Creating Learning Organization through the Development and Implementation of an Open and Flexible E-Training System

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Abstract

In the rapid development of global market, there is an urgent need for organization to provide the training to its employees to ensure their continuous competence in handling their task. The challenge from this scenario is to find a way in creating a learning organization and keeping the knowledge management aspect within the organization. This research is about creating a framework for e-training in organization with the case study of University of Malaya (UM) through the offering of Balanced Scorecard (BSC) and Technopreneurship as the sample courses. Questionnaire and interviews will be used for this project as the research methodology. This paper will also include the initial idea of e-training framework. Apart from that, it will also touch on the development of e-training system that supports web access that emphasize on open and flexible advantages. This research highlights on moving one step further by providing e-training through mobile platform. It is to enable flexibility to access the training program and modules.

Keywords

E-training, learning organization, BSC, Technopreneurship

1. Introduction

Organizations, not limited to the marketing and business areas, are also faced with competitive environment to keep up with efficient and customer satisfaction services. Educational organizations in the higher learning institutions such as universities and colleges need to constantly keep up with the demanding job prospect to produce high quality and wanted employees. In order to meet this challenge, the academic staff of such educational organization has to attend training programs to ensure the continual updating of skills and competencies. Competencies come in many forms such as behavioral competency and technical competency. The different level of expertise and experience between staff add to the complexity of developing training programs. Apart from that, there are many other aspects that need to be considered by organizations when managing training programs for their staff. Not only they have to identify the skill gaps between staff, they

also need to plan the training schedule and consider the possibility of having in-house training or outside training and managing the resources to justify with the cost and impact of training to avoid the lack of resources that would affect daily operation from within the organization.

The objective of this paper is to develop framework for e-Training by studying the cases in University of Malaya (UM) by offering the Balanced Scorecard (BSC) and Technopreneurship as the sample available courses. The e-Training on BSC would enable the staff to be trained on the idea of performance measurement and improvement especially their own key performances indicators (KPI) using BSC taught through e-Training mechanism. The technopreneurship course provides them with the introduction of the concept. This project can be expanded to the workers in Small-Medium Enterprise (SME) later on as a more liberate kind of training approach.

2. Literature Review

There is a distinctive difference between e-training and e-learning. E-Training can also be referred to as web-based training. It consists of modularized training courses, available over the web, anytime of the day or night, anywhere the users have access to the Internet. The term 'training' assumes a planned and systematic sequence of activities usually under the guidance of qualified supervisors [1], [2], which has the purpose to develop knowledge, skills and behaviour pattern required by an individual in order to perform adequately and effectively. Thus, the term 'training' emphasizes the practical or vocational direction of the learning and typically is used on the professional or corporate level as Horton [3] specifies. It is contrasting to the term 'learning' where it emphasizes a learner activity in the learning process, that is, a learner is free to choose what will be studied and in which sequence [4].

The letter "e" before the terms is the abbreviation of the word "electronic" and implies learning organized through any electronic medium or environment. These media could include offline or connected to a network (Internet, intranet, extranet) computers, audio and video devices, satellite broadcasts, CD-ROM or DVD discs, interactive TV, phones, and etc

[5], [6]. The e-training for this project suggest minimal handling of classroom-based interaction with the course facilitator and the most of the training hours would be in a self-study mode. The course could be taken anytime, anywhere over the Internet or downloaded to the user's laptop or local PC or PDA.

Organizations identify skill gaps of their staff by using the training needs analysis (TNA). TNA is a tool utilized to identify what educational courses or activities should be provided to employees to improve their work productivity. When applying TNA, the focus is placed on needs as opposed to desires. TNA consists of identifying learning needs based on three levels; organizational level, department level and individual level. These three levels are inter-linked to ensure a balanced analysis of organization and individual needs. Most importantly, the training must reflect to the mission and vision outlined by the organization.

For higher learning sector, performance indicator often judged based on the number of students, graduation rates, resources and facilities and the scholastic ranking held [7]. What is often concealed from public understanding of performance is that the productivity of academicians which includes teaching and administrative loads, research/publications and other contribution to the society also contribute to the performance calculation. By offering BSC and Technopreneurship as the initial courses, this will indirectly bring about the awareness of performance indicator to the academic staff especially the newly appointed staff.

