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WHICH FACTORS INFLUENCE EMPLOYEES´ TRANSFER TRAINING: AN EMPIRICAL INVESTIGATION

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Thesis submitted as partial requirement to obtain the degree

Master in Human Resources Management

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April 2013

Acknowledgements

"If I have seen further it is by standing on the shoulders of giants."

Isaac Newton

First of all I wish to thank to my advisor, Prof. Silvia Dello Russo for all her patience and support since the beginning of this project. This thesis would not exist if it wasn't for her rigorous guidance and insights.

Second, a special thank to my uncle José Silva, who not only helped me contact the companies that participated in this study, but also kept me motivated throughout the final part of this thesis.

To Dr. Iola Martins from Competir and to Dra Otilia Paiva, psychologist from Cristovão Colombo school, a thank you for your interest since the beginning in participating and helping me with anything regarding this study.

To Mr. António Ambrósio chairman of Tintas 2000, to his wife Mrs. Fátima Ambrósio and to his daughter Miss Ana Ambrósio, I am deeply grateful not only for your company´ participation in this study, but also for your friendship and willingness to help me at anytime.

A special thank to my dear friend Sara Santos who has always been by my side during this path, supporting me in the good and bad moments.

Also I wish to thank to my family, "job family", and to all my friends who directly or indirectly supported and motivated me during these 2 years.

Last but not least, I wish to express my gratitude to my parents for who nothing of these would be possible, if not for theirs unconditional support. To my Mother who always taught me to pursue my dreams and to never give up, and to my Dad who taught me that without hard work and perseverance, success is not possible.

Resumo

Esta tese foi elaborada com o objetivo de proporcionar uma melhor compreensão dos fatores que influenciam a transferência dos conhecimentos adquiridos para o local de trabalho, tanto duma forma positiva como negativa, permitindo assim a sua melhor monitorização e consequente desempenho . Para esse efeito, iremos numa primeira fase apresentar uma abordagem teórica, descrevendo os principais estudos realizados sobre a definição e análise destes fatores.

Posteriormente, confrontaremos esta visão com um estudo empírico realizado num universo de 89 colaboradores repartidos nos mais diversos setores empresarias, sendo o objeto deste trabalho a análise do papel não só dos fatores individuais, do contexto ambiental em que os trabalhadores estão inseridos, como também da formação per si. A conclusão desta pesquisa permitirá demonstrar que de modo geral os fatores analisados estão positivamente relacionados com a transferência de formação para o local de trabalho.

Em termos de implicações práticas, este estudo permite ter uma visão mais alargada sobre os efeitos das diversas áreas empresariais na transferência de formação.

Abstract

The purpose of this research is to analyze which factors influence employees' training transfer, and to have a better understanding of the factors that have a positive influence, in order to enhance them, or a negative influence, in order to reduce them, so that ultimately the transfer of training to the work can be increased. The first part of this study consists of a literature review about some of the factors affecting transfer training. The second part consists of an empirical investigation that will allow to empirically support or not, the hypotheses based on the reviewed literature.

This study has a total sample of 89 employees, that represents different organizational sectors where we analyzed not only the individual factors and environmental factors, but also training design. The final results show that only some of factors in study are positively related with transfer training.

In terms of practical implications, this study allow us to have a wider view of the effect of the different organizational sectors in transfer training.

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1. Executive Summary

Over the years we have witnessed a paradigm shift in organizations. We change from an era where machines were a crucial part of the organization to a time where is the human capital that leads to organizational growth.

However, knowledge is always in change and therefore training is essential to develop and maintain our human assets updated. Yet, surprisingly, some studies sustain that only a few organizations actually measure the real impact of training in performance. (Iqbal, Maharvi, Malik, Khan, 2011). It was estimated that only about 10 per cent of all training experiences are transferred from the training environment to the job (Baldwin & Ford, 1988).Because of this low estimation and since organizations want to maximize their investment in training it is essential to understand which factors affect in a positive or negative way transfer training.

Based on our literature review, these factors were divided in 3 categories, individual factors, environmental factors and training design.

In order to analyze the relationship between these factors and training transfer, an empirical study was conducted.

Opposed to what was expected, only some of the factors were positively related to training transfer. Training retention and perceived organizational support regarding the training are some of the factors that have a positive and statistically significant relation with transfer training. This shows that not only are the trainees responsible to apply what they learn, but also organizations should support and provide the necessary tools for transfer to occur.

From the research point of view, the real impact of these factors in training transfer is still limited, therefore this study tries to contribute with more insights about the real impact of these factor in training transfer.

2. Introduction

Over the years we have witnessed a paradigm shift in organizations. We change from a time where machines were a crucial part of the organization to a time where is the human capital that leads to organizational growth.

However knowledge is always in change and therefore training is essential to develop and maintain our human assets updated.

Training are used by organizations to develop employees for a new role, to change employees´ attitudes regarding new programs, functions, and to help them to perform better their jobs (Iqbal *et al.,* 2011*)*. Also, it helps organizations to be more prepared to face future challenges. Therefore, every year organizations spend billions of dollars in formal training in order to benefit from the knowledge, skills, and abilities (KSAs) their employees acquire in training (Franke and Felfe, 2012).

According to a training magazine report, US organizations spend more than $50 billion annually on formal training (Dolezalek, 2004). It is, however, the extent to which the KSAs are transferred to the job and lead to substantial changes in work performance that constitutes a beneficial training transfer (Blume, Ford, Baldwin, & Huang, 2010). Learning and transfer of learning are the critical outcomes in Human Resources Development (HRD; Holton, Bates and Ruona 2000).

As a result of the financial investments organizations make in training, it is important to provide evidences that training is being used to increase employees´ performance (Cascio, 2000)

It is expected that, if organizations do considerable effort to make it happen by spending billions of dollars in developing their employees, it also would be expected that they would do the same effort in evaluating them. Yet surprisingly, some studies show that only a few organizations actually measure the real impact of the training on performance. One of the reasons can be due to budget constraints or it is absolutely neglected (Iqbal *et al.,* 2011), "*or perhaps they think that transfer learning is a natural outcome of training and, as such, does not need nurturing"* (Wills, 1993: 227).

It has been estimated that, only about 10 per cent of all training experiences are transferred from the training environment to the job (Baldwin and Ford, 1988). Even though this is a low estimation, "*Wexley and Latham (2002) suggest that although approximately 40 per cent of content is transferred immediately following training, the amount transferred falls to 25 per cent after 6 months and 15 per cent after 1 year. This*

suggests that as time passes, trainees may be unable or less motivated to retain and use the information gained in the training program" (Velada, Caetano, Michel, Lyons and Kavanagh, 2007). Given that learning is not efficiently transferred to the workplace, the next obvious step is to understand the causes of the problem, "*only understanding the root causes will allow us to remove the barriers*". (Wills, 1993: 227)

So in order to enhance the return on investment, organizations must understand all the factors that affect transfer of learning, and then intervene in order to improve the factors that inhibit transfer.

This study tries to understand which factors affect positively training transfer. First I will present a literature review about some of the factors that are known in literature to have a positive or negative impact in the transfer training. After I will present the results of the study that will either validate or refute our hypothesis.

3. Literature Review

This chapter of literature review is subdivided in 4 paragraphs. The first chapter refers to the training itself. The second one is about Training transfer and the models used to evaluate learning transfer. The third and fourth chapters are about the individual and environmental factors that affects training transfer.

3.1 Training

"Training and development continue to be a valued component in the modern management of human resources. Emerging research shows that investments in human capital, including training, are positively related to organizational performance". (Kraiger, McLiden and Casper, 2004: 337)

Training programs are conducted not only to enhance and increase the performance of employees, but also to develop the human resources to meet the current as well as future needs of the organization. With these improvements organizations can increase productivity, have a greater workforce flexibility, have a motivated workforce and also improve the quality of the final product or service (Chimote, 2010). Training, nevertheless, no matter how good is it, if it doesn´t help improve the business, is a waste of time. Training will not have impact in the work and therefore in organizations unless these new acquired skills are used back to the workplace (Wills, 1993: 227). So, it is crucial that organizations assess the extent to which training is being effective, by evaluating the effectiveness of training programs.

This is an important step because it helps to see how well the training objectives have been met, and whether or not is the best method for achieving those objectives. Employees undergoing training are a good source of getting genuine feedback on training effectiveness.(Chimote, 2010)

3.2 Training transfer

In the last years, the increasing importance of training for individuals and organizations as well as the impact that this topic has in a nation´s economy and global effectiveness has attracted the researchers´ attention for training transfer (Saks, 1997). Training transfer can be defined "*as the degree to which trainees effectively apply knowledge, skills, and attitudes gained in a training context to the job*". (Baldwin and Ford, 1988: 63). Researchers during the last years have been able to demonstrate that

transfer of learning is complex and involves multiple factors and influences (Holton et al., 2000).

"*Since Baldwin and Ford's (1988) highly recognized review of the "transfer problem" in training research, an outpouring of conceptual and research-based suggestions have focused on how to lessen the gap between learning and sustained workplace performance. Estimates of the exact extent of the transfer problem vary, from Georgenson's (1982) estimate that 10% of training results in a behavioral change to Saks' (2002) survey data, which suggest about 40% of trainees fail to transfer immediately after training, 70% falter in transfer 1 year after the program, and ultimately only 50% of training investments result in organizational or individual improvements*" (Burke and Hutchins, 2007). If the trainee not apply the training knowledge back to the workplace, it is expected that within six month it will be almost as if training have never taken place (wills, 1993: 227).

Both the research and literature have found that training effectiveness and transfer of training are the result of a number of factors (Baldwin and Ford, 1988). So In order to study the transfer training problems, a clear understanding of what is meant by transfer as well as the identification of factors that affect transfer is required (Baldwin and Ford, 1988).

Transfer of training is seen as a function of three factors, such as trainee´s characteristics, training design and work environment (Sookhai and Budworth, 2010) and the transfer process is described in terms of (1) training-input factors, (2) conditions of transfer and (3) transfer training outcomes (Baldwin and Ford, 1988).

