Using e-learning systems in the workplace

Introduction

This paper aims to critically explore the use of e-learning in the workplace, identifying both its benefits and its limitations as a viable alternative to more traditional forms of training and education at work. It begins by examining the growth in the use of e-learning systems and the rationale for this, and outlines its various forms. The paper then investigates the relative benefits e-learning has for organisations alongside some of the perceived challenges and criticisms of its use. The paper concludes by summarising the key learning points raised.

The growth of E-Learning

Globally, the e-learning market has been growing rapidly, and e-learning is beginning to emerge as the new model of training and education across a wide range of different sectors and industries (Su et al, 2008). This growth has resulted in part from extensive changes in the working environment, and from a shift from a product-based economy to a knowledge-based one, meaning that there is a more pressing need to train and educate workforces in new technologies and services (Ong, Lai and Wang, 2004). In addition, technological advancement and challenges in technology-oriented working life have paved the way for new forms of electronic learning (Cheng et al, 2014). Consequently, e-learning now accounts for a significant proportion of corporate investment in workforce training (Deeney, 2003).

Understanding the nature of E-Learning Systems

According to Govindasamy (2002), e-learning is a learning experience that is delivered by electronic technologies including for example, the use of the

internet, intranets, interactive TV, virtual classrooms and so forth. However, there is no clear agreement on its definition and as a concept, it has been researched in various forms such as an ' instructional medium' (Salas et al, 2002), a ' training method' (Burgess and Russell, 2003), and a ' learning environment' (DeRouin, Fritzsche and Salas, 2005).

It has been reported that the lack of consensus over the typology of e-learning in an organisational setting, the vagueness of the terminology used, the vastness in the range of technology and pedagogy involved demonstrates the complexity of e-learning as an entity (Cheng et al, 2014).

For some, e-learning is considered only as a mechanism for delivering training and education via electronic medium (Engelbrecht, 2005), whereas for others, it is seen as a distinct form of learning which uses collaboration, internet-based communication and the transfer of knowledge to enhance and develop both the individual themselves and their organisation (Kelly and Bauer, 2004).

Whichever way it is viewed, the growth of the e-learning market has resulted in the development and innovation of a vast range of different e-learning technologies including media streaming, providing learners with a much more stimulating and interactive learning experience (Liu, Liao and Pratt, 2009).

The Benefits of E-Learning

Some of the most commonly cited benefits of using e-learning systems as a means of training and educating the workforce include: a reduction in costs due to decreasing the amount of time spent off-site at expensive courses,

travel and venue costs, and allowing more effectual use of downtime at work (Jewson, Felsted and Green, 2015); overcoming the limitations of time and physical space to deliver training courses (Gordon, 2003); an increase in the level of compliance to mandatory training for large workforces (Harun, 2002); increased convenience for the participants themselves in terms of choosing when to undertake training and access the course materials (Capper, 2001); and not needing to depend on the time or availability of a trainer (Bouhnik and Marcus, 2006).

It has been claimed that with e-learning, employees are able to take part in self-faced and interactive learning that would otherwise not be possible, and that the learner-centered approach required by e-learning influences employees to alter their learning behaviours within their work environment as well as being an influential training tool (Bandura, 2002).

However, it has also been noted that learner control does not always deliver better outcomes; in that programmes and resources may be used superficially whereby learners skim read the e-learning materials without really absorbing the meaning of what is intended to be conveyed (Kraiger and Jerden, 2007).

It has been noted that e-learning can also be useful to organisations in terms of standardising their training and in delivering it simultaneously to large geographically dispersed employees (Brown and Charlier, 2013). Required training can also be delivered much more quickly to large numbers of staff than with more traditional approaches (Welsh et al, 2003). Furthermore, in comparison to more traditional classroom based training, studies have found

that e-learning can be just as effective, and has advantages in terms of helping to overcome learning barriers associated with introversion and physical distance (McKenzie and Murray, 2010). However, it has also been recognised that undertaking e-learning may require better personal time management and study skills than those needed in a more directed taught environment (Helyer, 2010), and that e-learning may not be appropriate for all types of learning and content (Welsh et al, 2003).

Another, less frequently cited benefit of e-learning is that it has the potential to manage the growth in the amount of information that employees are required to learn. It is claimed that this growth has often led to information overload during training sessions, leading to ineffective training where learners cannot retain all that is being presented to them. By conducting the training via e-learning and only the most interactive part in a traditional classroom setting, the information can be delivered over a longer period of time, and therefore improve information retention (Welsh et al, 2003).

Finally, a further potential benefit of e-learning programmes is their capacity to track the activity of learners and their level of achievement in terms of online testing of learner activities (Welsh et al, 2003). Within e-learning, tracking and storage can be made automated. This is particularly beneficial when training is required to demonstrate compliance to mandatory training requirements for example (Welsh et al, 2003).

Limitations of E-Learning Systems

Whilst the benefits of e-learning systems are widely recognised, it has also been criticised as not being as effective or inclusive as more traditional

approaches to training and education, and concerns have been expressed that e-learning sometimes fails to live up to its full potential demonstrated through high attrition and sometimes low usage rates (Wang, 2010).

