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Web-Based Corporate Training in Brazil: An Exploratory Investigation into Key Success Factors

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ABSTRACT

Brazilian companies are increasingly turning to Web-based corporate training by virtue of the fact that they need to train their employees within tight budget constraints. However, most companies do not know what the critical success factors in these endeavors are. Therefore, this article seeks to investigate some key success factors associated with such digital enterprises. In order to achieve this, the multiple case study method is used, whereby two cases leading to opposite outcomes – a success and a failure – are analyzed in depth. Comparisons were made of two cases, both conducted within the same major Brazilian company, by using quantitative data analysis based on bi- and multivariate linear regressions, as well as a comparison of averages vis-à-vis the theoretical framework adopted for assessing web-based training. The conclusions reached were that “Goal Orientation”, “Source of Motivation”, and “Metacognitive Support” were the three critical dimensions in web-based corporate training.

INTRODUCTION

Nowadays, market dynamics are becoming increasingly intense due to new strategic orientations and the pressing need for businesses to adapt themselves to new business models and regulatory frameworks. For this reason, it is of paramount importance for companies to become agile, as well as achieve low-costs and high returns on investment associated with their employee training programs. On the other hand, the high costs of face-to-face training programs, plus the logistic hurdles linked with their deployment, as well as the increasing speed of obsolescence in training content, are major barriers to the implementation of such face-to-face training programs.

While being a key factor for developing feasible training programs, information technology *per se* is not a guarantee of success for these endeavors. Most of the time, it must be linked to pedagogical and didactical issues related to them. The specific characteristics of each training program must be analyzed in depth and considered as relevant as the implementation costs throughout the decision-making process (Clark, 1983).

The structuring of Web-based training programs is no easy task as, according to several scholars various critical success factors must be taken into consideration (see, for instance, Carey *et al.*, 1998; Penuel & Roschelle, 1999).

In line with this, this article seeks to investigate what these critical factors are through the analysis of two distinct Web-based training programs. Hence, the research question in this paper is: “What are the critical success factors associated with the implementation of Web-based corporate training programs?”

In order to achieve this goal, this work is structured as follows. First, there is a section addressing the theoretical references used in this article. Then, the research method is outlined. After that, the two cases under analysis are described and in the next section the results accrued from them are compared. In the last section, the author presents some final comments.

THEORETICAL REFERENCE

Assessment of Web-Based Corporate Training Programs

Often, the departments of a company need to develop corporate distance-training programs via the Web. In some organizations, Web-based training programs were designed purely to justify the costs of the corporate intranet (Powell, 2000). However, the use of technology *per se* cannot be considered a justification for implementing any kind of training, as stated by Rosemberg, (2001), Bregman & Jacobsen (2000), Bates (1995) and Kay (1970), to name but a few.

In order to develop a comparative analysis between Web-based training programs, it is necessary to adopt a specific framework. In this paper, the model proposed by Reeves & Reeves (1997) is applied to identify and evaluate the distinct dimensions involved in Web-based training, as explained below. This model has applications in the research, implementation and evaluation of Web-based training programs such as those analyzed in this paper.

It is important to stress that the model developed by Reeves & Reeves (1997) does not propose to evaluate either the outcome of a Web-based training program, or its success or failure. Indeed, the overriding purpose of this model is to characterize the different aspects and facets of this kind of program (Reeves, 1997).

The adopted model includes ten dimensions of interactive learning on the World Wide Web, namely: (1) pedagogical philosophy, (2) learning theory, (3) goal orientation, (4) task orientation, (5) source of motivation, (6) teacher role, (7) metacognitive support, (8) collaborative learning, (9) cultural sensitivity, and (10) structural flexibility.

Each of the ten dimensions in this model is presented as a two-ended *continuum* with contrasting values at either end. Needless to say, the world is rarely dichotomous and there is more complexity involved in training than any of these dimensions suggest. However, the individual dimensions themselves are not as important as the interplay among the ten dimensions that represent the instructional designs of various Web-based training programs.

Table 1 below depicts the ten dimensions defined for analyzing Web-based training programs, as supported by Reeves & Reeves (1997). For each dimension (in the central column of the table), the opposite poles of the adopted ratio scale (ranging from 0 to 10) are described and their meanings explained.

RESEARCH METHOD

The multiple case study method as described by Yin (1994) was adopted in this research, in which two Web-based distance-training programs were analyzed in-depth.