(1)*Training-input* factors include training design (that consists of incorporation of learning principles; the sequencing of training material, and the job relevance of the training content), trainee characteristics (that is the ability or skill, motivation, and personality factors), and work-environment characteristics (which include climate factors such as supervisory or peer support as well as constraints and opportunities to perform learned behaviors on the job). (2)The *conditions of transfer* include the generalization of the materials learned in training to the job and the maintenance of the learned material over a period of time on the job. Meanwhile (3)*training outcomes* is directly affected by the previous factors and is defined as the amount of original learning that occurs during the training program and the retention of that material after the program is completed (Baldwin and Ford, 1988).

In order to know if transfer training has occurred, there are some models that can be used by organizations for that purpose.

3.2.1 Transfer models

There are several transfer models that not only try to assess the efficacy of training programs, but also tries to analyze how the different aspects like individual factors (behaviors, perceptions, etc), environmental factors (organizational and work environment) and the training itself (training design) affect the trainees´ behaviors and therefore the transfer process.

Two of these models are Kirkpatrick´s four evaluation model and LTSI (learning transfer system inventory) developed by Holton, Bates and Ruona (2000) .

One of the most popular method used to evaluate training in organizations is Kirkpatrick´s four evaluation model. It was first published in 1959, in the *journal of the American Society of Training Directors* in a series of four articles. Since then the author has made some modifications in the guidelines for each level, nevertheless the four levels (reaction, learning, behavior, and results) have remained constant (Kirkpatrick 1996). This model has served as a main tool for training evaluations in organizations for over thirty years (Bates, 2004).

The model´s popularity, according to Bates (2004) is due to several factors: 1) It comes to fill the gap that training professionals had in understand evaluation in a systematic way; 2) The data collected within the four levels are the most valuable information about training that can be obtained; 3) It simplifies the complex process of training transfer.

Regarding the model, this is divided in 4 levels: reactions, learning, behavior, and results. 1) *Reaction* - evaluates how trainees react to different aspects of training programs. One important reason to analyze reactions is to ensure that trainees are motivated and interested in learning; 2) *Learning* - measures the knowledge and skills acquired or improved by trainees while in training; 3) *Behavior* - assess if the trainees´ change of behavior is due to training; 4) In *Results* - we analyze if the training brought real gains (bigger profits; higher productivity) for organizations (Kirkpatrick, 1996).

Despite the popularity of Kirkpatrick´s four evaluation model, there are still some limitations that have "*implications for the ability of training evaluators to deliver benefits and further the interest of organizational clients. These include the incompleteness of the model, the assumptions of causality, and the assumption of*

increasing importance of information as the levels of outcomes are ascended" (Bates, 2004: 342). Also it has been proposed to add a fifth level to reflect economic benefits, social value etc. (Holton, 1996).

Other problem with the four evaluation model is that the levels are best labeled as taxonomies, meaning that they "*do not fully identify all constructs underlying the phenomena of interest, thus making validation impossible"* (Holton, 1996: 6).

Other method that can be used to analyze training efficacy is Learning Transfer System inventory (LTSI). LTSI was developed in 1997 by Holton, Bates, Seylar and Carvalho and later on updated by Holton, Bates and Ruona (2000) as a diagnostic tool to evaluate specific factors (such as Training design; Self efficacy; Training retention; feedback; Supervisor support) affecting training transfer*,* and includes 16 factors that either facilitate or inhibit transfer training (Velada *et al.,* 2007). These factors try to understand the impact of specific aspects of the training programs (such as training design, environmental factors, etc) in the trainees´ performance and on transfer training (Burke and Hutchins, 2007).

The LTSI´s primary benefit is that it helps to identify the problem areas. The result from these test are of great help for trainers because this way they can identify, from the trainees responses, what areas have more impact in training transfer.

This method can be used by practitioners :

- To assess potential transfer problems before conducting learning interventions;
- As part of follow-up evaluations of existing training programs;
- To target interventions design to enhance transfer;
- To incorporate evaluations of transfer of learning systems as a part of regular employee assessments
- To conduct needs assessment for training programs to provide skills to supervisor and trainers that will aid transfer.

"It has been argued that the LTSI is the only research-based instrument for assessing a comprehensive set of factors affecting transfer of learning (Chen et al., 2005; Holton et al., 2000). Whereas studies have been conducted to validate the LTSI measure (Chen et al., 2005; Holton et al., 2000; Khasawneh et al., 2006), little has been done to empirically demonstrate the relationship between LTSI measures and transfer of training." (Velada et al, 2007: 283).

As it was said before, these models were created to evaluate training transfer from different points of view. Traditionally, transfer training is seen as a function of three factors: Trainee characteristics (as well as their ability, personality and motivation); training design (as well as transfer design and content) and work environment. These factors as well as the existing policies and practices that exist to support training initiatives, may facilitate or inhibit the use of trained skills back to the job. (Baldwin and burke, 1999). In the next paragraphs it will be included a more detail explanation of each dimensions, along with a explanation of other factors that were included in this study (such as goal orientation and locus of control).

3.3 Individual Factors

According to Noe, trainees´ characteristics can affect transfer training. The individual factor concerns the trainees´ personal characteristics, and how these characteristics affect training transfer. A wide variety of trainees´ characteristics, thought to affect training transfer have been suggested in the practitioner literature. Although trainees´ characteristics (e.g. personality, trainee ability, motivation effects) have been originally identified by training practitioners as a factor affecting transfer of training, empirical investigations evaluating the effect on training and transfer outcomes of these factors are still quite limited (Baldwin and Ford, 1988).

3.3.1 Self-efficacy

Self-efficacy, is a key indicator that identifies how an individual will behave when meet with adversity and is *"(...) defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses"* (Bandura, 1986, p. 391).

According to training research findings, self-efficacy has been proven to have an important role in enhancing training effectiveness and in the transfer process (Saks, 1997).

In terms of the strong effect of self-efficacy on both training and work outcomes, Gist (1987; Gist & Mitchell, 1992) argued that trainees' self-efficacy represents a very important variable to mediate and moderate the effectiveness of training programs (Stjakovic and Luthans, 1998). Also some authors argued *"that self efficacy often*

predicts future performance better than does past performance"(Gist, Stevens, and Bavetta, 1991: 838).

Empirically, self-efficacy was found to be positively related to both pre training motivation (Quinones, 1995), and post training behavior (Saks, 1995), and also to transfer of training (Cheng and Ho, 2001)

"Seyler et al. (1998) further found that trainees with a high level of confidence to training were more motivated to transfer the newly acquired knowledge and skills". (Cheng and Ho, 2001: 107). In other words, individuals who perceive themselves as being highly efficacious will put enough effort to produce successful outcomes, whereas those who perceive themselves as having low self-efficacy are more likely to not put enough effort and consequently fail on the task. These expectations will also determine for how long and how much effort will be expended in the task (Stjakovic and Luthans, 1998).

Although High self-efficacy is a good predictor of training transfer, by itself is not sufficient to predict transfer training (Sookhai and Budworth, 2010).

Some researchers like Ford, Quiñones, Sego and Sorra (1992) found that, trainee´s self efficacy is related to the opportunities given in the organizations to perform these trained tasks back to the workplace. Furthermore Ford et al. demonstrated that self-efficacy can alter the environment of the trainee. So if self-efficacy is affected by the trainees´ perception of the organizational climate, it is essential, when analyzing the effects of self efficacy in transfer training, to include climate as well. (Sookhai and Budworth, 2010).

Other factor that affects trainees´ willingness to apply what they learned back to the workplace is motivation.

3.3.2 Motivation

Motivation is an important factor for transfer training. Motivation to transfer can be described as the trainee's desire to use the learned knowledge and skills in the job (Noe and Schmitt, 1986). "*Is the learner's intended efforts to utilize skills and knowledge learned in training setting to a real world work situation*" (Burke and Hutchins, 2007: 167). "*Given that the transfer of learning from training programs to workplace applications determines the effectiveness of human resource development (HRD) interventions, the motivation of employees to transfer training is of central interest*" (Gegenfurtner, Festner, Gallenberger, Lehtinen and Gruber, 2009: 125*). Also

post training interventions like feedback and relapse prevention, might influence trainees´ motivation to transfer the newly acquired skills back to the workplace (Cheng and Ho, 2001).

There are few studies focused on motivation to transfer (Seylar, Holton III, Bates, Burnett, and Carvalho, 1998). In one study made by Baumgartel and Jeanpierre,(1972), they found that managers who perceived training as helpful in developing and learning skills, were more likely to apply what they learned back to the job (Noe and Schmitt, 1986). Behavior change is more likely to occur in trainees who not only learn the material given in training, but also desire to apply the new knowledge in job setting (Noe and Schmitt, 1986). For the newly acquired knowledge, and skills to be applied in the workplace, motivation is essential. This is because trainees with low motivation are more likely to have a poor mastering of the training content and therefore have a low performance when applying that knowledge into the workplace (Cheng and Ho, 2001). To better operationalize this factor and since the model used in the empirical study didn´t specify any model for this factor, we decided to operationalize it as goal orientation.

3.3.2.1 Goal orientation

"*Goal orientation is conceptualized as the mental framework in which people interpret and respond to circumstances and events of both achievement and failure.(…). Goals are important because they focus attention and create motivation. Goals often result in higher levels of effort, commitment and goal completion compared with situations in which a goal is absent*" (Roger and Spitzmuller, 2009: 186)

In the literature there are depending on the author, 2 to 3 dimensions of goal orientation. There are goal orientation focus either on 2 dimensions which are performance and mastery/learning (Button, Mathieu and Zajac, 1996) or focused on 3 dimensions of VandeWalle (1997) which are mastery, performance-approach and performance avoidance. Nevertheless all these dimensions examine the relationship between goal orientation and training outcomes (Chiaburu and Marinova, 2005). Therefore we can divide them into two types of goal orientation which are based either on performance or in mastery (learning).

