

Best Practices in Information Technology

by Judy A. Siguaw and
Cathy A. Enz

“The successful companies of the next decade will be the ones that use digital tools to reinvent the way they work. These companies will make decisions quickly, act efficiently, and directly touch their customers in positive ways.”¹ —Bill Gates

As Bill Gates notes in the quote displayed above, the companies that effectively use information technology (IT) will be the ones that best improve customer service, whether those customers are external (e.g., guests) or internal (e.g., employees, stockholders). Certainly this holds true for the lodging-industry champions who were nominated by peer organizations and managers for their efforts in information technology.² The

champions designated specifically as information-technology champions are listed in Exhibit 1. All of these companies have worked to develop or improve technological systems that influence the guest experience.

In this paper we provide a detailed account of the information-technology practices of individual best-practices champions and identify the outcomes of each practice. We also present the advice and suggestions that these champions provided for those managers seeking to implement their own technological practices.

¹ Bill Gates with Collins Hemingway, *Business @ the Speed of Thought: Using a Digital Nervous System* (New York: Time Warner Books, March 1999), p. xxii.

² This research represents a portion of a larger study undertaken by the Cornell University School of Hotel Administration, as explained in: Laurette Dubé, Cathy A. Enz, Leo M. Renaghan, and Judy Siguaw, “Best Practices in the U.S. Lodging Industry—Overview, Methods, and Champions,” *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 40, No. 4 (August 1999), pp. 14–27. The full study is available in: Laurette Dubé, Cathy A. Enz, Leo M. Renaghan, and Judy A. Siguaw, *American Lodging Excellence: The Key to Best Practices in the U.S. Lodging Industry* (Washington, D.C.: American Express and the American Hotel Foundation, 1999).

Judy A. Siguaw, D.B.A., is an associate professor of marketing and sales at the Cornell University School of Hotel Administration «jas92@cornell.edu», where **Cathy A. Enz, Ph.D.**, is the Lewis G. Schaeneman, Jr., Professor of Innovation and Dynamic Management «cae4@cornell.edu».

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Exhibit 1
Overview of IT best-practice champions

IT champions	Practice initiated, developed	Measure of success
The Balsams Grand Resort Hotel	Comprehensive guest-history program	High occupancy rates from return guests and word-of-mouth recommendations
The Barbizon Hotel and Empire Hotel NY	Software eliminates logbooks and standardizes record-keeping	Increased repeat-guest rate and the quality of service and productivity; eliminated paperwork; and increased ability to analyze trouble spots
Candlewood Hotel Company	Implemented system of recording and storing accounting and construction records electronically	Increased productivity and reduced labor costs; improved response time to vendors, guests, and employees; and decreased storage costs
Carlson Hospitality Worldwide	Industry's most efficient and productive reservation system	Highest contributor at the lowest cost
Cendant Corporation	Computerized system integrates all hotel MIS functions into one system	Increased franchisees' ADR and corporate profits; and increased ability to serve guests
Courtyard by Marriott	Intranet system replaced manuals and other printed information	Increased productivity; reduced labor costs; and eliminated production and distribution costs of standard operating-procedure pages and binders
Fairmont Copley Plaza Hotel	Property-management system used to improve concierge performance	Increased guest satisfaction and loyalty
Hotel Nikko at Beverly Hills	Portable phone system installed throughout hotel; used by guests and employees	Increased telephone use and revenues and increased customer satisfaction
IMPAC Hotel Group	Lobby-based kiosk touch-screen guest-tracking system	Improved maintenance and productivity and improved overall quality and image of property
Inter-Continental Hotels & Resorts	Global strategic-marketing database	More-effective targeted mailings; increased ability to measure advertising effectiveness; increased guest loyalty program participation; and altered decision making of senior management
Kimpton Group Hotels and Restaurants and Outrigger Hotels and Resorts	Private-label reservation system	Increased ADR and profits; reduced labor costs; and increased attention to guests
Marriott International	Information technology aligned with corporate strategy; and revenue-management systems for revenue enhancement	Increased operational efficiency; reduced costs; and eliminated guesswork. Increased revenues; improved profile of guests; and identified weak-occupancy periods
Omni Hotels	Integrated property- and revenue-management system	Increased revenues; increased service levels to guests; and reduced overbookings
Promus Hotels	Computerized, integrated payroll-and-benefit accounting system	Reduction in errors in selection of benefits and increased speed of response and productivity
Radisson Worldwide	Reward program for travel agents	Increased travel-agent participation and profitability
Ritz-Carlton Chicago	"Compcon" position to handle guests' computer-related problems	Increased customer satisfaction and increased morale among concierge, business center, and MIS personnel