Deltsidou et al (2010) found that some individuals who use e-learning systems experience higher levels of anxiety when doing so due to limited IT skills, which subsequently has a detrimental impact on their experience of learning. It has also been argued that for those who are more computer literate, some traditional types of e-learning programmes are found to be restrictive and do not facilitate effective self-directed learning (Pata, 2009). The lack of learner interaction that occurs in the more traditional classroom setting has also been identified as a potential drawback for e-learning programmes (Brown and Charlier, 2013). In particular, it is felt that senior management could become too preoccupied with the capability to push information onto employees and forget that in order for learning to become embedded it involves more than just information provision and instead also requires practice, feedback, and guidance (Welsh et al, 2003).

Other limitations of e-learning systems which have been identified stem from problems associated with the technology itself. In particular, unreliable IT systems can act as a key barrier to e-learning with insufficient access to technical support, freezing computer screens, intermittent internet connections, and excessively long download times for accessing course material (Creedy et al, 2007). Issues around security such as computer hacking and viruses can also be problematic for e-learning programmes and the organisations who use them (Ramim and Levy, 2006).

From a cost point of view, implementing e-learning systems often involves high levels of upfront investment to purchase not only the hardware that is required, but also in relation to the ongoing costs involved in maintaining and renewing licenses that are often associated with external e-learning packages (Childs et al, 2005).

Specific costs include development costs to design and build the actual courses as well as hardware and software costs to allow users to access the training (Welsh et al, 2003). Furthermore, conducting testing of learning can be challenging with e-learning in relation to assuring the authenticity of those taking the test or exam (Gunasekaran, McNeil and Shaul, 2002).

Acceptance of E-learning in the workplace

The acceptance of e-learning as an appropriate means of training and education by employees is critical to its successful implementation in the workplace, and the reasons why employees might accept or reject such technology must be considered by organisations (Joo Yoo, Han and Huang, 2012).

One of the main theories used to explain such acceptance and the relative success or failure of the implementation of new technology such as e-learning, is the technology acceptance model (TAM) (Liu, Liao and Pratt, 2009). The TAM was derived from the theory of reasoned action and proposes two speci¬ c perspectives on why new technology is accepted or not which relate to the usefulness of the technology and its ease of use (Vijayasarathy, 2004).

The greater the perceived usefulness and ease of use of a system, the stronger the willingness and intention is to use it (Davis, 1989). The perceived usefulness relates to the extent to which it is considered that the technology will improve performance, and the perceived ease of use is the degree to which it is believed that using the technology will be unproblematic (Davis et al, 1989). In relation to e-learning, Ong, Lai and Wang (2004) identified that computer self-efficacy significantly impacts on its perceived usefulness and ease of use, with those who have higher levels of computer self-efficacy being much more likely to have positive perceptions of usefulness and ease of use. Therefore, organisations need to take into consideration the level of computer efficacy amongst its workforce before implementing e-learning.

Associated with the TAM is the theory of flow. This theory is concerned with concentration and asserts that when individuals are in flow, they become engrossed in their activity, and according to Liu, Liao and Pratt (2009), this theory can help to explain the intended and actual use of e-learning programmes by individuals.

Media rich and interactive e-learning systems are more likely to engage individuals and result in ' flow' which then impacts on their learning outcomes and experience.

Critics of e-learning state that a high level of self-motivation is needed in order to effectively complete programmes, and Roca and Gagne (2008) propose that self-determination theory is useful for conceptualizing the influence of organisational factors in an individual's motivation to use e-

learning. From their study, they found that individuals were more likely to continue using e-learning when they feel autonomous, competent and enjoy using it. They conclude that consistent with self-directed theory, when individuals participate in learning because it is interesting and enjoyable, they are more likely to engage with it and benefit from it.

Conclusion

From the critical review above, it is evident that the use of e-learning, as a model of training and education in the workplace, is growing at a rapid pace in response to the demands from ever changing working environments, shifts towards knowledge based economies, and advancements in technology.

Numerous benefits of e-learning have been identified focusing mainly around cost savings, learner convenience, flexibility, consistency and particularly in its ability to provide training and education to large, dispersed workforces simultaneously.

However, a number of challenges for organisations have also been identified around, gaining the acceptance of the workforce in implementing such e-learning technologies, underpinned by different theories such as TAM, flow and self-determination theory. Other limitations of e-learning have also been cited in relation to high start-up costs and problems associated with equipment and internet problems. Further concerns that have been identified in the current literature are around the lack of interaction between learners with e-learning which exists with the more traditional classroom learning environment.

However, despite the identified limitations, it would appear that e-learning in the workplace is going to continue to grow alongside continuous advancements in associated technology, and sophistication of e-learning programme design.

In addition, computer usage and the use of digital technologies is expanding and becoming the norm and so acceptance of e-learning is becoming much more prevalent. It is therefore likely to continue to form a significant proportion of corporate investment in workforce training and development in the future.

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