

Analysis of training programs popularity in a public financial institution

MAYRA ALCÁZAR

Abstract - Globalization has created the necessity for every company to improve their ways of working and to have the best employees available on the market. Nowadays, the company's most important value is their intellectual capital. In this sense, it is the company's responsibility to improve their employees' job skills as it is known that training is vital for developing employees' competences, which leads to faster company growth. However, it is very important to provide training programs that fully satisfy employees' needs. The main objective of this article is to investigate relationship that exists between competencies training programs, their popularity and their effectiveness. Moreover, secondary objective is to observe whether differences regarding employees' gender exist. For this purpose, responses from 425 employees from a public financial institution were analyzed. The results reveal that females are more satisfied developing communication skills, whereas males rather prefer to develop leadership and writing skills. The results also show that there is no correlation between the performance improvements and the course preferences.

I. INTRODUCTION

In the current context, where “knowledge has become the fundamental economic resource of modern society” ([1]:371), Human Resources (HR) are no longer perceived as an area that generates costs within the organization. Rather, organizations are rediscovering humans as their critical resource and even more when the rapid change in technological developments requires a “continuous learning philosophy” ([2]: 14). Because of this, HR have become a strategic partner, whose leaders share the table with the CEO's in order to help them lead the organization, having as one of its main tasks the development of talents. It is in this context where a concept like *talent management* gain relevance as a “business strategy for the success and long-term survival of the organization” ([3]: 28). Talent management can be understood as a group of processes to attract, develop, motivate and retain employees to make them perform better. In this sense, “employee training and development has become one of the key aspects in improving employee performance in organizations, thus leading to improved organizational performance and growth” ([4]: 133), so a “commitment to training is crucial for them to remain competitive” ([2]: 14).

However, although we are living in a time where “training systems are viewed by both, organizations and individual as a positive step in providing skills and opportunities” ([2]: 11), “training within the talent management is an important

challenge for organizations in their way to success” ([5]: 9). As training activities have a positive impact on the performance of individual and teams [6], training programs have become an “enormous business in terms of both the amount of effort expended and the money spent” ([2]: 1), becoming an expense that not all companies are willing to assume when the benefit is not evident on a daily basis. Due to high costs of the training programs, organizations need to control and demonstrate its added value [2]. According to Aguinis and Kraige [6], U.S. organizations alone spend more than \$126 billion annually on employee training and development. However, most of the money in training is spent on developing technical skills (due to its importance to get specialized employees) and management-supervisory skills which helps to develop leaders with the capacity to impact the business outcomes through producing extraordinary bottom-line results ([2]: 6). For the public sector, having training programs that ensure an adequate level of effectiveness, becomes a matter of national interest because of the fact that the public treasury is at stake.

It is known that well-conceived training programs are beneficial to meet the organizations goals ([2]: 10), and that the most effective programs are those that includes cognitive and interpersonal skills ([6]: 453). However, how to know when we have a well-conceived training program? Aguinis and Kraige [6] state that training effects on performance may be subtle, though measurable. Goldstein and Ford ([2]: 11) agree and add that “Training systems need to be more carefully evaluated to ensure that they are meeting the expectations of both the organizations and the individual trainees”. However, according to Aguinis and Kraige [6], fewer than 5% of all programs are assessed in terms of their financial benefits. In this way it is necessary to implement *training evaluation* as a “systematic investigation of whether a training program resulted in knowledge, skills or affective changes in learners” ([6]: 453) and “leads to a meaningful change in the work environment” ([2]: 22). However, it is difficult to have a reliable training evaluation when organizations do not have the necessary tools to choose the right program based on previous experiences and hard data. Commonly, “many organizations do not collect the information to determine the usefulness of their own instructional programs. Their techniques remain unevaluated limiting to the trainee reactions that are written at the end of the course” ([2]: 10). Although “training evaluation is a critical component of analyzing, designing, developing, and implementing an effective training programme” ([7]: 2838), organizations fail to capitalize on the opportunity that talent

management can bring them as they usually overlook its importance [8].

Thus, it is important to differentiate training programs regarding employees' gender, generation or even their hierarchical level [9]. Ignorance of different characteristics can lead to employees' frustration, greater tensions among employees and malfunctioned training programs [10]. Understanding different employees' characteristics can lead to a development of new motivational strategies, add or remove benefits, redesign compensation packages and develop human resources policies that satisfy employees' needs [11]. Therefore, the main objective of this article is to reveal the relationship that exists between fourteen competencies training programs, their popularity and their effectiveness in an organization from public sector. As a secondary objective, we aim to investigate if differences in popularity and performance improvements exist regarding employees' gender.

