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WEB-BASED TRAINING (WBT) SYSTEMS: A POSSIBLE SOLUTION TO THE TRAINING NEEDS OF TELEWORKERS IN IRELAND

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Abstract

Web-based training (WBT) is an innovative approach to the support the training needs of multinational organizations, universities and virtual communities. Training will inevitably be supported electronically and WBT is the solution. Teleworkers can and are also benefiting from technologically enabled learning environments. Although teleworking has been in operation in the United States since the oil crisis in the 1970s, it is still a relatively new method of working in Ireland. There is currently a lack of support systems for teleworkers (Crossman, G 1999). Models exist pertaining to factors that should be taken into consideration however there is no uniform model for what support systems should be like. Web-based training (WBT) systems can be customized to the requirements of the employees providing both participative and didactic training. The approach provides numerous benefits to any employee as they are limited only by the resource constraints of the organization itself.

This study investigated the potential of WBT for the support of teleworkers. It puts forward a model (Figure 1), for such a system, as derived from a prototype implemented into an organization to support employee's ICT (Information Communication Technology) training needs. This research concludes that, the factors that must be incorporated into the design of a WBT system are: customization, ease of use and the application of skills. If it is to be of value to any environment, such as a university or an organization infrastructure that supports teleworking, these key issues must be addressed.

Introduction

Training is an important issue that requires an adequate support system to facilitate the training of both teleworkers and ordinary employees (Crossman and Adam, 1999). An effective training system is regarded as a strategic tool in this competitive information age (Nonaka, 1995). Therefore, it is vital that the issue of training and the development of an effective training system remain high on the list of priorities of management in multinational companies (Laudon, K.C and Laudon, J.P 1998). The instructor driven approaches to training are too expensive due to traveling expenses and a reduction in productivity when employees are participating in a training course off-site. Therefore, a more flexible and adaptable approach is needed to support training for the different types of workers. WBT systems are defined as “*environments created on the World Wide Web in which students and educators can perform learning related tasks....*” (McCormack, C and Jones, D, 1997). The role of the WBT system is, therefore, to provide a useful environment where skills are developed and learners are supported (Driscoll, M, 1998). WBT systems facilitate group collaboration, provide graphically enhanced material and enable the learners to control the environment, as they can lead or start discussions (Damarian, 1993). WBT systems are therefore a logical solution to the training needs of teleworkers.

Training is an area, which has proved problematic in general (Neumann, 1995), and, particularly, in the case of teleworkers. Thus, the objective of this research is to propose a Web-based training (WBT) system, which would support the training needs of both teleworkers and other employees. From a research point of view, the additional goal was to identify the key issues and the successful development and implementation of a WBT system in an organization. The study itself examined the success of a WBT system. This serves to identify how this type of system would satisfy the needs of teleworkers.

Theoretical Foundations

Telework may be performed on-line or offline. It may be organized individually or collectively; it may constitute all or part of a job; or it may be carried out by independent workers or employees (Carruthers, Humphreys and Sandhu, 1992). It is crucial that technical assistance is available and that technical problems can be resolved quickly (Gray, 1995; Kugelmass, 1995). Teleworkers may find themselves without on-site support systems such as, for example, a questions and answers forum. (Stanworth, J. & Stanworth, C. (1991b); Hesse, 1995). Huws (1996a) recommends three types of training for new teleworkers: Job-related training, generic training and training in self-management.

“The advent of the Web heralds a new age in workforce training” (Kilby, 1997). The Web is regarded as the most important global medium for sharing information (Alexander, S, 1995). Workers from different parts of the country or in fact the globe can avail of the numerous learning resources available online (Eisenstadt, M and Vincent, T, (1998)). There are several barriers to the implementation of teleworking, such as the cost of ICT, managerial support and adequate training (Crossan, G, 1999). These barriers are inter-related and can be removed through the introduction of a Web-based training system (McCormack, C and Jones, D, 1997; Neville, 2001).

Research Approach

This research was based on a two-prong research design involving the use of a case study of one multinational organization and an investigation of the barriers to teleworking in Ireland. The case data was gathered by means of semi-structured interviews and postal surveys. A postal survey was chosen to complement the personal interviews conducted during the analysis stage of the study. The function of this survey was to conduct an evaluation of the WBT system (see Figure 1) used to support dispersed employees in a multinational organization. A total of 26 responses were received out of 45 participants, giving an overall response of 57 percent. This approach allowed the researcher to evaluate the success of a WBT system implemented into the selected organization and to identify the advantages that such a system would have for teleworkers.

Teleworking in Ireland

Few organizations in Ireland support teleworking. Evidence indicates that teleworking is employed in an ad hoc manner with the home-based teleworking being the most common form. The primary advantage of teleworking for organizations is the increased flexibility that it allows and the provision of access to a wider labor market. However, a survey administered to a group of teleworkers in Ireland identified a number of negative aspects to teleworking, such as a lack of technical support, social isolation, increased costs, mis-communication, data confidentiality and security (Crossman and Adam, 1999).

