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The Analysis of Organizational Work Environment Factors Affecting Training Transfer: A Questionnaire Survey in Chinese Enterprises

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Abstract

This study aims to find out which work environment factors may have the most significant influence on affecting training transfer from the perceptions of trainees, in the Chinese organizational context. Additionally, this study aims to find, whenever it is possible, different perceptions about work environment factors and training transfer, based on some socio-demographic characteristics, as well as company type where the respondent works.

To gather data, it was used a self-administered questionnaire delivered on the Internet, for two weeks in March 2015.

Means, standard deviations, correlations, and coefficient alpha internal consistency reliabilities are computed. T-tests and one-way ANOVA are used to investigate differences between groups. Next, the multiple linear regression analysis is conducted for to investigate the relationship between employee perceptions of work environment factors and training evaluation variables.

The main results show that work environment factors significantly influence training transfer. Findings also support the idea that there are significant differences on perceptions about work environment factors and training transfer by socio-demographic variables.

On the light of the study findings, the researcher managed to provide some recommendations and suggestions for managers of companies in China.

Key words: training transfer, work environment factors, questionnaire, China

Resumo

Este estudo tem por objective conhecer os factores ambientais de trabalho que afectam a transferência de conhecimentos adquiridos em formação no contexto organizacional, a partir das percepções dos formandos, na China. Adicionalmente, este estudo procura identificar, caso existam, diferentes percepções sobre os factores ambientais de trabalho e a transferência de conhecimentos quando são analisados as características sócio-demográficas, bem como o tipo de organização onde o participante trabalha.

A recolha dos dados empíricos foi realizada com um questionário de auto-preenchimento disponibilizado na internet, por um período de duas semanas, em Março de 2015.

Foram calculados médias, desvios-padrões, correlações e o alfa de Cronbach para identificar o grau de consistência interna das escalas. O teste t e a análise ANOVA foram usadas para investigar diferenças entre grupos. A análise de regressão linear múltipla é executada para investigar a relação entre as percepções dos empregados sobre os factores ambientais de trabalho e as variáveis de avaliação da formação.

Os principais resultados mostram que os factores ambientais de trabalho influenciam significativamente a transferência do conhecimento. Os resultados também suportam a ideia de que existem diferenças significativas nas percepções sobre os factores ambientais de trabalho e a transferência de conhecimentos quando são analisadas variáveis sócio-demográficas.

À luz dos resultados obtidos, o investigador fornece algumas recomendações e sugestões aos gestores de empresas na China.

Palavras Chave: Transferência de conhecimento, factores ambientais de trabalho, questionário, China

CHAPTER 1: Introduction

1.1 Background

It's generally accepted that the 21-century is the time for competition of talents. And the cultivation of high-quality talented people would rely largely on systematically organized training.

Most of the enterprises fully recognize of the importance of training in recent years. Enhance the effect of investment on human capital and conduct effective training evaluation have become a top priority for most enterprise. The governments and enterprises devote a lot of human and material resources to training. For example, in the United States, 90 percent of private organizations offer some form of formal employee training costing more than $56 billion per year (Kornik, 2006). And American government invest $600 billion in training each year, the money French government spends on training accounts for 25% of national education funds every year and Singapore government invests 3 million Singapore dollars in staff training per year (Wang Qiang, 2002). The education fund that GE used in training is $9 billion per year. And in China, ChangHong Company built a training center with a total investment of 10 million Yuan, to conduct the training of all the staff (Yu Wenxia, 2007). The companies' expects that training investments will be paid off by the dividends in terms of the improvement of effectiveness, productivity, customer satisfaction and so on.

Besides the need of realizing the increased importance of investment in training, the issue of transfer of training, commonly referred to as the practical application of knowledge learnt to the actual day-to-day work at workplace, is becoming a source of concern (Baldwin & Ford, 1988). The results have not been ideal according to the

survey. For most enterprises, the training transfer rate is just between 10%-40%, that is to say, most of the training resource effect has been wasted (Zhou Xiaomei, 2007).

Why do most enterprises invest heavily but cannot make it count? What are the organizational work environment factors influenced training transfer? How to evaluate effectively training transfer measures? How to improve staff training transfer? These questions have become the focus of research by scholars in Chinese enterprises.

1.2Research gap

Traditionally, studies on training transfer have focused on identifying the characteristics of some training affecting factors, such as learners' characteristics and training design factors, which are often related to job performance. These researches ignore the importance of the work environment and its influence on transfer of training (Liu Jianrong, 2005). This article conducts a research on organizational work environment factors that affect training transfer.

Hence, for the purpose of my research, I will analyze various organizational work environment factors that affect training transfer, and find out which are the more important factors for Chinese enterprises to improve training transfer, for the sake of increasing productivities and raising the performance of the trainees. This research provides some suggestions about how to increase training transfer in Chinese enterprises, and provide scientific basis and theoretical guidance to managers in the process of training.

1.3Research questions

The framework that I want to explore outlines the relationship between work environment factors and training transfer, and analyze different organizational work environment factors that affect training transfer, then find out which are the more

important factors for Chinese enterprises to improve training transfer, for the sake of increasing productivities and raising the performance of the trainees of China.

To better understand the approach proposed, four questions lie at the heart of this research:

1.What organizational work environment factors may influence training transfer, in the Chinese context?

2.Do participants' perceptions differ regarding the importance of different organizational work environment factors, by company type?

3.Are there significant differences of (gender, age, education level, training type and company type) on training transfer from the perception of workers in Chinese enterprises?

4.Which factors have the most significant influence on affecting transfer of training from the perception of workers in Chinese enterprises?

1.4 Structure of the study

This study is divided into six chapters. Chapter 1 provides the background of the issues. Chapter 2 is the literature review about the models and some theories that related to training transfer. Chapter 3 proposes the research model and research hypotheses. Chapter 4 presents the methodology, which includes information about the method used to gather empirical data (survey), the questionnaire, the pilot study, the sample and the approach used to analysis the data, followed by chapter 5 which is the data analysis and discussion. Finally, the last chapter presents the conclusion and limitations of the study as well as recommendations for Chinese enterprises.

1.5 Methodology

1.5.1 Literature source

The existing literatures about our research topic were obtained from various sources, which include online bibliographic databases, government documents and reports, and reference lists from the relevant papers reviewed and mainly consisted of both English literatures and Chinese literatures. English literature is from wiley online library（ABI/Inform complete）; Chinese literature and main databases used are from China Knowledge Resource Integrated Database (CNKI), Wanfang Data and Duxiu Data. Both Google Scholar and Baidu Scholar are our online search tools.

1.5.2 Search terms

The search terms used range from broad to specific, involving the combination of terms using search techniques such as Boolean searching and truncation features available from online search tools to identify the relevant literature.

Search terms used include:

- Training transfer
- Factors affecting training transfer
- Work environment factors affecting training transfer
- Training transfer model
- Training transfer in China

1.5.3 Research methods

This research collects data through questionnaire and analyzes the data by the software SPSS 22. The target population is the employees who attended training program in their companies, and the enterprises are divided into 4 kinds: state-owned company, foreign-owned company, privately owned company and joint ventures. The questionnaires are distributed to the population through the Internet.

Chapter 2: Literature Review

2.1 Definition of Training

According to Bernard Taylor and Gordon Peter (1987), training refers to the process of teaching the basic working skills to new staff and existing employees. This goal-oriented definition is brief and clear; even so, it's too restrictive to define the training contents as "basic working skills". Therefore, this definition is not suitable to today's training.

Rossiter (1999) considered that training are all the activities to teach the work-needed knowledge and skills to the employees and it also means all types of work-related educational activities. Her interpretation of training is more inclusive than the study of Bernard Taylor and Gordon Peter (1987). On one hand, it affirmed the wider range of training content, and on the other hand, it transferred the message that trainees are no longer limited themselves to the classrooms. But there is a fly in the ointment, the viewpoint stands on the perspective of the trainees, the connection between training systems and the organization goal is not involved. And it restricts the training content to "work-needed" and "work-related", ignores the humanity development of training and the diversified trend of training content.

Brown and Mike Daniel (2001) described training as the trained and retrained process used by the organizations in order to improve efficiency and performance to cope with the challenge of new technology and competitors. Lloyd l. Byars and Leslie w. Rue (2005) considered training as the study process that include acquiring skills, ideas, rules and attitudes to improve the performances of employees. Both theories involved performance improvement, and they also combined the personal goal of training with the organizational goal.

Based on the theories discussed above, staff training means the process of improving employees' skills, knowledge and attitudes, and raising the performance of employees, which used by the companies. This learning process, on the one hand, prompts the employees to update new knowledge and skills to realize work competence; on the

other hand, it improves the professional quality and management level of the employees, so the employees can get prepared for the more important work and higher position.

2.2 Classification of training

Based on the literatures collected on training and the actual situation of the enterprises, I summarized the different classifications of training (see table 1).

Training Types		Meaning	Characteristic
Classification by working situation	Pre-jobtraining	This helps the new employees to get familiar with basic information such as: the business, workflow，company policy and enterprise culture.	Based on internal resources such as internal trainer and training place; and the training contents are usually general knowledge.
	On-the-job training	This focuses on the acquisition of skills within the work environment generally under normal working conditions. Employees acquire both general skills that they can transfer from one job to another and specific skills that are unique to a particular job.	Targeted content; the trainer and training place are usually from within the company；low investment
	Off-the-job training	Employee training at a site away from the actual work environment. It often utilizes lectures, case studies, role-playing, simulation, etc. The goal of off-the-job training is to develop new skills that will make the worker more useful and more flexible.	Time-consuming; systemic training content, the trainer are usually from outside the company; high investment
Classification by concentration degree	Formal training	This kind of training means pull all the trainees together for training, and lecture is the main form of	Short-term; targeted training contents; high investment

		the training.	
	Informal training	This kind of training means the employees can be trained at work, such as learning knowledge from electronic equipment.	Variety of forms; flexible; low investment
Classification by training contents	Soft skills training	The content of this training are related to the way you relate to and interact with other people, such as time management, teamwork and communication.	Targeted training contents; hard to evaluate
	Hard skills training	The content of this training are related to abilities or skills, such as: foreign language, machine operation and computer programming.	Targeted training contents; easy to evaluate

Table 1. Classification of training

Based on the topic of this research, I choose the last kind of classification of training to study the factors that influencing training transfer. It's easy to tell the difference between hard skills training and soft skills training, and all the training can be classified in one of these two categories. Further, in the other classifications of training, the distinctions may not be as clear as the last one. So, I need to do a research about whether the contents of training play a important role in influencing training transfer.

2.3 Definition and Importance of Training Transfer

There are lots of definitions of training transfer, and the one that most related to the study is the following one: "Training transfer is the process of applying skills and knowledge to workplace in order to improve performance"(Calhoun et al. 2010). This definition shows clearly that training transfer is a process of applying newly acquired skills and knowledge to the practical work of the trainees. Only if the skills and knowledge learnt from training are applied to the daily work can a training program be thought as a successful one. If trainees never make it out of the schoolrooms or

their minds into actual job, then there is no improvement in performance. In addition, the definition presents that the final purpose of training is the organizational performance improvement that, in turn, is caused by individual performance improvement.

Although the investment in training is huge and training transfer issues have been studied for many years, the transfer rate of training still remains low in organizations. Even well designed and well-delivered training may not gain any improvements in employee's behavior or performance (Broad &Newstrom, 1992). Esque and McCausland (1997), for example, investigated the training transfer of a skill taught in a training program, which included 400 managers as trainees. About 20% of the trainees said that they had applied the skill to their work. But when they investigated more deeply to confirm the result, they found only four managers that actually applied the skill; this number equaled 1% of the total trainees of this program. Another empirical study showed that only 10–20 % of the skills and knowledge that learnt during the training is applied in the workplace (Kirwan & Birchall 2006). Other studies found that typical transfer rates are only in the 10%–40% range (Baldwin & Ford 1988).

Now, companies begin to realize that training without transfer is a waste of time and resources. Improving training transfer is an effective way to increase productivity and improve performance of the organizations. Due to the high rates of transfer failure, there should be more research on the factors affecting training transfer.

2.4 Training Transfer Theories

2.4.1 Identical Elements Theory

Thorndike and Woodworth(1901，in Theories of Learning Transfer)proposed that transfer between activities would take place only if they shared common elements or features. In their theory, the more the common elements, the bigger the amount of transfer；the degree of transfer increases as the similarity of elements increase (Aman,

2014).For instance, learning to ride motorcycle is much easier after learning to ride a bike because of the identical element in this case: they are both vehicles. Identical elements theory focuses on transfer and highlights the idea that when we design a training program, we should focus more on the relationship between training contents and knowledge, skills in practice to make sure that training contents and practical work are more consistent.