With e-Training, organizations would be able to create a learning organization without having to constraint themselves with sending their employees for conventional types of trainings, more cost effective and practical in the long run as well as enabling continuous learning opportunities for the staff.

By adopting this E-Training System for Higher Learning Institution, it will be a catalyst factor for UM to emerge as a learning organization. This will provide UM with a competitive advantage strategy among all higher education institution in Malaysia.

E-training and knowledge management
The ability of companies to exploit their intangible assets has become far more decisive than their ability to invest and manage their physical assets [8]. Companies are becoming knowledge intensive and not capital intensive. The knowledge embodied by the employees is the valuable assets many companies failed to realize. Knowledge management (KM) comprises with organizational processes to identify, create, represent, and distribute knowledge for reuse, awareness and learning. In order to successfully implement KM in organization, it requires a strong culture of sharing the information. The easiest way to apply this culture is by having an in-house training between employees. E-training is able to extend this concept further by providing an open and flexible platform for employees to access.

The concept of learning organization refers to the idea of continually adapting and learning in order to respond to changes in environment and to grow. However, without a proper implementation system, it will be hard to sustain the learning culture. By having an e-training system with a systematic and flexible approach, the learning organization will evolve and strengthen over time.

3. Research Methodology
The research methodology for this research comes in five stages namely the literature review, requirement analysis and data collection, system design, system implementation and testing and system evaluation.

Literature Review
This stage mainly concern with study on previous works related to e-training implementation and computer-based implementation in academic setting and large corporations and SME. The study will also encompass the concept of knowledge management leading to learning organization, which will eventually relate it to e-training. Another important section is the study on the use of computer and mobile devices as an effective tool in supporting e-training delivery. Learning organization is vital to ensure the lifelong of learning culture from within the organization. The study on this part will assist in finding out ways to measure the gaps in non-existence of learning organization towards creating a learning organization.

Requirement Analysis and Data Collection
This research will conduct primary and secondary study on e-training implementation in academic setting and large corporations and SME. Primary study comes in forms of interviews and questionnaires while secondary is gathered through literature review. Requirement analysis will investigate the problems of difficulties face by organizations in implementing e-training should it is applicable. Otherwise, the analysis will focus to investigate the strategies used by organizations in implementing e-training and how they measure the effectiveness of e-training. The initial findings from requirement analysis and data collection are then transferred into statistical analysis for further analytical work. E-training platform will be next developed for the initial modules, namely BSC and Technopreneurship. From platform, the actual e-training course content is then developed. Learning

Organization Gap Analysis questionnaire is designed to enable study performed on it.

System Design
In this stage, the appropriate approach that can be used for implementing the e-training platform will be studied. From there, the e-training framework, its architecture and eventual platform will be designed. Lastly, the course content's storyboard will be designed to make them suitable for the e-training platform being developed.

System Implementation and Testing
System implementation and testing is concerns with developing the e-training platform and the course modules with test for each module. Implementation focuses on integrating all of the modules into one complete system. The test will decide the functioning success of the e-training system.

System Evaluation
System evaluation is concerns with evaluating the effectiveness of the e-training system. The complete system will be evaluated by using the real

data collected from at least 2 faculties (i.e Faculty of Computer Science & IT and Faculty of Engineering of UM). There will be also test to be conducted with some selected samples from other faculties in order to measure the effectiveness of the e-training system. The result from the system evaluation can be used to measure the reduction (if any) on the Learning Gap Analysis as that the e-training have truly give proper benefits in terms of its effectiveness in making the staff more literate on BSC and/or Technopreneurship.

