Issues and Challenges in Applying Computer-Based Distance Learning system as an alternative to traditional training methods

Thamer Ahmad, Huda Ibrahim and Shafiz Affendi Mohd Yusof

Information Technology Programme

College of Arts and Sciences

Universiti Utara Malaysia (UUM)

ABSTRACT- Many scholars have listed the problems that prevent organizations' employees to attend face to face training methods. Additionally, they have presented Information and Communication Technology (ICT) especially distance learning system as important way to overcome these obstacles. However, they did not depend on empirical studies to mention those problems and to compare between traditional training method and applying computer-based distance learning system. Therefore, this survey aims to distinguish between the traditional training methods and computer-based distance learning system as an important way to overcome employees' problems with traditional training, including the challenges and some issues.

Keywords: distance learning; traditional training; challenges in distance learning; and traditional training.

I. INTRODUCTION

With a development of Information and Communication Technology (ICT) many organizations all over the world are using Computer-Based Distance Learning System (CBDLS), to train and retrain their employees. Computer-Based Distance learning System had been defined as the use of computer and network to convey the learning materials and resources to the remote employees [1]. This system is reported to solve some of the employees' problems regarding traditional training and provides many benefits to employees and organizations. Applying the system however needs supports from knowledge and particular resources to take place [2].

In this respect, although a few studies (see table 1.0) had mentioned the employees' problems with face to face training, they did not depend on empirical studies to mention those employees' problems and to compare between traditional training method and computer-based distance learning system including challenges and issues.

TABLE I. STUDIES MENTIONED THE EMPLOYEES' PROBLEM WITH FACE TO FACE TRAINING METHOD

Title	authors
Learning Software Engineering at a Distance	Quinn, Barroca, Nuseibeh, Fernández, Rapanotti, Thomas, and Wermelinger [3].
A Real-Time Interactive Shared System for Distance Learning	Zhao, Zhong, Matsumoto [4].
Distance learning for power professional	Pahwa, Gruenbacher, Starrett, and Morcos [5].
A distance education model for Jordanian students based on an empirical study	Mashhour [6].

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This paper presents a result of a survey on public sector employees regarding the obstacles they have faced in attending traditional training class room; the use of computer based distance learning system in public sector's organization in Jordan and the challenges faced by organization in applying the distance training system to the employees training. Thus, the objective of this study is to compare between traditional training method and applying computer-based distance learning system including issues and challenges

II. THE PROBLEM IN JORDAN

Although applying e-learning system in the privet sector's organizations (e.g. association of bank in Jordan) in order to train and retrain their employees, many problems have been encountered the public sector's employees with traditional training methods [7]. Whereas, in the example on the traditional training in Jordan, in order to improve their performance and productivity the public sector's organizations force their employees to attend International Computer Driving License (ICDL) traditional training class room for 108 hours during in forty days [8]. This ICDL has been defined as a global recognized standard certificate for the individual computer skills for every one who uses the computer in his/her work or at home [9]. The major obstacles in attending the traditional training methods in Jordan are residing far away from the institutions learning and having family duties [6].

III. METHODOLOGY

A. Questionnaire and data collection

The survey on the public sector's organizations in Jordan was implemented on 100 employees' participants. These employees must attend ICDL traditional training to improve their skills in seven modules namely, Basic Concept of IT, Using and Managing Files, Spread Sheet, Databases, Presentation and Information and Communication.

B. Questionnaire structure

The questionnaire used for the survey was designed in two sections. The first section is about the demographic of the respondents such as their academic level, age and gender. The second section includes questions related to the topic to be studied including having PC, internet access, computer skills, email account, computer problems, preferable educational materials, preferable software material, user attitude toward courses over internet, and the problems with the traditional training. The purposes of the questionnaire are gather data about problems which prevent organizations' employees for attending traditional training institutions, and identifying issues related to applying computer based distance learning system as an alternative for traditional training method.

C. Correction of the theoretical sample

About 100 questionnaires had been distributed to the public sector's employees in Jordan. Approximately 10 questions were omitted from the analysis since 25 % of their questions were not answered. If 25% of the questionnaire items were not answered, it is recommended to not include them in the data analysis [10].

IV. RESULTS

A. Respondents profile

From 100 questionnaires distributed, the study has received 90 valid responses (90%). Table II shows that the responses rate according to gender.

TABEL II. RESPONDENTS DISTRIBUTION BY GENDER

Gender	Number	percent
Male	56	62.2
Female	34	37.8
Total	90	100%

The averages of the respondents' age are between 26 - 35 years old. The youngest respondents are in the range between 19 and 25 years old, while the oldest is between 46 and 55 years old. In terms of education background, about 84 % of the respondents

have high level education degree (bachelors, master and PHD), and only 16 % have diploma degree.

B. Analysis of the results

- Issues and challenges in applying computer-based distance learning system

In regards to, applying the computer-based distance learning system as alternative to traditional training methods, this study found that about 82 % of the respondents have personal computer at homes, while approximately 92 % of them have regular computer access at work. Despite the high rate of the respondents who have regular computer access, this group has encountered many obstacles in the usage (see table III), such as 20% of them have out-dated devices and 38% of them do not obtain help, when having problems using PC devices. In terms of network access, 67% of those who have personal computer and have access regular computer, have accessed Internet through high and low speed network. Additionally, about 81 % of the survey participants have used e-mail.