2.4.2 Stimulus Generalization Approach

Stimulus generalization occurs when a response learnt in the presence of a particular stimulus is also elicited in the presence of a similar stimulus (Royer, 1978). The concept of stimulus generalization could be applied to the problem of far transfer in the following way. If it is possible to define a class of problems (e.g., school related and real world problems), which can be solved by using a particular skill or bit of knowledge, and if it is possible to instruct learners such that the presence of the defining features in a given problem would reliably elicit the appropriate skill or bit of knowledge. This could be done by providing learners with systematic instruction on the defining class of features, and with practice on recognizing instances and non-instances of the problem class (Royer, 1978). According to this theory, we can improve training transfer by encouraging trainees to combine training contents and practical work experience together; encouraging them to assure more how to apply new skills in different circumstances.

2.4.3 Cognitive Transfer Theory

Cognitive Transfer Theory suggests that the likelihood of transfer is dependent upon the likelihood of encountering a relevant bit of information or skill during the memory search process (James, 1978). This means that the enterprises can increase the opportunities of combining practical work and abilities together to increase the likelihood of training transfer by providing meaningful materials to the employees. According to the theory, to improve training transfer, the company can provide more

skills about how to encode the memory of learned knowledge, and employees have to practice the skills more often. And this will be helpful to increase the likelihood of recalling the training contents and applying the contents to work. In the meanwhile, the superiors should provide support to the trainees and create a supportive environment for them (Jinx, 1996).

2.5 Models of training transfer

To have a better understanding of training transfer issues, according to the previous research results, there are some models related to training transfer presenting below. Each of these models shows the researchers of each model's opinion how the processes of influencing training transfer and the important factors that affecting training transfer.

There are lots of theories that related to training transfer, but there are not enough study focused on environmental factors that influence training transfer until Noe proposed his model in 1986. And after that, lots of researchers considered work environment factors into the ones that affect training transfer.

2.5.1 Noe's (1986) model

This model (see Figure 1) presents possible factors that influence trainees' attitudes on their jobs besides their perceptions on career development, the work environment on learning, behavior change, and achievement of satisfactory organizational results (Noe, 1986).

According to the model, locus of control is the key aspect to influence motivation to learn. However, this relationship is mediated by three factors: career/job attitudes, expectancies and reaction to skills assessment. Motivation to learn influences behavior change by affecting learning, and they all lead to desirable organizational results. Career/job attitudes and environment favorability influence the results directly.

Noe (1986) proposed two key factors, motivation to learn and motivation to transfer, that influence training effectiveness in this model. Motivation to learn was influenced by the extent to those trainees' perceptions of their work and job behavior. Motivation to transfer refers to trainee's desire to apply the knowledge and skills learnt in training to the job. And it's influenced by environmental favorability such as social environment and task environment.

The model represents a vertical procedure-oriented view, and this view considers about the events before, during and after training. And it focus on training inside organization, and hold the point that training will not happen without organizational events. The result of the model is that individual, organizational and environment factors seem bound to affect training effectiveness (Liu Jiangrong, 2005).
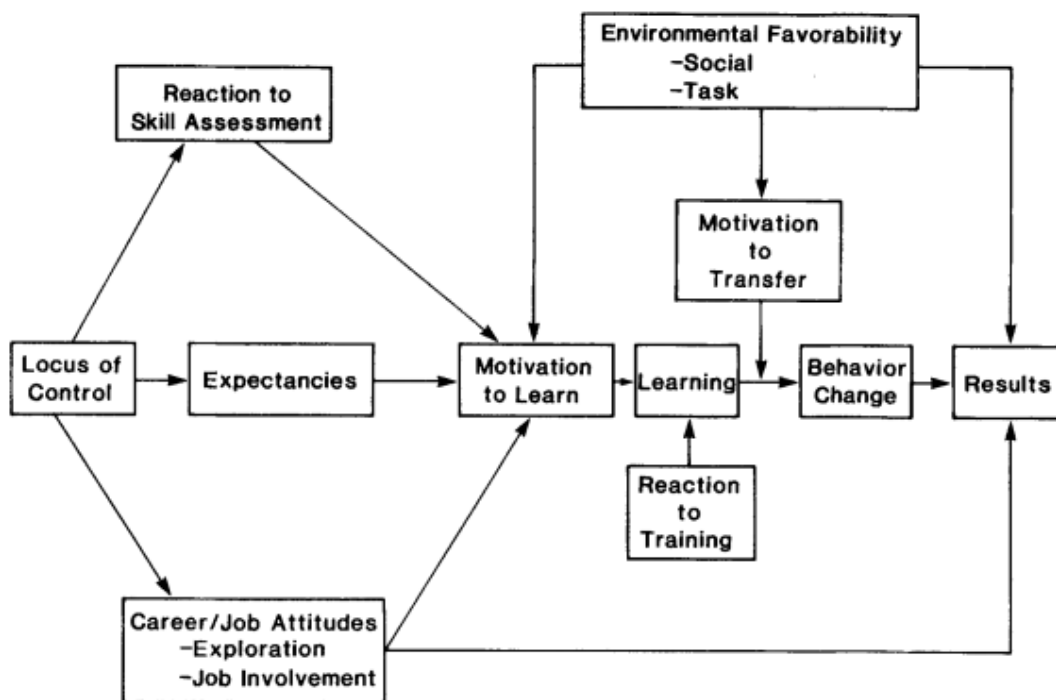

Figure 1.Noe's (1986) model of motivational influences on training program effectiveness

2.5.2 Training transfer model of Baldwin and Ford (1988)

This research conduct by Baldwin and Ford is a meta-analysis of seventy studies in total, including 38 studies on training design, 25 on trainee characteristics, and 7 studies on work environment characteristics to understand how they influence the transfer process. (Ikramullah, 2007). All seven studies on work environment include analysis of transfer climate as the variable, except one, which used management support, in addition to the transfer climate. (Ikramullah, 2007). The researchers covered a brief account of the critique conducted in the research on all input factors. However, this review includes discussion only on " work environmental characteristics" owing to its relevance with my research.

Baldwin and Ford's (1988) training transfer model (see figure 2) points that transfer process is explained in three aspects: training inputs, training outputs, and conditions of transfer. This model also inspired my study.

According to the model, training inputs involve trainee characteristics, training design and work environment. Training design factors are composed of principles of learning, sequencing as well as training content, and they influence training outputs directly, and they affect generalization and maintenance by influencing learning and retention. The trainee's characteristics include ability, personality, and motivation. Work environment factors are made up of opportunity to apply the knowledge to work and support factors such as peer support, supervisor support, organization support as so on. Trainee's characteristics and work environment can both influence training outputs and conditions of training directly.

The conditions of transfer include both the generalization of skills and knowledge learnt in training program and maintenance of the learnt skills and knowledge over a period of time in daily work. 'Generalization,' according to Noe (2002) refers to the ability of trainee to apply learned capabilities for example verbal knowledge, motor skills, etc, to the job-related issues and situations that are similar but not completely same as those encountered in the studying environment. And 'Maintenance' means

the process where newfound acquired abilities are continuously used as time goes on (Noe, 2002).

Training outputs refer to the attainment of skills and knowledge that happens during the training process and the retention of the skills and knowledge after the training program is finished (Baldwin&Ford, 1988).

Baldwin and Ford (1988) said that the most important thing for now is conducting research on transfer with more relevant criterion measures of generalization and maintenance.
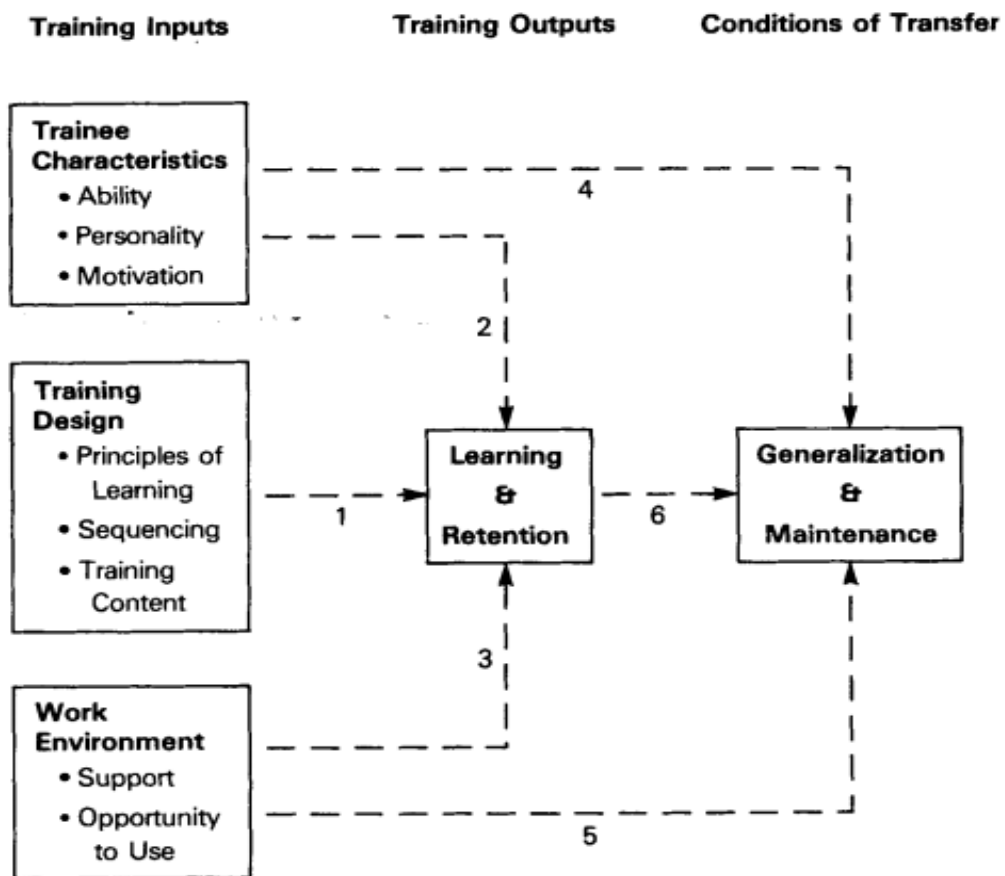
Figure2.Baldwin and Ford's (1988) transfer of training model

2.5.3 Transfer Training Model of Thayer and Teachout (1995)

Thayer and Teachout (1995) proposed a model of the transfer process (see figure 3) that described the climate for training transfer and the transfer-enhancing activities that happen to affect the training and transfer outcomes in the training process (Machin & Fogarty, 2004).

According to this model, learning is influencing by lots of factors such as reaction to training and previous training, previous K & S, self-efficacy, ability, locus of control, job involvement, and in-training transfer enhancing activities including goal setting, relapse prevention. And training transfer is influenced by climate for transfer, self-efficacy, in-training transfer enhance activities and learning. Climate for transfer is a big part in this model, it consist of two small parts cues and consequences. Cues are composed by goal cues, social cues as well as task cues; consequences refer to positive reinforcement, negative reinforcement, punishment and extinction.
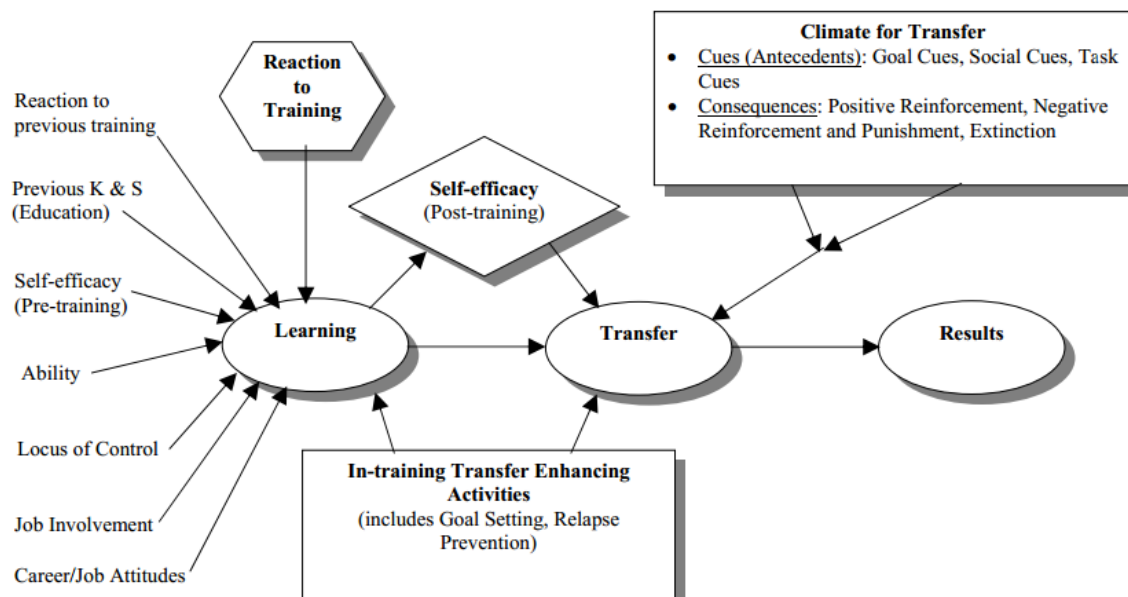
Figure 3. Transfer Training Model of Thayer and Teachout (1995)

2.5.4 Holton's factor affecting transfer of training model

Holton (1996) developed a conceptual evaluation model (see figure4) of factors that affecting training transfer. This model presents three outcomes of training

intervention: learning, individual performance, and organizational results. Learning refers to achievement of the learning outcome desired in a human resource development intervention. And individual performance means the trainees applied skills and knowledge that they learnt from training to the job that cause the change of individual performance. Organization results refer to results at the organizational level as a consequence of change in individual performance.

