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Abstract

Forms of interactive multimedia, including CD-ROM, DV-I, Laserdisc, and virtual reality, have given a new perspective to training in many industries. As the hospitality industry and other service industries continue to grow, these forms of technology are becoming of increasing interest as organizations strive to deliver more efficient and effective services to customers and employees

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Why Some Use It and Some Do Not

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Forms of interactive multimedia, including CD-ROM, DV-I, Laserdisc, and virtual reality, have given a new perspective to training in many industries. As the hospitality industry and other service industries continue to grow, these forms of technology are becoming of increasing interest as organizations strive to deliver more efficient and effective services to customers and employees.

Multimedia, a term that is ill-defined yet known as one of the most innovative developments in interactive computer technology, is making its mark in the hospitality industry. As training budgets have reached an all-time high and demands for service continue to increase, multimedia systems are being used to achieve more efficient training of employees, orienting of customers to properties, and marketing of products and services. Whether the interest in training is political pressures or the quest to improve services, it is the era to concentrate on improving existing training programs. Improvement of training efforts will require that programs be developed to communicate to a variety of trainee needs, to use efficient and effective delivery techniques, and to be convenient and easily accessible to users.

Enabling Technology
The computer technology age has enabled us to efficiently communicate, travel, trade goods and services, and select entertainment on a global basis. As new forms and applications of computer technologies emerge, society becomes more aware of the variety of benefits offered. Greater use of such technologies in the home, school, and business environments have helped to reduce the fear of computerization and increase the creative uses of the various forms. For those who have experimented with multimedia (computer driven forms of media that often include still or animated graphics, still photos, video, and audio), positive results have been reported. Higher performance on exams, better retention levels, lower delivery costs, and more enjoyable learning are all comments that are consistent with users.

Industry Must Review this Technology

For the hospitality industry, investigation of the multiple uses of multimedia technology is a must. Plagued with high turnover and high training costs, the industry has a need to find a more cost effective means of delivering training programs. In operations, many training programs are delivered while employees are on the job. While multimedia training may not take the place of on-the-job training, the systems can deliver the demonstration phase of training in an efficient and effective manner.

Reasons given for the increasing interest in multimedia include the technology's ability to deliver efficient and effective training, information that is consistent and enhanced with media, and user control. In efforts to supply a higher level of customer service, some hotels and many state tourism departments are using multimedia systems to answer visitors' questions of local attractions, directions, and available area services. Usually housed in kiosks, public access multimedia systems are placed in a convenient location for public use and often provide printouts of a summary of the information needed. Data management is yet another task that is easily performed by multimedia. Providing media to enhance traditionally text-oriented information such as a dictionary, encyclopedia, or product catalog are examples of how the systems are used as effective reference tools.

The hospitality industry is among those predicted to incur significant training costs in the future. Employees attracted to this industry are usually quite diverse culturally, educationally, and experientially. While training is often a forefront issue with many large hospitality companies, for smaller operations, training opportunities may vary. Regardless of property size and needs of employees, customers still expect the same level of service and employees often want training that is of high quality. Therefore, organizations are constantly struggling to supply training that is appropriate for learners, training techniques and tools that are easy to use and readily available, and processes that are effective and efficient. To meet these demands, the use of technology must be considered. To date, multimedia systems are the only computer-controlled training tools that offer media enhanced programs, offer control to the user, and provide a feedback and tracking feature. As the price of the various systems continue to decline, hospitality executives are investigating the many uses of this technology to tackle the training challenge.

Multimedia Can Be Used to Deliver Training

Training involves many dynamic activities requiring program flexibility. Factors that affect training program development and delivery include:

- rate of turnover
- the variety of educational, cultural, and experiential backgrounds of employees attracted to the industry

- the need for quick and accurate response to customer demands
- availability of training funds and equipment

The hospitality industry is predicted to continue to grow until the year 2005, and to dominate as the world's largest industry.[1] Of concern in this industry is the retention of a slowly diminishing, skilled workforce. While many researchers have advocated remedies for tackling training,[2] few have mentioned the positive impact technology could have upon this important function.

