledge and skills, but to transfer learning into performance, which in turn leads to improvements in organizational effectiveness. Training transfer is not an event; it is a dynamic and complex process that requires planning. An attempt has been made through this paper to explore the basic constructs of training transfer and identification of research gaps to explore and implement a sound training transfer system in IT organizations'.

Key Words: Training Transfer , IT, ITES , Knowledge Economy and Return on Investment.

1. INTRODUCTION:

Understanding motivation to transfer training is important for the management community. The modern business environment is a rapidly changing, dynamic, and highly competitive global workplace for many business organizations (O'Meara, et al. 2000; Daft 2004). As businesses enter the realm of the global marketplace, the need to maintain a skilled and highly effective workforce becomes a critical component to sustaining and growing their market share (Noe, 2005). However, the ability for a workforce to perform effectively requires a prescribed level of knowledge and expertise at most if not all levels of the organization. As situations within the global marketplace arise, problems develop that require quick resolution in order for the business to continue operating efficiently. The level of expertise of the workforce coupled with the leadership abilities of management can either propel a business forward or leave it in a precarious position in the market.

Employee training and development is one way for employees to gain both knowledge and expertise in the workplace (Ford, 1997). Employee training is crucial for organizations in securing a competent and effective workforce.

For an organization to ascertain the effectiveness of its training, an established means to evaluate training in terms of its *training transfer* is essential. *Training Transfer, Learning Transfer* or simply *Transfer* are terms used to denote the level of information an employee receives from some form of training event such as in a traditional classroom training session that is then utilized by the employee to improve job-related performance (Baldwin & Ford, 1988). In other words, training transfer is the process an individual undergoes to use information gained through training to directly improve job performance.

However, training transfer is not limited to the cognitive learning process itself but includes the additional internal and external elements that impact the training process and ultimately the level of transfer and performance that occurs (Bates & Khasawneh, 2005).

External factors of organizational climate, transfer climate, and work environment have been shown in research studies to have a significant impact on the quality of transfer (Bates & Khasawneh, 2005; Hawley & Barnard, 2005; Burke & Hutchins, 2007).

Burke and Hutchins (2007) categorize these internal and external elements into three primary factors: learning characteristics, intervention design and delivery, and work environment influences. While these issues are considered in evaluation of training, improvement of employee performance is the central catalyst for evaluating training effectiveness (Byham, et al., 1976; Burke & Baldwin, 1999; Olsen, 1998; Kirwan & Birchall, 2006; Saks & Belcourt, 2006; Subedi, 2006).

Training is universally considered to be important in management theory, but little is known regarding possible differences between supervisors and subordinates they supervise in training transfer from the perspectives of ability, motivation, and the work environment.

Factors affecting training transfer are an understudied area of research (Baldwin & Ford, 1988; Holton, 1996, 2005; Salas & Cannon-Bowers, 2001), and little is known regarding how training transfer may differ between team managers and team members.

2. RATIONALE FOR RESEARCH:

The emergence of IT industry has led to proliferation of tools and one is expected to learn and master lot of skills in a short time. Organizations need to spend lot of time and money towards training. However, deadlines and customer pressures drive managers to deploy resources with half knowledge and try to deliver products. The work force somehow manages to come up with miraculous results of delivering on time, but what suffers is quality of work. Finally there is lot of re-work and customer dissatisfaction.

This situation can be avoided by ensuring that the team is well-trained on the skills required and then expecting the team to deliver quality work. If a software/hardware project is to be compared to building of a house, would one allow a half-knowledgeable mason to build the house?

The reality is the work force has shortage of skills / skilled manpower. Typically skill level of an individual can be decided on the following four stages of learning (Burch, 1974):

1. *Unconscious Incompetence*: We are ignorant of the fact that we don't know the skill
2. *Conscious incompetence*: At this stage, we know that we don't know the skill. This triggers zeal to learn and improve. This stage is very frustrating as the learning starts from this stage once we are aware of our incompetence.
3. *Conscious competence*: At this stage, we know how to do and we are aware of using the skill. This is a stage that needs lot of practice and effort.
4. *Unconscious competence*: We become experts in the skill and can apply the skill without any effort.

A person in stage 1 and 2 definite needs training and can reach stage 3. The only way a person can move from Stage 3 to Stage 4 is by putting the skill to use. So it is very important that any person in Stages 1 or 2 of a skill is not asked to put the skill to work. Then the person obviously cannot perform the way a person in Stages 3 or 4 can perform. Therefore, effective training transfer is highly critical for organizational success.