These two types of goal orientation affect the individual´s reaction to failure and risk taking. Individuals with performance goal orientation, tend to view outcomes as result of their abilities (Stevens and Gist, 1997), and view performance *"as being a*

function of ability and generally assume that ability is nonmalleable and fixed. They are concerned for how one´s performance looks to others and also they are likely to view failure as reflective of a personal limitation" (Roger and Spitzmuller, 2009: 187), and may withdraw the task completely or decrease their effort (Stevens and Gist, 1997).

Some Researches indicate that when individuals with goal performance orientation succeed in a task, their self-efficacy and goal commitment increases, however when they have poor performance, self-efficacy and goal commitment tend to decline (Roger and Spitzmuller, 2009)

In contrast, individuals with Learning goal orientation tend to view the performance results as a feedback of their effort (Stevens and Gist, 1997). They also have *"(…)the belief that ability or intelligence is malleable (…) rather than fixed. Their main concern when learning something new is more of mastery than performance. Thus, failure is not as debilitating compared with the viewpoint of individuals with a performance goal orientation. Further, withdrawing from challenging situations or high task difficulty is less likely"* (Roger and Spitzmuller, 2009: 187). Thus poor performance may increase their effort as well as their interest in the task (Stevens and Gist, 1997).

It is also clear that individuals with a mastery orientation are more motivated to learn and learn more than performance-oriented individuals (Chiaburu and Marinova, 2005)

3.3.3 Locus of control

In order to better clarify the individual differences when analyzing transfer training, and to analyze the extent to which individuals feel responsible for transferring or not the acquired knowledge back to work, we decided to add locus of control.

In psychology, the term locus of control is used to classify individuals´ core beliefs about control, and is defined by Rotter (1966) *"as a generalized expectancy that organizational outcomes in terms of rewards and reinforcements in life are controlled either by an individual's own actions (internality) or by other forces (externality)."*

There are studies with different results regarding the effect of LOC in training transfer. For example, *Noe (1986) proposed that individuals with an internal locus of control have more positive attitudes toward training opportunities because they are more likely to feel that training will result in tangible benefits.* (Colquitt, LePine and Noe, 2000: 679). However, Noe and Schmitt (1986) found limited support regarding the effects of locus of control on both pre training motivation and learning.

Other authors like Baumgartel, Reynolds, and Pathan (1984) found that managers having an internal locus of control were more likely to apply what they learned in training back to the job (Baldwin and Ford, 1988). Also in a training situation, trainees with a strong belief that they are able to control the provision of organizational outcomes are more likely to apply the training content on their jobs. (Cheng and Ho, 2001)

In 1991 *"Tziner, Haccoun, and Kadish (1991) found that trainees with an internal LOC exhibited higher levels of transfer when using a post training transfer intervention"* (Burke and Hutchins, 2007: 270)

Other individual factor that is analyzed is training retention.

3.3.4 Training Retention

One of the conditions for transfer to occur is the maintenance of the learned material over a period of time (Baldwin and Ford, 1988). In order to facilitate the transfer process, trainees must have the ability to retain the knowledge given during training. *"Similar to cognitive ability, training retention is the degree to which trainees retain the content after training is completed."* (Velada Et al., 2007: 285).

Clark and Voogel (1985) argued that research findings suggest that students with higher general abilities scores have better chances to transfer than the others (Burke and Hutchins, 2007). In a meta-analysis made by Driskell, Copper, and Willis (1992) they found that over learning produces a moderate improvement in learner retention, however this effect differs from cognitive task type to behavioral task type. For cognitive tasks, the over learning effect was strongest immediately after training and weakest after more a less 1 month. Therefore in order to attenuate the effects of retention decay, it should be included some kind of training reminder. Otherwise trainees can experience cognitive overload thus decreasing learning and transfer outcomes (Burke and Hutchins, 2007).

3.4 Environment Factors

"While the practitioner literature on training (e.g., Eddy. Glad, & Wilkins. 1967) stresses that positive transfer is highly contingent on factors in the trainee's work environment, empirical evidence is sparse" (Baldwin and Ford, 1988: 69).

In this chapter we will have a quick view of how some aspects of the environment affect transfer training. Later on, those same aspects will be better explained.

Environmental factors refer to the organizational climate and situational constraints of the actual job, where the acquired skills will be applied (Seyler, Holton III, Bates, Burnett and Carvalho, 1998). There are several empirical studies that support the idea that work environment is a critical aspect in determine whether trainees will apply their new skills back to the job (Baldwin and Burke, 1999). Baumgartel and his associates´ findings suggested that when there is a favorable organizational environment, managers were more likely to apply the new knowledge back to the job. *"Since then, researchers have begun to explore concepts such as environmental favorability (Noe, 1986) and transfer climate (Rouiller & Goldstein)"* (Baldwin and Burke, 1999: 229).

The variable organizational support comes from the notion of social support where it is said to be influential when employees believe that other client systems in the organization (e.g. their supervisors and peers) not only support, but also provide them with opportunities for practicing the new acquired skills and knowledge in the job settings (Noe, 1986).

Baldwin and Ford (1988) proposed that environmental favorability has two key dimensions that facilitate the usage of new acquired skills, namely, social support and opportunity to use. The social context affects training transfer in at least two ways, by encouraging employees to use the new skills or rewarding these behaviors (Sookhai and Budworth, 2010). The application of these new skills "*takes place within a specific organizational environment, which can affect transfer of training (…), and therefore needs to be considered and incorporated in the implementation of training programs (…)."* (Sookhai and Budworth, 2010: 258). However, there are often aspects of the environment that penalize the people who want to use the skills when they return to work. Sometimes the group they work with, lacks of training in certain skills providing an impediment for the trainees. Also there are skills that require a significant mass of people using it before they can be implemented in organizations. Sometimes is the culture of the organization itself that reinforces the behavior we are trying to change in the first place (Wills, 1993, p. 228).

When trainees´ are given the opportunity to apply what they learned in training in their jobs, much of the training content can be transferred (Ford et al., 1992), nevertheless "*trainees may be cognizant of task constraints and/or non supportive supervisors and co-workers that will inhibit use of knowledge and skills acquired in training"* (Noe and Schimitt, 1986: 502).

3.4.1 Transfer Climate

Evidence suggests that a share of organizations´ investment in training is wasted due to poor learning transfer and trainee relapse (Baldwin and Burke, 1999).

In order to prevent this waste of time and money, companies should analyze if their work environment supports transfer training.

Previous research has recognized the importance of work environment in the transfer problem. This is due to the fact that each organization has a specific environment (culture) that can affect positively or negatively the transfer process. (Sookhai and Budworth, 2010). Therefore organizations should analyze one important predictor of training transfer in the work environment, which is transfer climate. *"Transfer climate is a mediating variable in the relationship between the organizational context and an individual's attitude toward the job and behavior on the job"* (Sookhai and Budworth, 2010). Historically, the first study that suggested that supportive climate is a factor in the transfer of learning to the job, was conducted in 1955 by Fleishman, Harris, and Burtt (Rouiller and Goldstein, 1993). Transfer climate is defined as *"the degree to which trainees apply to their jobs the knowledge, skills, and behaviors learned in training"* (Baldwin and Burke, 1999: 227), and is regarded as a facet-specific climate, meaning that it focus on a particular aspect (facet) of an organizations climate - the climate for training transfer (Baldwin and Burke, 1999).

Other *"(…)studies have established that transfer climate can significantly affect an individual's ability and motivation to transfer learning to the job (Huczynski and Lewis, 1980; Rouiller and Goldstein, 1993; Tracey, Tannenbaum, and Kavanaugh, 1995; Xiao, 1996)"* (Holton, Bates, Seyler and Carvalho, 1997: 96). Also in a study made by Ford, Quinones, Sego, and Sorra (1992), in the Air Force aviators, found out that when a work group is seen as supportive by trainees, they performed more complex and difficult trained task.

3.4.2 Perceived organizational support

"Of particular importance is the climate of the organization concerning change and the extent to which the social context (supervisors, co-workers) of the work setting provides reinforcement and feedback. A supportive work climate in which reinforcement and feedback from co-workers are obtained is more likely to result in transfer of skills from the training environment to the work environment" (Noe and Schimitt, 1986: 498).

Other factor that influences training transfer is perceived organizational support. Although many extensive research of perceived organizational support was done in training utility perceptions and in training adoption (Burke & Hutchins, 2007; Ford et al., 1992), the truth is that *"little research has investigated the fact that it takes time for employees to evaluate how supportive their organization is, in regard to adopting a trained method, when they return to their work"* (Madera, Steele and Beier 2011: 70) As such, one important factor is how supportive an organization is and how trainees' perceived training utility might change because of their perceptions of organizational support. The underlying process of organizational support theory is that people feel obliged to reciprocate positive behaviors, whereby people reciprocate benefits received when engaged in social relationships (Madera e*t al.,* 2011). *"Thus, perceived organizational support may serve as an important antecedent of many positive work behaviors, such as positive training outcomes. Indeed, reviews of the training literature have suggested that perceived organizational support is an important factor that affects training outcomes"* (Madera *et al.,* 2011: 71). According to the existing theory, when employees do not perceive that their contributions are valued by their organizations, it is likely that they may not put enough effort that would benefit the organization and therefore may also not put enough effort in perceiving the usefulness of adopting a trained method. (Madera e*t al.,* 2011)

Because trainees may not recognize their organizations´ support in applying the new knowledge, the best time to assess organizational support is not immediately after training because, it might take time for employees to evaluate how supportive their work environment is after they return to their work. So according to Alliger et al. (1997), the collection of trainee´s reaction data should take place 1 to 6 months after the completion of the training program. This would allow trainees to be in a better position to judge the perceived utility of the training program because they would be able to make such judgments in their work environment (Madera e*t al.,* 2011).

3.4.3 Supervisor support

According to research, supervisor support is a work environment variable that affects transfer (Baldwin and Ford, 1988) and is positively related to trainees ´motivation to learn and transfer training (eg., Burke & Baldwin, 1999).

