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INVESTIGATING THE IMPACT OF E-LEARNING AS AN ALTERNATIVE FOR BUSINESS EDUCATION IN PHARMACEUTICAL INDUSTRY IN ROMANIA BY ROI METHODOLOGY

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Abstract

The capability of organizations to accumulate and apply new knowledge is a key factor in order to achieve the new competitive standards. A continuous changing diversity, to which the need of adaptation to the changes of external environment is added, speeds up the rate of development and business education. The new information and communication technologies speed up the rate of change and increase the need of education that is subject to a higher information flow. The achievements of information technology, along with changes within society, determine the creation of new paradigms for business education and training. Under these circumstances, e-learning has become one of the main educational forms of human resources in business. This research aims to measure the impact of some initiatives within human resources on an organization, market leader within pharmaceutical field, namely measuring the efficiency of business education programs concerning human resources through e-learning. Under these circumstances, the carried-out research aims to put into practice the theoretical frame of ROI (Return on Investment) methodology of evaluating the business education programs concerning human resources in five stages, suggested by J. J. Phillips. The research validates theoretical data of the surveyed model and it is based on the analysis of the data gathering process within the ROI Methodology. This work shows only aspects related to the measuring of the participants' reaction towards the e-learning business education program, respectively.

Keywords: E-learning, business education, ROI methodology, pharmaceutical industry, Romania, feedback from trainees.

JEL Classification: A20, I25, L80, M12, M53

Introduction

At present, a special focus on a continuous education process is laid within organizations, thing that may bring those improvements required to get the expected success. Business education has to penetrate all the organization levels, aspect with significant implications as far as its structure is concerned. The internal environment has to allow free circulation of

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knowledge through the functional structure of the organization, and the external environment (especially suppliers and customers) has to maintain the need of education within organization. Hence the special significance that should be provided to the creation of a culture of business education within organization.

As a result, one of the most important characteristics of an organization is its business education capability, this being its opportunity to adapt to a continuously changing world. Human resources education is a systematic and planned activity, subject to this goal, and aims to achieve and improve employees' competencies and knowledge.

Thus, a modern business education system becomes a vital requirement for any organization in order to develop and maintain the high professional standards of its own human resources. Therefore, organizations spend a considerable share from their budgets for the training of their own personnel.

With the increasing of costs related to some higher education, many organizations try to find out the value of business education based on the employees' performance and continuous growth of organization. This issue is generally emphasized by the return of investment (ROI) in human resources education in business. At the same time, as learning and developing of skills become increasingly necessary and integrated with the business strategies, the requirement to evaluate efficiency of business education is increasingly important for the efficient use of human resources and improvement of organization performances. This evaluation process is generated by the fact that the human potential is the creator, active and coordinating element of economic activity, and its use to its entire value is the main way to increase economic efficiency of the business.

In the current economic context, wherein the human resources function increasingly becomes a strategic function, and costs have become prior in establishing strategies, the evaluation of investment efficiency in business education is an important and present-day topic.

The decision to invest in human resources education of organizations, with the maintaining or increasing budgets allotted to them nowadays, will exist within organizations but, the difference compared to the previous periods, will be provided by the strict selection of business education programs with sudden and maximum impact on the business of organization. Under these circumstances, adopting some benefit evaluation methodologies generated by initiatives in human resources will be a solution to the programs that aim to improve their activity based on a better cost management.

The ROI methodology is a systematic, analytical and comprehensive measuring and evaluation tool. The ROI methodology helps to emphasize the way in which business education programs contribute to the success of organizations, simultaneously developing strategic analysis and decision making abilities.

The increasingly interest for ROI has been and it is influenced by a series of factors. Therefore, the pressure of beneficiaries of business education programs and organization managers in proving profitability of business education investments is perhaps, the most influent element. What is more, the economic pressures impose an intense control of all the expenses, including the business education costs of human resources within the organizations. The general trend towards the responsibility of all decision makers in the organizations has imposed to the human resources departments to evaluate their own

contribution in achieving the objectives of the organizations. All these have created an unprecedented request for applications concerning ROI evaluation process.