3. STATEMENT OF THE PROBLEM:

To better understand the struggles that learning leaders experience with knowledge transfer, they were asked to explain their training organization's greatest knowledge transfer challenge (Raytheon, 2012). Learning leaders cited the following as their primary challenges:

a) No formalized knowledge transfer approach
b) Limited, or lack of, resources (e.g., time, staff, budget)
c) Collaboration and consistency across roles, departments and geographic regions
d) Accurately and efficiently capturing, translating, organizing, and storing information
e) Employee cooperation and involvement
f) Keeping information and knowledge centres / repositories organized, relevant and current

The I.T. industry has been slowly shifting the focus on online training and learning. The use of social media is rampant and has helped cut travel and other costs. Many times the employees are left on their own to learn from peers, programmed instructions and social media. In the light of changed learning environment it is prudent to research on training transfer in the millennial I.T. setting.

4. OBJECTIVES:

The primary objective of the training is to research about training transfer in information technology services.

The secondary objectives are:

a) To explore the determinants of training transfer and development.
b) To ascertain the causal relationships among the study variables with the help of a conceptual framework.
c) To scrutinize the demographic profile of team managers and team personnel in information technology services and the impact of such characteristics on the study variables.
d) To formulate strategies for effective training transfer and greater career development of IT employees.

5. SCOPE OF RESEARCH:

i. The facets of factors contributing significantly to training transfer would be compiled and documented through review of related literature in order to propose a conceptual framework and research model.

ii. It would serve as a starting point from where problem areas in training transfer that need immediate attention would be identified. This research would provide immense insights for Learning and Development (L & D) managers to suitably change their training strategies to ensure gaps in training transfer are nullified.

iii. It would serve as a barometer to gauge the level of satisfaction with determinants affecting training transfer and development attributes.

iv. It would serve to gauge the effectiveness of training transfer in terms of its impact on individuals, teams and organizational learning and development.

v. There would be value in knowing how development is impacted by training transfer and demographics.

vi. The I.T. service sector is facing stiff competition from within and abroad and it is critical to manage its human resources. This research would help in understanding training transfer scenario which is highly critical for organizational success.

6. REVIEW OF LITERATURE:

Terminologies

Team Manager (Team leader or Supervisor) is defined as an employee with the responsibility and authority provided by the employer to direct other employees in the performance of their job duties. This direction includes the assignment of work, the determination of performance, and the ability to impose disciplinary actions if required. Team managers' responsibility and authority is assigned by senior management.

T*eam personnel* denote the employee group performing their job duties with the project team and accountable to team managers.

Training is the process by which employees "…acquire the knowledge and skills related to their work requirements by formal, structured or guided means" (Westhead & Storey 1996, p. 14) and will be used interchangeably with learning. Training or learning, in the context of this study, occurs in a classroom setting.

Training transfer describes the degree to which trainees apply knowledge, skills, behaviors, and attitudes learned through training (Holton, et al., 1998) It is "…the effect of training on the subsequent performance of an operational task (Brinkerhoff & Montesino, 1995)". Baldwin and Ford (1988) define 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…maintained over a period of time."

Transfer climate describes organizational variables such as supervisor and organizational support that limit or augment application of knowledge and skills learned in training (Mathieu, et al., 1992).

Transfer system refers to "…all factors in the person, training, and organization that influence transfer of learning to job performance," (Holton, et al., 2000). Factors such as supervisor support, employee peer support, opportunity to use new skills on the job, perceived content validity, and transfer design are included (Gaudine & Saks, 2004).

Learning is defined as "The acquisition of knowledge by individual employees or group of employees who are willing to apply that knowledge in their jobs in making decisions and accomplishing tasks for the company; a relatively permanent change in human capabilities that does not result from growth processes" (Noe, 2005).

The I.T. and ITeS sector comprise of services that are related to information technology, research and development services as well as engineering designs, hardware and BPO**.**

I.T.: The application of computers and telecommunication equipment to store, transmit, retrieve, and manipulate data, in context of business or an enterprise.

ITeS: Information technology enabled services (ITES), is a form of outsourced service which has emerged due to involvement of IT in various fields such as banking, finance, telecom, insurance among others. Some of the examples of ITES are medical transcription, back-office accounting, insurance claim, credit card processing and many more.

