

# SUPPORTING ATTITUDES MANAGEMENT

## *A Component of Training and Talent*

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**Keywords:** Attitudes, Human Resources Training, Talent Management, Attitudes Measurement.

**Abstract:** Talent, also known as human capital, has been recognized as key component of companies' success due to its impact in every process of organizations. A component of talent is the attitude, which is generally known as a disposition of the person to act in a certain way. We have worked in modelling attitudes as a component of training and talent management. The initial version of the proposed attitudes model consists in relevant attitudes and its relationships, attitudes classification and attitudes measurement scales. To support the implantation model, a computer system in web has been developed. The attitudes model, a computer system for its implementation and the results in the process to implant the attitudes model are presented.

## 1 INTRODUCTION

Talent management has become an important element in the operation of every organization (Cunningham, 2007), as a strategy to achieve the organization's objectives. Talent management can be defined as a set of actions to obtain capacities, commitments and actions to achieve competitive results at the present and in the future (Paredes, Rodríguez and Molina, 2007). Main functions of talent management are to attract, to identify and to retain qualified employees to assure of the achievement of organization's objectives.

An important aspect of talent management are attitudes due they are implicated in the personnel behaviours and therefore in their reaction to each situation. There are several situations in work context where the attitudes are keys for the final result. For example, it is desirable that workers have a good learning attitude in order the training have successful results and in a short period of time; and in order to have a null or low amount of accidents it is desirable that people have a good security attitude.

Comisión Federal de Electricidad (CFE), the Mexican electrical utility, has a large and diverse workforce with multiple functions and participating in every process of electric power generating, therefore it needs a way to model attitudes, and a computer system to measure and manage attitudes is also needed.

## 2 TALENT, TRAINING AND ATTITUDES

Human resources constitute the most valuable ownership in every organization, since they are related to every organization's processes, and therefore they have a strong influence in the final results. Hence it is very important to have means to manage them and especially to manage their talent. CFE has been implemented a Talent Management Model with four main aspects: training, working experience, value contribution and academic development. In Figure 1 we can see the basics of the Talent Model.

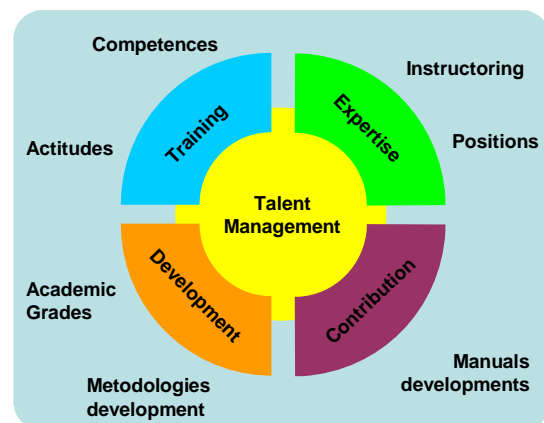


Figure 1: Management Talent Model.

Some computer systems have been developed for managing these components, such as: System for Training Management: SIC R/1, System for Human Capital Management: SICAPH, Repository of learning objects: Aprend-e and System for Talent Management: Talento (Paredes, Rodríguez and Molina, 2007).

Perhaps the most highlighted element of talent is the training of staff. The training is the assembly of activities directed to provide know-how, to develop abilities and to modify attitudes of the personnel of all the levels for the best performance of the work (Paredes, Rodríguez and Molina, 2007).

There are several definitions of attitudes, and they all, or mostly, agree on the nature of them: attitudes are setup across the individual long life, they change continually and they are influenced by surrounding reality. The attitudes are composed by three elements: thinking, feeling and behaviour (Wikipedia, 2009). And they are the result of values and norms preceding it; it is an evaluative trend (either positive or negative) about people, events or things. The attitudes reflect how we feel about something or someone and predict our tendency to act a certain way. It is linked with our mental models which are structured in our childhood and continue to be strengthened in our daily lives (See figure 2).

