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Abstract

Hospitality organizations are embracing technology in all its aspects to ensure that they can effectively compete in today's market. The author cites the results of a survey of corporate executives designed to assess how technology is affecting their organizations.

Keywords

organizations, finance, growth and development, social welfare, technology and innovation

Information Technology Trends: Impact on Hotel Corporations

by
Galen Collins

Hospitality organizations are embracing technology in all its aspects to ensure that they can effectively compete in today's market. The author cites the results of a survey of corporate executives designed to assess how technology is affecting their organizations.

The business world has changed dramatically in the last three decades with a shift toward services and information uses, globalization of business, the end of United States commercial domination, and, most importantly, an increase in competition.

Among the factors which have accelerated the pace of change in the way business has been conducted, technology has been the most significant. According to Daniel Morris and Joel Brandon, business positioning and re-engineering management consultants, "If technology can either improve quality or reduce costs in any way, it can be used to create an advantage. As a result, all competitive businesses are virtually forced to make use of any new technology that offers significant improvement."¹

Twenty-five corporate executives responsible for technology-related decisions were surveyed to assess how certain information technology (IT) trends are influencing their organizations. Survey questions included the following:

- In your opinion, what will be the biggest information technology challenges facing your organization in the upcoming years?
- How important is advanced or leading-edge technology to your organization's competitive survival: critical, very important, somewhat important, or not very important?
- Do you anticipate your company's information system budget increasing, decreasing, or staying the same during the next five years?
- Has your company redesigned or re-engineered a key business process to take advantage of information technology?
- Is your organization contracting the development of new software and/or computer operations, such as central reservations, to a third-party or planning to?

- What areas of your organization are demanding greater information technology resources.
- Is your organization using electronic mail, voice mail, and video-conferencing?
- How important will information technology be to maintaining a productive workforce in your organization during the next decade: critical, very important, somewhat important, or not very important?
- How important will information technology be to maintaining and increasing your company's market share: critical, very important, somewhat important, or not very important?

Technology Provides Competitive Edge

It is clear that hospitality organizations are counting on technology to get a leg up on the competition; 88 percent of the survey respondents say that advanced or leading-edge technology is critical or important to their competitive survival.

Eighty percent of the respondents anticipate their information system budget increasing over the next five years, demonstrating that hotel corporations are investing more to deliver more applications supporting the business thrust. Executives identified sales and marketing as the top areas demanding greater information technology resources, followed by operations, central reservations, accounting and finance, corporate management, telecommunications, yield/revenue management, human resources, and forecasting.

Although the tools information technology (IT) brings to an organization are impressive, they pose various challenges that must be met to be effective. Survey respondents say that the biggest information technology challenge facing their organizations is the integration of systems, data, and product distribution channels. Other challenges cited include the following:

- staying current with technology
- improving labor productivity and the user-friendliness of end-user systems
 - providing user training and system support
 - selecting cost-effective information technologies and upgrades
 - developing a stronger understanding of technology by senior executives
 - getting the industry to develop standards, not vendors
 - implementing new systems
 - retaining qualified employees who understand technology issues
 - re-engineering business processes before automating

Redesign Trends Take Advantage of Technology

More and more companies are recognizing the need to fundamentally change the way they do business. To this end, 76 percent of the survey respondents say they have redesigned or re-engineered a key business process to take advantage of information technology.

Examples cited include central reservations, payroll, labor and inventory control, guest registration and history, catering, employee scheduling, and information dissemination.

Taking maximum advantage of technology often requires redefining standard operating procedures and re-engineering work. Simply automating an existing process does not always compensate for performance deficiencies.