7. LEARNING TRANSFER SYSTEM INVENTORY (LTSI):

The LTSI measures 16 factors in transfer that will either facilitate or prevent effective transfer. These factors are based upon Holton's model of transfer (Holton, et al., 2000, 2003). The instrument is divided into two construct domains.

The first section is training event specific and assesses an individual's perception after attending a training program. This section contains forty-six items measuring eleven constructs. These constructs include learner readiness, motivation to transfer, positive personal outcomes, negative personal outcomes, and personal capacity for transfer, as well as peer support, supervisor support, supervisor sanctions, perceived content validity, transfer design, and opportunity to use.

The second domain examines training from a general organizational perspective and relates to training beyond a specific training event or session and evaluates a training program. This portion contains twenty-three questions built to measure five constructs of transfer including effort performance, performance outcomes, openness to change, performance self-efficacy, and performance coaching (Holton, et al., 2000).

These 16 constructs are categorized into three major groups: personal factors, training factors, and work environment factors (Holton, et al., 2003).

A major aspect in the development of LTSI is to create a generalized tool to study transfer from multiple settings and organizational types. This facilitates more effective cross-study comparisons and removes redundancy of various researchers creating different instruments to study in effect the same concept, effective transfer (Holton et al. 2000). This allows greater opportunities for researchers to develop a more comprehensive understanding of transfer and associated dynamics as well as provide a valid and reliable instrument to measure transfer in the field settings of work environments (Holton et al., 2007).

The LTSI was developed by Holton et al. (1997) to assess learning and transfer through two construct domains of actual training event-program specific and at a general training level that denotes organizational factors that may influence any training program being conducted. LTSI questions are constructed using a Likert-

type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).The program-specific construct is measured using forty-six items measuring eleven constructs reflective of factors affecting a trainee attending a particular training program and possible post training outcomes to transfer. This section includes items addressing learner readiness, motivational factors related to learning and transfer, peer and supervisor support, opportunity to use and training content validity and design. The general training level contains twenty-three items measuring five constructs that consider training in general for an organization such as performance coaching, openness to

change, and performance self-efficacy.

At the onset of creation of the LTSI, Holton and his colleagues administered the LTSI to 1616 trainees that represented employees from various disciplines, training programs and a wide range of organizational types (Ruona et al., 1999). Ruona, Leimbach, Holton, and Bates (1999) examined and compared participant utility reaction ratings to the LTSI 16 factors.

8. TRAINING TRANSFER:

Broad and Newstrom (1992) described transfer of training as an effective and continuing application, by trainees to their jobs, and the transfer of the knowledge and skills gained in training to areas both on and off their jobs.

Likewise, Noe and Schmitt (1986) define training as a planned experience designed to bring about permanent change in an individual's knowledge, attitudes, or skills. Baldwin and Ford's definition as well as Broad and Newstrom's definition denotes transfer as a process of learning toward job application.

Noe and Schmitt's (1986) definition is limited to training, however the concept of transfer of training is implied. The employee receives knowledge through a training process and transfers this knowledge into an increase in job-related ability or performance (Stewart, et al., 2000). It is the aim of training to produce application that is realized as improved employee performance. A study conducted by Chiaburu and Marinova (2005) corroborates these distinctions.

Chiaburu and Marinova (2005) studied six pre-training motivational elements related to transfer. These researchers surveyed 186 participants in a one-day management training event by using a Likert-type survey constructed from five previously published studies. The researchers found that employees with higher intrinsic and extrinsic motivational factors upon entering a training event were more likely to transfer training into performance changes than individuals with lower or no motivational factors. The Chiaburu and Marinova (2005) study concluded that the pre-training motivational elements examined each had as a fundamental component, the improvement of individual performance. This change in performance was considered the key factor that training transfer had occurred and is aligned to the definitions of transfer presented.

The knowledge, attitudes, and/or skills learned in training are translated into improved performance by the individual in relation to specific jobs, tasks, or activities (Broad & Newstrom, 1992; McSherry & Taylor, 1994; Burke & Baldwin, 1999). From this research, *Training Transfer* is to be viewed as the application of learning. The effectiveness of *Transfer* is centered on the employee's ability to apply knowledge toward improved or increased job-related performance. Even though the study conducted by Chiaburu and Marinova (2005) addressed the importance of supervisor support on learning transfer in a task-oriented environment, it did not examine the impact of supervisor support on transfer of learning at the managerial level.