The Best Practices

Interestingly, the vast majority of our best-practice champions focused primarily on using innovative technology to improve the efficiency of internal operations. The indirect effect on customer service and guest satisfaction was a secondary goal (and, in some cases, a happy accident). Those champions are the Barbizon Hotel and Empire Hotel New York, Candlewood Hotel Company, Carlson Hospitality Worldwide, Cendant Corporation, Courtyard by Marriott, Inter-Continental Hotels & Resorts, Kimpton Group Hotels and Restaurants and Outrigger Hotels and Resorts, Marriott International, Omni Hotels, and Promus Hotel Corporation.

The main goal of four other champions was to use technology specifically to improve service to the external guest. In those cases the secondary objective was indirectly to improve operations and financial measures. Those champions are The Balsams Grand Resort Hotel, Fairmont Copley Plaza, Hotel Nikko at Beverly Hills, and the Ritz-Carlton Chicago.

Two of the best practices equally benefited both operations and guests. The champions with these "balanced" practices were IMPAC Hotel Group and Radisson Worldwide. Exhibit 2 provides a summary of each best practice, the method of implementation, and the name of a contact person. The text below elaborates on the descriptions in Exhibits 1 and 2.

Improving Operations Efficiency

The companies and properties listed in this section used information technology to enhance substantially some aspect of hotel operations. In some cases guest services also improved as a result of implementing

Manage By Exception. With staff responding to guest calls at a rate of 98.6% within 30 minutes, managers can focus on what's missed.

HOTEL EXPERT
by Metromedia

Alarm Clock for Every Task. Timer screen alerts staff to overdue tasks.

Room No.	Task	Assigned To	Status
815	MP Amenity	MP Amenity #14	116 RMSVC ROOMSERVICE
140	Mail & Package Receive Fax	6 PBX	OPERATOR
	Be Assigned Mail & Package Receive Federal Express	6 PBX	OPERATOR 1 BOX

Quantity of Calls per Hour graph shows average call (guest and internal calls) activity by hour to analyze staffing.

Hour of Day	Call Quantity
00	0.00
01	0.00
02	0.00
03	0.00
04	0.00
05	0.00
06	0.00
07	1.00
08	14.00
09	18.00
10	33.00
11	21.00
12	13.00
13	22.00
14	11.00
15	14.00
16	18.00
17	15.00
18	27.00
19	29.00
20	17.00
21	18.00
22	17.00
23	13.00

the IT best practice, and that was an added benefit (but not the primary goal).

HOTEL EXPERT. Managers at The Barbizon Hotel and Empire Hotel New York were dissatisfied with the traditional logbooks that are used to register guests' comments, requests, and complaints. The entries were often indecipherable and there was no way to know whether a request had been fulfilled or, if it had, how much time it had required. To eliminate the logbooks and to standardize record keeping for all

operations activity and guest calls, a central database was developed with one computerized form. Now known as HOTEL EXPERT (see illustration above), the specialized software allows employees to activate calls from virtually anywhere in the hotel via telephone or PCs connected to the local area network. The system automatically assigns tasks to the proper employee or manager and can also activate pagers, thereby ensuring that calls go to the right employees. (Tasks that are transmitted to pagers are followed