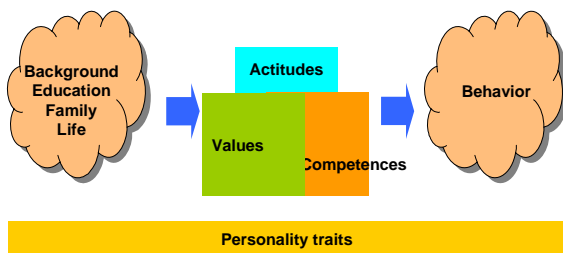


Figure 2: Attitudes Setup.

A key aspect to implant an attitude management model is to identify the relevant attitudes for the work environment and for the processes, functions and activities developed for the staff. Table 1 lists some desirable attitudes at work.

Table 1: Examples of desirable attitudes at work.

Attitudes	
Learning	Flexibility
Tolerance	Cooperative
Commitment	Adaptation
Loyalty	Perseverance
Service c	Work satisfaction
Gentle	Work commitment
Responsibility	Organization commitment

Subsequently, we have to measure these

attitudes. There several ways to measure attitudes; we selected to build Likert scales, since they are relatively simple for building and answering. We look for a simple way to measure attitudes so the workers can feel comfortable and they can answer in a free way.

Likert scales translated the classical measurement of personality traits towards attitudes measurement: the sum of a series of responses to items measuring (or expressing) the same feature puts the subject in the variable (attitude) that is measured. The only basic assumption is that the response evoked by each item is a function of the subject's position in the continuous variable measured: the more agreement (or disagreement), the subject is more the trait being measured. There is no specific number of items for a scale of measurement, but it is common to have about 20 items (Morales Vallejo, 2009, 2006). Table 2 shows an example of a Likert scale measuring the attitude of learning. This scale has 3 items and 5 likely answers; the response of the individual expresses the degree of agreement with the views expressed in the items.

Table 2: Likert scale to measure learning attitude.

State your position on the following statements:		Strongly agree	Agree on certain aspects	undecided	Disagree on certain aspects	Strongly disagree
1	Knowledge achieved in school is useless in daily life.		X			
2	To keep your job, work experience is insufficient.					X
3	I only study when I have test.				X	

At first glance, a scale to measure attitudes may seem a questionnaire, but there are some differences. The difference between a questionnaire and a scale is that the former is made up of questions that are analyzed independently, while a scale consists of questions or items that express the same trait or attitude and the answers to which are added in a total indicates where you are or how much each individual has the attitude to be measured.

The inter-item co-relationships have to be positive and the shared variance between items is related to attitude or trait to be measured. The test theory (reliability, error, etc.) on personality tests or

on academic performance, is applicable to Likert scales (Morales Vallejo, 2009, 2006).

To built a scale we have to conform a people team which know the people who is supposed to answered the scale and they have also to know the attitude we want to measure. The process to build an attitude scales is composed by the following steps: 1) to describe the attitude, 2) to prepare the measurement instrument (to write items), 3) to obtain data from a population sample, and 4) statistical analysis.

The building process of the scale begins establishing a common definition of the attitude to be measured; then write the items of the pilot scale to be applied to a sample of the population. In the pilot study, we obtain data to carry out statistical tests (Student t test) to determine the items of the final scale.

We used the concepts stated above to develop an attitudes model for CFE; in the next section we present such an attitudes model.

### 3 ATTITUDES MODEL

CFE is concerned in having management systems that enable to meet the staff, keep updated workers, and thus take appropriate actions to improve the performance of the electric power generation. For this reason, as part of strategic planning and to strengthen the talent management model, CFE decide to develop a management model of attitudes.

The attitudes model consists of 11 attitudes: learning, safety, job satisfaction, work commitment, organizational commitment, responsibility, service, perseverance, loyalty, leadership and ethics.

We built the model with two different classifications: a classification is concerned with attitudes must be acquired with respect to the liability of these jobs (hierarchical levels) and the other attitudes classification is concerned with attitudes to play the activities and functions of each job position (functional levels). In Figure 3, the classifications of attitudes in our model are outlined.

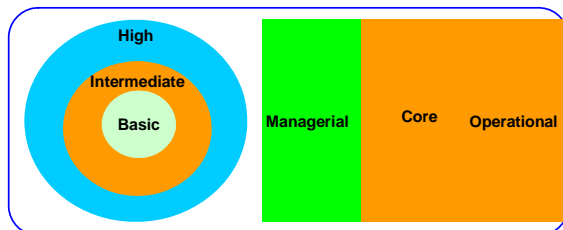


Figure 3: Attitudes Classifications.