Case studies are particularly suitable for answering “how” and “why” questions, and are ideal for generating and building theory in an area where little data or theory exists (Yin, 1994), as in this knowledge field. It also enables researchers to use “controlled opportunism” to respond flexibly to new discoveries made while collecting new data (Eisenhardt, 1994), as was done and is presented below in this work.

Notwithstanding having a major exploratory facet, this study also presents explanatory characteristics, as a causal relationship between the dimensions of the programs analyzed (Reeves & Reeves, 1997) and the respective outcomes are pursued

Yin (1994, p.46) argues that in the multiple case study method, each case must be carefully selected, so as to generate either similar or opposing results.

In line with this, a company was chosen (the identity of which is confidential) and two Web-based training programs it developed and staged were selected, each one generating contrasting final results.

The first case – hereinafter referred to as “Program A” – was considered a success as it achieved its main objectives. The second case – hereinafter named “Program B” – developed by the same company, was considered a failure, as most of its targets were not accomplished.

In order to comply with Yin’s (1994) ideas necessary to validate this case study method, the following four issues were cautiously taken into consideration, namely: construction validity, internal validity, external validity and reliability, as revealed below.

←	Dimension	→
Instructivist Knowledge is imparted by the instructor	Pedagogical Philosophy 0 - 10	Constructivist Knowledge is constructed – both individually and socially – by the students
Behavioral Emphasis on observable behavior	Learning Theory 0 - 10	Cognitive Emphasis on internal mental states
Sharp Direct instruction focusing on desired behavior	Goal Orientation 0 - 10	Broad Simulations encompassing more than just a solution for the problem
Academic Emphasis on traditional academic exercises	Task Orientation 0 - 10	Authentic Emphasis on practical activities
Extrinsic Motivation lies outside the learning environment	Source of Motivation 0 - 10	Intrinsic Motivation lies in the student and the learning environment
Didactic The teacher is considered to be a knowledge repository	Teacher Role 0 - 10	Facilitative The teacher is a mentor and tutor for the students
Unsupported There are no student progress tracking mechanisms or adjustments to individual needs	Metacognitive Support 0 - 10	Integrated Student progress tracking mechanisms are implemented, as well as adjustments to individual needs
Unsupported Students work alone	Collaborative Learning 0 - 10	Integrated Students work together in pairs or in small groups
Insensitive Training is prepared regardless of the culture and diversity of the learners it seeks to address	Cultural Sensitivity 0 - 10	Respectful Training is based on the diversity of the populations where the system will be used
Fixed Program limited to specific places at specific times	Structural Flexibility 0 - 10	Open Program independent of time and/or location constraints

Table 1: Dimensions to evaluate the characteristics of Web-based distance training

(Adapted from Martin, 1998 and Joia, 2001).

Construct Validity

In order to validate the “Key Success Factors in Web-based Corporate Training” construct, multiple data sources were used, and also a chain of evidence related to research questions was pursued. The existing records associated with these projects were analyzed in depth. The managers of both programs were located in the company and interviewed – there was a single manager for the first case (“Program A”) and two managers for the second case (“Program B”).

Questionnaires were circulated among the training users. These questionnaires sought to establish their perceptions relating to the ten dimensions proposed by the Reeves & Reeves (1997) model. In addition to this, the users also revealed their perceptions about the rate of accomplishment of objectives of each program *vis-à-vis* the actual objectives proposed for the programs in their initial designs.

In line with the ideas proposed by Reeves & Reeves (1997), the minimum value of the scale (0) indicates that a dimension is fully aligned with the *behaviorist* paradigm, whereas the maximum value of the same scale (10) proves that a dimension is fully aligned with the *constructivist* paradigm (Joia, 2001). Moreover, the maximum value of the scale (10) associated with the “Accomplishment of Training Objectives” indicates user perception of complete success for the training program, whereas the minimum value (0) points to user perception of total failure for the training program.

The aforementioned questionnaires were answered by 32 users of the first case analyzed (“Program A”) and 31 users of the second case (“Program B”).

Internal Validity

While having a clear exploratory approach, this work also addressed some explanatory elements used to verify the possible causal effects between the theoretical dimensions of the theoretical model and the training outcomes. This was done to support the internal validity of this research, in accordance with the recommendations of Morra & Friedlander (1999).