The Ford Motor Company discovered this when automating its accounts payable department. It initially appeared that the 500-person accounts payable department could be reduced by 100 people, but when it was learned that one of Ford's competitors accomplished the same feat with only five people, Ford revised the accounts payable procedures. The impact of automation was dramatically enhanced. According to Michael Hammer, president of Hammer and Company, an information consulting firm in Cambridge, Massachusetts:²

It should come as no surprise that our business processes and structures are outmoded and obsolete: our work structures and processes have not kept pace with changes in technology...Use computers to redesign—not just automate—existing business processes..Unless we change outdated rules, we are merely rearranging the deck chairs on the Titanic... Information technology offers many options for reorganizing work. But our imaginations must guide our decisions about technology—not the other way around.

Re-engineering requires a new paradigm to be effective: a willingness to constantly question everything and to challenge basic belief systems and assumptions about the business. For example, some automated hotels still use room and telephone racks and reservation wall charts. These are carryovers from a different era that add unnecessary steps to information processing, preventing better guest service and labor productivity. Successful organizations realize that the ideas, procedures, and technologies that succeeded in the past may not be the ones that take them into the future.

Since quality improvement is a goal of most re-engineering projects, the quality-control principles devised by W. Edwards Deming can be successfully applied. General Douglas MacArthur brought Deming, the father of quality management, to Japan to revitalize a war-ravaged Japanese industrial base. Deming imparted a basic core belief, resulting in Japan's power to dominate the markets of the world: a constant commitment to increase the quality of their business every single day and to reduce waste and costs.

Re-engineering information technology resources using Deming's quality-control principles requires:

- Everyone in the company, including senior management, to take an active role in re-engineering and to make a long-term commitment to continuous quality improvement.
- Concentration on business processes (not the organization) that have an especially critical requirement for information and information technology. Quality comes from improvement in the process.
- Measurement of quality at each stage of the process. Organizational productivity and customer satisfaction must be continuously monitored and communicated at all levels.

“Outsourcing” is the contracting of new software development, on-going systems maintenance, and computer operations to a third party; 64 percent of survey respondents say they are using or planning to use outsourcing for such things as payroll and central reservation office operations and the development of yield management, guest input evaluation, central reservation, and telecommunication management applications.

Outsourcing allows a company to save money by cutting back its information systems staff. Many people feel that it will become a common practice during the next decade.

Employee Empowerment Increases

In today’s competitive environment, executives must spend as much time as possible making decisions that are strategic and directional in nature. Consequently, executives are providing lower level employees with more opportunities to make operational decisions. Employee empowerment, made possible through advancements in IT, allows corporate executives to concentrate on leadership rather than control.

IT applications, such as internal/external databases, expert systems, and computer-based instruction, enable the sharing of information throughout an organization.

Tom Peters writes, “There are few greater liberating forces than the sharing of information. There is no such thing as ‘delegation’ or ‘motivation’ without extensive information. Knowledge is power—it always has been, and it always will be. Power— at the front line—is one more ‘must do,’ not a ‘nice-to-do.’”³

Frequently, employees cannot complete a transaction or deliver the necessary level of customer service because of insufficient information at their disposal. One mail order firm realized that its sales volume could not surpass \$10 million per year because each salesperson specialized in one product line. Consequently, potential sales were lost because salespersons with the necessary technical expertise were frequently unavailable. Management decided to implement a knowledge-based system. The impact was dramatic.

Two years later the firm’s sales reached \$100 million. With access to an on-line database containing detailed descriptions of every product, one salesperson could understand and sell all products. Furthermore, if a potential customer requested a price for a

product not carried or out of stock, the computer would list alternative products.

Mrs. Field's Cookies, Inc., a company with over 600 stores in five countries, provides an expert system that can be accessed through the store computers to help employees make decisions on such things as how many cookies to bake, when to bake them, and when to offer free cookie samples. Similarly, yield management systems advise management on whether or not the pricing and room allocation for a particular rate or market segment should be increased, decreased, or closed based on analysis of demand.