Baldwin and Ford's work (1988) substantiates Chiaburu and Marinova's application of learning by noting that the learned behavior must be generalized to the context of the job and be maintained over a period of time to be considered effective.

The work of Yamnil and McLean (2001) also reflect this concept of application of learning by noting that for transfer to occur successfully, a positive change in performance must occur. The research by Yamnil and McLean did not, however, examine system-wide elements to determine whether a training program could not provide the necessary change nor did their study take into consideration the barriers within an organization that trainees face when attempting to transfer the learning back into the workplace.

If learning is not translated into a performance change that can be identified by the organization, then the results of the training in the context of job performance is negligible (Gaudine & Saks, 2004). Costs associated with the training will not be realized as cost-effective for the organization unless application in terms of increased or improved employee performance is achieved. Thus, the primary indicator of effective training transfer is some form of measurable performance improvement (Velada, et al., 2007).

It is the application of knowledge which is transferred in a demonstrable way by the trainee that is also observed by the organization. Thus the underlying complexities associated with transfer must also be examined. Building upon these concepts of transfer, the conceptual framework found within transfer must be further examined within the structure of an organization. The role of training transfer research is to formulate and understand the learning process and how learning is transferred in both individual and organizational contexts (Holton, 2005).

Training transfer not only defines the parameters of the learning process, but contributes to an understanding of the dynamics that shape the learning process and the intended performance outcome (Huczynski & Lewis, 1980). Training transfer includes the understanding of how learning works within an individual (Senge, 1990; Senge, et al., 1999) as well as contributing human factors such as intrinsic motivators and cognitive abilities. Likewise, external influences such as organizational culture (Hawley & Barnard, 2005) and extrinsic motivators that are specifically related to employee performance such as supervisor and peer support must be considered.

Transfer is a reflection of the complexity associated with the learning process, the individual trainee, the training event, and the organization. As a result, training transfer must be viewed comprehensively to include the process of learning and the associated variables that both positively or negatively influence this process and impact the individual's ability to transfer. Training and Transfer does not occur in the isolation of a classroom room setting but includes aspects related to the individual trainee, the training event, and the organization.

9. DEVELOPMENT OF TRANSFER RESEARCH:

In Baldwin and Ford's *"Transfer of Training: A Review and Directions for Future Research"* (1988), the authors examined previous empirical studies within three areas: training design, trainee or learner characteristics, and work environment factors. Within the area of training design, a total of 39 research studies were reviewed. Through their research, Baldwin and Ford found four basic principles related to training design: (a) identical elements, (b) teaching of general principles, (c) stimulus variability, and (d) various conditions of practice. As illustrated in Table 1, each principle seeks to maximize an element of instructional design toward the cognitive engagement of the trainee with the materials presented. The premise within training design is the quality of training material and its presentation with the higher the quality (training input), the greater the effect of training output toward positive transfer.

Table 1
Baldwin & Ford's List of Training Design Principles

Identical elements	"Transfer is maximized to the degree that there are identical stimulus and response elements in the training and transfer settings."
General principles	"Transfer is facilitated when trainees are taught, not just applicable skills, but also the general rules and theoretical principles that underlie the training content."
Stimulus variability	"Positive transfer is maximized when a variety of relevant training stimuli are employed."
Conditions of practice	"Conditions of practice include a number of specific design issues, including massed or distributed training, whole or part training, feedback, and over learning."

Twenty-five studies were examined in relation to trainee characteristics. Baldwin and Ford noted nine characteristics that appear to affect training output and conditions of transfer from these studies. These nine characteristics are:

- Job Involvement
- Need for Achievement
- Perceived Training Value
- Intelligence Level of Trainee
- Goal Setting
- Feedback
- Selection of Training
- Relapse Prevention
- Realistic Information / Informed Decision

The final area identified is work environment. While the studies reviewed appear to establish how elements in the work environment such as supervisor support, the ability to apply new behaviors or skills, and employee reward structure affect transfer,

Baldwin and Ford (1988) are highly critical of the existing transfer research and proposed direction for future research noting the need to examine the interplay of these key variables at an operational level within an organization or department with the goal of developing greater insight to how these variables actually affect the transfer process (Burke & Hutchins, 2007).

Analysis of the Baldwin-Ford study shows that three concepts presented in the authors' findings contribute to the ongoing development of transfer research. Multiple variables both within and outside the training event were established to determine the influence on the actual transfer process. Baldwin and Ford note that while additional work needs to be done in this area, multiple variables contribute to or distract from training transfer. Baldwin and Ford refer to this concept as The Transfer Problem.