The first analysis conducted sought to compare user perceptions about the rate of accomplishment of objectives for the two programs, in order to verify whether or not the respective average of these grades could be considered statistically distinct.

Once the difference between user perceptions regarding the rate of accomplishment of objectives for each program was recorded, a statistical comparison of user perception averages associated with each dimension of the theoretical model applied was performed. Since it had already been seen that the two programs presented statistical differences with respect to their outcomes, namely success and failure, the dimensions that didn’t present statistically significant differences within the two programs were discarded as not being critical success factors.

Thus, from this prior comparison, two dimensions of the Reeves & Reeves (1997) model were removed, leaving eight dimensions to be analyzed further. In order to achieve this, a multivariate linear regression was used, where the rate of accomplishment of training objectives was the dependent variable while the grades given by the users to each of the eight remaining dimensions of the model served as the independent variables. The significance level of each coefficient associated with these dimensions (independent variables) was then calculated and analyzed, while the dimensions whose coefficients did not present evidence of linear correlation with the dependent variable (accomplishment of objectives) were discarded.

The above procedure highlighted three dimensions, which could be considered critical success factors for the training programs analyzed.

Lastly, as a final quantitative validation, a simple linear regression was performed on each dimension removed from the study for not being related to the accomplishment of training objectives. The simple regressions supported that these factors did not possess a fair linear correlation with the objectives of the training programs.

External Validity

The external validity addresses whether or not the findings accrued from this research can be generalized for other similar cases not yet studied (Yin, 1994, p.35). This work investigated the same factors related to two distinct cases developed by the same company, so as to support the external validity of this research, i.e., enabling the results to be applied in other cases within the same firm analyzed. However, as the questionnaires were answered by only 32 users of “Program A” and 31 users of “Program B”, the outcomes accrued from this research may not be replicated in other environments. This must be considered a limitation of this research.

Reliability

A protocol for documentation of the adopted procedures was developed to guarantee the reliability of this study. A digital data repository was also created to store all information gathered during the data collection stage.

This repository stores the data-set acquired during the field research for this investigation, as well as all the results accrued from the statistical analysis performed.

CASE DESCRIPTION

The Company

The company under analysis is a major Brazilian firm in the Information Technology industry.

With its nationwide presence, this company faces a perpetual challenge regarding implementation of face-to-face corporate training programs, due to budget constraints. Therefore, it is in this context that the two training programs, namely “Program A” and “Program B” were elaborated and implemented.

“Program A”

“Program A”, considered a successful case by the company, is a mandatory corporate distance training program for all managers, namely its main target audience. Any employee who is promoted to a managerial function is obliged to take this course within a maximum timeframe of one year.

This training program lasts nine months and consists of three distinct stages that encompass distance and face-to-face training. The focus of this program lies in the development of leadership skills and is based on the premise that, rather than being an isolated event, learning is a continuous process throughout the professional’s lifetime. “Program A” uses several information technology tools, such as intranet that is heavily deployed to provide information considered essential for the managers of the company.

Stage I (Pre-Learning Laboratory) is developed on-line, in a distance-based training format. This stage lasts from five to six months and is an individual activity that demands between 48 and 56 hours of study.

Stage II (Learning Laboratory) is a face-to-face experience lasting five days. The professionals must have successfully completed Stage I before embarking on this second stage. This Learning Laboratory takes place in the headquarter of the company.

Stage III (Post-Learning Laboratory), like Stage I, is developed on a distance-training basis. This stage focuses on collaborative learning via the company’s intranet, as well as the team room and tools like instant messaging.

Throughout the duration of the course, a facilitator is previously assigned and available to take part in the program, in order to resolve any doubts the professionals may have, to supply the students with suggestions and to help them to solve general problems.

The educational targets of “Program A” – according to the firm – are: to develop the best managers for the company; to provide information and training to the company’s managers in an efficient and effective way; to develop and foster leadership and human resources management skills through Web-based training, field experience and coaching; and to support a lifelong learning process.

According to an interview with the manager of “Program A”, this program is considered a success, having fully achieved its targets.

Furthermore, thirty-two users of “Program A” answered the questionnaire developed for this research and evaluated their participation on this training program as a highly positive experience (average of 8.5 and standard deviation of 1.32 in a ratio scale ranging from 0 to 10), therefore it may be considered that the objectives were achieved. All of the thirty-two respondents were managers of the company.

“Program B”

“Program B” started at the beginning of 2000, initially as an effort to provide and make information available to employees located in the various different offices of the company nationwide.