Individual performance is the focus of Holton's training transfer model. Learning is expected to lead to individual performance change only in the condition that the three primary influences on transfer behavior are at suitable levels (Siriporn & Gary, 2001). Holton's transfer of training model explained that three crucial factors affect transfer of training—motivation to transfer, transfer climate, and transfer design.
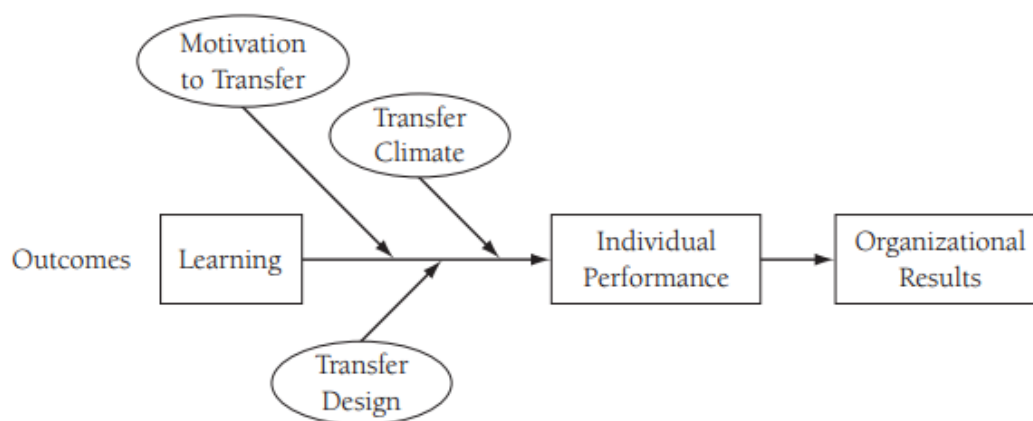
Figure 4: Holton's (1996) transfer of training model

2.5.5 Cheng & Hampson's (2008) pertinent variables in training transfer model

This model illustrates that the transfer process consists of variables-motivation to transfer and the transfer behavior itself. The author has only listed the variables with higher scrutiny frequency, which they thought to be the more important. They are group into four categories: individual characteristics, job/career variables, situational variables and training outcomes (Cheng & Hampson, 2008).

According to the model (see figure 5), individual characteristics are made up of locus of control, conscientiousness, anxiety, and goal orientation. A Job/career variable consists of job involvement, organizational commitment, as well as career commitment. The group situational variables include opportunity to transfer, transfer climate besides intervention strategies. The last category, training outcomes, refers to post-training self-efficacy, reaction to training, declarative knowledge, and skill acquisition.

Training outcomes influence transfer behavior and motivation to transfer directly. The three categories, individual characteristics, job/career variable, and situational variables, work together to influence training outcomes, motivation to transfer and transfer behavior.
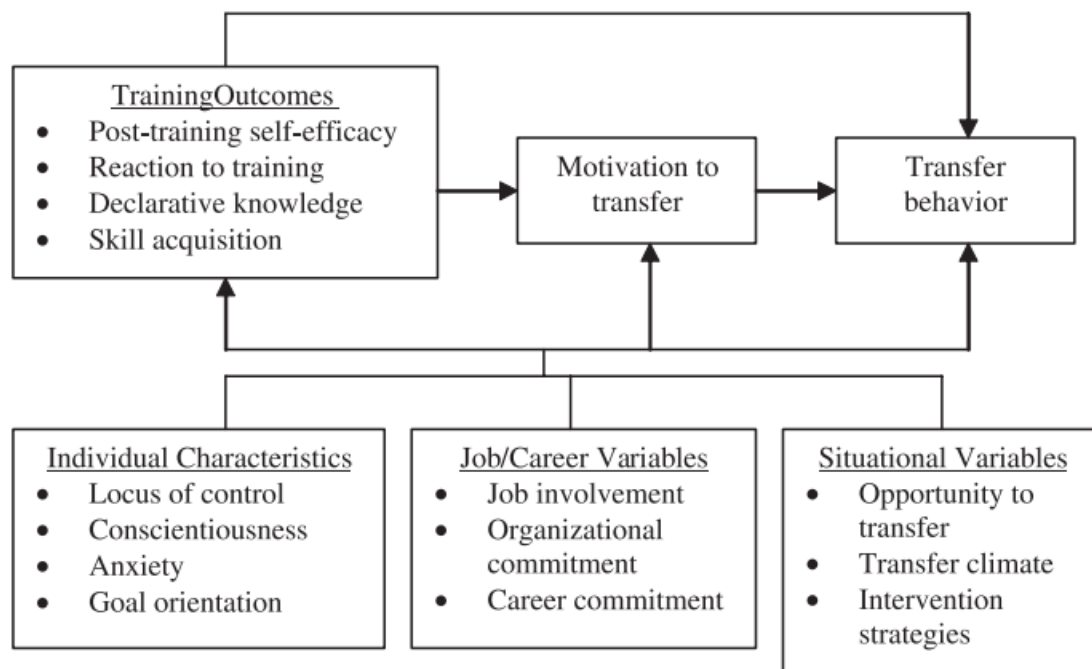
Figure 5.Cheng & Hampson's (2008) pertinent variables in training transfer model

2.5.6 Burke & Hutchins's (2008) training transfer model

Burke and Hutchins (2008) proposed a model of training transfer based on the literature review and their study (see figure 6). Their model merges Baldwin and Ford model (1988) and the study of Broad (2005), and it includes three classifications of factors that influencing training transfer.

The first category is mainly absorbed from the widely accepted models of transfer, consisting of trainer and learner characteristics, intervention design/delivery, and work environment (e.g., Baldwin & Ford, 1988). Below are the specific definitions for the first major category, transfer influences:

- Learner characteristics are made up of trainee's ability, motivation, personality, perceptions, expectations, and attitudes that can influence training transfer.

- Intervention design and intervention delivery refers to the trainer's plan for the training intervention; they are all based on needs analysis information and company goals, or the activities happening during training delivery.

- Work environment means that all the factors that influence training transfer existing or occurring outside the learning intervention itself.

The second major category specifies the time period when the activity or action occurs, including before, during and after.

The second major category divides according to the time period when the activities occur. This kind of classification approach is based on the study of Broad (2005) and Broad and Newstrom (1992). Activities that support transfer from training interventions occur before, during, or after training intervention. These are the definitions of each time period:

- Before refers to activities happening before the training intervention that support transfer.

- During refers to activities happening during the training intervention that support transfer.

- After refers to activities happening after the training intervention that influence transfer.

The third major category used is also based on Broad (2005) and Broad and Newstrom (1992). It specifies the stakeholder or party who plays the most important role in the training transfer process. Broad's study concludes that trainees, trainers, and supervisors are the three primary stakeholders influencing training transfer. Below, it is provided specific information for each one.

- Trainee refers to the learner taking part in the relevant training program.

- Trainer is the instructor who designs, develops, and delivers training courses.

- Supervision means the trainee's supervisor or manager.

Peers and the organization itself also play an important role in training transfer in this model.

According to their data, the proposed model go beyond the classic before, during, and after phases to reflect the idea that transfer strategies can work across all these phases (Broad, 2005) and they thought it is important to consider that transfer is not necessarily time-bound.
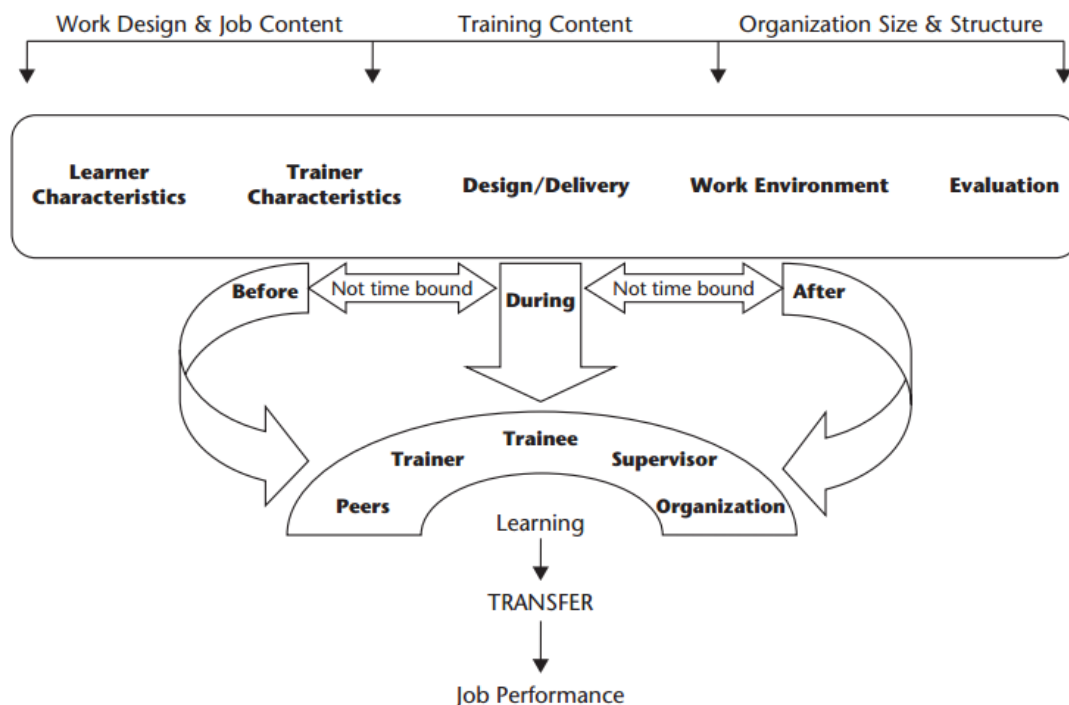
Figure 6. Burke & Hutchins's (2008) training transfer model

2.6 Training Evaluation Model

To measure the effect of training transfer scientifically, it needs a perfect and scientific assessment system for training transfer evaluation. The following model is the most representative training evaluation model proposed by Kirkpatrick in 1994. I'll open with the model and then move through these four levels of training evaluation.

Kirkpatrick's four levels evaluation model (1994) is the most famous evaluation model, and it is the most pervasive one in the world. According to the model, the data collected for training evaluation can be divided into four levels. That is, training evaluation consists of four platforms of different levels.

1. Reaction. Reaction is an evaluative feedback that what trainees thought and felt about the training. We can understand the trainees' thoughts about trainers, textbooks, teaching methods and management through reaction evaluation. In general, only the training program and process that satisfied trainees, can fully demonstrate the training effect.

2. Learning. Learning refers to trainees' learning situation. And the key tasks of learning evaluation are estimating the knowledge level and skill level of the trainees, and measuring the trainees' mastery of skills, knowledge after training. There are lots of ways to evaluate this level, such as test, field operation and work simulation.

3. Behavior. Behavior means the staff's working behaviors. Behavior evaluation evaluates the change of trainees' working behaviors when they're back to work after training. It's also measured to what extend do the trainees turn the skills and knowledge into the improvement of the performance. And the evaluation indicators can involve working attitudes, working methods, productivities and so on. Meanwhile, the evaluation methods can employ 360-degree assessment and performance appraisal.