One factor that affects training motivation is whether or not trainee's have a choice regarding training enrolment. Although evidence shows that trainees'

motivations can be reduce by sending them to mandatory training, some authors *"argued that if organizations can convey the idea that training is important through mandatory training, this perceived support for training may actually enhance trainee motivation"*(Kraiger *et al.,* 2004: 341). Also trainee´s will be more motivated to learn and transfer the training back to the workplace if they perceived training programs to be important to their supervisor.

A supervisor can encourage trainees to get the most out of training by doing modeling behaviors , encouragement to attend (Baldwin and Ford, 1988), discussing the goals and importance of training, setting up short term feedback after training, ensure that trainee´s have the opportunity to apply and practice the skills learned back to the job (Kraiger *et al.,* 2004).

Although some researchers found mixed results for the influence of supervisor support in transfer training, the fact is that the "*role of the supervisor in influencing and supporting trainees transfer has been widely supported in both empirical and qualitative studies"* (Burke and Hutchins, 2007). In 1997 Foxon found that when trainees perceive that their supervisor supports them to apply the new knowledge back to the job, the chances of transfer increased (Burke and Hutchins, 2007)

Nevertheless empirical work is still needed to indentify and have a better understanding of the factor that affect supervisor support. *"With this information, interventions can be developed to change managerial behaviors to increase supervisory support prior to subordinate attendance in a specific training program"* (Baldwin and Ford, 1988: 93).

3.4.4 Performance feedback

An important training design characteristic is performance feedback. Feedback refers to all information given to trainees concerning their performance (Baldwin and Ford, 1988).These information can later be used to assess if the internal goals have been achieved (Martocchio and Webster, 1992).

Post-training interventions like goal setting and feedback can influence (increase) trainees´ motivation to transfer the knowledge acquired in training back to the job. (Burke and Hutching, 2007; Baldwin and Ford, 1988). The findings in Martocchio and Webster (1992) suggest that giving positive feedback to trainees often result in higher performance, and more learning over time than does giving negative feedback.

Reber and Wallin (1984) demonstrate that feedback as well as goal setting produce higher levels of transfer when combined, than they did separately (Baldwin and Ford 1988). Also *"some authors have suggested that the optimal specificity of feedback may be dependent on the trainee and the stage of learning (...) although empirical evidence is lacking"* (Baldwin and Ford 1988: 67)

3.5 Training Design

One of the causes for transfer failure is that the training doesn´t have the tools to teach trainees of how to apply the skills from training to job (Holton III, 1996). *"Learning is expected to lead to individual performance change only when three primary influences on transfer behavior are at appropriate levels. Following Baldwin and Ford (1988) and consistent with the Noe (1986) framework, the three primary influences proposed in this model are motivation to transfer, transfer conditions (environment), and transfer design (ability)"* (Holton III , 1996: 12). Thus, even if trainees learn well the cognitive learning, if they don't have the chance to train what they learn, transfer is more unlikely to occur. (Holton III , 1996).

Over the years the training design researchers have been working on the improvement of training programs by adding learning principles. These learning principles are 1) identical elements, 2) teaching of general principles, 3) Stimulus variability and 4) various conditions of practice (Baldwin and Ford, 1988).

1) Identical elements - This notion was first proposed in 1901 by Thomdike and Woodworth. *"They hypothesized that transfer is maximized to the degree that there are identical stimulus and response elements in the training and transfer settings. Empirical research supports the use of identical elements as a means of increasing the retention of both motor and verbal behavior".* (Baldwin and Ford, 1988: 68).

2) General Principles - This principle *"maintains that transfer is facilitated when trainees are taught, not just applicable skills, but also the general rules and theoretical principles that underlie the training content"*(Baldwin and Ford, 1988: 66).

3) Stimulus variability - This principle states that transfer is maximized when trainees are stimuli during training. This principle also states that trainee´s are more likely to see the applicability of what is learned in the training, if they are taught with several examples of the concepts (Baldwin and Ford, 1988).

4) Conditions of practice - The conditions of practice includes massed vs distributed training (questions the fact of whether or not training should be divided in

segments), whole vs part training (questions the efficiency of practice of a training with all the material as opposed to practice on one part at a time), feedback, and over learning (refers to the process of exposing trainees to continuous practice). (Baldwin and Ford, 1988).

Although the importance of design in training outcomes has been recognized by researchers, empirical evidence is sparse (Baldwin and Ford, 1988).

4 - Conceptual model

Based on the literature review we developed a conceptual model (figure 1) in which we argue that except to external locus of control, avoidance and performance goal orientation all factors in study are positively related to transfer training. The model is divided between individual and environment factors, and training design.

	Individual Factors	Environment Factors	Training Design
Training Transfer	Locus of Control *Internal LOC (+) *External LOC (-) Goal Orientation *Learning Goal Orientation (+) *Performance Goal Orientation (-) *Avoidance Perf. Goal orientation (-) Self Efficacy (+)	Perceived Organizational Support (+) Supervisor Support (+) Performance Feedback (+) Training Design (+)	Training Design (+)

Figure I : Conceptual model of transfer training

To test our conceptual model one empirical study was conducted. The study aims to test our research hypothesis.

5. Research question

As it was said before organizations spend billions of dollars annually in training in order to develop their employees, however it has been estimated that only about 10 per cent of all training experiences are transferred from the training environment to the job (Baldwin & Ford, 1988) Although training is such an important factor for the organizations´ development, much of that acquired knowledge is not successfully used in the workplace.

Thus we formulate this research question: "What are the factors that influence training transfer?"

The objective of this thesis is to have a better understanding of what are the factors that influences employees' transfer of training. For that I am going to analyze what are the factor that influence positively, in order to enable, or negatively, in order to inhibit, a good application of the training in the workplace.

In order to achieve the objective of this thesis I am going to analyze several factors that literature refers as affecting transfer training such as:

1) *Individual characteristics*: Self efficacy; goal orientation training retention; Locus of control;

2) *Training design*: Transfer design;

3) *work environment*: Feedback; Supervisor support;

4) *Environment factors:* Perceived Organization support.

6. Hypothesis

The construction of these hypothesis was based on the literature review and on the gaps and limitations in the existing research. These hypothesis are also based on the conclusions reached by several authors in this field.

6.1 Individual factors

Locus of control

Many early studies have hypothesized and studied the effect of Locus of control in the transfer process (e.g. Baumgartel *et al*., 1984; Noe and Schmitt, 1986). (Cheng and Ho, 2001) . *"Noe (1986) proposed that individuals with an internal locus of control have more positive attitudes toward training opportunities because they are more likely to feel that training will result in tangible benefits".* (Colquitt *et al.,* 2000). Also in a study made by Colquitt, LePine and Noe (2000) they found out that Locus of control was moderately related to transfer. Baumgartel, Reynolds, and Pathan (1984) found that managers having an internal locus of control were more likely to apply what they learned in training back to the job (Baldwin and Ford, 1988).

"*Button et al. (1996) and Phillips and Gully (1997) found that a learning goal orientation had a positive relationship with an internal locus of control—the belief that a person's actions are a primary determinant of events and outcomes in his or her life."* (Cheng and Ho,2001).

Thus I hypothesized :

Hypthotesis 1 (H1): Internal locus of control is positively related to training transfer.

Goal orientation

"There are several reasons to suspect that motivational variables, such as goal orientation and self-efficacy, may influence (...) training effectiveness" (Dierdorff, Surface and Brown, 2010). For example trainees' perception of their effectiveness and performance may change if they receive negative feedback, however if trainees are motivated to commit time, effort, and attention to learn, these changes are unlikely to occur (Dierdorff, Surface and Brown, 2010). In 1988, Dweck and Leggett proposed that is the individuals´ pursue for goals that defines how the feedback is processed and interpreted. (Cron, Vandewalle and Fu, 2005). For example, if in one hand trainees that

more learning goal oriented perceive feedback as useful, thus helping them to correct errors and improve their competencies needed for tasks mastery. In the other hand, trainees who are more performance goal oriented see feedback as evaluative and judgmental about their performance (Vandewalle, Cron and Slocum Jr., 2001). Evidence suggests that performance and learning goal orientation results in different outcomes for training goals (Roger and Spitzmueller, 2009). In a study made by Smiley and Dweck (1994) corroborates the theoretical expectations that goal orientation predicts emotional responses (Cron *et al.,* 2005).

Also evidence suggests that there is a positive relationship between self efficacy and performance. In 1998 Stajkovic and Luthans found that self efficacy contributed with 28% gain in work related performance (Vandewalle *et al.,* 2001).

Thus I hypothesized:

Hypothesis 2 (H2): Performance Goal orientation is positively related to (a) training self-efficacy and thus (b) training transfer

Hypothesis 2.1 (H2.1): Goal orientation is significantly related to training transfer (a - positively in the case of learning goal orientation) (b- negatively in the case of performance goal orientation)

Self Efficacy

According to training research findings, self-efficacy has been proven as having an important role for enhancing training effectiveness and in the transfer process (Alan saks, 2008). Besides, in terms of the strong effect of self-efficacy in both training and work outcomes, Gist (1987; Gist & Mitchell, 1992) argued that trainees' self-efficacy represents a very important variable to mediate and moderate the effectiveness of training programs (Stjakovic and Luthans 1998).). Empirically, self-efficacy was shown to be positively related to pre training motivation (Quinones, 1995), and to post-training behavior (Saks, 1995; Tannenbaum et al., 1991), and also to transfer of training (Ford et al., 1998).

Thus I hypothesized :

Hypothesis (H3): Training self-efficacy is positively related to training transfer.

Training Retention

As it was said before, one of the conditions for transfers to occur is the maintenance of the learned material over a period of time (Baldwin and Ford, 1988). In order to facilitate the transfer process, trainees must have the ability to retain the knowledge given during training.

Baldwin and Ford (1988) argue that for transfer training to occur they first must be learned and retained (Velada et al., 2007). In a study conducted by Velada et al (2007) training retention was found to be significant related to training transfer.