The use of multimedia as a training tool has been advantageous to several industries in combating turnover, reducing training costs, and improving employee morale.[3] Instituting empowerment programs, mentoring programs, total quality management strategies, and total customer service guidelines are all efforts to provide a higher quality product to the customer and employee. For some service oriented industries, implementing technology to provide the services that are customer-controlled is another creative effort toward empowerment. For companies which have invested in interactive training and customer-service systems, the result has been increased employee production, improved communication, and increased guest satisfaction.[4] While training is not the sole answer to retaining employees, it has been reported that lack of adequate and high quality training programs contributes to turnover.[5]

Turnover costs American industries several billion dollars annually.[6] This figure alone should stimulate businesses to investigate why employees leave. For the hospitality industry, the turnover figure is estimated to be between $88,400 and $130,000 for one hourly position per week.[7] Unfortunately the industry is plagued with a reputation of working employees long hours, paying low wages, and requiring employees to do menial tasks. Due to these factors, the industry often attracts those who use the industry as temporary employment until something better comes along. What has not been fully investigated are employees who could have more of a future in the industry if they were given adequate training and the opportunity to develop skills that would justify advancement. Unfortunately, there is seemingly never enough time to gain the training needed to adequately fill employee and customer needs.[8] This is another strength of multimedia; it can be available when the employee needs it and it will address individual learning needs. The technology has been accredited with reducing turnover, improving employee satisfaction, reducing costs of program delivery, and improving motivation to train.[9]

As population growth slows in America, the number of employees available to replace older, more experienced employees will decline. Additionally, the workforce will also become more diverse. Older employees wishing to stay in the workforce beyond traditional retirement age and an increase in minorities will require adjustments to the frequency and type of training offered. Training program design

will have to become more individually targeted to address individual learning needs. Training will also have to be delivered at the property level as employees need it.

It is recommended that hospitality organizations concentrate on three goals for training:

- the retention of employees by offering improved benefits, working conditions, and continuing education

- the commitment to properly prepare employees to be successful in their jobs by developing training programs that will concentrate on the development of literacy levels, the needs of an aging workforce, cultural awareness, and the building of technical and managerial skills

- professional evaluation of employee performance and the award of merit based upon the quality of their performance.[10]

Customers Have Higher Expectations

Customer demands for quality and increased services have increased since baby-boomers have reached the height of their professional careers.[11] As the number of dual career households has increased, so has traveling, dining out of the home, and reliance upon services for household maintenance, transportation, and childcare. As technology is increasingly being used to expedite and personalize these services, customers have more become more information rich. This has resulted in a higher expectation for quality and price versus value analysis of purchases. This price-value association encourages consumers to be savvy with their choice of lodging, dining, and travel service providers. Organizations are discovering that the quality of service provided is often the most important factor driving customers' buying decisions. Service is also the driving force in an employee's decision to stay or seek other employment. Therefore, the delivery of services must be efficient and tailored toward individualized customer satisfaction.

Several hospitality companies have turned to multimedia technology to provide and improve individualized services; however, many more have not. As for individualizing training, some position levels respond better to traditional techniques; however, multimedia has been found beneficial as a training tool to Holiday Inn, Marriott, Pizza Hut, Hotel Nikko, and ARA for a variety of position levels.

Multimedia Can Deliver and Manage Training

Multimedia computer technology and new strategies for managing quality are enabling the hospitality industry to experience new training heights. According to Joe Durocher, a professor of hospitality at the University of New Hampshire and author of several multimedia articles:

We find computer chips in everything from POS systems to broilers yet the past decade has seen little use of computer based technology in the training arena. Over the next decade, the power of the computer supported with laserdisc or DVI/CD-ROM will be fully integrated into hospitality training programs. The hospitality industry is well suited to these kinds of multimedia based training programs. The problem that we face is that several poorly designed initiatives have produced programs that do not benefit from the full potential of the technology. As the cost of the technology drops and more programs come on-line, corporate, as well as unit level training personnel, will choose multimedia technology because of its cost effective and efficient training delivery capability.