This is significant for this was the first study to actually bring focus to the complexities and problems associated with training and transfer. Baldwin and Ford's study is one of the first to actually bring together a review of existing studies to formulate a comprehensive analysis of all the factors that can influence transfer. Up to this point, no comprehensive attempt existed to identify these variables and bring them together into one model. While the work of Baldwin and Ford focused on problems and barriers to effective transfer and the interplay of these variables to either build or subdue the transfer process, their work only used existing studies to make their determination. Long-range as well as more comprehensive studies are needed.

One aspect revealed in the Baldwin-Ford study is the importance of consistency of data. The Baldwin-Ford framework attempts to achieve a level of comprehensiveness by identifying and bringing together the variables found in the transfer process. Each of twenty-five studies reviewed by the authors utilized various modalities to collect and analyze data. Each study reviewed focused on a particular variable within the transfer process using an assessment and data gathering tool unique to that study setting.

While the uniqueness of the reviewed studies is noted by the authors, they do allow the authors to systematically identify variables that presented themselves in these studies. However, their model is not field-tested by the authors in any format nor do they explore with significant depth the data collection methods of the reviewed studies and how these methods interact with each other.

The Baldwin-Ford framework is a combination of information gained that is formulated by the authors into a reasonable model setting for the purpose to explain to some degree the complexities associated with transfer. It is here that the value of the Baldwin-Ford model is realized. While the need for additional study is apparent and the authors do establish a series of discussions for further research, the fact that this model was the first attempt to address transfer complexities and the transfer problem is significant.

Baldwin and Ford and the Baldwin-Ford Model provide a catalyst for future studies addressing these complexities. Prior to Baldwin and Ford's review, a comprehensive model did not exist as previous models only addressed selected variables associated with transfer.

The final concept presented by Baldwin-Ford is the identification and promotion of the expectancy model in providing a useful heuristic for understanding and integrating research on transfer motivation. Both Noe and Schmitt and Baldwin and Ford expressed the belief that a motivational factor has to exist for the individual to-want‖ to transfer. Expectancy theory is based on the concept of an individual's perceived value (Thierry, 2002; Barnard, 2005; Azman, et al., 2009). Motivation directly impacts learning based on the perceived value placed on using the knowledge gained through the training event by the individual. If the motivation of the individual is high, then the level of transfer will correspondingly improve (Wieland-Handy, 2008).

Similarly to the research findings of Yamnill and McLean and the work of Chiaburu and Morinova, Baldwin and Ford support the need for examining transfer from a broader perspective. If an individual believes that a desirable outcome is obtained through training and transfer, he or she is motivated to attend this training. Baldwin-Ford proposed expectancy theory as the basis for trainee motivation to transfer by referencing Noe and Schmitt's (1986) identification of studies performed by Froman (1977) and Moitra (1976).

Noe and Schmitt (1986) ascertained from the studies of Froman (1977) and Moitra (1976) that a trainee's belief that the learned materials will result in a personally desired positive outcome such as a salary increase is an important antecedent for motivation to learn. In other words, the perception of outcome is the motivational factor for the individual to attend the training and transfer the newly-acquired knowledge, skill, or ability (Colquitt, et al., 2000b; Wang & Wentling, 2001).

This perception is shaped by the individual's personality and associated perception and engagement with the work environment. This perception is expressed through three interacting constructs: (a) the individual's belief that if they perform well they will receive some offered benefit; (b) the individual's belief that they will actually receive the promised benefit, and (c) that the benefit will be satisfying (Gibbs, 2000; Ayers, 2005; Ismail, et al., 2008; Nair, 2007).

10. SCOPE OF TRANSFER:

Transfer can be further defined as *near transfer* or *far transfer*. **Near transfer** is characterized as the events or simulations in the training that are directly related to or very similar to the events or conditions found on-the-job (Baldwin & Ford, 1988; Ford, 1990; van der Klink et al., 2001; McDonald, 2001; Holladay & Quinones, 2003; Merriam & Leahy, 2005; Sofo, 2007; Williams, 2008). For example, employees undergoing technical training have in-class exercises that directly reflect conditions as they exist on-the-job. These employees are then more likely to transfer the skills learned in training to the job (Baldwin & Ford, 1988). The similarity of the learning to the on-the-job requirements are exact in a level of detail that the employee can recognize conditions on-the-job to the training received and then should be able to effectively transfer the new knowledge, skills, and abilities to the job and improve individual performance (Yamnill & McLean, 2001; Mancy, n.d.; Williams, 2008).