II. MATERIALS AND METHODS

Analytic Hierarchy Process (AHP)

Analytic Hierarchy Process was developed by Saaty [12], [13] and works with both qualitative and quantitative evaluation of preferences. To obtain criteria priorities, pairwise comparisons based on the fundamental verbal/numerical 1-9 scale is required ([13]: 165). The number of necessary comparisons for each comparison matrix is $n(n-1)/2$, where n is the number of criteria. Each criterion gains a geometric mean of its comparisons, which are then normalized.

An important requirement is to test consistency of our stated preferences, as human-made decisions can be mutually inconsistent because of the human nature. The most commonly used method for consistency check was developed by Saaty [12], who proposed a consistency index (CI) related to eigenvalue method. CI is obtained as

$$CI = \frac{\lambda_{\max} - n}{n - 1} \quad (1)$$

where λ_{\max} is the maximal eigenvalue of the pairwise comparison matrix. The consistency ratio (CR) is given by

$$CR = \frac{CI}{RI} \quad (2)$$

where RI is the random index obtained in Table 1.

Table 1: AHP - Random indices [12].

n	3	4	5	6	7	8	9	10
RI	.58	.9	1.12	1.24	1.32	1.41	1.45	1.49

The priorities are considered consistent if the consistency ratio is less than 10%. Super Decisions software is used to count the criteria preferences and to test consistency of the preferences.

Data

This analysis includes responses from 425 employees from a Mexican public financial institution (Institution) and its

internal database. Out of the total, 184 (43.294%) were females and 241 (56.706%) were males. The sample includes only employees who took at least one of the 14 internal training programs during the last year. These training programs aimed on developing their competences. Table 3 shows the distribution of employees in each of the 14 training programs.

All employees had to complete a reaction survey (program perception evaluation right after the last session of the training), in which they were asked to evaluate, every training program they took on a principal scale 1-5, where 1 meant poor; 2 - fair; 3 - good; 4 - very good and 5 - excellent. They evaluated aspects as: the instructor's abilities, course quality, course material, logistics and course applicability.

Figure 2 shows the structure of the model. Out of the 14 training programs, ten are open to all the employees the institution, regardless of their position, these courses are: *Individual change adaptation*; *Non-verbal communication*; *Effective communication in organizations*; *Teamwork*; *Analytical thinking*; *Planning, controlling and monitoring*; *Argumentative redaction skills*; *Orthography workshop*; *Redaction workshop* and *Speaking in public skills*. On the other hand, there are four courses aimed at the management personnel: *Feedback developing skills*; *Change management*, *Developing managerial skills* (a program for developing the managerial skills of the first-line managers and middle managers), and *Executive leadership* (a program for developing the managerial skills of the top managers).

Calculation of criteria importance

To get the importance of the training programs, we asked eight experts from HR to express their opinion. They evaluated each criterion answering the question: "how important is this criterion to develop employee's competences?" using a scale 1-5, where 1 meant *Unimportant*, 2 - *Somewhat important*, 3 - *Quite important*, 4 - *Very important* and 5 - *Extremely important*. To get the overall importance, we calculated averages from the experts' evaluations. The highest importance was given to "Course applicability" (37.600%), followed by "Instructor's abilities" (21.467%), "Course quality" (21.467%), "Course material" (12.089%) and "Logistics" (7.378%). Moreover, most of the principal criteria include sub-criteria. The experts' also evaluated preferences of these. Table 2 shows the preferences of all criteria and sub-criteria. The inconsistency of the main criteria evaluation was .739%, considering every criterion has only two sub-criteria and there is no risk of inconsistency.

To obtain the overall preference of the training programs by the employees, we used data from the Reaction survey. In this case, we counted averages in each criterion and sub-criterion. We then created evaluation scales. These scales use nine ranges of same size, considering the minimum and maximum evaluation in each criterion. We then obtain the importance of each range based on AHP methodology.

Table 2: Criteria importance (Own calculation).