Exhibit 2

IT best-practices cases, descriptions, implementation, contact people

IT Champion, Title of case	Description of case	Method of Implementation	Contact person
The Balsams Grand Resort Hotel <i>A Guest History System</i>	Created a comprehensive guest-history program that tracks each guest's preferred room, room layout, dining room, server, food and beverage items, house-keeper, and activities.	Each time an individual telephones or stays at the property, requisite information is entered into the guest-history database system. If the caller is a previous guest, that person's file is pulled up and the data reviewed and updated. The system is fully integrated with operations.	Steve Barba, <i>president</i> 603-255-3400 Fax: 603-255-4221
The Barbizon Hotel and Empire Hotel New York <i>Standardized Record-keeping for Operations and Guest Calls</i>	Developed "HOTEL EXPERT" software to eliminate logbooks and to standardize record-keeping.	Software allows employees to activate calls from anywhere in the hotel. The system automatically assigns tasks and can activate employees' pagers. Computerized form is used to order items in advance and to schedule internal projects and preventive-maintenance assignments. Provides on-screen reports and graphs.	Pamela Graber, <i>general manager</i> 212-838-5700 Fax: 212-753-0360
Candlewood Hotel Company <i>Electronic Record Management</i>	Implemented an electronic system of recording and storing ("imaging") virtually all accounting and construction records, thus eliminating the need to file and store hard copies of documents.	Worked with software providers to find a system that would be easy to use. As part of the document-processing procedure, the document is scanned into the system and retrieval is easily accomplished via the file-index program.	Lisa Penn, <i>records-management coordinator</i> 316-630-5500 Fax: 316-630-5588
Carlson Hospitality Worldwide <i>World-Wide Reservation System</i>	Created the most extensive, efficient, and productive reservation system existing today.	Built from scratch its own reservation system that is designed to provide more-specific information on each property and more capabilities than the airlines' inflexible CRS main-frame systems were providing, while retaining the ability to connect with the CRSs. Developed seamless interface to GDS years before other companies.	Scott Heintzeman, <i>vice president of knowledge technology</i> 612-449-3333 Fax: 612- 449-1126
Cendant Corporation <i>Integration of All Hotel MIS Functions</i>	Computerized system developed to integrate all hotel MIS functions into one system, so that all 6,000 franchised hotels can use the information contained in Cendant's huge database.	The activities of property management, central reservations, internet communications, and direct marketing are integrated into one system.	Scott Anderson, <i>executive vice president—sales and marketing</i> 973-496-8655 Fax: 973-496-8445
Courtyard by Marriott <i>Intranet Information Sharing</i>	Developed intranet information resource that organizes information into a single, easy-to-use property resource, using computer and electronic technology to replace manuals and other printed information.	Twenty regional technology leaders train Courtyard managers and key people on its intranet system, which provides brand standards, answers operating questions, assists users in expediting routine tasks, and provides timely and accurate information to solve hotel problems. A minimum of two computer stations are available in each hotel to allow immediate access to the system.	Kelly Vytlačil, <i>brand executive</i> 301-380-8482 Fax: 301-380-1333

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IT best-practices cases, descriptions, implementation, contact people (continued)

IT Champion, Title of case	Description of case	Method of Implementation	Contact person
Fairmont Copley Plaza Hotel <i>Using a Property Management System to Improve Concierge Desk Excellence</i>	The property-management system supports concierge services with a database that places guest information at the concierges' fingertips, thus freeing them for more direct guest contact.	The PMS records each guest's preferences and reminds the concierge of guests who need special attention. It also contains area restaurant schedules and attributes, and is capable of printing directions for guests.	David Jamieson, <i>director of concierge services</i> 617-267-5300 Fax: 617-267-7668
Hotel Nikko at Beverly Hills <i>Portable Telephone System throughout Hotel</i>	Installed a portable telephone system throughout the hotel. Phones can be used for any outgoing or incoming calls, but work only within the confines of the hotel.	A portable system was chosen over a cellular one because of its greater reliability. It was installed at night to minimize inconvenience to guests.	Bradford Rice, <i>front-office manager</i> or Max Malek, <i>systems manager</i> 310-247-0400 Fax: 310-247-0315
IMPAC Hotel Group <i>A Lobby Kiosk Touch-Screen Guest-tracking System</i>	Each lobby contains a kiosk with a touch-screen monitor on which guests can respond to a survey about their stay. Data are downloaded and made available to the property manager the next morning.	System was developed in-house in conjunction with a third-party software company. Kiosks were placed in each property and now incorporate a work station connected to a mainframe computer in Atlanta via T-1 phone lines.	Nancy Wolff, <i>chief information officer</i> 404-365-3830 Fax: 404-364-0088
Inter-Continental Hotels & Resorts <i>Building a Global Marketing Database</i>	Created global strategic-marketing database containing detailed and extensive guest histories and consumption patterns for guest stays worldwide.	Jointly developed by the rooms department and the information-technology department to meet the marketing department's needs. After developing the technology, standards and training were implemented to ensure standardized coding worldwide. Data is regularly e-mailed from all worldwide locations for uploading.	Annette Kissinger, <i>director of rooms and database marketing</i> 203-351-8240 Fax: 203-351-8222
Kimpton Group Hotels and Restaurants and Outrigger Hotels and Resorts <i>Private-label Reservation System to Encourage Upselling</i>	Private-label reservation system has cross-selling capability that serves to contribute to improved occupancies and rates. System provides different quotes for specific dates and includes an on-line incentive to encourage upselling the customer.	When a reservation agent selects a hotel and room type for a specific date, the system provides three initial quotes, each showing an on-line incentive-point value. The system also provides data for any rate and room-type combination available, so the agent can sell the customer without having to enter multiple requests.	Dean Di Lullo, <i>director of reservations</i> 415-955-5433 Fax: 415-296-8031 or Ken Taylor, <i>vice president, information systems</i> 808-921-6701 Fax: 808-921-6715
Marriott International <i>Aligning Information Technology with Corporate Strategy</i>	Developed process to ensure that future systems and technologies support the corporate business strategy. The alignment is guided by a plan for a series of projects that must be executed to deliver the appropriate capabilities.	The plan covers three phases: baseline assessment, strategy development, and plan formulation. Each phase examines the use of information technology throughout the organization.	Barry L. Shuler, <i>senior vice president, information resources strategy and planning</i> 301-380-6586 Fax: 301-380-3801
Marriott International <i>Revenue Management Systems for Revenue Enhancement</i>	Developed revenue-management system that isolates the different market segments that use Marriott properties and provides a comprehensive understanding of those segments' reservations behavior, price sensitivity, and stay patterns.	Current system evolved from earlier yield-management systems. Fully integrated with the reservation system, the revenue-management system creates arrival-demand forecasts and provides inventory restriction recommendations. It also provides overbooking recommendations for each property.	David Babich, <i>vice president, revenue management</i> 301-380-1517 Fax: 301-380-5728

