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EVALUATION OF THE EFFECTIVENESS OF VIRTUAL IN-SERVICE TRAINING GACHSARAN OIL & GAS PRODUCING COMPANY

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ABSTRACT

Objective: The research objective was to evaluate the effectiveness of virtual in-service training of the employees of Gachsaran Oil and Gas Company. Accordingly, among the available models, the Kirk Patrick effectiveness evaluation model was used in four behavioral, learning, reaction, and outcomes dimensions. Methodology: The research method was survey and its population included 302 employees of Gachsaran Oil and Gas Company. They were selected by using random sampling method and they were interviewed using a structured questionnaire. The collected data were analyzed in SPSS 22 software and the results were reported at two levels of descriptive and inferential statistics. Results: the research results suggest that virtual in-service training of employees of Gachsaran Oil and Gas Company was significantly effective (sig = 0.000) at all three dimensions of employee learning, working behavior of employees, and outcomes. However, the effect of these trainings on the reaction level of employees compared to training courses was not significant. The level of response refers to the satisfaction of the employees of the training courses, and this suggests that some actions are needed to be made in holding the training courses in the company to improve the level of employees' satisfaction of virtual trainings.

Keywords: *Effectiveness, Training Effectiveness, Virtual Training*

INTRODUCTION

Introduction and problem statement

Training refers to process of transferring of information, attitudes, and skills from one person or group to another person or group to make change in their cognitive, attitude and skill structures (Sadri, 2004: 14). The current world is the world of change and revaluation. There is almost no day without innovation in the world of economy and changes in production or the services (Patricia, 2015: 17). The continuous and ongoing growth of change in different aspects of social life and great and deep developments in science and technology have made organizational structures complex and specialized. In such conditions, most of organizations are looking for a solution to this problem. The solution proposed by most of the thinkers is human resources training and improvement (Pubstaf, 2010: 231). Nowadays, human resource training and improvement are considered as one of the main strategies to achieve human capital and positive adaptation to changing conditions, as two competitive advantages of organizations. Thus, its strategic importance in the survival and development of organizations has been proven. However, the emergence of new communication technologies has involved the social life in all

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its aspects. One of the developed areas as a result of using the modern communication technologies such as computers, satellites, video conference, online communication, and information disk is the training area. E-learning, which virtual learning is considered one form of it, refers to educational activities by using electronic tools such as audio, video, computer, network, and virtual, etc. (Kia, 2009: 82). Rapid changes in science and technology leave a significant effect in all organizations, and overlooking it results in a rapid decline of organization. Fostering of professional and efficient humans, considered as human capital development, is an essential for organizations to survive in a world of change (Gahramani Golvazan and Mostafavi, 2015: 64). Studies indicate that virtual learning contributes to stabilize and balance the position and responsibility of employees in the organization. Providing virtual learning in Gachsaran Oil and Gas Company, implemented limitedly nowadays, requires development. Moreover, development of this type of learning should be associated with increased effectiveness, since one of the problems of virtual learning is its effectiveness at the level of organization. An educational program can justify its worth and value only when it provides valid and reliable evidence on the effect of training on improving the of performance participants. (Ellis.p, Kuzina.k, 2014).