Criterion	Expert's average	Importance
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Course applicability	4.750	37.600%
Instructor's abilities	4.125	21.467%
Dominance of the topic	4.500	66.667%
Group control	4.000	33.333%
Course quality	4.000	21.467%
Course Content	4.000	66.667%
Profundity level	3.625	33.333%
Course material	3.875	12.089%
Usefulness of the material	3.375	50.000%
Quality of the material	3.625	50.000%
Logistics	3.125	7.378%
Course schedule	3.625	66.667%
Classroom equipment	3.250	33.333%

III. RESULTS

The results are divided into two basic parts. First, we present and discuss the results from the general perspectives, i.e. training course evaluation without gender consideration. Second, we present the achieved results considering employees' gender. Finally, we also discuss the obtained differences between these models.

General model

The general model includes all the employees who answered the reaction survey of the training programs, regardless of their gender, in order to have a complete view of the highest and lowest preferred training programs. The most preferred training program, according to the responses, is a speech abilities workshop: *Speaking in public skills* with a preference of 100%¹, followed by a change management program: *Individual change adaptation* (83.6%) and *Teamwork* (79.87%). On the other hand, the least preferred training programs are a High-performance leadership program: *Change management* (6.9%), followed by a teamwork communication skills program: *Effective communication in organizations* (12.2%), and a Personal management skills program: *Planning, controlling and monitoring* (20.7%). We can see that there are huge differences between the most and least preferred programs. Thus, employees evaluated some training programs as poor or fair. This may be a valuable information for the HR department in order to modify training strategies. **Table 4** shows the achieved scores for all 14 training programs.

According to the results, we cannot identify one specific pattern (group) among the preferred and non-preferred programs as the top- and worst-evaluated programs cover several skills. Contents of the most preferred courses are mainly related to improvement of communication and teamwork skills. More less the same situation occurs for the least preferred courses. What is more, there are several interesting contradictions. For example, considering writing skills, employees preferred *Argumentative redaction skills*, and *Orthography workshop* (ranked in the fourth and fifth position with score 59.5% and 48.89% respectively). However, they do not prefer the *Redaction workshop* (ranked in the eleventh position with score 22.3%), despite these three

training programs have the same purpose of improving writing communications skills (**Table 4**). Therefore, there should be some aspect that influences their preferences, such as the quality of the instructor, the period they took the course, or the optional/obligatory status of the course may have affected their evaluation. However, these aspects were not a part of the model and, thus, we cannot evaluate their effect. Similarly, while employees prefer *Speaking in public skills*, on the other hand, they do not prefer: *Non-verbal communication* (39.64%), *Feedback developing skills* (23.03%), or *Effective communication in organizations* (12.23%), which all are about communication skills. Finally, there are two programs focused on change management: *Individual change adaptation* (83.55%), which is highly preferred compared to *Change management* (6.91%). The first one aims at non-management personnel and is about how to adapt to changes, whereas the second one is addressed to management personnel and its main objective is to give tools for planning and implementing changes in the Institution. Further analysis should investigate reasons of these contradictory results.

Gender differences

The general model gave us the overall perception about the training programs preferences. However, to secure that the training fulfills its objective, it is important that these training programs satisfy precisely employees' needs [10],[11]. Therefore, it is important to consider gender, as there seems to be differences in their preferences -either for a biological or for a sociocultural reason- manifested until adolescence or early adulthood, in which individuals' expectation, beliefs and attitudes induce them to perceive the tasks in question as being more congenial to an specific gender [9],[13]. **Table 4** includes results separately for females and males.

In case of females, the three most important courses are: *Speaking in public skills* (100%), followed by the change management program: *Individual change adaptation* (79.883%) and *Non-verbal communication* (72.640%). On the other hand, the three least preferred courses are: *Planning, controlling and monitoring* (18.969%), followed by the *Redaction workshop* (13.442%) and *Change management* (10.922%).

There are similarities between the general model and the female model. We can see that in both models *Speaking in public skills* is the most preferred program (100%), followed by the change management program: *Individual change adaptation* (79.883%). In this case, females prefer it less by 3.671% (which is minor difference). The same situation occurs with the least preferred courses: *Planning, controlling and monitoring* which females prefer less by 1.736%, and *Change management* which females prefer it more by 4.010%. These two programs are in 12th and 14th position respectively (**Table 4** and Figure 1). There are also differences between these two models; Compared to the general model, we can see that female employees prefer communication programs such as *Non-verbal communication* (by 32.998%), while they do not prefer the leadership program: *Executive leadership* (-18.123%). Figure 1 shows these differences graphically.