The information technology progresses, together with the changes within society, determine the creation of new paradigms for education and training in business. These massive changes have an important impact on the educational systems and on the business education systems. The participants to this educational and training paradigm require learning environments that are sustained by well-conceived resources (Armstrong, 2003, 2006). Under these circumstances, e-learning has become one of the main educational and training forms of human resources in business, the ensuring of the conditions necessary to the generalization of modern communication being imperative (Lazăr and Bunda, 2012).

The experience of organizations that have implemented the e-learning based education system within the educational programs has emphasized that the major issue of business education of human resources is how e-learning can assure the trainee focus, easy access to the educational content, recruitment opportunities as a result of human resources education, the efficiency of the educational process, the quantification of benefits, obtained following business education etc.

This research has as objective the measuring of the impact concerning some initiatives within human resources on organization, efficiency measuring of e-learning training programs of human resources within an organization, respectively.

Under the circumstances, the carried-out research aims to put into practice the theoretical frame of the ROI Methodology of evaluating the human resources in business training programs in five stages, suggested by Dr. Jack J. Phillips. He developed D.L. Kirkpatrick's four-level model, by adding the fifth level, named ROI, which consists in measuring the investment return of training human resources in organizations. The practical application is accompanied by a statistical analysis that validates the theoretical data of the analysed model.

The research is focused on the analysis of Data collection process within the ROI Methodology. This paper shows only the results related to the first stage, respectively the measuring of the participants' feedback towards the e-learning business education program – as a whole, their satisfaction regarding education: the participants' perceptions in relation to business education; the participants' beliefs about the value and the usefulness of business education; the extent to which they consider that the accumulated knowledge and competencies will be useful at work. The results in this paper are comprised in a more extensive research, aiming to evaluate results identified in an organization after completing an e-learning business education program of human resources, on the same time focusing on the way in which e-learning training determines the efficiency of human resources business education programs.

In a period when within the organizations it is necessary to optimize the budget allotted to business education that is increasingly restricted, it is important to know how it is possible to evaluate correctly an investment return in a business education program, as well as how it is possible to show the effective, sustainable results of such an investment in front of the top management.

The efficiency of a business education program can be evaluated by determining the **trainees' feedback regarding the course quality and usefulness, the knowledge**

assimilation, the changes occurred at the workplace behaviour and the impact on the organization's results, either by measuring some quantitative indicators, as well as the sales evolution, the personnel fluctuation, the turnover or the profit evolution.

Following the research carried-out in this field, it has been noticed that in Romania there is a relatively small number of attempts to measure investment efficiency in business education programs based on empirical models that do not emphasize the complexity of the entire process of measuring the efficiency of business education programs. In most cases, the analysis of efficiency of training programs aims only the first stages of their efficiency evaluation (feedback and learning). In Romania there is a single case study completely carried-out at MedLife in 2008, market leader in the field of supplying private medical services, by ROI Institute Romania, the research, benchmarking and consulting organization, which provides workshops, publications and consulting services based on the ROI Methodology (ROI Institute Romania, 2008).

1. Literature review and conceptual framework

1.1. The ROI methodology

One of the most common measuring methodology of impact regarding the financial terms that human resources education projects in business have on the economic indicators of an organization is the ROI methodology (Return on Investment), developed by Dr. Jack J. Phillips in over 30 years of research.

The ROI methodology is a measuring and evaluation program for business education programs, human resources, technology, initiatives and quality increase programs. At present, over 2 000 organizations in the world use the ROI methodology as the impact evaluation standard of human resources education programs in business. There are over 3500 practitioners in the ROI methodology in the world, of which 34 are Romanian (Startups.ro, 2009).

The ROI methodology assumes the determination of the learning return of the investment indicator (Return on Investment – ROI), that has become one of the most difficult and interesting issues of human resources education in business which human resources within organizations confront with, in order to improve their performance. In continual education or in professional development, ROI is an efficient and sophisticated manner to determine the economic efficiency within a program (DeSilets, 2010).