Holiday Inn has installed multimedia systems in 1,600 properties worldwide. According to Jewell DeWeese, vice president of Franchise System Education and Training, the company has cut system implementation time from a 14-day process to a six-day process since the announcement of the multimedia commitment in March 1993. The reason given for using multimedia was turnover. DeWeese said the systems are cost effective ways of keeping staff trained by making systems convenient to the users. Using multimedia for training in the areas of sales management, action planning, business planning, revenue management, and reservations are all topics that will be available to employees.[12]

Pizza Hut decided that the cost of training was the reason for investing in multimedia as a training delivery system. The restaurant chain requires trainers to be sent to all of the regional sites to deliver the three-day training sessions. After comparing the cost of sending trainers to 3,000 sites, the choice to deliver training via multimedia was easy. Employees prefer the training because it is convenient and can be completed on an individual's pace. While most of the programs delivered now concentrate on the hands-on procedures of producing pizzas, plans for the future include developing programs targeted to the management staff.[13]

Marriott has also experimented with multimedia technology and, through the Courtyard concept, has placed interactive information systems for guest use. Courtyard by Marriott uses interactive video on a limited basis to inform guests and others who visit the property about hotel services, local attractions, and restaurants, and transportation. The system also encourages users to complete a survey of the property, asking them to give their opinions on the quality of the service, the food, their rooms, and their level of satisfaction. The purpose of placing the systems in the lobby was to relieve the front desk and concierge of questions that are repetitive and most likely to be asked by guests.

Approximately 40 guests in 17 locations use the systems daily. As users interact, demographic information is gathered that ultimately tells the company important information about travelers and their preferences. At present, however, the systems have been removed so

that the organization can concentrate on another technologically oriented concept called "concierge phone." To date, rooms in 15 properties have been equipped with special telephones that have a card reader attached. Guests can dial a designated number and use the keypad on the phone to access information about local attractions and hotel services. They can instantly purchase tickets for concerts or visits to the zoo, or arrange trips to the museum by swiping a credit card in the reader attached to the phone.

The recruiting division of Marriott is also involved in interactive communications. Students at selected universities can access networked computer systems that connect them with the corporation's recruiting division. They can inquire about position openings, ask questions of the recruiters, and ask that resumes be kept on file for future consideration.

ARA Services is investigating the use of multimedia to assist managers in planning their annual performance objectives. This company's interest in the technology centers around its capability to be mobile and provide training on an individual basis as well as in small groups. The organization is preparing its employees for the advent of multimedia technology slowly. Joel Katz, vice president of Human Resources for ARASERVE, hopes to convert a text-based program currently used for performance-based management into an interactive format. By converting only certain segments of the program (forms and case studies) into a computer-based format, the company will allow employees to make a gradual transition from workbook to computer. With this phase-in approach, managers can evaluate how employees respond to this type of training and develop segments as employees are ready. In addition, by implementing improvements to the technology a bit at a time, the company avoids the large capital outlay for a full program.

Hotel Nikko properties use multimedia machines equipped with CD-ROM to deliver training on the subject of property management according to Alain Ane, general manager of Hotel Nikko in San Francisco. While the equipment has been very effective for managerial training, no programs were planned for the training of hourly staff.

The interactive multimedia program used by Hotel Nikko management employees presents property management as it is to be implemented following the standards of the company. Compact discs are used to present case studies and scenarios that help bring to life the situations often encountered by management. The program also offers both pretests and posttests so users' performances can be evaluated and tracked.

Some Wait Before Investing

For some organizations, the use of interactive multimedia has not been beneficial. Cost of program development and hardware, age of employees, employee computer experience, and job security have all been influential factors that have limited the use of the technology.

Domino's Pizza, one of the first hospitality firms to use the technology, decided to discontinue its experiment with interactive video after a prototype was used to train employees on dough production. According to Denise Gorsline, national director of educational development for Domino's Distribution Centers, employees who were targeted for the experimental training program responded better to classroom teaching than to the interactive system because of their learning levels. The major reason for discontinuing the program was that program production was not timely enough to keep up with the needs of the organization. By the time a disk was ready to be used and mailed to the units, the information on the disk was outdated because the company had grown so quickly. Information that the company had thought would not change within two years had changed within months based on customer demand.

An additional reason given for lack of continued interest in the technology was that employees wanted to learn in groups, were intimidated by the computer, and wanted supervision during training. These difficulties halted the use of interactive video, and the company has no plans to develop multimedia training in the future.