In case of males, the three most important courses are: *Speaking in public skills* (100%), followed by *Teamwork*

¹ In this article, we use the ideal scores obtained from the Super Decisions software, as we can see the proportional difference between the best alternative (100%) and the other alternatives.

(89.381%) and *Redaction workshop* (77.494%). In the other hand the least preferred courses are: *Feedback developing skills* (19.695%), followed by *Effective communication in organizations* (10.378%) and *Change management* (7.699%). The main similarity between the general model and the male model is that *Speaking in public skills* is the highly preferred program (100%). The same situation occurs with the less preferred course where *Change management* is ranked in the last position. Compare to the general model, we can see that male employees prefer more the *Redaction workshop* (+55.203%), while they prefer less the *Non-verbal*

communication program (-17.812%). Figure 1 shows these differences graphically.

Finally, we can compare the differences between female and male employees. Figure 1 also includes a comparative in which we can see that female employees prefer more the communication programs such as *Non-verbal communication* (+50.810%), *Feedback developing skills* (+17.231%) and *Effective communication in organizations* (+16.290%). On the other hand, males prefer much more the *Redaction workshop* (+64.052%), and the Leadership program *Executive leadership* (+43.349%).

Figure 1: Differences between training courses preferences regarding gender.

Perspective Training programs	General Score	Preferences			
		Female Vs. General	Male Vs. General	Female Vs. Male	Female Vs. Male
Analytical thinking	43.038%	5.026%	8.329%	3.354%	
Argumentative redaction skills	59.497%	14.344%	0.955%	5.299%	
Change management	6.912%	4.010%	0.787%	3.223%	
Developing managerial skills	45.094%	1.715%	5.374%	3.659%	
Effective communication in organizations	12.233%	14.436%	1.854%	16.290%	
Executive leadership	44.944%	18.123%	25.226%	43.349%	
Feedback developing skills	23.034%	13.891%	3.340%	17.231%	
Individual change adaptation	83.554%	-3.671%	-6.434%	2.763%	
Non-verbal communication	39.642%	32.998%	7.812%	50.810%	
Orthography workshop	48.892%	11.210%	6.426%	7.636%	
Planning, controlling and monitoring	20.705%	-1.736%	6.485%	8.222%	
Redaction workshop	22.290%	-8.849%	55.203%	64.052%	
Speaking in public skills	100.000%	0.000%	0.000%	0.000%	
Teamwork	79.874%	-15.335%	9.507%	-24.843%	

I. DISCUSSION

The aim of this study was to reveal the relationship that exists between fourteen competencies training programs, their popularity and their effectiveness. Once we have compared the average performance evaluation of people before and after taking the training programs, the achieved results indicate that there is no correlation among the most preferred courses and their impact on the performance evaluation (Figure 3). Moreover, most of the courses seems to have a negative impact for the Institution as the employees' performance decreases after training. The reason of this inconsistency might have several reasons. First, the existence of a weak performance evaluation system, which it is not linked to the need for developing and assessing a specific competence, so it does not give accurate information that could help us to evaluate the training programs beyond the perception of the employees. In other words, we cannot establish a direct relation between the performance evaluation system and a training interventions plan. Second, there is the risk of subjectivity when evaluating competences in a performance evaluation, as consequence of how managers respond in terms of their cognition, affectivity, and behavior ([15]: 26). The use of "subjectivity allows them to exploit any additional information that arises during the measurement period to the benefit of both the firm and the employee" ([16]: 410). In this article, because of the structure of the performance evaluation,

there is no chance to refer to concrete facts in order to avoid the subjectivity ([17]: 252), though action has been taken, offering, as we saw before, Feedback programs to the management personnel. In conclusion, even though it is important to design training programs that capture employees' preferences, this is not the only thing to consider when we are going to spend a lot of money on specific courses. Deeper analyses should be done in order to have enough information about the needs of improving competences on every department and the Institution as whole. As well, as it is true that the Institution should pursue an improving on the performance through training, so it is that the Institution should have the tools to evaluate the impact of it.

II. CONCLUSION

It is undeniable the importance of a well-planned training program capable of fulfilling the expectations of improving the employees' skills, in order to achieve a faster company growth. To guaranty the popularity of future training programs, it is vital to consider the employees' preferences, as well as the gender differences, to adapt the new proposals regarding training. In this article, we have analyzed 425 employees' preferences to specific training programs. The results indicate female's preference for communication programs (such as *Non-verbal communication* and feedback), whereas males showed preference for leadership. The results should be a reference for future training programs. We could

assume that the least preferred programs are those which employees do not consider relevant for their functions, or they cannot apply immediately. In that case, the Institution would have to work in developing communication skills in men and leadership in women, through programs that raise awareness about the importance of these competences. However, it is also necessary to evaluate the content of every course in order to assure that the differences in the preferences are not the result of a tenure approach favoring one gender over the other. In further investigation it would be necessary to evaluate separately the preferences by generations to have a complete landscape of the current situation of the Institution.