According to Donald L. Kirkpatrick there are four evaluation levels of some human resources education programs in business (Kirkpatrick 1959a, 1959b, 1960a, 1960b, Kirkpatrick and Kirkpatrick, 2005, 2006) – table no. 1. Continuing the issues approached by D.L. Kirkpatrick, Jack J. Phillips has emphasized an evaluation methodology of human resources training programs in five stages (Phillips, 1991, 1996a, 1998, 2003, 2007; Phillips, Phillips, Stone, and Burkett, 2007, Phillips and Phillips 2010), developing the four levels of D.L. Kirkpatrick's and adding a fifth level (table no. 1).

It is important that when a fifth level evaluation is planned, to carry it out also at lower levels as the business education program impact can affect the entire organization. In other words, if the participants' satisfaction towards the program is high it is likely that the business education program to have been considered as valuable. If the program is considered valuable it is most likely to have learned and to have confidence in the extent of

applicability. If they have learned and they are confident in its applicability it is likely to put their learning into practice. If they apply this, it is likely to notice an impact in the business results of the organization. If the evaluation is not carried-out at each level, it is difficult to conclude that the results are due to the business education program.

Table no. 1: Summary of Kirkpatrick’s and Phillip’s models

Evaluation level			Supplied information
	D.L.Kirkpatrick	J.J. Phillips	
1.	<i>Reaction</i>	<i>Reaction, satisfaction and planned actions</i>	Measures the satisfaction extent of participants in relation to the business education program and highlights the action plans to implement the business education program.
2.	<i>Learning</i>	<i>Learning and confidence in applicability</i>	Measures the transfer of knowledge and skills within the business education program, as well as the confidence that these can be applied in daily activity.
3.	<i>Behaviour</i>	<i>Application and implementation at work</i>	Measures the participants’ changes of behaviour and attitude in daily activity at work.
4.	<i>Results</i>	<i>Impact on business results</i>	Measures the change of performance indicators of participants at the business education program.
5.	-	<i>ROI</i>	Measures the ratio between the net benefits of the training program and the total costs generated by it.

Source: made by the authors, based on information from D.L. Kirkpatrick and J.J. Phillip’s articles

1.2. E-learning

The e-learning concept is defined, according to the European Union, and by Action plans e-learning (2001) respectively and quoted by F. Thomas (2012) as representing „The use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration”. According to the Sun Microsystems Association (2007) Report quoted by Eraqi et al. (2011), e-learning is a “subset of two big fields “information technology” and “professional education and training””.

Thanks to its various advantages both for trainee and trainer(Thomas, 2012) and despite many barriers(Bailey and Morais, 2005; Sigala, 2002, 2004 quoted by Liburd and Hjalager, 2010) e-learning will be highly used in the future in order to sustain the trainees’ educational experience (Sadik, 2007 cited by Eraqi, 2011), a quarter of the total education types being predicted in 2001 as taking place through digital platforms till 2006(Pollard and Hillage, 2001 quoted by Haven and Botterill in 2003).

Buhalis and Peters (2003) quoted by Huang et al. (2013) suggest that the use of information technology in delivering for cost-efficient and flexible work arrangements is important for small businesses because of the limited resources to send employees to expensive training

courses. However, the highest challenge is that related to measuring the success of e-learning (Khan, 2005). The more open the learning environment is, the more complex the e-learning planning, management and evaluation are (Land and Hannafin, 1996).

2. Data and methodology

The sample that is the object of the carried-out survey consists of 50 employees of the firm, of a total of 200 employees and comprises personnel from the Quality Management Department, Research laboratories, Production departments, Distribution, divided in two groups of 25 trainees each. Their age is between 25 and 60 years old. The structure of trainees sample is shown in table 2.

Through the required business education program, the firm aims to maintain and improve, in the field of quality, its own employees' knowledge, skills and competencies related to the organization and management of quality systems developed within the firm. The required training program is requested by Quality analysis and evaluation methods.