Literature review

Several studies have been carried out with regard to the effectiveness of training courses. Bazarghan (2006) carried out a study entitled "evaluation of the effectiveness of virtual training courses in a case study of Ghilan University". The research results led into development of quality assessment methodology in virtual training, identification of the most important factors involved in improving the quality of services and increasing general satisfaction with the aim of creating a competitive motivation to align the virtual training with traditional training methods in order to enhance the quality of service provided for students of virtual courses. Abbasian(2006) carried out a research entitled "effectiveness of in-service virtual training in improving job performance from first-year high school teachers' perspective in District 5 of Tehran based on the Kirk Patrick Evaluation Model". Data analysis results indicated that the teachers participating in the courses do not show positive and desired reaction to various dimensions, including goals, methods, space, etc. Moreover, from teachers' perspective, the courses did not show desired effect in increasing the level of job knowledge and improving the job behavior. From first-year high school teachers' perspective in District 5 in Tehran in the academic year of 2014-2015, the held courses did not have a positive and desired effect in enhancing their professional (job) performance. Rhema and Miliszewska (2014) have carried a research entitled "analyzing the attitude of students to E-learning; a case study of engineering students in Libya". They stated that the attitude and experience and satisfaction of them in dealing with e-learning can affect the success or failure of virtual training project and as they find a gap in this subject in the undeveloped countries such as Libya, they decided to conduct this research. Their research results have shown that previous experience of students, their access to technology, demographic characteristics such as the age and gender of students can influence their attitude to e-learning. Contreras (2015) carried out a research entitled "evaluation of the readiness for e-learning among the employees, managers, and students at the Nursing Faculty of Benghazi". In their research, they referred to necessities of e-learning development in line with the technological development took place in Libya after the 2011 revolution, followed by a period of reconstruction and they investigated e-learning limitations for students in post-revolution

period, when terror and violence remained somewhat. Contreras research results have shown the positive attitudes and tendency of students and employees towards the evaluation of the usefulness of e-learning, and it requires improving the infrastructure and facilities to develop e-learning in Libya. Martinez (2015) carried a research entitled "the feasibility of using distance learning courses at Latin American universities". The research population consisted of master and Ph.D students, administrative authorities, faculty members, and managers of distance learning programs. The research findings indicated a positive attitude in distance-learning in Latin American universities and managers consider distance-learning courses feasible economically.

METHODOLOGY

The research population consisted of all employees in the oil and gas industry of Gachsaran, participated in virtual training courses. Based on the report of the human resources department of Gachsaran Oil and Gas Exploitation Company, the research population included 2958 employed people, which almost half of them were working in operational departments, and the rest of them are working in administrative, service and security departments. Based on the human resources department report and inquiry, only 1420 employees participated in courses, in which virtual training was provided. Thus, the population size was considered to be 1420 people. In the current research, the sample size would be estimated using the Cochran formula and by inserting the required statistical values and the size of the statistical population. By inserting the number of research statistical population in the Cochran formula, the sample size was calculated to be 302 people. Random quota method was used for sampling. Table 1 presents the statistical sample size of research.

Table 1: research sample separately by organizational department

Population size		Number of training courses held	Sample size
Operational	800	2	119
Administrative	145	2	22
Technical	180	2	27
Financial	100	1	15
service	930	1	138
Technical inspection	35	2	5

A researcher-developed questionnaire was used based on the Kirk Patrick effectiveness evaluation model to collect the data. Table 2 shows the Cronbach's alpha coefficients for the reliability of the research tool.

Table 2: Cronbach's alpha coefficients for each of the dimensions investigated

Alpha	Scale options	Number
0.79	Learning	5
0.69	Behavior	6
0.63	outcomes	7
0.72	Reaction	8

RESULTS

The research results were presented in two descriptive and research hypotheses testing sections. In the descriptive section, the demographic distribution of respondents to the research questions was presented. In the research hypotheses testing section, regression analysis and mean comparison were used for analyzing. The descriptive results of the current research are as follows:

Table 3: Descriptive results of demographic distribution of the research sample

		Frequency	Frequency percentage
Gender	Male	218	72.2
	Female	84	27.8
Organizational department	Operational	65	21.5
	Administrative	111	36.8
	Technical	15	5
	Financial	49	16.2
	Service	10	3.3
	Inspection	49	16.2
	Invalid	3	1
training	High school	19	6.3
	Associate	49	16.2
	Bachelor	164	54.3
	Master	55	18.2
	PhD	7	2.3
	Invalid	8	2.6
Work experience	Less than 5 years	70	23.18
	5 to 9 years	165	54.63
	10 to 14 years	52	17.21
	Over 15 years	21	6.95
Familiarity with computer	Very low	30	9.9
	Low	77	25.5
	As much as required	115	38.1
	High	76	25.2
	Very high	4	1.3
Familiarity with internet	Very low	13	4.3
	low	53	17.5
	As much as required	125	41.4
	high	77	25.5
	Very high	32	10.6

The results derived from analyzing the research data were as follows.
Virtual training courses have had a positive effect on employee learning.