Moreover, it is necessary to evaluate every training program to analyze the impact of the training efforts on the results of the Institution. So, it is vital to have a strong performance evaluation system as the main source of hard data beyond the perception that employees might have of the program (though the subjectivity seems to be an important part of the process).

III. REFERENCES

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APPENDIX

Table 3: Descriptive statistics of the sample.

Training Programs	Males	Females	General
Analytical thinking	41 (17.012%)	33 (17.935%)	74 (17.412%)
Planning, controlling and monitoring	43 (17.842%)	28 (15.217%)	71 (16.706%)
Individual change adaptation	15 (6.224%)	29 (15.761%)	44 (10.353%)
Teamwork	19 (7.884%)	15 (8.152%)	34 (8.000%)
Developing managerial skills	22 (9.129%)	11 (05.978%)	33 (7.765%)
Non-verbal communication	15 (6.224%)	14 (7.609%)	29 (6.824%)
Feedback developing skills	17 (7.054%)	9 (4.891%)	26 (6.118%)
Executive leadership	16 (6.639%)	9 (4.891%)	25 (5.882%)
Effective communication in organizations	12 (4.979%)	8 (4.348%)	20 (4.706%)
Speaking in public skills	14 (5.809%)	5 (2.717%)	19 (4.471%)
Argumentative redaction skills	10 (04.149%)	8 (4.348%)	18 (4.235%)
Orthography workshop	7 (2.905%)	7 (3.804%)	14 (3.294%)
Change management	6 (2.490%)	5 (2.717%)	11 (2.588%)
Redaction workshop	4 (1.660%)	3 (1.630%)	7 (1.647%)
Total	241 (56.706%)	184 (43.294%)	425 (100.000%)

Figure 2: Structure of the AHP Model.

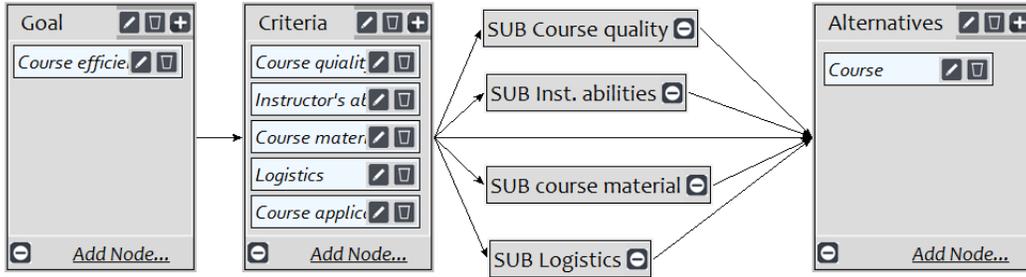


Table 4: Training programs preferences (Own elaboration).

Training program	General Position	General Score	Male Position	Male Score	Female Position	Female Score
Individual change adaptation	2	83.554%	4	77.121%	2	79.883%
Non-verbal communication	9	39.642%	11	21.830%	3	72.640%
Effective communication in organizations	13	12.233%	13	10.378%	11	26.669%
Feedback developing skills	10	23.034%	12	19.695%	9	36.925%
Teamwork	3	79.874%	2	89.381%	4	64.538%
Change management	14	6.912%	14	7.699%	14	10.922%
Analytical thinking	8	43.038%	9	34.710%	6	48.064%
Planning, controlling and monitoring	12	20.705%	10	27.191%	12	18.969%
Developing managerial skills	6	45.094%	7	50.468%	7	46.809%
Executive leadership	7	44.944%	6	70.170%	10	26.821%
Argumentative redaction skills	4	59.497%	5	70.452%	8	45.153%
Orthography workshop	5	48.892%	8	42.466%	5	60.102%
Redaction workshop	11	22.290%	3	77.494%	13	13.442%
Speaking in public skills	1	100.000%	1	100.000%	1	100.000%
Average	-	40.23%	-	52.51%	-	46.496%

Figure 3: Comparative Training programs/Performance improving.