Table III. CHALLENGES IN APPLYING COMPUTER-BASED DISTANCE LEARNING SYSTEM

Obstacles	Response's Rate
Need help to use the system	38%
Have out-date devices	20%
Have low speed network, or have no internet access	60 %

- Challenges in traditional training

In the traditional training methods term, this study has revealed that there are many obstacles that prevent the public sector's employees from attending traditional training classroom (Table IV). These include about 26 % having family duties especially for the women, 20 % having an irregular work, 12 % reside away from a training institution and 24 % having working time coincide with training time.

Table IV. TRADITIONAL TRAINING'S OBSTACLES

Obstacles	Response's Rate
Having family duties	26%
Having irregular work	20%
Residing away from a training institution	12%
Working time coincide with training time	24%

Totally, approximately 82% of the respondents have faced problems with traditional training methods. Consequently, the vast majority of the respondents 94 % agree that they need for an alternative method such as distance learning system to solve their problem with the traditional training methods. Additionally, over half of respondents 55% are looking forward to use computer-based distance learning system.

The survey also tried to identify the type of materials preferred. In this respect, less than half of the respondents 41% prefer tutorial software, 30 % of respondents choose simulation software, and the rest of the respondents favor animation, diagnostic, and class room software.

The internet accessibility in the organizations which want to provide distance training should also be taken into consideration. While 92 % of the employees have computer regular access, only 67 % have access to internet. Additionally, only (40 % have high speed Internet network. Furthermore, majority of participants 58% have encountered problems during computer using. For those who have computer and Internet access, only 74 % are willing to participate with CBDTS.

V. CONCLUSIONS

With the technology development and the changing in the working place the organizations' employees over the world needs to improve their skills and obtain new knowledge, but there are many challenges that prevent them to attend the traditional learning to improve their knowledge and skills. In order to overcome such problems computer-based distance learning system was presented. In this respect this study distinguishes between the system and traditional training method including challenges and some issues

It is evidenced from this study that there are many obstacles that prevent employees to attend the traditional training's institutions. The obstacles are related to family duties especially among women, irregular work, stay away from the training institution, and working time coincides with training time.

Apart from these, organizations which want to offer CBDLS must consider the following challenges before implementing it; lack of the internet and computer access, attitude of the employees to use the distance learning system, out-date devices and their limitations, and the types of software to support training materials.

In the future the factors that influence the acceptance of CBDLS by organizations' employees must be further investigated. Such a study will provide meaningful information to improve our understanding on the acceptance of the system and to help organizations effectively plan to execute CBDLS.

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Thamer Ahmad is a PhD. candidate in Information Technology at Universiti Utara Malaysia (UUM). He gained his MSc in Computer Information System (CIS) (2006) from Arab Academy for Banking and Financial Sciences, Jordan, while he received his Bachelor of Computer Science (2003) from Mutah University, Jordan. He is working as a lecturer at UUM. His teaching areas are Managerial Mathematic, Visual Basic, and Decision Support System. Thamer's research focuses on Information System (IS) acceptance, rural ICT, e-commerce, and e-government.

Associate Professor Dr. Huda Ibrahim, Applied Science Division, College of Arts and Sciences, IT Building, Universiti Utara Malaysia, Sintok, 06010 Jitra, Kedah, MALAYSIA, Tel (O): 04-9284793/04-9284733 Email: huda753@uum.edu.my.

Huda Ibrahim is currently working as a lecturer at Universiti Utara Malaysia (UUM), Malaysia since 1995. She has a PhD in System Science and Management (2006) from Universiti Kebangsaan Malaysia, Master of Computer System and Computer Management (1995) from Creighton University, Omaha, Nebraska, USA, and BA in Mathematics (1988) from University of Arkansas at Little Rock, Arkansas, USA. Her teaching areas are IT Project Management, Seminar in Information Management, System Analysis and Design, Information System Development, and Mathematics. At the postgraduate programme, she is also a supervisor to Master Research students and PhD students. Currently she is the Coordinator of Internationalization and Quality of Applied Science, UUM College of Arts and Science, UUM, responsible for coordinating the quality of programs under Applied Science Division. Her research interests are in the related areas of Information Technology Transfer, ICT Adoption, Rural Communities Development, and Service-Oriented Architecture. She is currently involved in a number of long-term research projects funded by the Malaysia Ministry of Higher Education, university research's project, and consultancy projects. She is also actively involved in writing articles for journals, conferences proceedings, as well as courses' modules.

Dr. Shafiz Affendi Mohd Yusof
BS Information Technology (Hons), *Utara Malaysia Malaysia (Malaysia)*
MPhil Information Transfer, MSc Telecommunications and Network Management, PhD Information Science and Technology, *Syracuse University (USA)*

Dr. Shafiz is an Assistant Professor in the Faculty of Computer Science and Engineering at the University of Wollongong in Dubai. He received a Ph.D. in Information Science and Technology, an M Phil. in Information Transfer and a MSc. in Telecommunications and Network Management from the School of Information Studies, Syracuse University, USA, while he received his Bachelor of Information Technology from the School of Information Technology at the Universiti Utara Malaysia.

Dr. Shafiz's research interests focus on the social impact of Information Technology - information behaviour, virtual/e-community, e-government, teleworking, community networks, rural ICT, technopreneurship and open source. He has published his research in refereed journals, conference papers, encyclopedias, and book chapters.