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Multimedia - Is it a Fad?

Perceptions of Information Systems Faculty

By

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Introduction

Over the past few years, multimedia technology has clearly begun to make solid inroads into specialized segments within the business sector. Companies have been quick to leverage the inherent benefits of multimedia technology to enhance and support a number of key business functions, including: employee training and learning (Fox, 1994; Moad, 1994), business presentation support (Spangler, 1993; Taylor, 1993), and business sales and marketing (Perey, 1994; Trumfio, 1994). Though it is clear that multimedia technology has gained a solid technological foothold in the business sector, what is unclear is what the higher-level education sector is doing to address the growing interest in multimedia technology. If one of the objectives of high-level business education is to provide students with the theoretical background, technical skill, and business knowledge to be effective in the fast-paced and dynamic world of information processing, should not the colleges and universities be taking steps now to integrate multimedia concepts into their existing information systems curriculum? This question needs to be answered the faculty and administrators at colleges and schools of business.

According to the Data Processing Management Association (DPMA) which organized a task force to update Information Systems curriculum, "Revision of Information Systems curriculum have been driven by technology" (DPMA, 1990). But, in order for educators to begin taking steps to introduce new technologies like multimedia into their course curriculum, they must firmly believe that and that these are stable technologies and that know how of these technologies will be required by their graduates to function successfully in the business sector. This research effort will study the perceptions of information systems faculty concerning the importance that should be accorded to the introduction and utilization of multimedia technologies in business schools. Is multimedia something that deserves increased attention - or is it just another passing technological fad that has no relevance to business and education?

Studies undertaken at Wharton's Applied Research Center and the University of Minnesota's Management Information Systems Research Center found that when visuals are added, retention increases by 10 percent and persuasiveness of the presentation by 43 percent (Johnson, 1989). General Electric has implemented a multimedia based training system which uses experience-based scenarios, and incorporates familiar language, people, places and things to convey the message. This system has proved greatly successful (Sipior & Townsend, 1993). a study of six organizations from different industries by Effy & White (1993) showed that multimedia training is highly effective and that it is not industry specific.

Multimedia can improve simulation based training which is based on the principle of learning by doing (Schank, 1993). Interactive multimedia can include information in different media and can help to enhance performance by facilitating self-monitoring, data feedback and positive reinforcement (Bretz and Thompsett, 1992). From the foregoing review, it is clear that multimedia is being increasingly used in businesses as well as in the educational sector. Since multimedia is expected to have a big impact on education, the perceptions of the educators regarding this new set of technologies will result in the adoption or lack thereof of this technology in business schools and colleges.

This research effort studies the perceptions of information systems faculty concerning the importance that should be accorded to the introduction and utilization of multimedia technologies in business schools. The study attempts to find out whether information systems faculty see multimedia as a technology that will have a great impact and whether multimedia is something that deserves increased attention - or whether it is just another passing technological fad that has no relevance to business?

Methodology

The sample population for this research efforts consists of information systems faculty at the 304 accredited colleges and universities which comprise the American Assembly of Collegiate Schools of Business (AACSB) as on January 1995. A single information systems faculty member from each member institution was selected to receive a copy of the instrument.

References available upon request

Question	Mean Score	Std Dev
Multimedia research should be actively pursued.	4	1.740279
Multimedia Research should receive increased visibility in academic journals	3.84	1.536835
MIS researchers should pay attention to multimedia related research.	3.83	1.424261

MIS department / faculty should actively sponsor multimedia projects at my school	3.53	1.764509
MIS departments / faculty should take the lead in introducing multimedia to other departments / faculty	3.42	1.841971

Scale used: 1 = strongly disagree
7 = strongly agree

Table1: Survey Responses

Recipients were identified using the 1995 MISRC/McGraw Hill Directory of Management Information Systems Faculty (Degross et al., 1995). A total of 304 respondents were identified. The distribution method chosen for this research effort was electronic mail (Email). Email addresses of the participants were collected from the 1995 MISRC/McGraw Hill Directory of Management Information Systems Faculty (Degross et al.), 1995 and also by calling the respective individuals and institutions to get the email addresses that were not listed. Researchers have begun to utilize this technique (electronic mail surveys) to cost-effectively reach technically sophisticated survey respondents (Schuldt, 1994; Parker, 1992). Since the target population comprised of information systems faculty, familiarity with the usage of electronic mail was not expected to be a problem.