Yamnill and McLean (2001) contend that near transfer corresponds to Thorndike's Identical Elements Theory of Transfer Training (Thorndike & Woodworth, 1901) which postulates that ―…where the amount of transfer between the familiar situation and the unfamiliar one is determined by the number of elements that the two situations have in common.‖ In other words, transfer is based on the level of identical elements found in the original and new learning situations. Effective transfer requires that the situation between the learning context and the job tasks must always be specific and not general (Munro & Bao, 2005).

Later, Thorndike introduced the concept of ―belongingness‖ or ―connectedness‖ to the theory that established that people would more readily make a connection if they perceived that the two elements go together (Kearsley, 2000). Depending on the subject matter, using instructional design elements related to near transfer would provide a more effective means for transfer than other transfer forms (Baldwin & Ford, 1988).

Far transfer represents the level of dissimilar conditions that exist between the training events or simulations and the conditions found on-the-job. (Baldwin & Ford, 1988; Ford, 1990; van der Klink et al., 2001; McDonald, 2001; Yamnill & McLean, 2001; Holladay & Quinones, 2003; Merriam & Leahy, 2005; Sofo, 2007; Williams, 2008). In this setting an employee receives training in a particular skill such as problem-solving or resource allocation and then applies the principles learned in the classroom to situations found on-the-job.

There is greater distance in application of knowledge, skills or abilities to specific job tasks if the information is taught in abstract terms as principles or rules. The employee is then placed in the position to translate these principles or rules into concrete actions. There is no direct similarity for the employee to use as a point of cognitive reference to transfer into a specific setting. Thus, the employee is required to perform a higher level of generalization from training to on-the-job performance (Sofo, 2007).

The concept of far transfer corresponds to Goldstein and Ford's (2002) Principles Theory. The premise of this theory is generalization of specific knowledge from one setting to another. The focus is to instruct on certain principles as they relate to a task or concept without regard for the transfer setting as long as the individual is able to utilize the underlying principles in other settings (Yamnill & McLean, 2001; Sofo, 2007).

Near transfer and *far transfer* are not the only aspects or forms of transfer in the literature; however, they are the most noted (Baldwin & Ford, 1988; Ford, 1990; van der Klink et al., 2001; McDonald, 2001; Yamnill & McLean, 2001; Holladay & Quinones, 2003; Merriam & Leahy, 2005; Sofo, 2007; Williams, 2008).

Other forms of transfer can be developed as part of the instructional design and transfer design of a training program, Barnard et al. (2001) provides a general overview of the various forms of transfer and these are presented in Table 2. For example, Salomon and Perkins (1989, 1992) observed two distinct but related transfer mechanisms referred to as *low road* and *high road.*

Low road transfer is the process of transfer that occurs when the stimulus conditions in a prior context of learning and the transfer context are adequately similar to trigger well-developed semi-automatic responses. Low road transfer is similar to near transfer and describes the ability for an individual to adapt to a new situation using previous knowledge due to the similarity of the two situations.

High road transfer is descriptive of higher mental effort. In this situation an individual attempts to make a cognitive connection or schema between two learning contexts that do not have easily observable similarities (Salmon & Perkins, 1992). In this context, learning is more associated with far transfer in the sense that an individual will take a general construct of principles or concepts and apply them to multiple yet different environments (Machin, 1999). This deliberate search for connections requires a level of cognition that is not as intuitively responsive as low road transfer.

The leadership development and training an individual receives, practices, and experiences in one organization which is utilized by the individual in another vastly different organization would be an example of high road transfer. Lessons learned in one context are used in another context.

11. DIFFERENT FORMS OF TRANSFER (Barnard et al., 2001)

*Positive transfer***:** Extent to which trainees have acquired knowledge, skills, and attitudes, which can be applied effectively in work practice. Previously acquired knowledge, skills, and attitudes facilitate the learning of new knowledge, skills, and attitudes.

*Negative transfer***:** Extent to which an undesired effect occurs after following a course. Previously-acquired knowledge, skills, and attitudes hinder the learning of new knowledge, skills, and attitudes.

*Far transfer***:** Transfer when the initial learning task and the subsequent tasks to be learned differ substantially.