Hence I hypothesized

Hypothesis (H4): Training retention is positively related to transfer training

6.2 Environment factors

Perceived organizational Support

"In organizations, employees follow the norms of reciprocity by caring about the organization's welfare and bottom line when employees perceive that the organization cares about and values their contributions (Eisenberger et al., 2001, 1986, 1997; Shore & Shore, 1995)" (Madera *et al.,* 2011), in other words if employees don´t perceived that their contributions are valued by organizations, it is likely that they may not put enough effort that would benefit the organizations.

Perceived organizational support is an important antecedent of positive work behaviors such as positive training outcomes. In fact the literature suggested that perceived organizational support is an important factor that affects tanning outcomes like training transfer (e.g., Arthur et al., 2003; Martin, 2010; Smith-Jentsch et al., 2001; Tracey et al., 1995, 2001) (Madera *et al.,* 2011).

Because it takes time for employees to evaluate how supportive their organization is regarding training, the collection of trainee´s reactions should take place at least 1 month after training. "*According to Alliger et al (1999) (...) this would allow trainees to be in a a better position to judge the perceived utility of the training program because they would be able to make such judgments in their work environment.*(Madera *et al.,* 2011).

Therefore I hypothesize the following:

Hypothesis (H5) Perceived organizational support is positively associated with training transfer.

Supervisor support and Feedback

"Situational characteristics were also shown to be important, both in terms of the climate in which the trainee functions and the support the trainee receives from his or her supervisor and peers" (Colquitt *et al.,* 2000). These characteristics were found to be related, among other factors, to motivation to learn, skill acquisition, transfer and performance (Colquitt *et al.,* 2000). In fact, in an environment where feedback and support is promoted and incentivized, trainees are more likely to result in transfer of the acquired skills back to training (Noe and Schimitt, 1986). *"Specifically, feedback regarding the newly learned knowledge and skills and how these relate to job performance increases the likelihood of its transfer to the work context"* (Velada et al., 2007).

Thus I hypothesized:

Hypothesis (H6): (A) Supervisor support for training transfer and (B) Feedback regarding the trainee's performance after training are positively related to training transfer.

6.3 Training design

One of the causes for transfer failure is that the training don't have the tools to enable trainees the skills to transfer the learning (Holton III, 1996). *"Learning is expected to lead to individual performance change only when three primary influences on transfer behavior are at appropriate levels. Following Baldwin and Ford (1988) and consistent with the Noe (1986) framework, the three primary influences proposed in this model are motivation to transfer, transfer conditions (environment), and transfer design (ability)"* (Holton III , 1996). Thus, even if trainees learn well the cognitive learning, if they don't have the chance to train what they learn, transfer is more unlikely to occur. (Holton III , 1996).

Thus I hypothesized:

Hypothesis (H7): Trainees' perceptions of transfer design is positively related to transfer of training.

7. Empirical Research

7.1 - Method

This is an empirical study where we are going to analyze, through 2 questionnaires, which factors influence training transfer. In order to have a richer and complete data we choose a broad spectrum of organizations from public to private, and from medium to big organizations. In total we contacted 43 companies, in which 60% of them gave a positive response. Also from the 150 surveys sent, only 89 were retrieved and fully matched.

7.1.1 Procedure

The procedure used in this thesis for data collection was initially based on 2 distinct phases. The first phase consisted of employees filling in a questionnaire before they went to training and The second phase consisted of employees filling a questionnaire 30 days after they had training. The questionnaires were sent in the beginning of November 2012 and then retrieved late February 2013.

These two questionnaires were anonymous and confidential, and were available in both online and paper support. The only pre-requisite that employee should have to fill these questionnaires was that their training could be applied in the workplace. However, during the data collection there was a lack of training in the majority of these organizations, hence, the majority of pre-training questionnaires were filled after training.

7.1.2 Participants

Table 1 - Sample Descriptive

Descriptive Statistics				
	N	**Min**	**Max**	**Mean**	**Std. Deviation**
Age	89	23	60	39	8,96
Organization tenure	89	1	33	13	9,21
Job tenure	89	1	33	9	7,69

Table 2 - Academic background

Academic background

	Frequency	Percent (%)	Cumulative Percent (%)
< 9 year	5	5,6	5,6
9 year	9	10,1	15,7
High school	24	27,0	42,7
Degree	43	48,3	91,0
Master	8	9,0	100,0
Total	89	100,0	100

The initial Sample consisted of 150 employees from 26 companies from public to the private sector. However only 89 (60%) of the them filled the 2 questionnaires well, therefore the final sample consisted of 89 employees where 51.7% were female. The mean age of the participants was 39 years, with a range of 23 to 60. The average tenure of the participants in the company was 13 years corresponding to 60.7% of the sample. In terms of education 48.3% had a degree, while 15.7% had the 9 grade or less.

Regarding training, 44.9% of the inquired trainees had filled the questionnaires in 4 months or less after having attended a training.

In terms of organizations, 19% of them are from the public sector, and 12% are from the bank sector. In general the majority of the employees (41.6%) represented one single company from the private sector.

7.1.3 Measures

Regarding the independent variables, this study is based on 7 variables related to the individual and the environment context.

Locus of control (LOC) - which is conceptualized as either internal or external. Internal locus of control *"refers to the   degree to which persons expect that a reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics"* whereas external locus of control is the "*degree to   which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable"* (Rotter, 1990, p. 489). LOC was measured with 4 items (2 items of each dimension) from Rotter (1966)

LOC questionnaire. sample item for this construct is "Unfortunately an individual's worth often passes unrecognized no matter how hard he tries". A 7-point Likert-type response scale, ranging from 7 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Goal orientation - refers *"to the goals pursued by individuals in achievement situations"* (Chiaburu and Marinova, 2005). This construct was measured with twelve items and was developed and validated by VandeWalle (1996). The instrument has three subscales: (a) four items that measure learning goal orientation, (b) three items measuring Performance goal orientation , and (c) five items that measure the avoiding dimension of a performance goal orientation. The sample item for each subscale is, (a)" I prefer challenging and difficult classes so that I'll learn a great deal.", (b) " I think that it's important to get good grades to show how intelligent you are.", (c) " I prefer to avoid situations in classes where I could risk performing poorly". A 7-point Likert-type response scale, ranging from 7 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Training retention - *"Similar to cognitive ability, training retention is the degree to which trainees retain the content after training is completed"* (Velada et., al, 2007). The measure of training retention consisted of three items created by Velada et al., (2007). A sample item is "I can easily say several things that I learned in the training course". A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Training Self efficacy - is defined as " An individual's general belief that they are able to change their performance when they want to. *"*(Chen, Holton and Bates, 2005: 60). The measured of training self efficacy consisted of 4 items of LTSI developed by Holton et al., (2000). A sample item is "I am confident in my ability to use knew skills at work". A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item

Perceived organizational support - can be defined as "*employees´ (...) general beliefs about how much their organization cares about (...) their performance and contributions"*(Madera et al., 2011) regarding their training. The measure of

organizational support was adapted from Ford et al. (1992) and consists of 10 items. A sample item is "My organization provides an environment where I am comfortable trying out what I learned at training". A 7-point Likert-type response scale, ranging from 7 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Supervisor support - is defined as *"the extent to which supervisors-managers, support and reinforce use of training on the job"*(Chen *et al.,* 2005: 59). The measure of Supervisor support consisted of six items of LTSI developed by Holton et al., (2000). A sample item is "My supervisor helps me to establish/set realistic performance goals based on my training" A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Transfer Design - is defined as the *"Degree to which (1) training has been designed and delivered to give trainees the ability to transfer learning to the job, and (2) training instructions match job requirements"*(Chen *et al.,* 2005: 60). The measure of transfer design consisted of 4 items of LTSI developed by Holton et al., (2000). A sample item is "The activities and exercises that trainers used in training helped me know how to apply in my job what I learned. A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item

Performance feedback - is defined as *"formal and informal indicators from an organization about an individual's job performance"* (Holton et al., 2000, p. 346). The measure of performance feedback consisted of 3 items of LTSI developed by Holton et al., (2000). A sample item is "Since the training course I have been talking with other people about how to improve my performance" A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

Regarding the dependent variables, this study was based on 1 variable regarding training, namely training transfer.

Training transfer - The measure of training transfer consisted of three items developed by Tesluk *et al.* (1995). A sample item is "I have been using the skills presented in the training course to help improve my performance". A 5-point Likert-type response scale, ranging from 5 *(strongly agree)* to 1 *(strongly disagree),* was used for each item.

7.2 Results

To analyse the data first I conducted a Factor analysis for each dimension, this way we evaluate the extent to which each variable represents an independent construct. All 53 items were submitted to a principal axis factoring analysis with varimax rotation according to their topics. In the end 12 components were extracted that corresponded to the variables in study. All the extracted results as well as tables presented below were analysed according SPSS 19 (*Statistical Package for Social Sciences*).

From the 12 items of goal orientations (table 3) it was extracted 3 components that explains 76.89% of the variance. These 3 components were labelled as 1) "avoidance goal orientation" (α=0.93); 2) "learning goal orientation" (α=0.858); 3) "performance goal orientation" (α=0.827)

Table 3
Goal orientation- Principal Axis factoring (Rotated Factor Matrix)[a]

Questions	Factor		
	1	**2**	**3**
I would rather write a report on a familiar topic so that I can avoid doing poorly	**,891**	-	,188
I prefer to avoid situations in classes where I could risk performing poorly.	**,819**	-,124	,227
I enrol in courses in which I feel that I will probably do well	**,812**	-	,130
I would rather drop a difficult class than earn a low grade	**,801**	-	,246
I am more concerned about avoiding a low grade than I am about learning.	**,780**	-,179	,334
I like classes that really force me to think hard	-,163	**,911**	-
I prefer a Challenging and difficult training course so that I´ll Learn a great deal.	-	**,797**	-
I truly enjoy learning for the sake of learning.	-,165	**,730**	-
I'm willing to enrol in a difficult course if I can learn a lot by taking it.	-	**,685**	,145
It's important for me to prove that I am better than others in the class	,382	-	**,803**
To be honest, I really like to prove my ability to others	,253	-	**,801**
I think that it's important to get good grades to show how intelligent you are	,258	,437	**,555**

The highest factorials are in bold.