However WBT systems facilitate trainers and educators alike, to solve some of the problems associated with teleworking and use the Web as a means of “Knowledge Networking” (McCormack, C and Jones, D, 1997). . A number of benefits have been identified through literature (McCormack, C and Jones, D, 1997, Driscoll, 1998) and physical implementations (Neville, K, 2000) such as increased participation, flexibility, variety of material, geographic independence, increased learner control and interactivity.

The WBT System At Golden Vale Plc

Background to the Case

Since 1947, Golden Vale plc has been one of Ireland’s largest food co-operatives, with a turnover of Ir£399m in the last six months of 1999. The company had initiated several ICT training programmes, in the past, facilitated by their internal IT department. These training programmes, while having been applied in a textbook fashion, were acknowledged as having had little or no lasting effect in persuading employees to use technology in their work. The company decided to adopt a different approach to support workers with poor ICT skills. It quickly became apparent that the employees needed a more supportive training environment and a Web-based Training system was implemented to support the organizations training needs. The workers, in this case, represent a broad spectrum of the different forms of teleworkers. They include ad-hoc teleworkers (managers or professionals who work from home occasionally) and mobile teleworkers (employees performing work that requires traveling).

Evaluation of the WBT System

The main point to note is that the overall satisfaction with the Web-based training system was very high. In terms of specific questions addressed, the construct with the highest rating of satisfaction is *The Material was well presented* which was encouraging. The construct *I was able to get help whenever I needed it* was also high. One of the requirements determined during the analysis stage of the development was the creation of a support mechanism. This was facilitated through the WBT system, which provided 24-hour support to the participants. A high rating for the support obtained was very encouraging in determining the effectiveness of the WBT system. Constructs regarding the content of the WBT system, *Material was easily viewed on the screen*, were also favorable regarding the effectiveness of the system. The training system was designed to be easy to use. However it is difficult to determine if a system is both easy to use and useful. The satisfaction ratings received regarding the ease of use was encouraging as the participants found the site easy to navigate and therefore of use. Davis (1989) states that if a system (or skills learned as a result) is easy to use then they can be applied and therefore useful.

Finally, the training system (see Figure 1) addressed the requirements of the participants in the study. It provided facilities for the users to review the lessons interactively. The discussion forum provided 24-hour support, so that the participants were in constant contact with both primarily the researchers and the other instructors. For the first time the participants themselves were given the opportunity to help design the training system, on an ongoing basis through the feedback facility available through the WBT system. The WBT system was an effective method of supporting the training in Golden Vale plc.

Conclusions

A number of important conclusions can be drawn from this research, which provides a viable solution to the training needs of teleworkers. The researcher identified factors necessary in the development of an effective training system, to support any environment. The training system must be customized, easy to use and demonstrate applications of the skills learned. Customization is an important element in the success of any training system. Previous training in the organization consisted of off-the-self ICT packages and CBT (Computer Based Training) courses. Employee's suggestions regarding the material and the structure of the system were collected through the feedback facility and they also have the opportunity to add to the training through the discussion forum. The customized material, exercises and therefore the WBT system provided the necessary support needed to improve the employee's skills as well as improve the system itself. The customization of the system allowed the employees to participate in the design, thus reducing resistance to its utilization.

The importance of teleworking in today's global economy is rapidly increasing and the technology necessary to support such an infrastructure is becoming more economical and easier to use. Training is however a vital component to the success of its implementation and therefore WBT is, as discussed, a viable solution to teleworkers training needs. Figure 1 proposes an appropriate solution for managers who want to support all of their employees and the economical benefits that both WBT and teleworking provide.

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A Web-based Training System

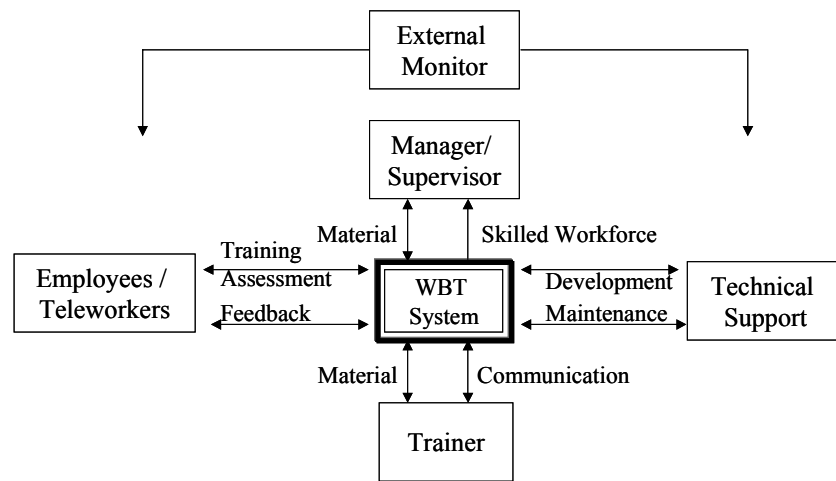


Figure 1. WBT System

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