*Near transfer***:** Transfer when the initial learning task and the subsequent tasks to be learned differ only slightly or not at all.

*Low-road transfer***:** Transfer based on intensive and varied training, and occurring by means of automatic use of acquired knowledge and skills in a new context.

*High-road transfer***:** Transfer based on consciously abstracting of already acquired knowledge and skills from one context to another.

*General transfer***:** The trainee acquired certain working methods, knowledge and skills which can be used in tasks other than the original learning task.

*Specific transfer***:** The learning task is so specific that no transfer can be expected to other tasks.

*Horizontal transfer***:** Transfer from one task to another.

*Vertical transfer***:** Transfer within a certain task with growing expertise.

As an individual undergoes the process of learning in the work environment, all of the factors found within transfer come together to create the forces that produce the transfer system for each particular individual. While the exact nature or formats of transfer as listed by Barnard, et al. (2001) have been examined through empirical studies (Baldwin & Ford, 1988; Jelsma et al., 1990; Gick & Holyoak, 1983; Patrick, 1992; Gielen, 1996; Tannenbaum & Yukl, 1992), there is still a level of debate on how the mechanism of transfer interacts in the learning and transfer processes and the degree that transfer actually occurs (Colquitt et al., 2000a; Antonacopoulou, 2001; Mancy, n.d.; Godfrey, 1999.).

This is understandable in consideration of the behavioural cognitive process of learning and how this process may or may not relate to a change in individual performance and organizational outcomes (Schwartz et al., 2005; Nixon & Murr, 2006; Perryer & McShane, 2008) as well as the researcher's ability to sufficiently investigate this process effectively in various field settings (Newton & Doonga, 2007). Further research in other field settings is warranted.

12. I.T. SERVICES:

Over the years, Indian IT service (NASSCOM) offerings have evolved from application development and maintenance, to emerge as full service players providing testing services, infrastructure services, consulting and system integration. The coming of a new decade heralds a strategic shift for IT services organizations, from a 'one factory, one customer' model to a 'one factory, all customers' model. Central to this strategy is the growing customer acceptance of Cloud-based solutions which offer best in class services at reduced capital expenditure levels. Figure 1 depicts the IT-BPO's impact on India's growth.

Figure 1
IT-BPO's Impact on India's Growth

Source: www.nasscom.in

According to NASSCOM, in fiscal year 2014, India's information technology and business process management (IT-BPM) industry will add US $12-15 billion incremental revenue, to existing industry revenues of US $118 billion.

During FY 2014, industry's exports are estimated to grow 13 per cent at US $86 billion, with domestic revenues up 9.7 per cent at Rs. 1,910 billion. NASSCOM reports also stated that the industry added 160,000 employees in 2013, and provided direct employment to 3.1 million people and indirect employment to 10 million people.

Exports by India's IT outsourcing sector are expected to rise 13-15 percent in the fiscal year starting April 2014, as an improving global economy encourages banks and companies to boost spending on technology. NASSCOM has forecasted IT services exports in 2014-15 to rise to as much US $99 billion. The increase in growth rate compares with an estimated 13 percent rise in fiscal year 2014. It also states that the Indian IT and ITeS industry is likely to grow to about US $300 billion by 2020, focusing on areas like e-commerce, software products and the IT market.

13. GROWTH OF I.T. SECTOR:

The reasons for growth of I.T. sector are:
* Rapid industrialization and growth of I.T. parks in the country
* Partial privatization of telecommunication
* Development of SEZ; which also help I.T. companies get tax benefits
* A large number of resource readily available in the country
* Low operating costs
* Tax breaks and sops offered by the government

14. EMPLOYMENT TRENDS:

The I.T. and ITeS sector has generated massive employment in the past and continues the trend of providing jobs. With online shopping, social media and cloud computing flourishing more than ever before, there is great demand for IT professionals in e-commerce and business to consumer firms.

With the immense opportunities that the government has to offer to the IT/ITeS companies a number of MNC's are investing in India. Companies like HCL Technologies, Cognizant Technology Solutions, Tata Consultancy Services, Accenture, Capgemini, Amazon, Delloitte Consultancy and Microsoft Corporation among others are highly investing in Indian lands. Cities like Hyderabad, Trivandrum, Chennai, Delhi-NCR, Bangalore, Mumbai and Pune together are providing jobs to a huge number of people.