The technology is still so new that many also fear making the move to a computerized training format. In times when budgets are tight and reorganizations are being made to secure and attract market share, companies cannot afford to make purchasing mistakes of this magnitude. As the industry becomes more educated about what multimedia is and how it can be used to provide high quality training, more companies are expected to invest.

Company-Wide Implementation Is Easy

One reason traditional methods such as lecture and group discussion are so widely used is because they are easy to use. Most properties have VCR's and televisions, and flip charts, slide projectors, and manuals are easy to transport. Most trainers simply ship all materials in a box. There are no equipment breakdowns and no technicians required. The costs are also low as far as equipment is concerned. Implementation company-wide has been possible through the use of the same training show, since all trainers use the same manuals, present the same material, and use the same evaluation techniques.

Implementing multimedia training is not quite as simple, at least not initially. In addition to costly program development, new equipment must be installed or existing equipment upgraded, then people have to be trained. While multimedia programs can be designed to be very user-friendly, it is a format that is not familiar to audiences, especially older employees. Fear of using the equipment may be expressed. Users may also lack the understanding of how it works, where all of the information comes from, where it goes, and how it evaluates their performance—all of which may affect their attitude toward using it.

While all of the above may be factors that deter the purchase of multimedia, training benefits offered by the technology must be

considered. As the industry grows and as the workforce becomes more diverse in cultural, educational, and experiential backgrounds, there is no avoiding the investment.[14]

Technology Is Not Designed With User in Mind

Others feel that the technology is still too much in its infancy to serve the customer well.[15] What must develop is an understanding of the technology. Multimedia is simply a vehicle of information transfer and management. It will present training programs and perform the weaving of media only if the program designer and programmer develop programs that perform these functions. The quality of the programs is also only as good as the designer and as knowledgeable as the content expert.

Multimedia has evolved into a technology that offers power beyond the capabilities of many novice users. The authoring programs that are used to develop multimedia programs continue to require basic programming skills and understanding as to how to grab, cut, paste, digitize, compress, and work in multiple windows—all tasks common to developing multimedia programs. More tasking however, is the effort it takes to gather the assets and the time required to assemble them. Developing customized programs, which is desired by most hospitality organizations, remains cost prohibitive. While a few companies have spent the money and have enjoyed the benefits of multimedia, many still cannot justify the program development and the upgrades to systems that are required.

Maintenance and software support is still not up to par. With multimedia still being in its infancy, the knowledge base of how to fix the software bugs and how to service certain pieces of the equipment is limited to those who produce it. Calling the developer often involves being placed on hold or a promise given for a return phone call; this may take until the next business day. If the company made the effort to answer the page and no one was available to take the call, then the return call was considered placed and the process of getting in cue for assistance must start over. Service has a long way to go if it is to meet the needs of highly competitive businesses.[16]

As a last word of warning, those who develop programs should be selected with care. Due to the ability of the equipment to engage many forms of media, designers may present a package that has many bells and whistles, but little adherence to the program's goals. When the glitz of the technology overshadows the objectives of the program, waste of resources, misuse of the technology, and failure for those who use it as a training system is apt to occur.

Alternatives to Purchasing Systems Exist

For many organizations, especially small companies, purchasing multimedia systems is out of the question. Although hardware companies are producing reasonably priced peripherals (used to update existing equipment) that will give users the ability to manipulate a variety

of media formats, the additions still may not be considered affordable for some organizations. Alternatives to purchasing, however, do exist. Leasing and using systems located in local computer tutor schools, retail outlets, educational facilities, or technology centers are examples of such alternatives.

Organizations that cannot afford to buy systems or customized programs and upgrades for available equipment can lease certain types of hardware and software. The cost of transporting an interactive system available from B&J Computing in Atlanta, Georgia, to all points in the domestic United States is approximately $39, including insurance and delivery.

Several restaurants in the New York City area are using interactive systems to learn about responsible alcoholic beverage service. The Pride Program, marketed by KSM Interactive, of New York City, uses the IBM InfoWindow and a videodisc player to deliver the multimedia program. KSM Interactive makes the technology available to local businesses by leasing them systems. According to owner Steve Maysure, the leasing program has become quite popular with small businesses which want the technology but do not want to make a permanent purchase.