Continued on next page

IT best-practices cases, descriptions, implementation, contact people (concluded)

IT Champion, Title of case	Description of case	Method of Implementation	Contact person
Omni Hotels <i>Integrated Property-management and Revenue-management System</i>	Integrated a company-wide property-management system in its reservation system to produce a fully integrated, highly efficient reservations system that includes revenue management capabilities.	The development team collected information from all critical property managers to determine what was needed in the system. Based on these data, a third party developed a user-friendly Windows NT-based program, which expedited training on the new system.	Dennis Hulsing, <i>senior vice president for sales and marketing</i> 972-871-5624 Fax: 972-871-5667
Promus Hotels <i>On-line Integrated Payroll-Benefit Accounting System</i>	Developed a computerized, integrated payroll-and-benefit accounting system that is accessible on-line. Using a customized Windows program, the system displays the various benefit options available to an employee. After employee selections are made, the choices are automatically forwarded to corporate headquarters.	The system was developed by the technology department with input provided by human-resources managers, general managers, and the corporate human-resources department. Memos, manuals, instructions, and technological support were provided to the hotels as the system was implemented. The system replaced manuals and forms.	Kelly Jenkins, <i>vice president of corporate compensation</i> 901-374-5510 Fax: 901-374-5509
Radisson Worldwide <i>Reward Program for Travel Agents</i>	Developed "Look to Book" program, which rewards travel agents with points that can be redeemed for travel or gifts based on the number of reservations they book on-line with Radisson.	The goal was to develop a seamless, paperless loyalty-point program for travel agents that would instantly recognize and award each travel agent's Radisson booking. After technical and programming work were completed, a training and support system was developed to instruct agents on its benefits and how to participate.	Brian Stage, <i>president</i> 612-449-3443 Fax: 612-449-3401
Ritz-Carlton Chicago <i>"Compcierge" Position to Handle Guests' Computer-related Problems</i>	Created new "compcierge" staff position within the MIS department to serve guests who are experiencing computer-technology difficulties and to provide computer equipment on a loaner basis.	MIS personnel handle guests' computer-related problems as an added service to guests. Additional hardware and software were purchased to meet guests' needs, and requests for new software are reviewed immediately to determine feasibility. The compcierge service is located at the concierge desk, found in front of the hotel's business center, and operates 9 AM to 6 PM, Mondays through Fridays.	Tom Kelly, <i>general manager</i> 312-573-5001 Fax: 312-266-9498

Note: The case titles correspond to the cases written on each champion in: Laurette Dubé, Cathy A. Enz, Leo M. Renaghan, and Judy A. Siguaw, *American Lodging Excellence: The Key to Best Practices in the U.S. Lodging Industry* (Washington, D.C.: American Express and the American Hotel Foundation, 1999).

within 15 minutes by a "reminder" page.) If a task goes uncompleted, the system notifies the manager-on-duty. In addition, a single computerized form is used by all departments to order items in advance, such as cribs and wake-up calls. The primary users of this system are the housekeeping and maintenance departments. Lastly, the software provides on-screen reports and

graphs so that previously hard-to-retrieve data can be easily analyzed.