15. INTERNET TRENDS:

With the internet rapidly becoming a part of our daily lives the job opportunities are on an accelerated boost. Cloud computing, social media and mobility analytics are the reasons for growth in global technology. Internet shopping, cyber security, wearable computing, socially enabled business process, battery and power technologies, mobile customer engagement and business analytics are the areas of options available for job opportunities in the country.

Internet and Mobile Association (IAMAI) reported that the estimated users of internet in India by June 2014 is 243 million and is expected to overtake the USA as the second largest Internet base in the world. In October 2013, India had 20.5 crore and is on a 40 percent growth per year.

Other than watching videos online and listening to songs, there are huge number of users that download mobile value added services. Social networking is a rage in itself and continues to have a 75 percent of users engaging actively in it.

Internet shopping is on a continuous surge; the current market size is over US $1.8 billion and is expected to be growing at 55 percent year-on-year. As eCommerce shows signs of becoming a household phenomenon, there are a number of offline brands and retailers that are making their way in the online market through their own websites or online market places. Websites like flipkart.com, homeshop18, jabong.com, yebhi.com, snapdeal.com and myntra.com among others are gaining fast popularity among the internet users.

16. GOVERNMENT INITIATIVE:

Cloud computing is one of the thrust areas in the national IT and ITeS policy. In order to benefit from cloud, the Department of Electronics and IT (DeitY) has taken an ambitious project known as 'GI Cloud'. The 'GI Cloud' is the Indian government's initiative to enable the government (both Centre and States) to leverage cloud computing for effective delivery of eServices.

In the twelfth Five Year Plan (2012-17), the Department of Information Technology proposes to strengthen and extend the existing core infrastructure projects to provide more horizontal connectivity, build redundancy connectivity, undertake energy audits of State Data Centers (SDCs) etc. The core infrastructure including fibre optic based connectivity will be leveraged and additional 150,000 Common Service Centres (CSCs) will be setup to create the right Governance and service delivery ecosystem at the Panchayats.

17. RESEARCH GAP:

Research Gap 1: Comparative study

Previous research demonstrated that work environment factors such as the influence of managers and supervisors have a direct impact on transfer climate and employee transfer (Tannenbaun, 1997; Yamnill & McLean, 2001; Gaudine & Saks, 2004; Bates & Khasawneh, 2005; Hawley & Barnard, 2005; Burke & Hutchins, 2007), but no studies to date have explored how supervisors react to training and training transfer in comparison to their employees.

A study was needed to determine if supervisors react and transfer training differently than subordinate employees they supervise. Using an information technology service as the setting for this research allows the researcher to examine both employee groups as they undergo the same training.

Research Gap 2: Similar environment / exposure

In prior training transfer research, work conditions experienced by both employee groups typically are not the same. Supervisors have a unique perspective and significant role in an established stable organization. The supervisor is in the role of continuing the existing *status quo* of organizational performance by creating a positive transfer climate through providing feedback, reinforcement, encouragement, and providing means for employee application in post-training situations (Tannenbaun, 1997; Saks & Belcourt, 2006). The training transfer process is influenced by the employee's manager who either seeks to encourage the employee to transfer or in some situations, to prevent transfer.

However in the field setting of this research study, the conditions themselves are changed with both employee groups undergoing an organizational change. Both groups are facing the same unique organizational work conditions and pressures, and while the importance of the supervisor is not diminished, having both groups undergo the same training in a newly-established work environment allows the researcher to investigate if these two groups view the same training and training transfer process differently. Furthermore, this study will continue to strengthen the ongoing body of research in understanding training transfer. And finally, additional insight will be gained for organizational leaders by understanding the dynamics of training transfer in a field setting on both supervisory and subordinate employee levels. This new knowledge will lead to the development of training strategies that seek to maximize training and transfer effectiveness for unique employee groups.

Research Gap 3: LTSI in services

Most research on use of LTSI has been primarily in manufacturing sector. There is negligible research of use of LTSI in services. The service sector is now the greatest contributor to the nations' economy. Therefore extensive research is required in services and in information technology sector too.

Research Gap 4: Holistic Model

Research on training transfer has analyzed the impact on training effectiveness but has failed to study the impact on individual, teams and organizations separately. Therefore this research fosters a more holistic model.

18. CONCLUSION:

As far as the research gaps are concerned there is a necessity to explore the above research gaps through a study in order to enrich the body of knowledge of arena of training transfer so that it will be mutually beneficial for the organizations to get their return on investment and for the individuals to perform and progress better in their professional carrier.

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