The training and evaluation period of the 50 employees of the firm, divided in two groups of trainees, is January 2012 – July 2013 and has been established according to the program and existing priorities in this period at the level of the firm's management. The first questionnaires were applied to the first group of employees during 6th -7th July 2012, following the completion of their participation in the business education program entitled the Quality analysis and evaluation methods that was developed as distance education, by e-learning. The following questionnaires were then applied to the second group of employees that participated in the same business education program that took place in a face-to-face conventional system in the immediate period.

Table no. 2: Structure of the sample

Characteristic		Share in sample
Gender	male	40 %
	female	60 %
Age	25 -34 years	36 %
	35 -49 years	36 %
	50- 64 years	28 %
Education level	University education	56 %
	Postgraduate education	36 %
	Doctoral education	8 %
Occupational status	Manager	8 %
	Higher educated employee	72%
	Standard educated employee	8 %
Position within organization	Management personnel	28 %
	Administrative personnel	72 %

The organization of the business education program in two groups of trainees, with two different training systems, one based on e-learning and the other one carried-out in a conventional system, is the result of the option expressed by trainees and accepted by the management of the beneficiary firm.

The data have been gathered by means of a questionnaire and have been processed by means of the SPSS software and Excel, using absolute and relative frequencies, simple arithmetical means, calculated average scores based on the arithmetical means weighted for processing data measured by means of Likert scale, parametric and non-parametric correlations.

3. Results and discussions

Following the data processing it is resulted that within the entire analysed sample no non-responses have been registered to any of the 38 questions, registering minimum scores corresponding to the respondents' satisfaction in relation to the business education program through e-learning. The results are shown as follows.

For the items 1÷8, 10÷15, 17÷23, 25÷29, 31, 34 and 38 the mean scores have registered values over 4, within 4.11÷4.95. The value of 4.11 has been obtained at the item 8 „Advanced hardware and software knowledge is required in order to use the e-learning platform”, this value being one of the explanations for which a part of the employees (trainees) opted for the conventional training system. For this item, 10% of the sample did not agree and 15% were indifferent. The value 4.95 was achieved for the items 1, 3, 5, 14 and 15. The items 1, 3 and 5 belong to the group of questions related to the organization of the e-learning training program and relate to: „Development of the learning program has been carried-out according to the planning”, „The used teaching materials (manuals, presentation materials etc.) have been well-organized, being effective within the e-learning training program”, „As a whole, the organization of the e-learning training program has been adequate”.

The full agreement of respondents has been achieved for these items, respectively a full satisfaction regarding the organization of the business education program through e-learning. This result outlines and acknowledges the main advantage of using an e-learning platform within a business education program, namely the flexibility of learning assured by it, compared to the conventional training system. The promotion of e-learning education is based on this result as a way of developing a business education program regarding human resources in organizations.

For the items 14 and 15 regarding the tutor of the business education program through e-learning, respectively „He interacted efficiently with the trainees, meeting the concepts and situations occurred within the e-learning training program” and „As a whole, the tutor's work was good and full satisfaction was acquired”, a mean of 4.95 was obtained that is according to the full satisfaction. Trainees have perceived a maximum feedback from the tutor of the business education program through e-learning. For the analysed items 1÷8, 10÷15, 17÷23, 25÷29, 31, 34 and 38 the results are shown in Appendices 1.

Regarding the importance of applying the assimilated knowledge within the business education program through e-learning by employees at work, item 32 respectively „On a scale from 0 (none) to 10 (extremely important) mention how important is the application of knowledge and the accumulated abilities as a result of the e-learning training program in the work you are carrying out”. On a scale from 1 to 10, an average score of 8.58 have been obtained, meaning that respondents appreciate the importance of an immediate application of accumulated knowledge at work.

For item 33 „Mention what percent of your total working time requires the application of knowledge and acquired abilities following the e-learning training program”. On a scale from 1 to 10, an average score of 6.79 has been achieved, score that was obtained as 2/3 of the sample evaluated that they use over 50% of their total working time in order to apply the acquired knowledge and abilities following the e-learning business education program and only 1/3 of the sample evaluated that they use less than 50% of their total working time in order to apply the acquired knowledge and abilities as a result of the e-learning business education program.