In the literature, we can find many examples of scales of measurement for several attitudes, but for our model we decided to build the measurement scales because the instruments must be designed specifically for individuals who answer them and taking into account the objectives of the organization.

Up to now, we have built seven scales to measure attitudes. Table 3 shows for each of the scales, the number of participants in the pilot studies, the number of items of the final scale (after statistical analysis), and the reliability of the scale (coefficient  $\alpha$ , Cronbach's alpha), which expresses the internal consistency of the scale, i.e. how much items are related to each other.

Table 3: Likert scales in the model.

Scale to measure attitude of:	Part.	Items	$\alpha$
Learning	960	25	0.85
Safety	1114	25	0.88
Work behaviour (job satisfaction, work commitment, organizational commitment)	64	30	0.84
Service	221	26	0.94
Responsibility	218	30	0.78
Perseverance	249	25	0.89
Loyalty	233	25	0.90

### 4 SIMA'S ARCHITECTURE

The Attitudes Measurement System, SIMA (for the Spanish, Sistema de Medición de Actitudes) was developed to support the attitudes model implantation and to strengthen the talent management. SIMA provides information to talent model; which in turn provides information to managers to recognize the talent of the company and to recognize the opportunity areas of the organization and in this way take suitable actions for the well operation of the company at the right time.

To achieve that objective, SIMA automates the processes of construction of attitudes measurement scales and its application to staff. Besides, SIMA allows exploiting information.

SIMA has three main modules: construction of attitudes measurement, attitudes assessment and talent. In the first module: construction of attitudes measurement scales, the user can build Likert scales to measure attitudes. In the second module the users can assign and answer the scales to measure attitudes. The third module, talent, allows users to see the information about attitudes' organization in

the form of graphical and tabular reports, and also queries can be made.

Given the different responsibilities in SIMA system, there are six user's roles: worker, evaluator, methodologist, reviewer, manager and system administrator. These roles take part in different processes: 1) the worker role answer the scales; 2) the evaluator role assigns the scales to be answer by the worker, and also supervises the process; 3) the methodologist role is part of the scale construction team which build a scale; 4) the reviewer role is in charge to supervise and approve the final scale; 5) the manager role can consult the information yielded by the model of attitudes, and 6) the role of administrator is responsible for system operation. Figure 4 shows the architecture of SIMA and the various roles

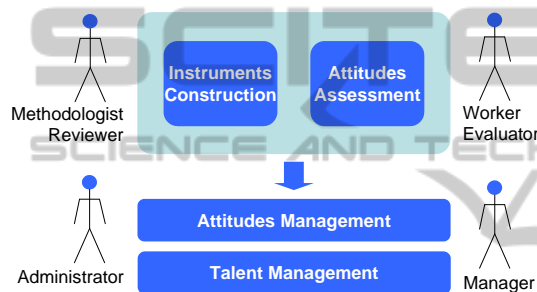


Figure 4: Architecture of SIMA system.

The system was developed in Visual Studio. NET Framework 3.5 2008 with C # programming language. The architecture includes the LINQ technology levels (Clark, 2011). The database was modelled on SQL Server 2008 (Kellenberg, 2009). Figure 5 shows a screenshot of SIMA.



Figure 5: SIMA system screenshot.

## 5 CONCLUSIONS

The model of attitudes was applied in a

thermoelectrical generation plant, where 300 workers answered the scales for job behaviour and safety attitudes. These two scales were assigned to the workers; however, 10% of participants voluntarily answered the rest of the scales.

The model also has been used in a formative training course for plant operators.

The plan for attitudes model implantation involves the application of scales measuring attitudes in two power plants in the short term while waiting for their application in other workplaces of CFE. Furthermore, research in the field of management attitudes continues, we plan to include other attitudes to the model and the construction of new scales of attitudes.

In this paper we presented a model of attitudes developed for CFE at México. The model of attitudes has been built based on knowledge of the organization and employees; the aim is to have a stronger talent management model. We also presented a computer system that was developed in order to support the implementation of model attitudes.

The model has been applied in a thermoelectric generation plant and in a formative course for plant operators of CFE with good acceptance and results.

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