If leasing systems is not an attractive option, companies can call the local Apple, IBM, or generic computer sales office and inquire about company-owned interactive learning and literacy centers. International Business Machines (IBM) has several such centers located in many states throughout the domestic United States. Training that is IBM supervised can be arranged. For example, the IBMSERV Literacy Center in Dallas, Texas, is available for group or individual training on many of the IBM products, including interactive video.

Some retail computer companies offer tutoring. These companies are often equipped with many types of machines and often have agreements to share hardware and software with other companies. Information that they will require that potential customers know in advance of training includes the identification of programs to be taught, a short summary outlining the computer skills of the trainees, and how the information requested will be used.

Another alternative to leasing systems is to contact the education department at a local college or university as to available computer learning laboratories. These facilities, while primarily available for students, also are available to the public on a limited basis. Agreements to use the facilities range from long-term commitments to the payment of small (if any) temporary fees. If a trainer is needed for a particular package, sessions can be given by trainers from the software company, by outside consultants, or by trainers supplied by the learning centers.

Partnerships between local businesses and universities can be developed to trade services. For example, business may provide equipment of various sorts or maintenance services in exchange for computer training. Partnerships with universities have also been developed

between hardware and software companies as joint ventures; the university agrees to provide the audience and laboratories in exchange for the technical computer software, expertise, and hardware. For programs jointly developed by the university and software companies, the profits from sales of the programs developed by the organizations are divided.

An organization has been formed by companies that helped develop the PC specifications for multimedia programs. The Multimedia PC Marketing Council (MPC) in Washington, D.C., a marketing organization that developed the specifications for multimedia Microsoft applications (Windows), can answer questions regarding the types of equipment that should be purchased to fit a company's particular multimedia needs. A representative from the council can be reached at (202) 432-1600. Specifications designed for the Ultimedia machine can be obtained directly from IBM by dialing 1-800-IBM-SERV.

Questions about multimedia technology that need to be addressed include whether the systems can be used for activities in addition to training, whether existing systems can be upgraded to support interactive programs, whether programs already developed can be converted into interactive multimedia formats, how systems can be used to track individual training needs of employees, and what cost is involved in program development and delivery. Lack of sales in the early years of production of multimedia programs and the slow purchase of hardware have indicated that developers and vendors of multimedia must attend to these issues.

As interactive multimedia becomes the trend in technology, would-be users must become educated about new acronyms, concepts, and methods for implementation. Proper selection and implementation of computerized training systems will improve learning and lower training costs. While the costs to obtain the hardware and develop the programs remain high, alternatives exist for those who would rather lease or purchase lab time in local facilities.

Multimedia has proven to increase the efficiency and effectiveness of training programs and reduce the cost of delivery. While improvement in training programs and an increase in the delivery of training to employees may help to reduce turnover, it is only one small factor in the quest to retain employees. While several companies have invested in multimedia training in the hospitality industry, others wait for the costs to come down and improvements to be made in the technology.

Issues Still Must Be Addressed

Before many companies in the hospitality industry and many other corporations will implement multimedia company-wide, the following issues must be addressed by hardware and software developers of multimedia ware:

- The cost of customized multimedia programs and new forms of the technology must be lower.

- Compression of data must be improved so users will not be required to constantly purchase more memory.

- Networking (sending of training programs over a network) must be made available.

- Simple authoring programs are needed as well as reasonable training fees for learning how to author programs.

- Upgrades for existing equipment, support, and maintenance must be developed and offered by the companies which supply the computers.

- Systems marketed as training workstations must be capable of being used for additional purposes. Multimedia training systems ideally should be located at the user's desk, and programs should be easily accessed and as easy to use as wordprocessing, spreadsheet, and graphics programs.

Although the cost of the hardware and the development of software will continue to fall, cost of program development will continue to be an issue.

The MPC Council (MPC) is an organization that serves the public by answering questions about the technology and establishing hardware and software standards. As to the uses of multimedia, those interested in getting a non-biased opinion should contact the council. According to research, most skills required by the hospitality industry can be communicated via multimedia systems; however, the most successful training programs combine multimedia training with supervised peer group sessions.

Technology has suffered from quick entry and little effort on the part of developers to educate the public as to its power. Employees who did not grow up in an electronically stimulating environment may not be as receptive to the technology as younger generations. As the hospitality industry enters a more technologically dependent age, lack of interest in or use of the technology will diminish.

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