The design and development of the program was organized by the company’s IT (Information Technology) team, supported by the basic premise of using the corporate intranet to publish all the content considered relevant.

The first version of the program gathered and consolidated all different information already published in the intranet under a single site with a unique index for conducting searches. For this purpose, a team of five employees from two different business units was formed to assist the IT area in the identification and classification of information.

Once the information had been duly identified and classified, the IT area began to configure the program, so as feature distinct courses categorized by subject. These courses could then be accessed by any employee via the intranet. Consequently, for each course implemented, a “Program Manager” was chosen to be in charge of developing the assessment questions (multiple-choice based) having privileged access to the answers given by the students.

After an initial test period – based on just one course developed for a specific group of employees – three distinct courses were made available – two of them focusing on specific processes of the firm, and the third addressing technical content.

The main target of this training program was to reduce the costs involved in corporate training, as well as to diminish the adaptation and training time for newly hired professionals to become accustomed to the processes and technological standards used by the organization.

After less than one year, having failed to achieve its objectives, the program was redesigned.

Thirty-one users of “Program B” answered the questionnaire distributed by the researcher. In essence, they evaluated the experience of taking part in this program as negative since the aims were not achieved (average of 4.52 and standard deviation of 1.15 in a ratio scale ranging from 0 to 10).

This evaluation from these employees tallied with the opinion of the program managers, as they stressed that the objectives of this program were not achieved.

COMPARISON OF RESULTS

Initially, it is necessary to analyze the differences pointed out by both the program managers and users concerning the achievement of objectives of the training programs. According to the assessment of the manager of “Program A”, the objectives of the training were fully achieved and in his/her general evaluation the program was rated as “very good”. Conversely, the managers of “Program B” realized that the main targets of this program were not achieved, which led the program to be redesigned. Thus, according to the managers’ perceptions, it becomes clear the difference related to achievement of objectives between the two programs.

In order to analyze user perceptions related to the programs, it is necessary to evaluate the difference between the average grades given by the students to each one of the programs. The average user evaluation grade regarding the achievement of objectives in “Program A” was 8.5 ($s=1.32$; $n=21$, on a ratio scale of 0 to 10), whereas the same value concerning “Program B” was 4.52 ($s=1.32$; $n=32$; on a ratio scale of 0 to 10). This difference between the averages seems to tally with the opinion of the program managers. However, it is necessary to apply a statistical test (t-test) to compare the average of each program, so as to establish whether or not they can be considered different according to a statistical level of significance.

Table 2 below depicts the results accrued from the comparison of employees’ evaluation averages related to the achievement of objectives of the training programs.

From the results presented in Table 2, it is clear that there is a significant statistical difference between user perception averages related to the achievement of objectives of the training programs ($p < 5\%$). Furthermore, it can be observed that the interval of confidence doesn’t encompass zero, i.e., it is all positive. Thus, it is possible to support, with 5% of significance level that the averages are different and the average of “Program A” is greater than the average of “Program B”. (Sincich, 1995, p.532).

From the comparative analysis of user evaluation averages for each program and the match found between these evaluations and those of the program managers, it can be argued that with respect to “Accomplishment of Objectives”, “Program A” achieved better results than “Program B”.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed) (p)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Achievement of Objectives	.202	.655	12.752	61	.000	3.98	.31	3.36	4.61

Table 2: Comparison of Averages related to “Achievement of Objectives”, according to the Users of the Training Programs

On the basis of this the factors that influenced these results were researched, based on the theoretical model adopted in this article. Consequently, the evaluation averages of each dimension of the Reeves & Reeves' (1997) model were analyzed in order to find out which ones actually had an impact on the results depicted above.

Similarly, the dimensions that presented statistical significant differences in the sample averages for each program were examined, as these are the dimensions that can be considered to be influential in the achievement of objectives of each Web-based corporate training program analyzed. Table 3 below compares the averages related to each dimension of the programs under analysis, according to the frame of Reeves & Reeves (1997).