4. Result. Result evaluation evaluates to what extend does training improve organization's performance. According to Kirkpatrick, the result evaluation indicators can be the change of quality, output and cost (Kirkpatrick, 1994).

The table below shows the comparisons of Kirkpatrick's evaluation model's four levels, including evaluation content, implementation approach, advantage, disadvantage, improvement strategies of each evaluation level.

Evaluation Level	1	2	3	4
Name	Reaction	Learning	Behavior	Result

Evaluation Content	Training contents, trainers, training methods, facilities, etc.	Evaluate the level of trainees' mastery of training contents	Evaluate the change in trainees' behaviors and performances after training	Evaluate if the training have a directly influence on the operating results of the companies (e.g. the decrease of defective rate that caused by operational skills training
Implementation Approach	Questionnaire, group discussion	Paper test, field operation,	360 degree assessment，self-evaluation	Evaluate by some indicators （ e.g. accident rate, defective rate， employee turnover rate, complaint rate）
Advantage	Good operability	Cause stress at both trainers and trainees，to make the they work harder	Reflect training effect directly, the managers will support more on training	Detailed and convincing data will address concerns among seniors
Disadvantage	Subjectivity, overgeneralizations	Stress may lead to low participation rate	Time-consuming and expensive	Time-consuming, lack the necessary skills and experiences, it's hard to find out the results in a short time
Improvement Strategies	Use a combination of questionnaire, interview, discussion to evaluate; self-assessment of trainees	Apply different evaluation way according to different training contents.	Choose proper time to assess，take good advantage of professional trainer and consulting company	To get the related data, we must get the support of managers

Table 2. The comparisons of Kirkpatrick's evaluation model's four levels

2.7 Factors influencing training transfer

In this small chapter, I will present the classification of factors that influencing training transfer and the specific factors that presented in the models I described above. All the factors are separated into three groups: learner characteristic, training design and work environment.

2.7.1 The classification of factors that influencing training transfer

There are three main classifications of factors that influencing training transfer according to Burke and Hutchins.

The first category captures primarily influences on transfer by way of widely accepted models of transfer, including the subcategories of learner characteristics, training program characteristics, and work environment.

The second major category specifies the time period when the activity or action occurs, including before, during and after.

The third major category specifies the stakeholders or parties who are most heavily involved in the transfer support action taking place, including trainee, trainer and supervision (Burke & Hutchins, 2008).

2.7.2 Learner Characteristics

Cognitive Ability

Cognitive ability refers to the individual's capacity to think, reason, and solve problems. Colquitt, LePine and Noe(2000) conduct a meta-analysis based on 20 years of training research and found that correlation coefficient between cognitive ability and training transfer is moderately high at 0.43. Kanfer and Ackerman (1989) noted that cognitive ability clearly exerts an effect on trainee performance due to its effect on intentional resource capacity (Burke & Hutchins, 2008). Cognitive ability influences the attainment of job knowledge directly, and those who have high

cognitive ability will likely learn more and succeed in training (Salas &Cannon, 2001).

Self-Efficacy

Self-efficacy describes the personal beliefs a person holds about his capabilities to learn or perform actions at designated levels; the belief about what one is capable of doing (Bandura 1977, 1986). Bandura argues that self-efficacy is more than an inert estimate of future action; it involves a generative capability which resources and sub orchestrate skills into successful performance. This is supported by evidence that (a) people who have high self-efficacy for a specific task typically outperform those who have low self-efficacy, (b) self-efficacy often predicts future performance better than does past performance, and (c) self-efficacy accounts for a significant portion of the variance in performance after controlling for ability (Gist, Stevens &Bavetta, 1991). Ford and Quinones(2002) found that individuals high in self-efficacy are more likely to be active in trying out trained tasks and attempting more difficult and complex tasks on the job. Self-efficacy has been proved to related to transfer outcomes positively through multiple studies. And some interventions that designed to increase self-efficacy have produced increases in training transfer (Burke & Hutchins, 2007).

Locus of Control (LOC)

Locus of control refers to the extent to which individuals believe they can control events affecting them. There are two different kind of LOC, one is internal, means that the individuals believe they can control their life by themselves and the other is external, meaning that the persons believe their decisions and life are controlled by environmental factors, which they cannot influence, such as chance or fate(Rotter, 1954). Tziner, Haccoun and Kadish (1991) said that trainees who have an internal LOC were more likely to transfer more in their study. Managers high in internal LOC were more likely to apply new skills learnt from training to work (Baumgartel，1984). In Coquitt's (2000) Meta analysis, internal LOC and external LOC are both related to training transfer, and the former is more significant than the latter. Chang and Ho (2009) found LOC is connected with training motivation. In training situations where

the trainee possesses an internal locus of control, the trainee expresses greater motivation to learn than in training settings where the trainee could maintain control over the amount of training content delivered. In training situations controlled by a trainer, trainees with an internal locus of control showed greater satisfaction in learning and transfer.

Motivation to Transfer

Motivation to transfer refers to the direction, intensity and persistence of effort toward utilizing skills and knowledge learnt, in a work setting (Devos, 2007). Holton (2005) claimed that motivation to transfer is a significant item in the transfer process because it connects directly to individual performance. Liebermann and Hoffmann (2008) conducted a study on factors influencing training transfer, and the survey collects data from German bank employees who attended a training program aimed at improving service quality. The result shows that the higher the transfer motivation, the higher the transfer of training contents to the job.

2.7.3 Design/Delivery

Training needs analysis

Training needs analysis is the process of identifying the gap in employee training and related training needs. The training needs analysis should include individual, organizational, besides task characteristics, and should contain the method and the content of training (Tannenbaum et al., 1993). According to Broad (2005), training needs analysis could be useful to predict transfer. Eden and Shani (1982) conducted a survey on 105 soldiers, who had attended a training program related to battle strategies, to determine the relationship between trainee's needs and training transfer. The result showed that there was a significant relationship between training transfer and trainee's need. Gaudine and Saks (2004) suggested that training needs analysis can be used as an approach that specifically identifies obstacles to positive transfer of training.

Training Design

Training design refers to the extent to which training is delivered in ways that give trainees the ability to transfer learning to job application, and the training instructions match the job requirements (Bates & Holton, 2004). The literature review of the training literature showed that training design involved content design and instructional methods. Trainees are more likely to apply the knowledge learnt from training when the course content and materials are similar to those used in the work setting (Axtell et al., 1997). The design of the training activities directly influences transfer (Colquitt, 2000b), and Lim and Johnson (2008) claimed that the training design promote high training transfer according to their research. Baldwin and Ford (1988) and Holton (1996) both considered training design as a significant factor that influences training transfer, therefore they included it into their training transfer models.

Trainer characteristics

Many studies highlight the importance of trainer characteristics to training transfer. For example, Eden (1990) argued that trainees' achievement could be enhanced considerably by increasing their performance expectations. In 2004,Yelon did a research on 73 physicians attending faculty development programs; he found that trainees' intentions to transfer came from how trainers taught the knowledge, how trainers treated the trainees, and how they felt during instruction process. Therefore, trainers play a significant role in increasing training transfer and should work on preparing trainees for training, designing training materials and settings, and consulting with supervisors and other stakeholders to improve trainee post-training performance (Marina, 2014).

2.7.4 Work environment

Peer Support

Peer support refers to the reinforcement that colleagues can provide to peers' provision ding trainees to use of learning acquired on the job (Swanson& Holton, 1997). In a study conducted by Facteau, Dobbins, Russell, Ladd, and Kudisch (1995),

trainees who perceived their peers as supportive were more likely to create greater transfer of their skills learnt from training than those who thought their peers are unsupported. Chiaburu and Marinova (2005) did a research to test the predictors of skill transfer from an instructional environment to a work environment; the results presented that peer support are related to skill transfer. Peer support has a statistically significant positive correlation with transfer (r=0.4) according to the research conducted by Cromwell and Kolb (2002).

Supervisor Support

Supervisor support refers to the extent to which supervisors reinforce and support the use of learning on the job (Bates, Holton, & Seyler, 1996). In a meta-analysis, which examined the relationship between environmental characteristics and the transfer of training, Baldwin and Ford (1988) concluded that supervisory support is a key environmental variable in influencing training transfer. Huczynski and Lewis (1980) also conducted a study to investigate supervisory influence on training transfer and noted that the number of trainees who communicated the content of the course with their supervisor before the course was twice as likely to attempt to transfer skills and knowledge after training as those who did not do it. Further, those participants, who had discussed the training issues with their supervisors, seemed to understand the goals and objectives of the course clearly. Hence, the authors suggest that supervisors influence transfer by facilitating openness, listening skills, and empowerment. However, supervisors can also weaken training transfer through inhibitors, such as an excessive workload, unplanned work, and a high rate of change. To put it in another way, a supervisor can influence training transfer in a positive or negative way (Huczynski& Lewis, 1980).

Opportunity to perform

Opportunity to perform refers to the extent to which the trainee is provided with or actively seeks experiences that allow him/her to apply the newly learnt knowledge, skill, and behaviors from the training program (Noe, 2010). Some scholars have suggested that the extent of opportunities provided to trainees to apply their

knowledge and skills would influence training transfer. For example, Baldwin and Ford (1988) proposed a training transfer model that put this item into the work environment factors. Pentland (1989) points out that trainees, who practice newly learnt skills immediately after returning to the job, were able to retain the knowledge learnt in training for longer periods of time than those who did not have the opportunities to use the knowledge). According to Lim and Johnson (2002), the most significant reason of low transfer in their study refers to the lack of opportunity to apply the new learnt knowledge on the job. However, more research is needed to test the extent to which this factor influences training transfer.

Technological Support

Technological support refers to the services by which enterprises provide assistance to trainees in using technology products, such as mobile phones, computers, software products or other electronic or mechanical goods. The study of Rouiller and Goldstein (1993) shows that with the technological advantage, the transfer of training is more likely to support the organization's development. With time flies, there are more medical resources needed, rapid changes in health care technology lead to challenges and future demands on medical care service，which makes professional training much important than before(Helen, 2005).

Budget Support

Budget refers to the financial expression of any given activity as agreed during its sanctioning process (Ikramullah, 2007). Financial support has a significant influence on training transfer.One research conducted by Gordon et al（1996）found that there was a strong link between increased training budgets and decreases in personnel turnover.

Physical and Aesthetic Environment

Physical and aesthetic environment refers to the facilities and the environment the companies provided to their trainees to help to increase training transfer. According to the meta-analysis result of Colquitt, LePine and Noe(2000), positive support environment were strongly related to transfer (r=0.37). Trainees may be better able to

focus on transferring new knowledge to their workplace when they work in a supportive environment (Richman-Hirsch, 2001). Brill (1993) suggests that a supportive physical environment can result in productivity gains equal to two to five percent of annual salary in all job categories. Aesthetics environment is a vital part of the physical environment, it helps to reduce trainees' stress and increase willingness to try new skills at work, and thus play a significant role in improving training transfer.

Workload

Workload refers to the amount of work an individual has to do（Jex，1998）.

Porras and Hargis (1982) reported that there is a negative correlation between training skills used and the factors of overload, and job-generated stress. Decker and Nathan (1985) found the trainee's workload is an important factor influencing training success. And similarly, Brown (2005) found workload as crucial factor for the aggregate time spent in e-learning training courses in his survey. Worsfold et al. (2004) conducted a survey on 1000 caterers in small independent companies and found that lack of time is the main reason for not training staff.

Chapter 3: Proposed research model and research hypotheses

3.1 Research Design

Nowadays, the competition of talents has become a big issue for all the enterprises; a company cannot be successful without the talents. To improve the comprehensive abilities of employees, training has become one of the most effective ways to solve this problem. And how to improve training transfer has been indispensable part to do a research.

There are three common categories of factors that influence training transfer: learner characteristics, intervention design/delivery, and organizational work environment (Baldwin & Ford, 1988).

I choose the last one to conduct a research. There are a couple of reasons for this. First, the dispositional and personality characteristics of individuals participating in a training activity are hard to manipulate. Second, it is not always easy to control the design/delivery of a training intervention, especially if it is done outside the organization. And above all, work environment factors are elements that can be manipulated by the human resource development (HRD) researcher and practitioner as part of the HRD implementation.

In China, compared to the researches in the areas of training design and trainee characteristics, the number of studies on work environment is much fewer (Liu Jianrong, 2005). And lots of foreign researches about this topic are not on the base on the conditions of China. I want to conduct a research on the factors that influence training transfer，in the Chinese context, and provide suggestions for Chinese enterprises.

The research would help the enterprises to find out what are the work environment factors that influence training transfer. They can carry out inventions on these factors to improve training transfer, and the job performance of employees will increase correspondingly.