Item 35 „Taking into account all the factors that converge to getting performance at work, including the e-learning training program, we kindly ask you to estimate which is the percentage that emphasizes improvement of your performance at work” has achieved an average score of 7.32 revealing that respondents have improved the performances at work, following the business education program through e-learning by nearly 70%.

Regarding item 36 „Considering the response from the previous question, we kindly ask you to estimate which percentage of improvement of your performance at work is exclusively related to the e-learning training program”, an average score of 6.42 has been achieved, revealing that out of the improvement of performance at work 50% is due to the business education program.

The results related to employee training interface –the final results of the firm are revealed by item 37 „This e-learning training program will have a considerable impact on quality increase, sales increase, productivity increase, employee’s satisfaction increase, customer’s satisfaction increase, cost cutting”, that emphasizes the following aspects (figure 1):

- Those indicators that are accessible to executive personnel and are perceived directly, respectively the quality increase and increase of customer’s satisfaction have registered higher values within the entire sample between 70%-90%;
- The indicators that are inaccessible to the executive personnel have registered lower values between 10%-25% as a result of the lack of transparency and information from the management personnel towards the executive personnel.

For the vertical analysis, methods of parametric statistical analysis (Pearson coefficient) and non-parametric (Kendall coefficient, Spearman coefficient) have been used. In order to analyse the correlations between various questions of the first questionnaire entitled Evaluation of feedback/satisfaction of participants at the training program the Statistical Package for the Social Sciences software– SPSS 17.0 has been used for these statistical methods.

As a result of using the SPSS 17.0 software in order to certify the correlation between the level of acquired knowledge and abilities as a result of business education (item 26) and the future applicability of these knowledge and abilities at work (item 31) has resulted a direct correlation of medium intensity that is statistically significant (coefficients: Pearson – 0.506; Kendall – 0.449; Spearman – 0.459) - table no. 3.

Testing the correlation between the relevance of the training program for the work carried-out at work – item 29 and the future applicability of the acquired knowledge and abilities at work – item 31. A direct correlation that is higher than average has been registered that it is statistically significant (Pearson coefficient– 0.621; Kendall coefficient – 0.486; Spearman coefficient– 0.492) - table no. 3.

The results after testing the correlation between item 31 and item 34 are the following: both parametric coefficient (Pearson coefficient= 0.785), and non-parametric correlation coefficients (Kendall coefficient= 0.689; Spearman coefficient= 0.704) reveal a direct correlation having a strong intensity, all the results being statistically significant for a 0.01 significance level (- table no. 3). The result of this correlation shows that the respondents that agreed to apply in the future the acquired knowledge and abilities as a result of business education at work, consider that acquired experience following the business education program through e-learning will help them to improve the results at work.

Table no. 3: The parametric and non - parametric correlation coefficients for items 26, 29, 31 and 34

	Correlations coefficients	26	29	31	34
26 . <i>The e-learning training program helped me develop my level of knowledge and abilities according to the field shown.</i>	Pearson Kendall Spearman			.506* .449 .459*	
29. <i>As a whole, the e-learning training program has been relevant for my work.</i>	Pearson Kendall Spearman			.621** .486* .492*	
31. <i>I will apply the knowledge and abilities acquired on my job.</i>	Pearson Kendall Spearman	.506* .449 .459*	.621** .486* .492*		785** .689** .704**
34. <i>Experience acquired as a result of the e-learning training program will help me improve the performance at work.</i>	Pearson Kendall Spearman			785** .689** .704**	

*. Significant correlations for the level of statistical significance of 0.05 (bilateral).

** . Significant correlations for the level of statistical significance of 0.01 (bilateral).

Summarizing the above mentioned results, they signify the following:

- they had a positive attitude regarding the design, the planning, the organization and coordination of business education program through e-learning;
- they consider that training has been accessible, that related medium was pleasant, with a beneficial tutor-trainee relationship for the carrying-out training;
- they have perceived a maximum feedback from the tutor of the business education program through e-learning;
- they have appreciated the importance of immediate application at work of the assimilated knowledge;
- they consider that they will improve their performances at work following the accumulated knowledge within the business education program through e-learning;
- they have perceived the efficiency of learning through e-learning as being a maximum one;
- they have provided an important feedback that will help the evaluation and improvement of the future business education programs;
- they have considered that the business education program through e-learning has been a valuable investment in developing their career.