From the 6 items of Locus of control (table 4) it was extracted 2 components that explains 68% of the variance. These 2 components were labelled as 1) "external locus of control" (α=0.53); 2) "Internal Locus of control" (α=0.49)

Table 4
Locus of Control - principal axis factoring (Rotated Factor Matrix[a])

Questions	Factor	
	1	2
Have often found that what is going to happen will happen	**,688**	,051
Unfortunately , an individual's worth often passes unrecognized no matter how hard he tries	**,582**	,012
People who can't get others to like them don't understand how to get along with others	,124	**,599**
Most misfortunes result from lack of ability, ignorance, laziness, or the combination of all these factors	-,054	**,567**

From the 10 items of Perceived organizational support (table 5) it was extracted 1 component that explains 62.5% of the variance. This component was labelled as "perceived organizational control" (α=0.875)

Table 5
Perceived organizational control -Principal axis factoring (Rotated Factor Matrix[a])

Questions	Factor	
	1	2
Your colleagues cooperate with you to use what you learned at training.	,862	,323
In terms of applying your training to your current work, your colleagues are supportive.	,822	,341
Your leader and colleagues support you to use what you learned at training.	,775	,495
Organizational conditions(operations, decision-making powers) have to be improved in order to apply the learned skills on the job (reverse code).	-,637	
In my company there are supervisors who would serve as convincing role models for what I learned in training	,622	,256
Training programs have a good reputations in my company	,300	,802
The skills that I learned in the training program were received with interest by the company.	,467	,759
Your leader supports you to apply what your learned at training at work.	,587	,618
Your leader provides an environment where your are comfortable trying out what you learned at training.	,586	,591

Since the remaining items were already validated in a Portuguese sample (Velada *et al.,* 2007) the factor analysis was not performed. Hence the remain 23 items were computed according to the literature. These components were labelled as "supervisor support" (α=0.93); "training transfer" (α=0.85); "training design" (α=0.847); "training self efficacy" (α=0.86); "performance feedback" (α=0.89); "training retention" (α=0.80).

The next table (Table 6) shows the Means, standards deviations as well as the correlations between the variables. The variables that are strongly related to training transfer are training design (r =0.61, $p < .001$) and training retention ($r = 0.58$, $p < .001$). The weakest variables related to training transfer are external locus of control (r =0.03, $p < .001$) and avoidance goal orientation (r =0.12, $p < .001$).

Table 6
Means, Std. Deviations and Correlations

Variables	M	Std. D	LGO	PGO	AGO	SS	TD	SE	FD	TR	POS	ELOC	ILOC	TT
Learning Goal orientation (LGO)	5,97[a]	,88	1,00	-	-	-	-	-	-	-	-	-	-	-
Performance goal orientation (PGO)	4,47[a]	1,44	,17	1,00	-	-	-	-	-	-	-	-	-	-
Avoidance goal orientation (AGO)	3,45[a]	1,77	-,18	,51	1,00	-	-	-	-	-	-	-	-	-
Supervisor support (SS)	3,75[B]	,89	,00	,35	,45	1,00	-	-	-	-	-	-	-	-
Transfer design (TD)	3,93[B]	,66	,08	,36	,45	,53	1,00	-	-	-	-	-	-	-
Training Self efficacy (SE)	4,25[B]	,61	,35	,16	-,01	,33	,30	1,00	-	-	-	-	-	-
Performance Feedback (FD)	3,61[B]	,86	,03	,46	,43	,70	,56	,35	1,00	-	-	-	-	-
Training retention (TR)	4,22[B]	,63	,44	,13	,06	,17	,32	,54	,22	1,00	-	-	-	-
Perceived organizational support (POS)	5,09[a]	,91	,18	,38	,33	,63	,56	,28	,56	,31	1,00	-	-	-
External locus of control (ELOC)	5,12[a]	1,25	,01	,15	,19	,16	,22	,20	,15	,07	,14	1,00	-	-
Internal locus of control (ILOC)	4,53[a]	1,40	,14	,45	,56	,29	,27	,09	,33	,25	,28	,07	1,00	-
Training transfer (TT)	4,17[B]	,69	,35	,34	,12	,41	,61	,41	,42	,58	,49	,03	,14	1,00

[a] 7-Point Likert scale

[B] 5-Point Likert scale

7.2.1 Hypothesis testing

After the preliminary analysis, we proceed to the hypothesis testing. This section is divided in 4 parts regarding each model in analysis. The first 3 parts concerns the hypothesis regarding the individual and environmental factor as well as transfer design.

The fourth part includes a hierarchical regression in order to have an overall view of the tested variables.

To analyze the collected data a very common statistical data analysis technique in the social and natural science were used. This technique is linear regression. Linear regression is used to determine the relationship between a dependent variable and one or more independent variables and allows us to ask, and eventually answer, the general question "what is the best predictor of...". Note that all the extracted results presented below were analysed according to SPSS 19 (*Statistical Package for Social Sciences*).

1 - Individual factors - The first Hypotheses to be tested are the ones regarding individual factors.

Table 7 - Linear Regression - Individual factors

Model Summaryb						Anova		Tests of Normality					
								Kolmogorov-Smirnova			Shapiro-Wilk		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.	Statistic	df	Sig.	Statistic	df	Sig.
2	,662	,438	,389	,539	1,664	9,007	,000	,079	89	,200	,942	89	,001

The result of the model 2 (table 7) show that *internal locus of control* is not significant related to training transfer ($\beta= -0.16$, $p > 0.05$) thus not validating the first hypothesis.

Regarding the hypothesis H2.1 the results shows that *learning goal orientation* ($\beta=0.06$, $p > 0.05$) is not significant related to transfer training, hence not validating H2.1 (a), and *Performance goal orientation* ($\beta=0.31$, $p < 0.05$) is positive and significantly related to training transfer which allow to refute the hypothesis H2.1 (b).

Finally, the results showed that *training self efficacy* ($\beta=0.06$, $p > 0.05$) and transfer training are not significant related, and *training retention* ($\beta=0.53$, $p < 0.05$)

has a positive and statistically significant relation with training transfer thus supporting the 4th but not the 3th hypothesis of the study.

H2 Performance Goal orientation is positively related to (a) self-efficacy and thus (b) training transfer.

To analyze this hypothesis I first run a linear regression with performance goal orientation as independent variable and self-efficacy as dependent variable (Table 8) and then I run a linear regression STEP_WISE with training transfer as dependent variable, and including performance goal orientation at step 1 and Self-efficacy at step 2 (Table 8.1).

Table 8 - Linear Regression - self efficacy as dependent variable

		Model Summaryb				Anova	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	,205	,042	,031	,607	2,121	3,802	,054

Table 8,1 Linear Regression training transfer as dependent variable

		Model Summaryc				Anova	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	,339	,115	,105	,652		11,310	,001
2	,481	,231	,213	,611	1,581	12,937	,000

The result in table 8 show that the hypothesis H2 (a) is not supported *(f=3.80, p >0.05)* thus performance goal oriented is not related to self efficacy.

In table 8.1 we can see that the model is valid, and there is a positive and statistically significant relationship for both performance goal orientation *(β=0.27, p < 0.05*) and self efficacy *(β=0.35, p < 0.05*) regarding training transfer. In fact the effect of goal orientation in training transfer decreases *(β=0.34 to β=0.27)* when adding self efficacy. Hence the hypothesis H2 (b) is validated.

2 - Environmental factors - The next hypotheses to be tested are concerning the environment factors.

Table 9 - Linear regression - environmental factors

		Model Summaryb				Anova		Tests of Normality					
								Kolmogorov-Smirnova			Shapiro-Wilk		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.	Statistic	df	Sig.	Statistic	df	Sig.
3	,524	,275	,249	,601	1,728	10,610	,000	,071	88	,200	,985	88	,414

According to the results of the third model there is a positive and statistically relation between perceived organizational support ($\beta=0.35$, $p < 0.05$) and training transfer thus supporting the 5 hypothesis.

Furthermore, the results show that *supervisor support* ($\beta=0.08$, $p > 0.05$) and *performance feedback* ($\beta=0.17$, $p > 0.05$), are not significant related to training transfer and thus not supporting hypothesis H6 (A) and (B) respectively.

3 - Transfer design

Table 10 - Linear regression - Transfer design

		Model summary				Anova		Tests of Normality					
								Kolmogorov-Smirnova			Shapiro-Wilk		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.	Statistic	df	Sig.	Statistic	df	Sig.
3	,612	,374	,367	,548	1,628	52,035	,000	,085	89	,153	,980	89	,183

The results of model 1 shows that training design ($\beta=0.61$, $p < 0.05$) has a positive and statistically significant relation with training transfer, thus validating the 7th hypothesis of the study.

4 - Hierarchical Regression

Table 11 - Hierarchical regression - correlations

Independent Variables	Model 1 β	Model 2 β	Model 3 β
Transfer design	,611*	,520*	,442*
Learning Goal orientation	-	,070	,077
Performance goal orientation	-	,245*	,230*
Avoidance goal orientation	-	-,165	-,207
External locus of control	-	-,108	-,103
Internal locus of control		-,118	-,127
Training Self efficacy	-	-,003	-,056
Training retention	-	,407*	,423*
Perceived organizational support	-	-	,042
Performance Feedback	-	-	-,008
Supervisor support	-	-	,173
R2	,374	,622	,644
R2 Aju.	,367	,583	,592

*p < 0,05

In order to answer our research question, a hierarchical regression was made.

And the result of table 11 shows that, regarding the training design it was found to have a positive and statistical significant relationship with transfer training ($\beta=0.61$, $p < 0.05$). Concerning the individual factors, only training retention ($\beta=0.41$, $p < 0.05$) and performance goal orientation have a positive and statistically significant relation with transfer training. The remaining factors are not significant related to transfer training.

The results of the environmental factors show that none of the factors are significant related do transfer training.