Expert and knowledge based systems are like on-the-job-training tools, but with the added benefit of making employees immediately productive and smarter the longer they interact with the system. And when user suggestions are continuously incorporated into these systems, the machine becomes smarter and more productive, making the relationship truly symbiotic.⁴

Due to the high turnover rate in the hospitality industry, most training happens on-the-job because a formal, in-house training program is too laborious and tedious. Thus, information is handed down from one employee to another in an unstructured, ad hoc manner. This almost always dilutes knowledge of the system over time, diminishing system utilization and acceptance. This problem is also cited in a 1990 AHMA study which identified training as a significant barrier in adapting technology to properties.

Computers Can Assist in Training

Computer-based instruction (CAI) may resolve this training dilemma because it transforms a computer into an on-demand learning device with the potential to produce 30 percent more learning in 40 percent less time at 30 percent less cost, compared to traditional training systems.⁵ Effective CAI training applications have also been developed for learning non-computer related tasks such as the responsible handling of alcoholic beverages. The potential for electronic consultants and self-training systems in the hospitality industry has been barely tapped.

A more powerful IT approach to employee empowerment would be the creation of an integrated performance support system (IPSS) that incorporates CAI, expert systems, interactive instruction, detailed job procedures, and reference and help materials—any of which can be called up on an employee's computer screen whenever needed.

An IPSS integrates all of an employee's job tasks into a single, comprehensive information delivery system using multimedia hardware and technology to present information in a variety of media including video, audio, and graphics. For example, if a printer ribbon needs to be replaced, the user could request moving video for a more meaningful and vivid explanation.

The levels of investment required to maintain a productive workforce will continue to increase. A company can use technology to help

its workforce to do more with less and empower itself economically. IT is critical or important to maintaining a productive workforce during the next decade according to 100 percent of the survey respondents.

Mary Boone, the noted author of *Leadership and the Computer*, writes:

Decisions about how and when to share information are made at the top of an organization. Executives who want to empower people will share with them. They can accelerate these efforts through use of information systems. By assisting in the formulation of electronic information systems that are designed to share information, executives can maintain 'control' of their businesses while simultaneously empowering the people who work there.⁶

Electronic Communications Open Up Possibilities

IT communication tools (e.g., electronic mail, voice messaging, and videoconferencing) open up new channels of communication that reduce communications barriers, improve amplification of executives' messages, and flatten corporate structures.

Sixty-four percent of survey respondents say their organization is using electronic mail, which allows users to send and receive paperless messages, not only enhancing communications but reducing communication-related costs.

One CEO claims that E-mail enhances his writing and thinking and personalizes his messages because it is more like informal communication. It is also a powerful listening tool, facilitating global team building and open-door policies, unveiling new ideas, and extending an executive's ability to stay personally involved with employees.

E-mail also extends an employee's ability to communicate with external constituencies such as it did for Rosenbluth Travel when it connected its customers to its electronic mail system to facilitate the booking of travel arrangements. Rosenbluth Travel has aggressively used IT to grow from a regional agency with 40 million in annual sales to a national giant with over \$1.3 billion in annual sales within a 10-year time span.

Document imaging systems, one of the fastest growing application markets, enable faxes and scanned files (e.g., contracts, invoices, resumes, correspondences, invoices, etc.) to be inserted into E-mail messages. This streamlines interoffice communications by eliminating much of the effort involved in the copying, refiling, and distribution of paper documents.

Some people feel that E-mail may increase business travel because it enables the world to be more interconnected and, consequently, encourages corporations to send even their lower-level executives on international fact-finding missions to gain on-site training into the mind-set of their international partners and competitors.⁷

Voice Mail Increases in Popularity

Eighty percent of survey respondents say their organization is using voice mail, which allows a caller to leave a message in a voice mailbox. Voice mail is considered one of the most effective forms of business communication according to a recent survey of Fortune 2000 professionals; 78 percent of the voice mailbox owners reported that voice mail improved their productivity on the job, while 60 percent preferred voice mail to leaving messages with a human receptionist. A major complaint, however, was getting trapped in "voice jail mail" or the inability to reach a "live" person on demand.