Following application of the parametric and non-parametric correlations for the response choices of item 37 „This e-learning training program will have a considerable impact on: 1_quality increase, 2_sales increase, 3_productivity increase, 4_employee’s satisfaction increase, 5_customer’s satisfaction increase, 6_cost cutting”, in order to correlate the respondents’ options regarding the impact of the business education program through e-learning on the indicators of organization, statistically significant values (table no. 4) have been achieved for:

- item 37_2_sales increase and item 37_3_productivity increase a direct correlation with a medium intensity has been achieved (Pearson, Kendall and Spearman coefficients have a value of 0.484);
- item 37_2_sales increase and item 37_6_cost cutting a direct correlation of medium intensity has been obtained (Pearson coefficients has a value of 0.484);
- item 37_3_productivity increase and item 37_4_increase of employee’s satisfaction a direct correlation of medium intensity has been obtained (Pearson coefficients has a value of 0.567);
- item 37_3_productivity increase and item 37_6_cost cutting a medium a direct correlation of medium intensity has been obtained (Pearson coefficients has a value of 1,000);
- item 37_4_increase of employee’s satisfaction and item37_6_cost cutting a direct correlation of medium intensity has been achieved (Pearson coefficients has value of 0.567).

Table no. 4: The parametric correlations coefficients for item 37

	Correlations coefficients	37_2	37_3	37_4	37_6
37_2_sales increase	Pearson		.484*		.484*
37_3_productivity increase	Pearson	.484*		.567*	1.000**
37_4_increase of employee’s satisfaction	Pearson		.567*		.567*
37_6_cost cutting	Pearson	.484*	1.000**	.567*	

*. Significant correlations for the level of statistical significance of 0.05 (bilateral).

**.. Significant correlations for the level of statistical significance of 0.01 (bilateral).

The results of this correlation emphasize that the variables taken into account are strongly related between them, sales increase is related to productivity increase and productivity increase is related to cost cutting, respectively.

Conclusions

Within the carried-out research, the findings following feedback evaluation, the stage of data collection within the ROI Methodology that has been carried-out based on the questionnaire entitled Evaluation of feedback /satisfaction of participants in the business education program, emphasizes the trainees’ positive perceptions regarding the business education program through e-learning and its efficiency.

In conclusion, following the research, a positive feedback of trainees resulted, respectively their satisfaction in relation to the business education program through e-learning, determined by the fact that they considered that changes are not required in the organization

way of the business education program through e-learning, recommending the continuation of the business education program in the current organization way. The improvement comments and suggestions provided by the trainees will determine the improving of the educational content of teaching stuff carried-out as an e-learning format, as well as the performance standards for the future business education programs through e-learning, in order to maximize the trainees' satisfaction.

Considering the current competitive environment, human resources training is of major importance in order to increase performances and develop the firm. The organization of some training programs provides many benefits to organizations as a result of the fact that employees develop their knowledge, skills and abilities. As they make the work more interesting, these programs increase the extent of motivation concerning employees and lead to their positive attitude regarding daily activities.

Developed in the 1970s, improved through applications and applications in the 1980s and globally implemented in the 1990s, Jack J. Phillips' ROI model (Return on Investment – return on investment in training), based on the five levels of training evaluation, provides important improvements in getting quantifiable results regarding the efficiency of business education programs, by setting objectives accepted by the organization management, trainees and trainers.

The efficiency of human resources training is generally measured through qualitative indicators that do not provide quantifiable information for the management of the organizations. Therefore the research proposed in this paper is important as it sets the quantitative character of the results concerning human resources training programs. Organization managers can have value information that express investment benefits achieved following human resources education. Focusing on getting results and getting a high ROI indicator provides a higher value to the activity of the organizations based on the high education standard of the human resource in business.