To do a more logical research, I choose Baldwin and Ford's (1988) training transfer model as a reference and propose to investigate part of their model. And I choose three levels to evaluate training transfer: learning, maintenance and application.

3.2 Theoretical Framework

3.2.1 Transfer of Training Model

This study receives inspiration from Baldwin and Ford (1988) model of transfer of training, regarding the work environment factors that influencing training transfer, which is a rarely researched field for other models.

Independent Variables

Based on the literature review above, there are seven factors that influencing training transfer and which can be classified into three dimensions, like social support (made up of elements of management and peer support), resource support (technological support, budget support and physical and aesthetic environment) and individual work support such as opportunity to perform and workload.

Dependent Variables

Based on Baldwin and Ford's (1988) model of transfer of training, the researcher chooses three dimensions to measure the transfer of training: learning, maintenance and application.

3.2.2 Our Research Framework

Based on the literature review in the previous chapter and combined the current training situation of China, I propose my research model.

Independent Variables

And I will focus on the 3 aspects to find out the work environment factors that influence training transfer.

1. Individual work support

   This part is consisted of two factors: workload and opportunity to perform. Workload refers to the amount of work an individual has to do（Jex，1998）. And opportunity to perform refers to the extent to which the trainee is provided with or actively seeks experiences that allow him/her to apply the newly learnt knowledge, skill, and behaviors from the training program (Noe, 2010). These two factors presented that how did individual work affect training transfer.

2. Resource support

   Resource support factors are consisted of physical & aesthetic environment, technological support as well as budget support. Physical and aesthetic environment refers to the facilities and the environment the companies provided to their trainees to help to increase training transfer. And Technological support refers to the services by which enterprises provide assistance to trainees in using technology products, such as mobile phones, computers, software products or other electronic or mechanical goods. As for the budget, it refers to the financial expression of any given activity as agreed during its sanctioning process (Ikramullah, 2007). The three factors presented the resource support that influence training transfer.

3. Social support

Social support related to peers and supervisors. Supervisor support refers to the extent to which supervisors reinforce and support the use of learning on the job (Bates, Holton, & Seyler, 1996). Peer support refers to the reinforcement that colleagues can provide to peers' provision ding trainees to use of learning acquired on the job (Swanson& Holton, 1997). This part designed to measure that how social support influence training transfer.

And to measure training transfer, I make a reference to Baldwin and Ford's (1988) training transfer model. I choose the three dimensions learning, generalization and maintenance to test the effect of training transfer.

As the individual information part, I choose six questions to ask the trainees about their gender, age, position, education level, training content type, and company type.
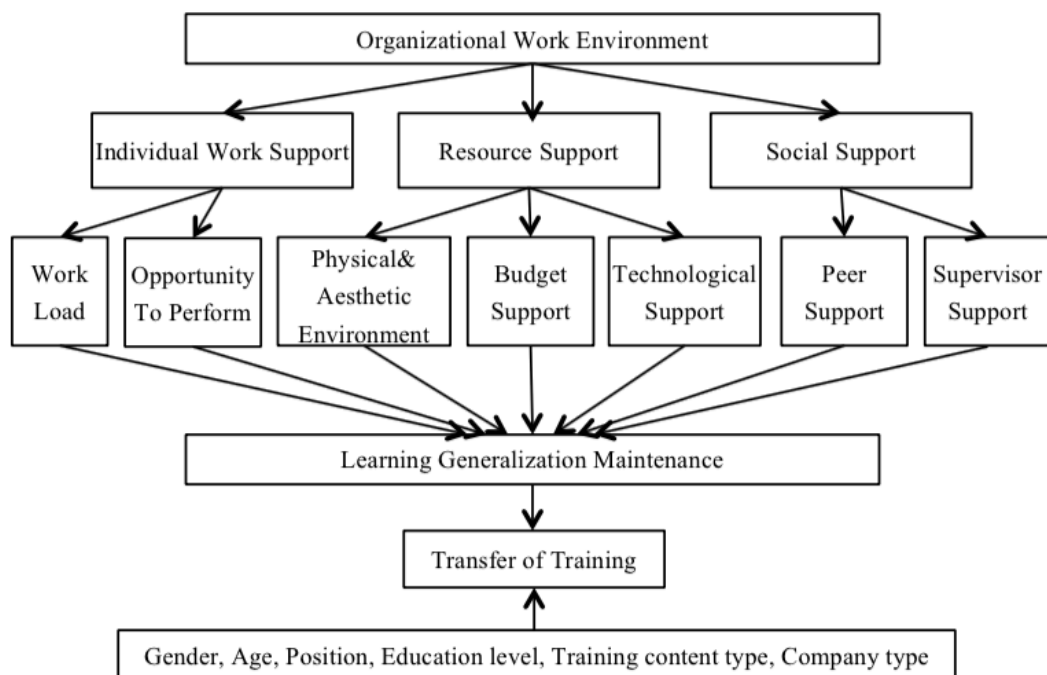
Figure 7. Proposed transfer of training model

3.3 Theoretical Hypotheses

Having in mind the research questions identified, I formulated the following hypothesis:

H1: There are significant differences on the organizational work environment factors by company type from the perception of workers in Chinese enterprises.

H2: There are significant differences of (gender, age, education level, training type and company type) on training transfer from the perception of workers in Chinese enterprises.

H3: Organizational work environment factors (supervisor support, peer support, technological support, budget support, opportunity to perform, workload, physical and aesthetic environment) have a positive influence on training transfer in Chinese enterprises.

Chapter 4: Methodology

This chapter presents the methodology taken in carrying out the research, which including the sample, instrument and its validity and reliability, data collection procedures, besides the statistical analysis.

4.1 Sample

The study covered three branches of enterprises located in China. The enterprises included state-owned enterprises, privately owned enterprises and foreign-invested enterprises, which includes multinational companies and joint ventures. The target populations are employees, who work in the three kinds of enterprises and had ever attended training programs.

The sample of this research consisted of 256 trainees (of the original 300; a 85% response rate) who all attended training. The desired sample size was determined by following the recommendations proposed by Benson and Nasser (1998), they suggested factor analysis requires a minimum of five subjects per independent variable to assure adequate statistical power and generalizability of results. Despite of the first section, the instrument contained 51 items; the minimum sample size needed was 255.

About18% of the trainees were from state-owned enterprises, and about 40% were working in private companies. And 18% of them were from foreign-owned enterprises, and the rest of respondents are from joint ventures. A slight majority of the sample was male (51%). Respondents were predominantly from 25 to 45 years old (80%) and most of the trainees held a bachelor's degree or higher (74%). Over 57% of the respondents attend soft skills training.

4.2 Instrumentation

4.2.1 Instrument Design and Development

Based on the extensive literature review on training transfer, the research data were collected by a self-reported questionnaire developed in the native language of respondents (Chinese), consisted of 51 items and covered three dimensions and seven organizational work environment factors relating to training transfer. Questions included in the questionnaire were carefully designed to take into account all possible aspects of each of the independent variable. The questions inside the questionnaire come from Ikramullah Shad's（2007）questionnaire, whose validity and reliability have already been tested. Details of the number of items for each independent variable is as follows: Supervisor Support (6 questions), Peer Support (6 Questions), Technological Support (6 Questions), Budget Support (5 Questions), Opportunity to Perform (6 Questions), Workload (5 Questions), Physical and Aesthetic Environment (5 Questions).

The questionnaire was organized into four parts:

The first part of the questionnaire presents a description of the research objectives and the importance of the study.

The second part includes the demographic individual information (company type, training type, education level, years of experience, job title and gender).

The third part consisted of 57 items constructed in close-ended statements, the respondents were asked to rate items using a Likert type scale with 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Disagree nor Agree; 4 = Agree; and 5 = Strongly Agree. This section covers three dimensions related to training transfer (social support, resource support and individual work support).

The last part includes the questions designed to measure training transfer effect. It has three dimensions and 12 items, using a 5-point Likert type scale.

4.2.2 Pilot Testing

The first version questionnaire was sent to ten employees who come from different educational backgrounds (graduate level, undergraduate level, and high school graduates). The employees were asked to complete the questionnaire, find out any question they thought was difficult to understand, and tell any suggestions they thought about questionnaire improvement. All the feedbacks were positive and supportive. They said: "the questions are easy to understand and answer"; "the questions include their thoughts about training". This feedback did not lead to any additional changes. The final version of the questionnaire can be found in Appendix A.

4.2.3 Principal component analysis and Reliability Test

First, factor analysis (principal component analysis) was used to reduce the factors to make the data more manageable. I conducted 4 separate principal component analysis on social support, individual work support, resource support, as well as training transfer.

For social support，the results are shown below. The first Principal Component Analysis (PCA), performed using all 12 items on social support, using Kaiser's criterion and Varimax rotation, showed that the item 'My supervisor re-designed my job descriptions according to my skills that I learned from training' has a value of extraction of 0.234. For the fact that this figure is below the limit of 0.5, we decided to redo the same analysis without this element. I finally had all values of extraction >0.5, which allowed me to continue the preliminary analysis.

To apply PCA the value of KMO should be > 0.5, the null hypothesis of the Bartlett test should be rejected (sig ≤0.05). The value of KMO is 0.847, and the sig is 0.000,

so the PCA can be conduct (see appendix Table 1). The first component is consisted of questions about peers, so I called it peer support. The questions in the second component are all about supervisor, so I named it supervisor support. The first component extracted explains about 39% of the variability of social support, the second explains a 21%. In total, the two components explain 60% of the variability of the data (see appendix Table 2).

Rotated Component Matrix[a]

	Component	
	1	2
My supervisor set new goals to make sure I can benefit from new skills and knowledge that I learned from training		.757
My supervisor helped me when I have problems in applying my new skills in training.		.715
My supervisor gave me advice on how to apply skills and knowledge in training.		.687
My supervisor concerned about practical applications of my training program		.742
My supervisor praised my efforts in front of others after training		.727
My colleagues help me to apply skills and knowledge that I learned from training	.845	
I receive cooperation of my peers while using new skills.	.833	
My co-workers are curious about my training.	.810	
My co-workers show interest in learning skills I acquired from training.	.804	
\My peers do not criticize me when I implement new skills.	.674	
My colleagues do not laugh at me when I make mistakes in applying new skills.	.778	

Table 3.Rotated Component of social support

For individual work support, the value of KMO is 0.905, and the sig is 0.000 (appendix Table 3). There are two components in this part, the first one named workload because all the questions are related to workload. And the second component called opportunity to perform. The first component extracted explains

about 55% of the variability of work support, the second explains a 16%. In total, the two components explain 71% of the variability of the data (appendix Table 4).

Rotated Component Matrix[a]

	Component	
	1	2
Spared time was available to me to apply new skills	.842	
There was no increase in my workload after training	.790	
The office hours were enough to apply new skills	.770	
I do not have to work overtime frequently	.851	
Extra time spent to apply new skills was duly paid	.672	
My workload makes it possible to attend every class in training program	.774	
My supervisor gives me freedom to develop and work independently		.806
Autonomy on making decisions related to work is available to me		.837
My new skills could be implemented without amendments in the organizational policies		.859
The situations used in training are very similar to those I encounter on my job		.768
My jobs are more challenging after training		.813

Table 4. Rotated Component of individual work support

Regarding the resource support, the Principal Component Analysis (PCA), performed using all 16 items, using Kaiser's criterion and Varimax rotation, showed that the items 'There were enough funds to create a comfortable training environment', 'Additional equipment required to apply newly learned skills was available to me', and 'There would be some technological experts to help me when I encounter technological problems in applying new skills' have a value of extraction below 0.5. For the fact that this figure is below the limit of 0.5, we decided to redo the same analysis without these elements. I finally had all values of extraction >0.5, which allowed me to continue the preliminary analysis.

The value of KMO is 0.830, and the sig is 0.000（appendix Table 5）. According to Table 5, the first component is made up of questions about comfortable work environment, so I named it physical and aesthetic environment. The second component consists of questions on funds, so I called it budget support, and the last

one was named technological support. The first component extracted explains about 33% of the variability of resource support, the second explains a 23% and the third 10%. In total, these three components explain 66% of the variability of the data (appendix Table 6).