Having a human operator in the loop is necessary to avoid losing sales. In a recent survey, two-thirds of the customers said they would call competing businesses until they reached a "live" voice.

Videoconferencing, used by only 16 percent of the survey respondents, will increase as it becomes more affordable and business users begin to understand how to integrate it into organizational communication strategies. Videoconferencing is a two-way communications technology allowing people in different locations to see each other while they talk and to share charts and body language. It helps geographically dispersed corporations keep all employees informed and working toward the same goals. It allows meetings, training sessions, and seminars to be conducted regardless of time and distance. Ford Motor Corporation started using videoconferencing an hour or two a month in 1984, whereas today, the average is around 200 hours a month.

Most hotels, however, view videoconferencing as something that is going to hurt business. But according to Daniel Burrus, one of the nation's leading forecasters and founder of Burrus Research Associates, Inc.:⁸

There will be an increased need for meetings in the future. However, we're going to have to supplement these meetings with videoconferences so we can communicate even when are unable to physically get together. There are so many small businesses that don't have the resources to meet, small regional businesses or independent agents working for large insurance companies. Videoconferencing would be wonderful for them, but they can't afford it on their own. If they go to a hotel and hold a videoconference, chances are they'll have a meal in that hotel. They might even have a mini-meeting with an overnight stay if they're videoconferencing from around the company. What we're talking about is more business for the hotel as well as an added resource.

Quality Must Be Constantly Measured

Accessing external databases such as Business Wire for financial data and raw press releases, such as XYZ Hotel Corporation introduces in-room fax machines, provides an organization with early

warning signs on competitive actions. This provides an organization with more time to counter a competitor's strategic moves.

The constant measurement of quality is the key to maintaining and growing market share and ensuring that quality is a top priority. Electronic tracking systems can provide timely feedback on customer complaints, responses to customer complaints, and customer satisfaction. One hotel corporation using computers to collect data about guest satisfaction places a computer at the front desk where guests respond to questions about the quality of their stay. This information is then forwarded to corporate headquarters for daily review. This quality control tool provides a much larger sample size than traditional in-room guest comment cards and is helpful in identifying problems, such as poor food service, as well as strengths, such as excellent room cleanliness.

Many feel that lodging organizations eyeing growth and new client markets will rely heavily on central reservation system (CRS) technologies to stay ahead of their competitors. These technologies enable hotels to collect and manage information about their clients to strategically position their properties and access distribution channels to communicate with targeted customers.

Linkage to Airlines Expands Opportunities

The linkage of central reservation systems to the gigantic airline networks or global distribution systems enables the selling function to be expanded into travel agencies around the world.

Linking a hotel CRS to an airline reservation system allows travel agents to enter search criteria to identify hotel accommodations meeting a particular customer's needs. They can have on-line access to hotel features, amenities, and locations where points of interest, business centers, conventions sites, theme parks, and other reference points can be spotted on a map for location comparison.

The two types of CRS's are market-oriented and destination-oriented. Market-oriented CRS's, such as Hilton's and Holiday Inn's reservation system, were developed by corporations to market their own specific products to gain market share. On the other hand, destination-oriented CRS's, representing a particular area such as a region or country, can maintain a centralized inventory of lodging accommodations for an entire destination area where the types of subscribers could be anyone, chains or independent properties.

Market-oriented CRS's act as a strong barrier to the development of destination spots, whereas a destination-oriented CRS allows a country to be interfaced into a worldwide distribution system without any integration problems. In the United States, where numerous reservation systems pose various integration problems for effectively tying into airline and travel agency networks for global distribution, this is not true.

For U.S. destination spots to survive in the global marketplace, competing hotels may be forced to subscribe to a destination-oriented

CRS. This would permit potential tourists to quickly access available accommodations and other tourist-related information through an 800 number and open up new marketing channels if integrated into a global distribution system.