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed) (p)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Pedagogical Philosophy	.010	.919	.511	61	.611	.11	.23	-.34	.56
Learning Theory	55.065	.000	2.470	61	.016	.52	.21	.09	.94
Goal Orientation	4.285	.043	6.239	61	.000	1.36	.22	.92	1.79
Task Orientation	16.813	.000	4.963	61	.000	1.03	.21	.61	1.44
Source of Motivation	8.686	.005	4.951	61	.000	1.15	.23	.68	1.61
Teacher Role	28.837	.000	6.790	61	.000	2.56	.38	1.81	3.31
Metacognitive Support	68.946	.000	9.747	61	.000	1.94	.20	1.54	2.33
Collaborative Learning	129.092	.000	3.760	61	.000	.78	.21	.37	1.20
Cultural Sensitivity	20.583	.000	7.756	61	.000	1.00	.13	.74	1.26
Structural Flexibility	.943	.335	-.751	61	.455	-.19	.26	-.71	.32

Table 3: Comparison of the Averages of the Dimension Samples of the Model

As can be seen in Table 3, there is no difference in the Pedagogical Philosophy and Structural Flexibility dimensions in the two cases, with a 5% level of statistical significance ($p > 0.05$). Hence, these dimensions can be disregarded as critical success factors in Web-based corporate training. Based on this result, a multiple linear regression between the Achievement of

Objectives (dependent variable) and the eight dimensions that presented significantly distinct averages (independents variables) was run. The intention was to verify which variables could be considered truly influential in the outcomes achieved. It is important to stress that this regression seeks to verify the impact of each dimension on the outcomes of the programs under analysis, rather than to predict the outcomes of similar programs based on the dimensions of the model proposed by Reeves & Reeves (1997).

Table 4 below depicts the summary of the statistical values accrued from this multiple regression.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.847(a)	.717	.675	1.34
(a) Predictors: (Constant), Cultural Sensitivity, Learning Theory, Source of Motivation, Goal Orientation, Teacher Role, Task Orientation, Collaborative Learning, Metacognitive Support				

Table 4: Summary of the Linear Regression of the Dimensions of the Model

This summary supports the validity of using the eight dimensions of the theoretical model (*Predictors*) to forecast the achievement of objectives for each case studied (in the summary, the “R” column represents the correlation coefficient and the “R Square” column represents the determination coefficient). From these data, it can be argued that nearly 70% (0.675) of the variance of the “Achievement of Objectives” variable can be explained by the dimensions included in this regression.

After validation of the model, an attempt was made to verify which coefficients, namely the dimensions of the model applied, actually influenced the Achievement of Objectives of Web-based training programs. Table 5 below presents the summary of the statistics related to the coefficients of the regression model.

Coefficients(a)									
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. (p)	95% Confidence Interval for B		Co-linearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	2.160	.547		3.950	.000	1.063	3.256		
Learning Theory	-4.589E-02	.230	-.017	-.200	.843	-.507	.415	.727	1.376
Goal Orientation	.486	.211	.226	2.299	.025	.062	.910	.541	1.849
Task Orientation	-.215	.256	-.088	-.839	.405	-.729	.299	.475	2.105
Source of Motivation	.845	.209	.388	4.046	.000	.426	1.263	.571	1.753
Teacher Role	.100	.124	.084	.805	.424	-.149	.349	.486	2.058
Metacognitive Support	.645	.228	.342	2.833	.006	.189	1.101	.359	2.785
Collaborative Learning	.108	.271	.042	.399	.691	-.436	.652	.478	2.090
Cultural Sensitivity	.288	.384	.087	.750	.457	-.481	1.057	.387	2.587

Dependent Variable: Achievement of Objectives

Table 5: Analysis of the Statistical Significance of the Coefficients of Linear Regression of Model Dimensions

From the results depicted in Table 5, it can be deduced that, with 5% of level of significance, the Learning Theory, Task Orientation, Teacher Role, Collaborative Learning and Cultural Sensitivity dimensions did not show evidence of any statistically significant linear relationship with “Achievement of Objectives”

In order to strengthen the results accrued from this multiple linear regression, with respect to the lack of evidence of any linear relationship of the Learning Theory, Task Orientation, Teacher Role, Collaborative Learning and Cultural Sensitivity variables, a simple linear regression of each of these variables *vis-à-vis* the “Achievement of Objectives” was performed. Table 6 presents the summary of the results accrued from these four simple regressions.

As can be observed from analysis of the correlation coefficient (column “R”) and the determination coefficient (column “R Square”) of the four simple regressions, these variables did not effectively have any bearing on the “Achievement of Objectives” variable (“R Square” smaller than 0.3).