7.3 Discussion

This study had as principal goal not only to analyse which variables affect training transfer the most, but also to analyse which factors have a positive influence, in order to enhance them, or a negative influence, in order to reduce them, so that ultimately the transfer of training to the work can be increased.

The first four hypotheses analyzed the influence of the individual factors in transfer training and the overall view is that in general these factors have a positive impact in training transfer. These results reinforce the idea that when the trainees believe in their capability to transfer what they learned, the transfer is more likely to occur.

The results of hypothesis 1 indicate that the variable internal locus of control, that evaluates the extent to which an individual feels that he is responsible for the outcomes, is not significant related to training transfer. This result shows a different outcome when comparing with the findings of Colquitt, LePine and Noe (2000) who found that locus of control was moderately related to transfers. This can be due to the number of question in analysis, or due to the context in analysis since the majority of the sample is from Madeira island.

Regarding hypothesis 2, the model was not validated and also there was no significant relation between goal orientation and self-efficacy. Therefore one variable does not predict the other. However when analyzing self-efficacy as a mediator for goal orientation regarding training transfer the model was validated and also it was found a positive relation between them. This means that if a person is performance goal orientated and is perceived as self efficacious, the chances of applying the training increases.

The hypothesis 2.1 which analyzes the effects of learning and performance goal orientation in transfer training reveals that learning goal orientation is not significant related to training transfer and performance goal orientation has a positive and statistically significant relation with training transfer.

These results show that it is expected that only the employees more performance goal orientated will successfully transfer the knowledge acquired in training back to the job. However this does not mean that learning goal orientated employees cannot apply what they learned back to the job. It only means that their main concern when attending training is to learn.

In the third hypothesis, contrary to what was predicted, there was found no relationship between training self efficacy and training transfer. These findings are not aligned with the studies made by Ford et al., (1998) who found a positive relation between self efficacy and training transfer and also to the studies of Saks (1995) and Tannenbaum *et al.*, (1991) that found a positively relation between self efficacy and post training behavior.

Concerning the fourth hypothesis the result shows that there is a statistically significant relation between training retention and training transfer. This means that when employees retain what they learned in the training, they are more likely to apply that knowledge. The results are in line with the findings made by (Velada *et al.,*2007) where training retention was also found to have a positive and statistical significant relation with training transfer.

The fifth and sixth hypotheses analyzed the impact of the environment factors in transfer training. The existing literature suggests that perceived organizational support is an important factor that affects training outcomes like training transfer (e.g., Arthur et al., 2003; Martin, 2010; Smith-Jentsch et al., 2001; Tracey et al., 1995, 2001). This can be corroborated with the fifth hypothesis, where perceived organizational support was found to have a positive and statistically significant relation with transfer training. This result shows the importance of organizations support´s in the employees´ development, meaning that if employees perceive their organization to be supportive about training, they are more likely to apply what they have learned.

The results of the sixth hypothesis that analyzed both supervisor support and feedback regarding training transfer, show that there isn´t a significant relationship between them. This means that receiving or not feedback about their performance after the training will not influence their perceptions about their training transfer. Also, even if the supervisor is supportive regarding training and its applicability at work, this will not affect employees´ willingness to apply, or not apply what they learn back to the job.

Regarding the last hypothesis, the results demonstrate that there is a positive and statistically significant relationship between transfer design and transfer training. As stated by Holton III (1996), one of the causes for transfer failure is that the training doesn't have the tools to enable trainees the skills to transfer the learning. This means that transfer design is a factor that organizations and trainers should take into account before training since it will have a direct impact in the transfer.

The empirical results of this thesis show a slightly different outcome when comparing to the theoretical models mentioned before (e.g., Baldwin and Ford 1988; Holton 1996; etc).This may be due to the sample in study, where more than 50% of the sample is from Madeira. Nevertheless the results emphasize the influence of training design, individual and environmental factors in training transfer. Therefore organizations, who make large investments in developing their employees through training, should take into consideration these factors not only to increase the effectiveness of training programs but also to assure that the new acquired knowledge is used back to the workplace.

The purpose of this research was also to analyze which factors influence employees' transfer of training and to have a better understanding of the factors that have a positive influence, in order to enhance them, or a negative influence, in order to reduce them, so that ultimately the transfer of training to the work can be increased. In order to answer our research question, a hierarchical regression was made. The results of the hierarchical regression (table 11) show a slightly different result when comparing to the linear regression made for each model in separate. In terms of transfer design and individual factors the outcomes are the same, meaning that the factors that have a positive and statistically significant relation with training transfer are transfer design, performance goal orientation, and training retention. therefore organizations should pay special attention to them if they want to maximize transfer training.

Regarding the environment factors, the hierarchical regression show that none of them has a significant relation with training transfer, whereas in the linear regression the perceived organizational support had a positive and statistically significant relation with training transfer.

7.4 Limitations and future research.

This study has some limitations that should be noted. The first limitation is that transfer of training was measured by self-report. This may influence the response results since it was not based on actual behaviour but rather in their perceptions of their behaviour. However in order to avoid this misjudge of perception and to increase the accuracy of the data, anonymous and confidential items were included in the questionnaires. For future research I recommend, if possible, to include other sources like supervisors, peers in order to increase the accuracy of the results.

The second limitation regards the final sample where we have only 89 participants and more than 50% of the sample is from Madeira. Despite the small sample it were found statistically significant correlations in several test. For future research we recommend a more specific data collection because, since we have participants from the Mainland and from Madeira, insularity might affect the final outcome.

The third limitation concerns the time span of the collection of data. According to Alliger et al. (1997) the collection of trainee´s reaction data should take place between 1 to 6 months after the completions of the training program. However our data has a time span of 1 month up to 2 years.

The fourth limitations has to do with the number of participants of each organizations, since there were few members of each organizations and sector we cannot extrapolate the results to the populations. For future research we recommend that it should be included more participants of different organizations in order to have a more accurate data.

7.5 **Conclusion**

In a world where competition is increasingly fierce, training has been gaining more and more attention. Organizations not only compete with each other to gain more market share, but also tries to attract the most qualified employees. In turn employees compete with themselves to secure a position with a major company. Employees, in order to be able to stand out from the others, have to become qualified. And that's where the training enter. The training came to help employees who want to differentiate themselves from others by increasing their knowledge and skills.

However, as we saw in the literature review, training alone does not guarantee that the employee will apply that knowledge. Thus it is necessary that companies are aware of the factors that directly or indirectly affect the application of this knowledge.

That is why during the last decade, some studies have been done to empirically prove which factors affect positively training transfer. However, most of the studies are focused only in some aspects of training transfer when, they should have a more holistic view of the factors.

This research is one more contribution to this area since the main goal of this thesis was to analyze which factors affects positively training transfer. And the findings show that transfer design, performance goal orientation, training retention and perceived organizational control are the factors that were found to have a positive and statistically significant relation with training transfer. Therefore researchers as well as organizations should take into consideration these factors when conducting a research or sending their employees to training. Still, they should not discard the other factors, because even if, in post training there was found no relation with training transfer, this does not mean that in pre or during the training the outcome will be the same. And that is why for future research, researchers should consider to do a study including all aspects of organizations as well as using different economic sectors.

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9. Attachments

Questionário

"Quais os fatores que influenciam a transferência do conhecimento adquirido para o local de trabalho"

Obrigado pelo tempo disponibilizado para preencher este questionário. A sua colaboração é extremamente importante para nós.

Este questionário faz parte de um estudo empírico no âmbito da tese de mestrado no ISCTE Business school onde iremos analisar quais os fatores que influenciam a transferência do conhecimento adquirido em formação para o local de trabalho. Este estudo tem como objetivo ter um melhor conhecimento sobre quais os fatores que têm um impacto positivo no sentido de melhorar, ou um impacto negativo, no sentido de reduzir, a transferência dos conhecimentos adquiridos para o local de trabalho.

Este é o primeiro questionário de um total de dois questionários (o segundo questionário vos irá ser pedido para preencher dentro poucas semanas) e vai ser preenchido por membros de diferentes organizações. Estes questionários são anónimos no entanto para nós podermos estabelecer uma ligação entre os 2 questionários será pedido que crie o seu próprio código

Código Auto gerado.

Primeira letra do nome próprio	Última letra do apelido	Último número do Ano de Nascimento	Primeira Letra do nome próprio do Pai	Primeira Letra do nome próprio da Mãe

Sexo M ☐   Idade _____   Nome da Empresa _____
F ☐

Escolaridade   < 9 Ano ☐
9 Ano ☐
Ensino Secundário ☐
Licenciatura ☐
Mestrado ☐
Doutoramento ☐

Há quanto tempo trabalha nesta organização? _____
Há quanto tempo se encontra no seu posto de trabalho? _____

Está a planear frequentar alguma formação?   Sim ☐
Não ☐

Se sim, qual o tipo de formação ? _____

O seguinte questionário deverá apenas demorar 5 a 10 minutos do seu tempo.