Table 4: Virtual training course has a positive effect on employee learning

Research hypotheses			P-Value	t value	Standard path coefficient	Test result
Virtual training	➡	Learning	0.000	5.492	0.286	confirmed

The value of significance coefficient of this hypothesis was obtained 0.000, indicating that virtual training has a significant positive and direct effect on employees' learning. Based on the

results presented in the Table 4, at a confidence level of 0.99%, the t value is higher than 1.96, so it could be stated that this hypothesis is confirmed.

Virtual training courses have a positive effect on employees' working reaction

Table 5: Virtual training course has a positive effect on employees' working reaction

Research hypotheses			P-Value	t value	Standard path coefficient	Test result
Virtual training	⟶	employees' working reaction	0.004	0.172	0.138	Rejected

The value of significance coefficient of this hypothesis was obtained 0.004, indicating that virtual training has no significant positive and direct effect on employees' working reaction. Based on the results presented in the table 5, at a confidence level of 0.99%, the t value is not higher than 1.96, so it could be stated that this hypothesis is rejected.

Virtual training courses have a positive effect on employees' behavior

Table 6: virtual training course has a positive effect on employees' behavior

Research hypotheses			P-Value	t value	Standard path coefficient	Test result
Virtual training	⟶	employees' behavior	0.002	0.951	0.187	Confirmed

The value of significance coefficient of this hypothesis was obtained 0.002, indicating that virtual training has significant positive and direct effect on employees' behavior. Based on the results presented in the table 6, at a confidence level of 0.99%, the t value is higher than 1.96, so it could be stated that this hypothesis is confirmed.

Virtual training courses have a positive effect on employees' working outcomes

Table 7: virtual training course has a positive effect on employees' working outcomes

Research hypotheses			P-Value	t value	Standard path coefficient	Test result
Virtual training	⟶	Employees' working outcomes	0.000	0.487	0.36	Confirmed

The value of significance coefficient of this hypothesis was obtained 0.000, indicating that virtual training has significant positive and direct effect on employees' working outcomes. Based on the results presented in the table 7, at a confidence level of 0.99%, the t value is higher than 1.96, so it could be stated that this hypothesis is confirmed.

DISCUSSION AND CONCLUSION

In the current research, the effectiveness of the virtual training courses in employees of Gachsaran Oil and Gas Company was evaluated. Evaluation of this set of programs was performed in the reaction (employee satisfaction), learning (changes in one dimension of knowledge, attitude and skill), behavioral (the rate of transfer of the learned materials to the work environment) and the outcomes (such as reducing losses, increasing the quality of production and increasing the job productivity) dimensions. The research results suggest that, except for reaction dimension, virtual training was effective in other virtual training dimensions

in the studied population. When employees' response to educational courses is negative, it means that employees are dissatisfied with the educational courses hold .Lack of paying attention to the training needs of employees and the lack of proper planning, resulting in inappropriate training courses, might be considered as the important factors, which cause employees' dissatisfaction with the training courses. One of the reasons for undesirability of employees' learning from these courses might be related to inappropriate reaction of learners to the courses held. Moreover, the inappropriateness of the provided content with the job and training level of the participating employees is also a factor involved in lack of adequate learning of the learners from the training courses. Another factor involved in this area is that the educators of these courses do not have required ability in terms of expertise, commitment, speech skill, and the ability to teach these materials for learners.

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