The valuation of human resources in business education has to be thought as a necessary process that can be carried-out by comparing the results of education with the established objectives or the education costs in relation to sequent benefits.

The work emphasized an evaluation methodology of human resources training process that can help the organizations to use the most suitable tools in order to measure the manner in which human resources education programs contribute to the success of the organizations.

The results of this research may contribute to the development of some aspects concerning the measuring of investment return in training – Return on Investment (ROI) aiming to help organizations for: the quantification of human resources performance improvements; the quantification of benefits provided to monetary units training programs; the calculation of benefits provided by training investment; the adoption of informal decisions based on some quantified decisions and some comparisons of benefits resulted from the training programs.

The ROI methodology can help to prove the manner in which human resources education programs in business contribute to the success of the organization, meanwhile providing the development of some strategic analysis abilities and decision making.

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Appendices 1: The average scores for items measuring the feedback from trainees at the training program

Questionnaire question - Item	Score
About the organization of e-learning business education program	
1. The development of the training program was carried-out according to the planning.	4.95
2. The duration of the training program has been according to the approached issues.	4.84
3. The used teaching materials (manuals, presentation materials etc.) have been organized accordingly and have been effective within the e-learning training program.	4.95
4. The facilities provided within the training program (equipment used, course presentation site, web pages etc.) have been suitable.	4.89
5. As a whole, the organization of the e-learning training program has been suitable.	4.95
6. The possibility to access the e-learning platform is suitable regarding the operation systems (Windows, Unix, and Linux etc.) and browsers (Internet Explorer, Mozilla, Firefox).	4.89
7. The presentation interface of the e-learning training program requires an easy access and Help functions.	4.79
8. The advanced hardware and software knowledge is required to use the e-learning platform.	4.11
About the tutor	
10. He has clearly established the goals of the e-learning training.	4.84
11. The tutor has proved feedback abilities, communication in evaluation processes.	4.89
12. He has ensured a suitable balance between the presentations within the e-learning training program and active implication of the group of trainees using forums of discussions.	4.79
13. He has facilitated and coordinated efficiently discussions during on-line meetings maintaining and involving an environment for work for all trainees.	4.84
14. He has spoken efficiently with the trainees facing the concepts and situations occurred within the e-learning training program.	4.95
15. As a whole, the tutor's work has been good.	4.95
About the content of e-learning business education program	
17. The content of the e-learning training program has been according to my requirements.	4.74
18. Teaching materials typical to the e-learning training program have been useful for the activity I carried out on the job.	4.53
19. The topics approached within the e-learning training program have been according to my level of knowledge and abilities.	4.79
20. The practical situations (examples, case studies, simulations etc.) that joined the theoretical content have been effective and relevant in relation to issues approached in the e-learning training program.	4.68
21. The knowledge and abilities gathered within this e-learning training program are relevant for my personal development.	4.68

Questionnaire question - Item	Score
22. The planning of the e-learning training program has been according to the achieving of objectives regarding the training program.	4.74
23. As a whole, my satisfaction level related to the e-learning training program is high.	4.68
<i>About learning efficiency</i>	
25. The clearly and logically organized presentation module of the approached topics within the e-learning training program has driven an easy learning process.	4.68
26. The e-learning training program has helped me to develop the amount of knowledge and abilities according to the presented field.	4.79
27. I have acquired new knowledge and abilities during an e-learning training program that will improve efficiency at work.	4.79
28. The knowledge and abilities accumulated through the e-learning training program are applicable at work.	4.47
29. As a whole, the e-learning training program has been relevant for the work I carry out.	4.63
<i>About the job impact</i>	
31. I will put into practice the gathered knowledge and abilities into my job.	4.58
<i>About the results obtained following the e-learning business education program on business</i>	
34. The experience acquired as a result of the e-learning training program will help me to improve performance at work.	4.53
<i>About the efficiency of investment in business education</i>	
38. This e-learning training program has been a valuable investment in developing my career.	4.58