Não existem respostas certas ou erradas e deverá responder as seguintes afirmações baseando-se na sua experiencia. Para isso indique o seu grau de concordância/discordância usando a escala 1 (Discordo Totalmente) a 7 (Concordo Totalmente)

Discordo totalmente	Discordo	Discordo um pouco	Nem discordo nem concordo	Concordo um pouco	concordo	Concordo totalmente
1	2	3	4	5	6	7

	Questões							
Caraterísticas pessoais								
1	Eu prefiro formações que sejam desafiantes e difíceis porque assim irei aprender mais.	1	2	3	4	5	6	7
2	Eu gosto muito de aprender coisas novas.	1	2	3	4	5	6	7
3	Eu gosto de cursos que me forcem a pensar.	1	2	3	4	5	6	7
4	Eu estou disposto(a) a inscrever-me num curso difícil se isso me ajudar a aprender mais.	1	2	3	4	5	6	7
5	Eu acho que é importante ter boas classificações para mostrar o quão inteligente nos somos.	1	2	3	4	5	6	7
6	È importante para mim provar que sou melhor que os outros no curso.	1	2	3	4	5	6	7
7	Para ser honesto(a) eu gosto de mostrar aos outros as minhas capacidades.	1	2	3	4	5	6	7
8	Eu preferiria desistir de um curso difícil a ter uma má classificação.	1	2	3	4	5	6	7
9	Eu preferiria fazer um trabalho acerca de um tópico familiar de maneira a evitar ter uma má classificação.	1	2	3	4	5	6	7
10	Eu estou mais preocupado(a) em evitar ter uma má classificação do que aprender	1	2	3	4	5	6	7
11	Eu prefiro evitar certas situações nos cursos de modo a não ter uma baixa performance.	1	2	3	4	5	6	7
12	Eu me inscrevo em cursos onde sinto que provavelmente me irei dar bem	1	2	3	4	5	6	7
13	A razão pela qual as pessoas não conseguem que os outros gostem delas é porque elas não sabem se dar bem com os outros	1	2	3	4	5	6	7
14	A pessoa deve estar disposta a admitir os seus erros	1	2	3	4	5	6	7
15	Eu frequentemente descubro que o tem que acontecer, acontecerá	1	2	3	4	5	6	7
16	A maioria dos infortúnios são resultado da falta de habilidade, ignorância, preguiça, ou das três juntas.	1	2	3	4	5	6	7
17	Muitas das infelicidades que acontecem ás pessoas são devidas, em parte, ao acaso .	1	2	3	4	5	6	7
18	São as experiencias da vida que determinam como essa pessoa é.	1	2	3	4	5	6	7
19	Muitas vezes o valor de um individuo não é reconhecido, não importa o quanto ele se esforce.	1	2	3	4	5	6	7
20	Ser bem sucedido é uma questão de trabalho duro, a sorte tem pouco ou nada a ver com isso.	1	2	3	4	5	6	7

Discordo totalmente	Discordo	Discordo um pouco	Nem discordo nem concordo	Concordo um pouco	concordo	Concordo totalmente
1	2	3	4	5	6	7

Apoio organizacional				**Escala**					
21	O meu líder apoia os seus empregados a aplicar o que aprenderam na formação no local de trabalho.	1	2	3	4	5	6	7
22	O meu líder providencia um ambiente favorável para aplicação dos conhecimentos adquiridos em formação pelos seus empregados no local de trabalho.	1	2	3	4	5	6	7
23	Os meus colegas de trabalho apoiam a aplicação do que aprenderam na formação no local de trabalho.	1	2	3	4	5	6	7
24	Os meus colegas colaboram entre si na utilização do que aprenderam na formação no local de trabalho	1	2	3	4	5	6	7
25	O Meu líder e os meus colegas apoiam-se mutuamente para a aplicação do que aprenderam na formação no local de trabalho.	1	2	3	4	5	6	7
26	A minha empresa apoia a participação dos seus empregados nas formações	1	2	3	4	5	6	7
27	As competências que os empregados adquirem em formação são recebidas com interesse pela empresa.	1	2	3	4	5	6	7
28	As condições organizacionais (operações, tomadas de decisão, etc) tem que ser melhoradas de modo aplicar as competências aprendidas em formação no local de trabalho	1	2	3	4	5	6	7
29	Na minha empresa existem diretores que serviriam de modelos convincentes para o que é aprendido nas formações	1	2	3	4	5	6	7
30	As formações têm uma boa reputação na empresa	1	2	3	4	5	6	7

Questionário

"Quais os fatores que influenciam a transferência do conhecimento adquirido para o local de trabalho"

Obrigado pelo tempo disponibilizado para preencher este questionário. A sua colaboração é extremamente importante para nós.

Este questionário faz parte de um estudo empírico no âmbito da tese de mestrado no ISCTE Business School.

Este é o segundo questionário de um total de dois questionários. Estes questionários são anónimos no entanto para nós podermos estabelecer uma ligação entre o primeiro e o segundo questionário será vos pedido que crie o seu próprio código.

Código Auto gerado.

Primeira letra do nome próprio	Última letra do apelido	Último número do Ano de Nascimento	Primeira Letra do nome próprio do Pai	Primeira Letra do nome próprio da Mãe

Sexo M ☐
F ☐   Idade _____   Nome da Empresa _____

Escolaridade
< 9 Ano ☐
9 Ano ☐
Ensino Secundário ☐
Licenciatura ☐
Mestrado ☐
Doutoramento ☐

Há quanto tempo trabalha nesta organização? _____
Há quanto tempo se encontra no seu posto de trabalho? _____

Frequentou recentemente alguma formação?   Sim ☐
Não ☐

Se sim, qual o tipo de formação ? _____
Há quanto tempo ocorreu essa formação? _____

O seguinte questionário deverá apenas demorar 5 a 10 minutos do seu tempo.

Não existem respostas certas ou erradas e deverá responder as seguintes afirmações baseando-se na sua experiencia. Para isso indique o seu grau de concordância/discordância usando a escala 1 (Discordo Totalmente) a 5 (Concordo Totalmente)

Discordo Totalmente	Discordo	Nem discordo nem condordo	Concordo	Concordo totalmente
1	2	3	4	5

Questões	Escala				
	1	2	3	4	5
Suporte do supervisor					
1 O meu supervisor encontra-se comigo para discutirmos formas de aplicar no emprego o que aprendi na formação.	1	2	3	4	5
2 O meu supervisor encontra-se comigo regularmente para trabalharmos nos problemas que possa estar a ter ao utilizar o que aprendi na formação.	1	2	3	4	5
3 O meu supervisor mostra interesse relativamente ao que aprendo na formação.	1	2	3	4	5
4 O meu supervisor diz-me se estou a fazer um bom trabalho quando utilizo o que aprendi na formação.	1	2	3	4	5
5 O meu supervisor ajuda-me a estabelecer objetivos realistas para o meu desempenho no trabalho baseando-se na minha formação.	1	2	3	4	5
6 O meu supervisor estabelece-me objetivos que me encorajam a utilizar a formação no emprego.	1	2	3	4	5
Transferência de formação					
7 Tenho aplicado aquilo que aprendi na ação de formação para melhorar o meu desempenho.	1	2	3	4	5
8 Aquilo que aprendi na ação de formação tem-me ajudado bastante a melhora o meu trabalho.	1	2	3	4	5
9 Tenho aplicado no meu trabalho diário a maior parte daquilo que aprendi na formação.	1	2	3	4	5
Design de transferência					
10 Os formadores utilizaram muitos exemplos que me mostraram como poderia utilizar a minha aprendizagem no emprego.	1	2	3	4	5
11 O modo como os formadores utilizaram os materiais fez-me sentir mais confiante de que conseguirei aplica-los	1	2	3	4	5
12 As atividades e exercícios que os formadores usaram ajudaram-me a saber como aplicar no emprego aquilo que aprendi.	1	2	3	4	5
13 Vejo que as pessoas responsáveis pela formação sabem como irei utilizar o que aprendi.	1	2	3	4	5
Auto-Eficácia de desempenho					
14 Nunca duvido da minha capacidade de utilizar no emprego o que aprendi.	1	2	3	4	5
15 Estou confiante na minha capacidade de utilizar novos conhecimentos no emprego	1	2	3	4	5
16 No trabalho sinto-me confiante em utilizar o que aprendi na formação mesmo em situações difíceis.	1	2	3	4	5
17 Estou certo(a) de que irei ultrapassar obstáculos no meu emprego que dificultam a utilização de novas técnicas e conhecimentos.	1	2	3	4	5

	Discordo Totalmente	Discordo	Nem discordo nem condordo	Concordo	Concordo totalmente
	1	2	3	4	5

	Feedback de desempenho					
18	Desde a formação tenho tido conversas com outros colegas e chefes sobre como melhorar o meu desempenho.	1	2	3	4	5
19	Após a formação, recebi feedback de outros colegas e chefes acerca de como estou a aplicar aquilo que aprendi.	1	2	3	4	5
20	Os outros colegas e chefes disseram-me coisas que me ajudaram a melhorar o desempenho após a formação.	1	2	3	4	5
	Retenção de formação					
21	Consigo dizer facilmente duas ou três coisas que aprendi na formação.	1	2	3	4	5
22	Ainda me recordo das principais coisas que aprendi na formação.	1	2	3	4	5
23	Nunca mais pensei nas coisas que aprendi na formação.*	1	2	3	4	5

Para responder as seguintes afirmações indique agora o seu grau de concordância/discordância usando a escala 1 (Discordo Totalmente) a 7 (Concordo Totalmente)

Discordo totalmente	Discordo	Discordo um pouco	Nem discordo nem concordo	Concordo um pouco	concordo	Concordo totalmente
1	2	3	4	5	6	7

	Questões	Escala						
	Apoio Organizacional							
24	O Meu líder apoia-me na aplicação do que aprendi na formação no local de trabalho	1	2	3	4	5	6	7
25	O meu líder providencia um ambiente onde me sinta confortável em aplicar o que aprendi em formação.	1	2	3	4	5	6	7
26	Os meus colegas de trabalho apoiam a aplicação do que aprendi em formação no local de trabalho	1	2	3	4	5	6	7
27	Os meus colegas colaboram comigo para aplicar no local de trabalho o que aprendi na formação.	1	2	3	4	5	6	7
28	O Meu líder e os meus colegas apoiam-me na aplicação do que aprendi na formação, no local de trabalho.	1	2	3	4	5	6	7
29	A minha empresa apoia a minha participação em formações	1	2	3	4	5	6	7
30	As competências que ganhei na formação foram recebidas com interesse pela minha empresa.	1	2	3	4	5	6	7
31	As condições organizacionais (operações, tomadas de decisão, etc) têm que ser melhoradas de modo aplicar as competências aprendidas na formação no local de trabalho	1	2	3	4	5	6	7
32	Na minha empresa existem diretores que serviriam de modelos convincentes para o que eu aprendi na formação	1	2	3	4	5	6	7
33	As formações têm uma boa reputação na minha empresa	1	2	3	4	5	6	7