Since multimedia is a relatively new field, no standard or established research instruments were available. Since this is an exploratory study in an emerging area, the survey instrument had to be developed by the researchers. The survey included two types of questions - multiple choice questions for multimedia technologies being used, and a 7 point Likert scale to measure the perceptions of the respondents regarding multimedia.

The survey instrument was pretested using a simple random sample of 10 drawn from the target population which comprised of information systems faculty at AACSB accredited business schools and colleges. Each of these respondents were contacted by telephone to ensure cooperation with the study. A total of 5 survey instruments were returned to yield a response rate of 50%. These were carefully analyzed and shortcomings were identified. A working definition of multimedia was added based on the pretest sample results, to remove any confusion as to the meaning of the term. The survey instrument was then modified to address the problems identified in the pretest. The working definition used was: Multimedia is the integration of text, graphics, animation, audio and video in a computer readable format (Shim and Chun 1993).

The Survey

Of the 304 business schools targeted for the survey, only 280 had information systems faculty. Since the study was to be limited to information systems faculty, only these schools were surveyed. A total of 280 questionnaires were sent out by electronic mail. Of

these, 55 emails bounced for various reasons like wrong address, server unknown etc. When email got returned, the intended recipients or their institutions were contacted over the telephone to verify the email addresses and a second wave of emails were sent out to these people. To reduce the non-response bias, faculty that did not respond were contacted over the telephone to request their response three weeks after the questionnaire was mailed out and a second copy of the questionnaire was mailed to the non-respondents. A total of 42 surveys were returned to yield a response rate of 15%.

Findings

The responses received are summarized in table 1 above. Table 1 gives the mean of the responses received for each question. The standard deviation is also provided. MIS faculty agree that MIS research should be actively pursued. They were also agreeable to the fact that multimedia research should receive increased visibility in academic journals. Respondents were undecided as to whether the MIS department and the MIS faculty should actively sponsor multimedia projects and also whether they should take the lead in introducing multimedia to other departments and faculty.

Implications

Since MIS faculty believe that multimedia research should be actively pursued, facilities to do such research should be set up. Multimedia concepts will also have to be introduced into the course curricula. This will pose the following challenges:

Acquisition of Multimedia Hardware & Software: The introduction of multimedia technology into a business school's existing information processing architecture is not an inexpensive proposition. Extensive funding may be required to either purchase new multimedia capable computer systems, or upgrade existing facilities to support multimedia processing. Also, multimedia technology is changing at a rapid pace. This means that careful research should be conducted before equipment is acquired. Conflicting or ill-defined standards is another problem that has to be addressed.

Educating the Educators: Since multimedia is still a relatively new technology, many current college and university faculty may not currently possess the required knowledge of multimedia concepts and theories. Additional funding may be required to provide information systems faculty with training in multimedia technology. As mentioned before, since technology is rapidly changing, training in emerging technologies will be a continual process.

Modifying Information Systems Course Curricula: To introduce multimedia concepts to students, either existing information systems courses will have to be modified or new courses added or both. Also the level of multimedia know-how to be imparted to information systems majors, both at the graduate and undergraduate level must be identified. The introduction of multimedia concepts to other business majors should also be considered.

If the study shows that faculty see multimedia as having little or no impact on education, then institutions that have already invested heavily in the technology must reconsider and should call for a debate on this subject.

Incorporation of Multimedia-based education

Multimedia based educational modules can also be used in non information systems courses. Information systems faculty may be expected to lead the foray into the new technology. Also, non-information systems faculty who intend to use multimedia material for teaching should gain the expertise required to use multimedia equipment.

Conclusion

This study attempted to gauge the perceptions of information systems faculty at AACSB accredited business schools regarding the importance to be accorded to multimedia technologies. The results show that MIS faculty view multimedia as an important research topic that should be given increased visibility in academic journals.

References available upon request