Rotated Component Matrix[a]

	Component		
	1	2	3
My company fully supported my demand for additional funds		.851	
Funds required for applying new skills were provided in time		.839	
I received my salary as usual when I attend the training program		.832	
My company provides me with reimbursement for my meals and transportation when I attended training program		.822	
Additional equipment required to apply newly learned skills was available to me		.786	
Software similar to the one used during training was available to me after training			.774
New sources of technical information were available to me after training			.599
Technical manuals, publications were available to me when required after training			.734
Air conditioner	.836		
Tea，refreshment	.789		
Noise-free	.794		
Leg space under the desk	.749		
Comfortable work place	.821		

Table 5. Rotated Component of resource support

And for the training transfer part, the value of KMO is 0.843, and the sig is 0.000 （appendix Table 7）. According to Table 6, only one component is extracted, so I called it training transfer. The component extracted explains about 75% of the variability of training transfer (appendix Table 7).

Component Matrix[a]

	Component
	1
After training I had a comprehensive understanding of the knowledge learned in training program	.874
I can answer all the questions about the training classes I attended	.842

I can convey the skills to others what I learnt after training	.823
I learned applying all the skills that I studied during training	.826
I can recall the overall information of the training	.898
I can recall details of each unit of training	.871
I can recall the how to operate the skills of training	.834
I can recall every knowledge the trainer teaches in training	.896
I can apply all the skills learned from training to work	.898
My job performance improved a lot after training	.867
I found job is much easier for me after training	.821
My work efficiency improved after training	.898

Table 6.Rotated Component of training transfer

To measure the reliability of each variable, Cronbach's alpha was estimated to test the internal consistency among the items included in each of the formative scales. The resulting alpha values of the study ranged from 0.705 to 0.968. According to Nunnally and Bernstein's (1994) guidelines for research, the questionnaires of the study are acceptable and all the components are reliable.

Variables	No. Items	Cronbach's alpha
Supervisor Support	5	0.793
Peer Support	6	0.884
Workload	6	0.903
Opportunity to Perform	5	0.905
Budget Support	5	0.885
Technological Support	5	0.705
Physical and Aesthetic environment	5	0.869
Training Transfer	12	0.968

Table 7.Reliability Analyses of Variables

4.3 Statistical Methods

Statistical Package for Social Science (SPSS) software version 22 was used for data analysis of this research. Means, standard deviations, correlations, and coefficient alpha internal consistency reliabilities were computed. Following this preliminary analysis, t-tests and one-way ANOVA were used to investigate differences between groups. Next, regression analyses were conducted for each firm type to investigate the relationship between employee perceptions of work environment factors and training evaluation variables. A P-value of less than or equal to 0.05 was used to test the significance of the study hypothesis.

Chapter 5: Data Analysis

5.1 Introduction:

This chapter presents the organizational work environment factors affecting transfer of training from the perspective of trainees in Chinese enterprises. The demographic results of the respondents are presented first. The results of each research question follow the demographic data.

Moreover, this chapter aims to analyze which factors are the most significant ones to influence transfer of training. This chapter also analyzes the role of the study variables (education level, age, job title, gender, training type, and the type of company) on the factors affecting transfer of training.

5.2 Descriptive Statistical Analysis

The demographic results of respondents show that the numbers of male and female trainees are nearly the same.

Based on the Chinese labor laws，the age of trainees is divided in four groups: 18 to 24, 25 to 34, 35 to 44 and 45to 60. The largest group is between 25 to 34 (57.4 %), then follows by 35 to 44 (22.3 %), 18 to 24 (17.6 %) and the smallest group is45to 60 age group, accounted for 2.7 of the trainees. Undergraduate is the largest group for education level, then followed by postgraduate or PHD, junior college and up to high school (48.8%, 25.45%,16.8%,9%，respectively).

Out of 256 respondents 117 are general staff, 72 are supervisor, 57 are manager, and the senior executive are only 10. 110 of the respondents attended hard skills training, and 146 employees attended soft skills training. Most of the respondents are from privately enterprises, then follows by foreign-owned companies, and the number of trainees who work in state-owned companies are a little higher than those in joint

ventures. The summary of demographic analysis is presented in Table9 (see appendix Table 9).

Mean Analysis

The data of table 4.2.2 shows the means of each organizational work environment factor and transfer of training from the perspective of 256 Chinese trainees. The highest average of these factors is physical & aesthetic environment (4.18), then follows by Technological Support (4.17)，and the lowest average is workload (3.39).

Last column shows standard deviation of each factor to assess the variance of minimum and maximum values discussed above. Opportunity to perform (SD = 0.92) has maximum variability in the perception of respondents. While，the variation in technological support is 0.46, which showed minimum variance of these factors.

As for the three levels of training transfer, the averages are basically the same. So do the standard deviation.

We can see clearly from the table that all the means of the factors and training transfer are above 3, which shows an overall positive trend of trainees.

Work environment factors	Mean	SD
Supervisor Support	4.02	0.56
Peer Support	3.49	0.78
Workload	3.39	0.83
Opportunity to Perform	3.41	0.92
Budget Support	3.99	0.60
Technological Support	4.15	0.46
Physical & Aesthetic Environment	4.19	0.72

Table 8. Means Analysis of Each Factor

5.3 Results Related To the Research Questions:

This part aims at answering the following question:

1.**Q1:** What organizational work environment factors may most influence training transfer, in the Chinese context?

According with this graph, the most preferable options are supervisor support, technological support and physical & aesthetic environment. This means that Chinese trainees receive lots of support from supervisor and they are satisfied with technological support and physical & aesthetic environment provided by their companies. And the means of opportunity to perform, workload and peer support are much lower compared with the four other factors. This reflects the lack of autonomy and time to practice learned training skills, as well as the lack support from colleagues.
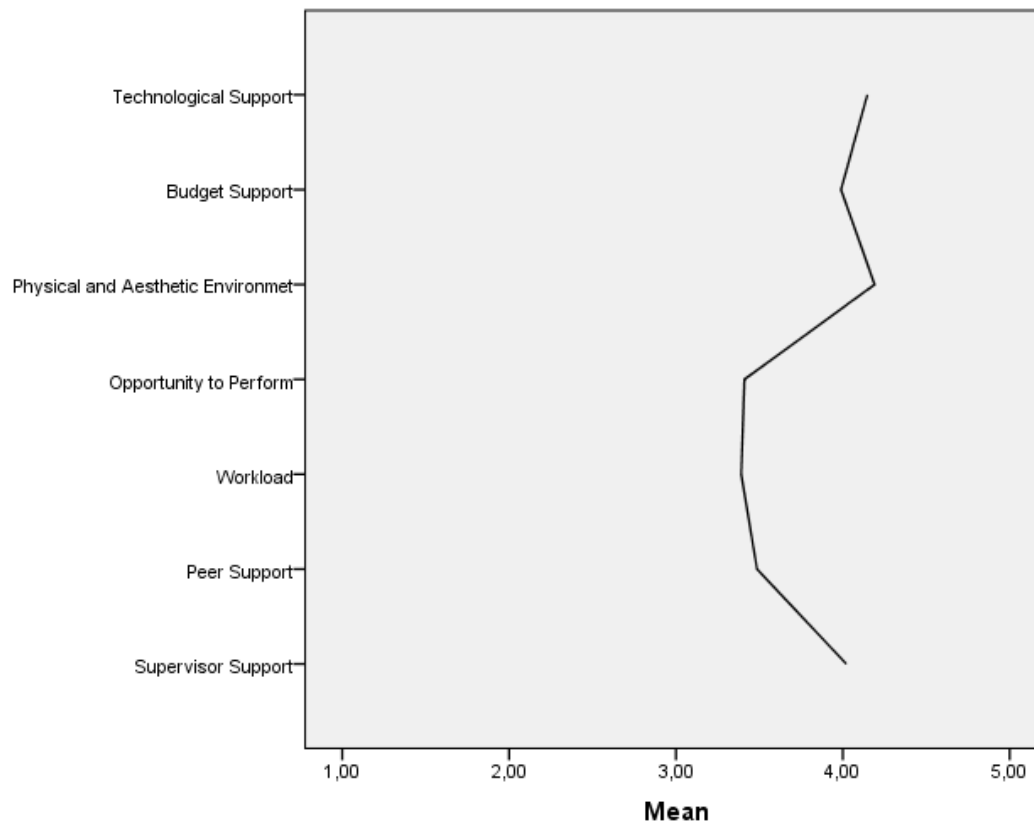
Graph 1.Mean profile for variables of work environment factors

Q2: Do participants' perceptions differ regarding the importance of different organizational work environment factors, by company type?

I used one-way ANOVA to answer this question, and the results are shown as below in Table 4.3.2. To have a clear result, I joined together the foreign-owned enterprises and joint ventures as a group and called this group as foreign-invested enterprises.

According to the results, we can see clearly that, except for the budget support, there are significant different regarding the importance of different organizational work environment factors, by company type. And there are four factors (peer support, workload, opportunity to perform and physical & aesthetic Environment) that have significant difference between different company types.

For peer support, the opinions of trainees in private-owned company are significantly different from other two company types; the means of this kind company are much lower than others. And there are no significant differences between state-owned, foreign-invested enterprises. The reason may be most of the privately owned companies focused on performance of individual, and ignored the importance of teamwork. So, the support from peers in this kind of company is less compared to other two company types.

According to the table below, trainees from foreign-invested companies received more support from supervisor than Chinese private-owned enterprises and the mean of stated-owned enterprises is the lowest among the three kinds of companies. Which reflects that the supervisors inside foreign-invested companies are the most helpful ones to support trainees, and the ones from stated-owned enterprises are not helpful like the other two kinds companies. Which may because most of the performance appraisal of supervisors from stated-owned enterprise are not related to the performance of their subordinates，so they are not so active to help the trainees compared to other companies.

Regarding the workload, trainees inside Chinese private-owned enterprises had the heaviest workloads than other, and the workloads of trainees from stated-owned enterprises are the lightest. The reason may be the managers from Chinese

private-owned enterprises focus more on quantity than quality，they think the more their employees work，the more values they will create. Actually，they ignore the quality of working time, working overtime is not good for both the quality of work and the transfer of training. Managers should notice and reconsider about that.

As for the factor technological support，the ranks of means are as follows: foreign-invested companies, stated-owned enterprises and Chinese private-owned enterprises. The situation is the same as the factor opportunity to perform. Which means foreign-invested companies focus more on the two factors compared to the other two kinds of companies, and the results inside Chinese private-owned enterprises are the worst among the three ones, Which means Chinese private-owned enterprise ignore the importance of the influence of technology on training transfer.

Privately owned companies have different physical and aesthetic environment and opportunity to perform from other two company types. The means of this company type are the lowest, and foreign-invested companies have the highest scores, which means they provide the most comfortable physical and aesthetic environment, and provide more opportunities to perform compared with the two other ones. Human concern is a common company culture for most of the foreign-invested companies. They focus on employees' physical and mental feelings, and give enough autonomy to let their workers to conduct what they want to do, so they provide the best physical and aesthetic environment for the workers to help them to create a comfortable environment to work and to transfer the skills that learned in training classes; and they provide enough opportunity to help the trainees to perform what they learned from training, which should learned by other companies in China, especially Chinese private-owned enterprises.

	PS	SS	Work-load	TS	OTP	FAE	BS
Stated-owned	3.82[a]	3.86	4.03[a]	4.14	3.18[ac]	4.28	3.92

Enterprises	(0.65)	(0.78)	(0.87)	(0.54)	(1.14)	(0.50)	(0.58)
Chinese private-owned Enterprises	2.78[a,b]	3.98	2.62[a,b]	4.06	2.71[a,b]	3.85 [a]	4.00
	(0.63)	(0.56)	(0.43)	(0.55)	(0.49)	(0.64)	(0.65)
Foreign-invested companies	4.00[b]	4.13	3.85[b]	4.24	4.17 [bc]	4.48 [a]	4.00
	(0.37)	(0.42)	(0.52)	(0.31)	(0.42)	(0.73)	(0.56)
F	144.95***	4.16*	167.61***	4.14*	143.19***	24.26***	0.7

Mean values are reported with standard deviations in parentheses.

Means with the same superscript letter (a, b or c) are significantly different at the 0.05 level by post hoc Hochberg's GT2 test

*P≤.05, ** p ≤ .01, *** p < .001

PS – pear support, SS- supervisor support, TS-technological support, OTP-opportunity to perform, PAE- physical and aesthetic environment, BS-budget support

Table9. ANOVA Results of organizational work environment factors by company Types

Q3 Are there significant differences of (gender, age, education level, training type and company type) on training transfer from the perception of workers in Chinese enterprises?

There is no significant difference of gender on training transfer from the perception of workers in Chinese enterprises. And there are significant differences of age, education level, and training type and company type on training transfer from the perception of workers in Chinese enterprises.