It may have a dramatic impact on direct marketing techniques. Already companies are using interactive floppy and CD-ROM disks, bulletin boards, and kiosks to sell everything from cars to countries. The most important advantage of an electronic brochure is that it can involve people in answering questions, making choices, and exploring scenarios. This increases the likelihood of message retention since people remember 20 percent of what they see, 30 percent of what they see and hear, and 60 percent of that with which they interact.

Information Partnerships May Be Key

In the future, retaining market share while controlling marketing costs may depend on the development of strategic alliances or information partnerships. An example would be a group of hotels jointly owning a CRS to bring enough critical mass to the marketplace to warrant sharp reductions in charges per reservation exacted by airlines' systems. This relationship also allows the substantial investment in hardware, software, and training to be shared.⁹

Seventeen hotel chains formed a cooperative venture called The Hotel Industry Switch Company (THISCO). This organization developed a bi-directional interface, UltraSwitch, to provide users of airline terminals such as travel agents and corporations with direct access to hotel central reservation systems. This information partnership resolved an integration obstacle that drastically improved a travel agent's ability to make timely hotel reservations using an airline system.

Rosenbluth Travel formed Rosenbluth International Alliance (RIA) in 1988 to expand globally through foreign partnerships rather than through acquisition. This cooperative alliance of independent agencies is comprised of 32 partners operating 1,200 offices in 37 countries and has a gross annual sales of over \$6 billion dollars. The level of service and cooperation in this global corporation is made possible through IT. It enables the same quality of support on the road that the traveler could expect from his home agent and consolidates information across the world to coordinate decision-making and leverage global purchasing power.¹⁰

RIA can be classified as "global virtual corporation" because it uses IT "to structure and restructure itself, combining local partners meeting local needs to service global accounts with global needs."¹¹

Another interesting trend is the booking of all travel arrangements, including hotel reservations, from homes and offices through on-line communication programs such as Prodigy, an interactive personal service that is accessed via a personal computer and modem. The connection of personal computers to global reservation systems may eliminate many of the travel industry's middlemen.

Many experts predict that U.S. workers will spend more time on the job and become more sensitive to bureaucratic delays and snafus that steal away their limited vacation time.¹² Consequently, hotels in the 21st Century will increasingly rely on IT for providing high-quality personalized services and time-saving devices to satisfy time-constrained guests. It may become a competitive necessity, for example, to provide hotel guests with in-room interactive televisions to access concierge services and personalized messages, to determine folio balances and check out, to place wakeup calls and room service orders, to personalize the programs they watch, etc.

Retaining top market share requires a company to minimize turnover of top people. Many executives are unaware of their company's top-rated employees. Some feel that the United States is experiencing a human capital crisis. A 1990 *Wall Street Journal* survey estimated that chief executive officers spend just 10 percent of their time on human resources management.

Executives can become more involved in the human resource process through information systems. A human resource information system can provide an executive with the capability to look at how employees are evaluated company-wide or for any hotel or region to ensure that top employees are being rewarded and treated fairly. Executives can scan through a salary and work history database to identify potential candidates for promotion. A human resource information system can highlight areas of the company where turnover is a problem or there is a shortage of skilled labor or management.

In the quest for selecting top-quality customer service personnel, electronic selection systems can be used to ascertain a prospective employee's abilities and skills to interface with the public. For example, one system has the individual being tested view realistic vignettes of various job-related situations and respond to multiple-choice questions about how he or she would handle particular situations. Studies suggest that electronic selection systems can be highly effective in selecting high-aptitude employees.

Competitive pressures have forced hotel executives to rely more heavily on IT to shore up and even expand their businesses. IT has become a much higher-stakes game. Many corporate executives foresee their companies investing more in IT.

Taking full advantage of IT will require the integration of systems, good technology planning, strong support from top management, computer-fluent employees, and applications that support the business thrust.

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