Chapter 35
Media Streaming for Technological Innovation in Higher Education

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ABSTRACT

Higher Educational Institutions (HEIs) can be slow in responding to technological innovation. Streaming technology offers a competitive advantage to a HEI if appropriately adopted and integrated with the marketing strategy compared to the Push-Pull strategy: when all available technological innovation is used to push educational options to the market and the potential people pull from the market. This chapter briefly describes the concepts of e-learning and media streaming, and their relationship to HEIs. The intangible business benefits of using media streaming to enhance teaching and learning in HEIs are explored through a literature review and small sample survey. The case study of a UK university is used to represent a HEI; e-learning technology is already in use within the university, considering the integration of media streaming technology into new or existing learning technologies. The hardware and software requirements are briefly examined, and possible business concerns and risks are identified with recommendations.

INTRODUCTION

There are a number of technologies that have been adopted for the purpose of enhancing the process of teaching and learning, such as Virtual Learning Environments (VLEs), lecture capture technology, and educational institution portal. In order to further optimise these learning technologies, enhancing/enabling technologies such as the media streaming technology are needed.

However there are also number of reasons as to why Higher Educational Institution (HEI) decision makers are not fast enough in exploiting new or enhancing technologies (such as media streaming) that will help optimise the value generation in their corporate objectives. A lot of

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time is mostly wasted in the bureaucratic process of decision making and project approval process thereby losing business value that could lead to competitive edge. Also the fear of being the first-mover in adopting such technology, which is due to unforeseen or lack of understanding of what value the technology carries. Other management issues such as power tussle, monopolised management control and IT project failure and many others could be responsible for this problem.

Media streaming technology has been in existence for over a decade and it has been employed by today's businesses to deliver substantial value in faster time to market new products and services, maintain cost effective and higher productivity, most especially now that the business climate is more towards globalisation, internationalisation, and cost-cutting.

Video has been known to be an effective tool in teaching and learning as statistics show that 10 percent of people remember what is read, 20 percent of what is heard and 20 percent of what is seen therefore in total; 40 percent of what is heard and seen is remembered compared to 30 percent of what is read and heard (Xiao et al., 2004). This is the main feature of multimedia videos and the origin of the idea behind video in learning. Clark and Paivio (1991) similarly noted that audio and visual are the main means through which information is processed in individual's mind. Therefore it is important to exploit this concept in delivering quality knowledge and skills to students.

The 2009 report on the UK e-learning market (released by the Learning Light commission) also shows that the industry is growing through the support of media technology, achieving 25 percent yearly growth as is implied from the 2007 value of £160m annual size to £300m/£450m in 2009, and forecast growth rate of 8 percent.

HEIs are not as prompt as other businesses in exploiting the power of new technology to drive business goals, raising the question of: "What are the real benefit(s) of technological innovation (media streaming) to Higher Education Institutions?" This formed the research question of the research project explored in this chapter. Media streaming technology is still in its early years and was therefore chosen to be the sample technological innovation applied to a HEI – the case study university.

The first objective was to briefly provide an insight to the concept of e-learning and media streaming. The association of this concept with the vision of the Higher Educational Institutions is briefly examined. This objective provides background knowledge on the primary need for technological innovation within the Higher Educational sector.

Secondly, the intangible business benefits of using media streaming to enhance the process of teaching and learning in HEIs was explored through literature review and small sample survey. These benefits were split into two parts, one of which was literature based i.e. what other researchers think about the benefits of adopting this innovative technology. The second part considered the benefits perceived by the current users of e-learning technology. Survey sampling a portion of both academic staff and students to retrieve data which was further analysed.

A comparison of both outcomes was conducted to determine what the benefits of a technological innovation (media streaming) are to Higher Education Institutions? Outlining the value brought by the integration of media streaming into HEIs.

The aim of the third objective was to justify a valid business case. The research result obtained from objective two was analysed and developed into a brief on why Higher Educational Institutions should exploit the streaming media technology in order to help achieve corporate objectives, thereby overcoming some of the competitive challenges of delivering value to students. The case study of a UK university was used to represent a HEI; e-learning technology is already in use within the university. Although it has now switched from one

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