Gender and Training Transfer

	Training transfer
Male	3.528
Female	3.587
Mean difference	-.0059
T	-.462

* p< .05

Table10. T-test Analyses of Training transfer and Gender

According to table 5.3.3, there is no significant difference of gender on training type from the perception of workers in Chinese enterprises.

Age and Training Transfer

To have a better understanding, I recode the factor "age" by grouping "35-45" and "45-60" together. The multiple comparisons are showed in the following table. Based on the table below, there is a significant difference of age group on training transfer from the perception of workers in Chinese enterprises. There are significant difference between age group "18-25" and "35-60", "25-35" and "35-60".

(I) Age	(J) Age	Mean Difference (I-J)
18-25	25-35	-0.14
	35-60	0.8***
25-35	18-25	0.14
	35-60	0.93***
F	23.30***	
*P≤.05, ** p ≤ .01, *** p < .001		

Table 11. Multiple comparisons between age groups on training transfer

Education Level and Training Transfer

To have a clearer understanding, I recode education level by join "up to high school" and "junior college" into the same group "up to junior college". According to table5.3.5, there is a significant difference of education level group on training transfer from the perception of workers in Chinese enterprises. And the differences are between "up to junior college" and "undergraduate", "up to junior college" and "postgraduate or PHD".

(I) Education level	(J) Education level	Mean Difference (I-J)
Up to Junior college	Undergraduate	-1.06***
	Postgraduate or PHD	-1.19***
Undergraduate	Up to Junior college	1.06***
	Postgraduate or PHD	-0.13

F	39.32***
*P≤.05, ** p ≤ .01, *** p < .001	

Table 12. Multiple comparisons between education level groups on training transfer

Training Content Type and Training Transfer

	Training transfer
Hard skills training	3,497
Soft skills training	3.559
Mean difference	-.0.62
T	-5.116***
*** p< .001	

Table 13. T-test analyses of Training Content Type and Training
Transfer

According to the result of T-test analyses, there is a significant difference of training content type on training transfer from the perception of workers in Chinese enterprises.

Company Type and Training Transfer

(I) Company type	(J) Company type	Mean Difference (I-J)
Stated-owned Enterprises	Chinese private-owned Enterprises	0.50***
	Foreign-invested companies	-1.25***
Chinese private-owned Enterprises	Stated-owned Enterprises	-0.50***
	Foreign-invested companies	-1.75***
F	230.88***	
*P≤.05, ** p ≤ .01, *** p < .001		

Table 14. Multiple comparisons between company type groups on training transfer

As for the factor company type, there is a significant difference of company type group on training transfer from the perception of workers in Chinese enterprises. The results show that all the three company groups are different from each other.

Q4. Which factors have the most significant influence on affecting transfer of training from the perception of workers in Chinese enterprises?

Table4.3.8 shows two models of training transfer, model 1 inconcludes only control variables, and model 2 inconcludes control variables and independent variables. After adding the independent variables, R-square increases significantly from 0.38 to 0.83, which means model 2 are much better than model 1. The variables in Model 2 explained 83% variation of training transfer. According to model 2, the most relevant influences on training transfer come from supervisor support, workload, and opportunity to perform (β_1=.31, β_2=.35, β_3=.33 respectively). Physical & aesthetic Environment and Budget support also influence training transfer (β_4=.09, β_5=.14, respectively). The statistical significant control variables are Job position and training content type

Hierarchical Linear Modeling Results		Training transfer
	Model 1	Model 2
Controls		
Age	-0.49***	-0.08$^+$
Gender	0	0
Education level	0.32***	0
Job position	0.22***	0.10**
Training content type	0.22**	0.12*
Company type	-0.13*	0
Independent variables		
Peer support		0
Supervisor support		0.31***
Workload		0.35***

55

Opportunity to perform		0.33***
Physical & aesthetic Environment		0.09*
Budget support		0.14***
Technological support		0.10^+
R-square	0.38	0.83
Adjusted R-square	0.36	0.82
F-value	25.30***	87.91***
Note: N = 256.		
$^+$p< .1 * p ⩽ .05, ** p ⩽ .01, *** p ⩽ .001		

Table 15. Liner models of training transfer

Chapter 6: Discussion

This chapter will discuss the study results and the implications and provide some suggestions for Chinese enterprises to improve training transfer in their future training programs.

6.1 Discussing the results of the study hypothesis

H1: There are significant differences on the organizational work environment factors by company type from the perception of workers in Chinese enterprises.

According to the data analysis in chapter 4, there are significant differences on the organizational work environment factors (except budget support) by company type from the perception of workers in Chinese enterprises.

For peer support, the means of Chinese private-owned enterprises are the lowest, this may because the companies value more on individual performance over team performance, the competition relationship between the colleagues lead to the low support from peers, and the company culture of state-owned enterprises and foreign-invested companies emphasized the importance of teamwork, and lots of companies add team performance into individual performance evaluation，so the employees from these companies provide more support to the trainees.

About supervisor support, the lowest mean belongs to state-owned enterprises. The mangers in state-owned companies care more on meeting, leaders; they don't have much time spend on their subordinates.

However, regarding the workload, employees in stated-owned enterprises perceive that their level of workload does not create difficulties to get the most benefit from a training activity. This is decided by the basic present situation of our country. Most stated-owned enterprises in China are big companies with many people, and the workloads are not as heavy as private-owned enterprises. Employees from

stated-owned enterprises come to work and go home on the dot almost every day. Foreign-invested companies seem to offer a workload that is also compatible with the most benefit from a training activity.

For technological support and budget support, the three kinds of companies all invested a lot into training and provide pretty good technological support for trainees. The means are basically the same on budget support，and a slight difference on technological support. Foreign-invested companies provided better technological support than others.

Regarding the opportunity to perform, the means of Chinese private-owned enterprises are much lower than two other kinds of companies. One reason to explain this significant difference is given by the fact that many privately owned companies in China are small-scale companies，and employees there are doing basic work, and they don't have the autonomy to conduct their own ideas，most of them doing things just follow the orders. On the contrary, foreign-invested companies encourage employees to conduct their own ideas, so the trainees have enough opportunity to perform what they learned from training.

Finally, regarding the physical and aesthetic environment, the situation in stated-owned enterprises and foreign-invested companies are pretty good.　Chinese private-owned enterprises didn't realize the importance of physical and aesthetic environment and ignore the influence of physical and aesthetic environment on training transfer.

H2: There are significant differences of (gender, age, education level, training type and company type) on training transfer from the perception of workers in Chinese enterprises.

The number of male trainees is basically the same as female ones, and the training transfer from their perception don't have significant difference between different gender groups, which means gender don't influence training transfer in this study.

There are significant differences between age group "15-25" and "35-60", "25-35" and "35-60". And people from the age group "35-60" have lowest means, which shows that training transfer decrease with the increase of trainees' age. The younger the trainees are, the more they will transfer from training. This is easy to understand, people's memory, focus, the ability to learn new skills will weaken with the age，and these are very important for training transfer, which tell us training is better to start at a young age.

There is a significant difference of education level group on training transfer from the perception of workers in Chinese enterprises. And the differences are between "up to junior college" and "undergraduate", "up to junior college" and "postgraduate or PHD". And the mean differences reflect that the higher the education level，the higher the training transfers. This teaches the managers in Chinese enterprises that different training contents should be designed to different trainees from different education level.

There is a significant difference of training content type on training transfer from the perception of workers in Chinese enterprises. Employees who attend soft skills training classes have better result in training transfer compared to those who attend hard skills training classes. This means that soft skills training can transfer better than hard skills training from the perception of workers in Chinese enterprises.

And there are significant differences between company type groups on training transfer from the perception of workers in Chinese enterprises. According to the result, foreign-invested companies have the best transfer in training, then follows stated-owned enterprises, and the last is Chinese private-owned enterprises. Significant differences were found between foreign-invested companies and stated-owned enterprises, between foreign-invested companies and Chinese private-owned enterprises, and between Chinese private-owned enterprises and stated-owned enterprises. Lots of foreign-invested companies have their own

professional training systems, and these are the aspects for stated-owned enterprises and Chinese private-owned enterprises to learn.

H3: Organizational work environment factors (supervisor support, peer support, technological support, budget support, opportunity to perform, workload, physical and aesthetic environment) have a positive influence on training transfer in Chinese enterprises.

According to the linear model of training transfer, all the factors in the research (except peer support) have a positive influence on training transfer, with special reference to three factors: supervisor support, opportunity to perform, and workload. The reason why peer support don't have influence on training transfer may be explained by the current situation of China. Lots of companies emphasize individual performance, and the relationships between colleagues are competition, people are not willing to help each other, and team building is not concluded into the company culture of most Chinese enterprises (Liu Jianrong, 2005). Managers should be aware of this part. And the results of other factors shows that managers from companies in China should focus on provide support from these six aspects: supervisor, workload, technological, budget, opportunity to perform and physical and aesthetic environment.

6.2 Theoretical and practical implications

The category of factors influencing training transfer is mainly absorbed from the widely accepted models of transfer, consisting of learner characteristics, intervention design/delivery, and work environment (Baldwin & Ford, 1988). Without the effective transfer of training, the costs and time spent in training is simply wasted.

In the past, the researchers did a lot of researches in factors influencing training transfer. But most of the study focus on the learner characteristics, intervention design/delivery, and ignored the importance of work environment factors.

Results of this study have potentially valuable implications for future research and practice. The results of this research explained all aspects of work environment factors that influence training transfer, and these results provide empirical evidence to the former theoretical models (e.g. Baldwin & Ford, 1988) suggesting that transfer of training is impacted by the social support factors, individual work factors and resource support factors.

An important part in this study is that all respondents in the sample are trainees from companies in China, so the results are suitable for Chinese enterprise to improve their training transfer.

This study aims to increase the understanding of organizational work environment factors influencing training transfer by answering these questions: 1) what are the organizational work environment factors influencing training transfer? 2) Which of the factors has the most significant influence on training transfer? 3) What are the commendations for Chinese enterprises to improve training transfer?

Based on the results of this study, we can argue that for Chinese enterprise to maximize their return on investment with regards to training transfer and to increase work performance, they need to focus on all related work environment factor that influence transfer of training: supervisor support, technological support, budget support, opportunity to perform, workload, and physical and aesthetic environment.

So, the study of the topic provides Chinese enterprises with specific directions and theories，and has a strong practical significance.

6.3 Conclusion

1. There are significant differences of (age, education level, training type and company type) on training transfer from the perception of workers in Chinese enterprises.

2. Six factors (not include peer support) of work environment have positive and significant influence on transfer of training.

3. Workload is too much to apply the learnt skills and knowledge to work. To improve training transfer, Chinese enterprise should pay attention to the workload that assigned to the trainees.

4. Opportunity to perform is not enough for Chinese trainees，some percentage of the trainees are not satisfied with the situation.

5. Most of the respondents presents that they are satisfied with supervisor support, budget support, technological support and physical＆aesthetic environment, which Chinese enterprises should continue to maintain.

6. There are significant differences on six out of the seven organizational work environment factors by company type from the perception of workers in Chinese enterprises.

6.4 Limitations

There are several limitations to this study:

1. The validity of the study relies on respondents' honest responses to the questionnaires.

2. The seven organizational work environment factors don't include all the possible factors that can influence training transfer.

3. I did't have the opportunity to interview some managers in different types enterprise.

4. The questionnaire is designed only for trainees, as the self-report approaches, some of the subjects may have overestimated or underestimated their answers.

6.5 Recommendations

On the basis of the results of the study, the following recommendations are made to improve training transfer:

1. The managers should discuss how to apply training contents to daily work with trainees.

2. The manger should re-design trainees' job descriptions and set new goals according to the skills that they learned from training.

3. Supervisors from state-owned enterprises should focus more on trainees.

4. The workload of trainees should be decreased after training for a period of time, especially for the ones from private-owned companies.

5. The investment on training should be sufficient to support training activities.

6. Managers in Chinese enterprises should provide comfortable work place for their trainees to improve training transfer.

7. Different training programs should be designed to trainees from different education levels to improve training transfer.

8. Team building and organization learning should be introduced in the company culture to create a supportive environment for training.

9. Trainees should have access to software, equipment and technical manuals, which can help them to practice what they learned from training.

10. Proper autonomy should be given to trainees to develop and practice training contents.

11. Training programs should be designed according to practical work to give the trainees the opportunity to practice what they learned from training.