Lastly, a final statistical analysis was performed. Analyzing the results of the multiple linear regression of the three variables selected as influential in the achievement of objectives of the training programs – Goal Orientation, Source of Motivation and Metacognitive Support – it can be seen that this model is very similar to the former multiple regression model, which took eight variables into consideration. Table 7 portrays a summary of this model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1(a)	.291(a)	.085	.070	2.27
2(b)	.494(a)	.244	.232	2.06
3(c)	.524(a)	.275	.263	2.02
4(d)	.462(a)	.213	.200	2.11
5(e)	.514(a)	.265	.253	2.04
(a) Predictors: (Constant), Learning Theory				
(b) Predictors: (Constant), Collaborative Learning				
(c) Predictors: (Constant), Task Orientation				
(d) Predictors: (Constant), Teacher Role				
(e) Predictors: (Constant), Cultural Sensitivity				

Table 6: Summary of the Simple Linear Regression Models of the Variables Discarded in Multiple Linear Regression

Summary of the Regression				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.838(a)	.703	.688	1.32
(a) Predictors: (Constant), Metacognitive Support, Source of Motivation, Goal Orientation				

Table 7: Summary of the Linear Regression of the “Metacognitive Support”, “Source of Motivation” and “Goal Orientation” Dimensions

FINAL REMARKS

Based on the comparison of averages and on the linear relationship between the dimensions of the model developed by Reeves & Reeves (1997) and the achievement of objectives of the training programs, it can be concluded that the dimensions that effectively had a major impact on the outcomes of training programs A and B were: Goal Orientation, Source of Motivation and Metacognitive Support.

The low averages observed for the Goal Orientation dimension (2.94 for “Program A” and 1.58 for “Program B”) indicate that the objectives of both programs were more specific than generic. However, it is important to realize that the relevance of this dimension duly corroborates the ideas of several authors who argue the need for a clear goal for the success of a distance training program (Dick & Carey, 1996; Kay *et al.*, 1970; Mager, 1972; Sancho, 1998, to name just a few).

“Program B” – with an average of 1.06 – had hardly any Metacognitive Support, whereas “Program A” – with an average of 3.00 – revealed a certain level of implementation of this dimension. Once again, based on data collected from informal interviews, the users of “Program B” declared that there was no tool for students to track their progression during this training program

Moreover, regarding Metacognitive Support, the actual description of the features available in “Program B” to students, from the program managers’ perspective, namely access via intranet and multiple choice questionnaires, reveals and supports the lack of means for users to assess their learning strategies in a timely manner.

On the other hand, “Program A” did indeed provide some opportunities for students to develop the kind of assessment addressed above. The tool upon which this program was built allowed the users to track their outcomes at each stage of training, as well as the percentage of total time available to complete the course, and the estimated total time necessary to accomplish each stage of the program. Furthermore, “Program A” allowed the students to check back on contents they had already studied on the course, thereby enabling them to control their learning process, as suggested, for instance, by Campbell *et al.* (2000), Costa *et al.* (1998) and Nevado *et al.* (2004).

Lastly, “Program B” users’ assessment concerning the Source of Motivation dimension produced an average of 1.26, indicating that user motivation was mostly extrinsic. While similar results were found in “Program A” (average of 2.41), it becomes clear that, in this case, there was at least some prior intrinsic motivation during the training program *per se*, probably due to the fact that these employees had just been promoted to managers. Thus, it can be considered that rather than being motivated by the course, the students were supposed to be motivated by the company and their careers – a claim supported by interviews developed with five users of “Program A”.

Conversely, the users of “Program B” did not appear to be motivated to take part, except for “fictitious” motivation based on the mandatory nature of the program.

Interestingly, this result complies with the ideas of Carroll (1968) and Amabile (1993) about the importance of taking motivation into account in any pedagogical model.

Hence, from the comparison of the two cases, the following items can be considered key success factors in these Web-based training programs:

- Clear definition of training content, target employees and objectives of the program;
- User motivation;
- The implementation of Web-based metacognitive support.

From the analysis of training programs A and B, this work is considered to have achieved its principal aim, namely to identify the critical success factors in developing Web-based corporate distance-training programs.

This paper does not claim to be the ultimate research in this knowledge field, as the subject deserves far more study and investigation. Research involving a larger number of companies and focusing on each specific dimension involved in the development of Web-based distance training programs might reveal other important issues related to this realm, in order to allow the organizations to better understand, improve and measure the outcomes of these endeavors.

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