4. e-Training Framework
The framework formulated as illustrated in Fig. 1 is a preliminary idea based on the literature review thus far. More data will be collected and analyze and this framework is viable to changes in order to better suit with the research findings. From this framework, it can be seen that there are two main users namely the learners which constitute the academic staff and the instructor which constitute the person in charge with the training program. The key performance indicator (KPI) will be the pushing factor to the learner to take on the e-training program.
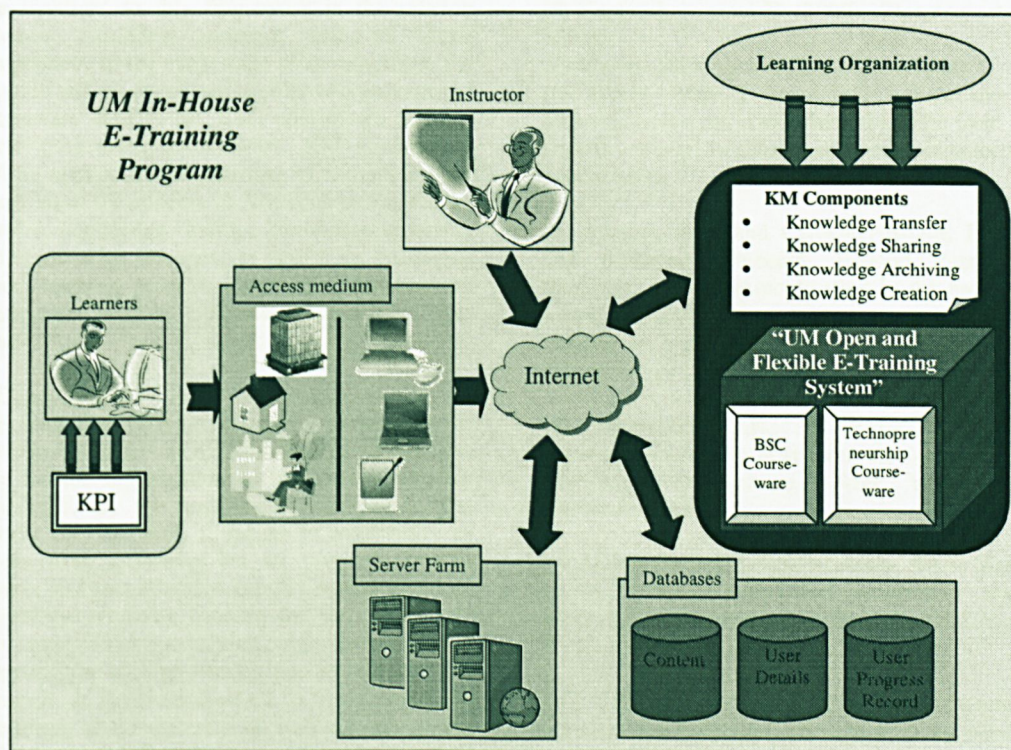

Fig 1. UM In-House E-Training Program Framework

To emphasize the open and flexible concept in this e-training, several access medium have been determined; the office, at home and at any public places. Users may access the program through various appliances. Since this e-training program will be developed in web-based environment, the common appliances available are through computer and laptop.

This research takes on one step further by offering the training through heterogeneous mobile clients such as PDA and mobile phones. This mobility features is to ensure flexibility to meet staff' needs and their busy schedule. The course to be developed will consider the pedagogical aspects when delivering learning material such as catering for beginners to the course topic (i.e. basic of BSC); catering for intermediate or advanced users and in providing assistance to the users and in providing assistance to the user in making use of the e-training. Learners are able to communicate with instructor through e-mail and forums support. This e-training enables many different learning strategies such as self-paced learning, virtual classrooms and online assessment.

The highlight to this framework is the relation between e-training program and all other components. In the early stage of development, the program will be developed to offer two packages of courseware namely the BSC courseware and the Technopreneurship courseware. KM components will be applied in the structure of the application where all of the concept of KM such as knowledge transfer, knowledge sharing, knowledge archiving and knowledge creation to assist in managing users' learning process. Eventually, the learning organization will be introduced and evolve over time.

5. Conclusion
The implementation of e-training is seen to be developed to offer open, flexible and cost effective way for the organization to provide training for their staff. By the term 'open', it means open source. By 'flexible', it means to availability of access from anywhere on all sort of possible devices and cost effective due to cheap to develop, reusability, returning training for staff with little cost and without involving high cost such as preparing the training venues, accommodation and transport. It is also important to bring about the awareness of competency of staff as one of the major strategic competitive advantage that all organizations must look into. Apart from that, e-training also provide mechanism for realizing KM and learning organization culture. This research is still in the early stage of development. Finding and feedback from this research will assist in further refining the framework suggested in this paper.

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