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APPENDIX A: Questionnaire

Questionnaire for Work Environment Survey of Chinese Enterprises

中国企业的环境调查问卷

Dear Sir or Madam:

尊敬的先生/女士：

I'm working on my master thesis "Influence of Organizational Work Environment on Training Transfer in Chinese Enterprise"; your answer to the survey will help me collect the academic data. I promise that all your views will be used for academic only, and all your information will not be reveal to the public. Thank you for you answer, it means a lot to me.

我在为我的硕士论文"论组织工作环境因素对中国企业培训转化的影响"收集数据，您的答我承诺您的所有观点只会用于学术研究，您的所有个人信息不会向公众公布。卷将帮助我得到这些数据。谢谢您的答卷，这对我真的很重要。

Part 1

Personal information sub-questionnaire/ 个人情况子问卷

1. What's your gender? /您的性别是？
    A female   B male / A 女性 B男性
2. What's your age? / 您的年龄多大？ Years of experience
    A 18-24 B 25-34 C 35-44 D 45-60
3. What's your position? /您的职位是？
    A general staff B supervisor C manager D senior executive/
    A 基层员工 B 主管 C 经理 D 高管
4. What's your education level? / 您的教育程度是？
    A up to high school B junior college C undergraduate D postgraduate or PhD
    A 高中及以下 B 专科 C 本科 D 研究生及以上
5. What's your training content type? /您培训内容的类型是什么？
    A hard skills training（for example: foreign language, machine operation）
    B soft skills training（for example: teamwork and communication skills）/
    A 硬技能（例如：外语，机器操作） B 软技能（例如：团队合作，沟通技巧）
6. What's the type of the company you worked for? /您工作的公司是什么类型

的？
A state-owned B foreign-owned C privately owned D joint ventures/
A 国有企业 B 外资企业 C 私企 D 中外合资企业

Part 2

Please choose the number (1, 2, 3, 4 or 5) to the right of each item that most closely reflects your opinion about training transfer. 1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 – Agree 5 - Strongly agree
在右边的数字中（1，2，3，4 或者 5），请选择关于培训转化最接近你想法的选项。 1-非常不同意 2-不同意 3- 不清楚 4-同意 5–非常同意

Supervisor support sub-questionnaire/上级支持子问卷

1.My supervisor re-designed my job descriptions according to my skills that I learned from training./基于我在培训中学到的知识，我的上级给我重新设计了工作说明书。	1	2	3	4	5
2.My supervisor set new goals to make sure I can benefit from new skills and knowledge that I learned from training./为了让我从运用新知识和技能的过程中获利，我的上级给我设定了新的目标。	1	2	3	4	5
3.My supervisor helped me when I have problems in applying my new skills in training./当我运用培训所学的新技巧遇到困难的时候，我的上级都会提供帮助。	1	2	3	4	5
4.My supervisor gave me advise on how to apply skills and knowledge in training./我的上级在如何运用培训所学的知识和技巧方面，给我提供建议。	1	2	3	4	5
5.My supervisor concerned about practical applications of my training program. /我的上级非常关心我培训的实操工作。	1	2	3	4	5
6.My supervisor praised my efforts in front of others after training./培训后，我的上级在其他人面前表扬我。	1	2	3	4	5

Peer support sub-questionnaire / 同事支持子问卷

1.My colleagues help me to apply skills and	1	2	3	4	5

knowledge that I learned from training./我的同事帮
助我运用培训所学的知识和技巧。

2.I receive cooperation of my peers while using new skills. /当我运用新技巧的时候，同事都很合作。	1	2	3	4	5
3.My co-workers are curious about my training./我的同事都对我的培训很好奇。	1	2	3	4	5
4.My co-workers show interest in learning skills I acquired from training./当我运用培训所学的技巧的时候，同事都非常感兴趣。	1	2	3	4	5
5.My peers do not criticize me when I implement new skills./当我运用新技巧的时候，我的同事不会批评我。	1	2	3	4	5
6.My colleagues do not laugh at me when I make mistakes in applying new skills./当我运用培训所学技巧犯错的时候，同事不会嘲笑我。	1	2	3	4	5

Workload sub-questionnaire/ 工作量子问卷

1.Spared time was available to me to apply new skills./我有多余的时间可以来运用新技巧。	1	2	3	4	5
2.There was no increase in my workload after training./培训之后，我的工作量没有增加。	1	2	3	4	5
3.The office hours were enough to apply new skills./ 办公时间对于运用新技巧很充足。	1	2	3	4	5
4.I do not have to work overtime frequently./我不用经常加班。	1	2	3	4	5
5.Extra time spent to apply new skills was duly paid. 运用新技巧所花的额外时间会有经济补偿。	1	2	3	4	5
6.My workload makes it possible to attend every class in training program./我的工作量能让我不缺席培训课程。	1	2	3	4	5

Opportunity to perform sub-questionnaire/运用机会子问卷

1. My supervisor gives me freedom to develop and work independently. / 我的上级给我自由工作和独立发展的空间。	1	2	3	4	5
2.Autonomy on making decisions related to work is available to me. / 我有自己决定工作的权力。	1	2	3	4	5
3. My new skills could be implemented without	1	2	3	4	5

amendments in the organizational policies./我在工作中实施新技巧不受公司政策的阻碍。					
4. The situations used in training are very similar to those I encounter on my job. / 培训中的场景和我实际工作中的非常相似。	1	2	3	4	5
5.My jobs are more challenging after training./培训之后，我的工作变得更加有挑战性了。	1	2	3	4	5

Budget availability sub-questionnaire / 财政支持子问卷

1.My company fully supported my demand for additional funds. / 我的公司全力提供我要求的额外资金。	1	2	3	4	5
2.Funds required for applying new skills were provided in time. / 运用新技巧所需的资金会及时到账。	1	2	3	4	5
3.Additional financial resources were within the reach of the company. / 额外的资金要求在公司的承受范围之内。	1	2	3	4	5
4.There were enough funds to create a comfortable training environment. / 公司有足够的资金建立一个舒适的培训环境。	1	2	3	4	5
5.I received my salary as usual when I attend the training program. /在我参加培训期间，工资照常发放。	1	2	3	4	5
6.My company provides me with reimbursement for my meals and transportation when I attended training program. /我的公司会为我报销参加培训的餐费和交通费。	1	2	3	4	5

Technological support sub-questionnaire / 技术支持子问卷

1. Additional equipment required to apply newly learned skills was available to me. / 公司给我提供运用培训所学所需要的设备。	1	2	3	4	5
2.Software similar to the one used during training was available to me after training. / 公司提供给我与培训所用软件非常相似的软件。	1	2	3	4	5
3.New sources of technical information were	1	2	3	4	5

available to me after training. /我能得到技术信息资源。					
4.There would be some technological experts to help me when I encounter technological problems in applying new skills./当我运用新技巧遇到困难的时候，会有技术专家来帮忙。	1	2	3	4	5
5.Technical manuals, publications were available to me when required after training./培训之后，公司给我提供技术出版物，手册等。	1	2	3	4	5

Physical and aesthetic environment sub-questionnaire/

生理和心理环境子问卷

The following facilities offered by my company help me apply new skills that I learned from training.
下列我公司提供的设施可以帮助我运用培训所学的新技巧。

1. Air conditioner/ 空调	1	2	3	4	5
2. Tea，refreshment/茶点心	1	2	3	4	5
3.Noise-free /噪音很小的环境	1	2	3	4	5
4.Leg space under the desk/ 桌子下面伸腿的空间	1	2	3	4	5
5.Comfortable work place/舒适的工作环境	1	2	3	4	5

Part 3

Learning effect sub-questionnaire/ 学习效果子问卷

1.After training I had a comprehensive understanding of the knowledge learned in training program./培训后，我对培训所学的知识有了一个完整的了解。	1	2	3	4	5
2.I can answer all the questions about the training classes I attended./我可以回答关于我参加的培训课程的所有问题。	1	2	3	4	5
3.I can convey the skills to others what I learnt after training./培训后，我可以传授别人我所学到的知识。	1	2	3	4	5
4.I learned applying all the skills that I studied during training./我学会了运用培训所学的所有技巧。	1	2	3	4	5

Maintenance effect sub-questionnaire/ 维护效果子问卷

1.I can recall the overall information of the training./我能回忆起培训的整个信息。	1	2	3	4	5
2.I can recall details of each unit of training./我可以回忆培训的每个章节的细节。	1	2	3	4	5
3.I can recall the how to operate the skills of training./我能回忆出如何运用培训的技巧。	1	2	3	4	5
4.I can recall every knowledge the trainer teaches in training./我能回忆培训师讲的每一个知识点。	1	2	3	4	5

Application effect sub-questionnaire/ 应用效果子问卷

1.I can apply all the skills learned from training to work./我把培训所学技巧应用到工作中去。	1	2	3	4	5
2.My job performance improved a lot after training./培训后，我的工作表现有了很大的提升。	1	2	3	4	5
3.I found job is much easier for me after training. /培训之后，我发现工作比以前要容易了。	1	2	3	4	5
4.My work efficiency improved after training./培训之后，我的工作效率提升了。	1	2	3	4	5

APPENDIX B: Tables

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.847
Bartlett's Test of Sphericity	Approx. Chi-Square	1237.211
	df	66
	Sig.	.000

Table 1. KMO and Bartlett's Test of social support

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.320	39.269	39.269	4.320	39.269	39.269
2	2.280	20.728	59.997	2.280	20.728	59.997
3	.786	7.150	67.147			
4	.707	6.428	73.575			
5	.559	5.083	78.659			
6	.534	4.857	83.515			
7	.512	4.657	88.173			
8	.418	3.804	91.977			
9	.328	2.984	94.961			
10	.287	2.607	97.568			
11	.268	2.432	100.000			

Extraction Method: Principal Component Analysis.

Table 2. Total variance explained of social support

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.905
Bartlett's Test of Sphericity	Approx. Chi-Square	1842.898
	df	55
	Sig.	.000

Table 3. KMO and Bartlett's Test of individual work support

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.022	54.750	54.750	6.022	54.750	54.750
2	1.741	15.829	70.579	1.741	15.829	70.579
3	.550	5.005	75.584			
4	.544	4.948	80.532			
5	.408	3.712	84.244			
6	.400	3.634	87.879			
7	.328	2.978	90.857			
8	.298	2.713	93.570			
9	.272	2.470	96.040			
10	.242	2.204	98.243			
11	.193	1.757	100.000			

Extraction Method: Principal Component Analysis.

Table 4. Total variance explained of individual work support

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	1546.635
	df	78
	Sig.	.000

Table 5. KMO and Bartlett's Test of resource support

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.295	33.040	33.040	4.295	33.040	33.040	3.475	26.733	26.733
2	3.003	23.101	56.142	3.003	23.101	56.142	3.410	26.235	52.968
3	1.285	9.882	66.023	1.285	9.882	66.023	1.697	13.055	66.023
4	.787	6.051	72.074						
5	.710	5.462	77.537						
6	.548	4.218	81.754						
7	.510	3.925	85.679						
8	.397	3.056	88.735						
9	.360	2.770	91.504						
10	.342	2.633	94.137						
11	.287	2.210	96.347						
12	.249	1.913	98.261						
13	.226	1.739	100.000						

Extraction Method: Principal Component Analysis.

Table 6. Total variance explained of resource support

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.843
Bartlett's Test of Sphericity	Approx. Chi–Square	676.372
	df	6
	Sig.	.000

Table 7. KMO and Bartlett's Test of training transfer

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.934	74.453	74.453	8.934	74.453	74.453
2	.787	6.560	81.013			
3	.583	4.858	85.871			
4	.468	3.899	89.770			
5	.450	3.749	93.519			
6	.293	2.442	95.961			
7	.240	2.004	97.965			
8	.210	1.747	99.712			
9	.014	.120	99.832			
10	.012	.101	99.933			
11	.008	.067	100.000			
12	2.619E−16	2.183E−15	100.000			

Extraction Method: Principal Component Analysis.

Table 8. Total variance explained of training transfer

Description	Categories	Frequency	Percentage
Gender	Male	130	50.8
	Female	126	49.2
Age	15-24	45	17.6
	25-34	147	57.4
	35-44	57	22.3
	45-60	7	2.7
Education Level	Up to high school	23	9
	Junior college	43	16.8
	Undergraduate	125	48.8
	Postgraduate or PhD	65	25.4
Training Type	Hard skills training	110	43
	Soft skills training	146	57
Company Type	State-owned	46	18
	Foreign-owned	72	28.1
	Privately owned	102	39.8

	Joint ventures	36	14.1
Job Tile	General staff	117	45.7
	Supervisor	72	28.1
	Manager	57	22.3
	Senior executive	10	3.9

Table 9. Demographic Analysis