Measuring success. The use of HOTEL-EXPERT at the Barbizon and Empire Hotels has enabled those properties to offer an efficient, high level of service, and it has improved overall physical-plant operations. In turn, those improvements have resulted in a 30-percent increase in repeat-guest patronage. Moreover,

the software system has enabled the two hotels to save a total of \$750,000 over a three-year period through increased productivity and decreased paperwork, and the ability to analyze trouble spots.

Record keeping. Candlewood Hotel Company found that its accounting personnel were spending valuable hours searching hundreds of boxes and file cabinets to find

needed documents. This document search impeded responses to vendors, customers, and employees—resulting in less efficiency for everyone. In response to this problem, an electronic system of recording and storing virtually all documents was implemented. Only those records that contain original signatures (e.g., contracts, leases, deeds) are retained as hard copies, although they are also included in the electronic system for information-retrieval purposes. Development of the system involved a time-consuming process of researching software developers and vendors. Once selected and installed, however, the system itself has been easy to use and has added only one extra step to Candlewood's normal document-processing procedure—that of scanning the document into the system.

Measuring success. Candlewood estimates that its electronic record-management system will save approximately \$90,000 per year through employees' enhanced productivity and the decreased need for storage space. In addition, vendors, guests (especially group master accounts), and all employees benefit from the reduced time required to research and solve a problem or answer a question. Lower operating costs have also translated into lower room rates for guests.

Reaching beyond the CRS. Over a decade ago Carlson Hospitality Worldwide was the last of the major hotel companies to develop an on-line, computerized reservation concept. At that time Carlson decided against following the path other lodging firms had taken, namely, that of adapting existing airline reservation systems. Instead Carlson developed its system from scratch. The system was designed to provide more specific information on each property and included more capabilities than what the

airline-CRS systems were capable of providing while still being able to communicate with the airlines' systems. Carlson also developed seamless connections to GDS technology long before other hotel companies pursued those benefits. Since that time Carlson has continued to upgrade its system, and based on contribution and cost data, Carlson believes its system is the most extensive, efficient, and productive reservation system in existence today.

Measuring success. Compared to the industry as a whole, Carlson's worldwide reservation system makes the most money at the lowest cost (in terms of cost as a percentage of revenue). Specifically, Carlson's reservation system's cost is 2 percent of revenue produced, whereas its five peers' reservation systems' average cost is 2.7 percent of revenue, and the 21 industry leaders' average cost is 3.4 percent of revenue. Furthermore, in a 1997 independent study, Carlson's reservations system was ranked number one in occupancy contribution.³

MIS uniformity. Cendant Corporation has linked all 6,000 of its franchised hotels' MIS functions into one system that is tied to Cendant's huge database. The goals of this undertaking are to give each owner and manager more control of each property, to make each hotel more efficient and profitable, to improve communications, and to improve local marketing efforts. Called Power Up, the system consists of four main functions: property management, central reservations, internet communications, and direct marketing. For example, in the area of property management, Power Up permits the user to perform:

(1) inventory management and central reservations with a seamless interface, (2) yield management, (3) on-line credit-card processing, (4) workforce assignments, and (5) room-maintenance management. Moreover, the system allows operational connectivity to Cendant's other computer systems and allows the hotel to stay in touch with its corporate brand-support team, other franchises, and the rest of the world. Power Up also gives individual hotels access to data that they can use to conduct targeted direct marketing. Franchisees receive extensive training on the Power Up system. While there is no fee to the property for the basic system, after the first year an annual service contract fee is charged.

Measuring success. Cendant's integration of its hotel MIS functions into one system resulted in an average ADR increase of \$8.00 at Cendant properties using the system (which in turn increases the percentage-of-sales revenues collected by the company). The system benefits guests in that the enhanced database facilitates providing them with VIP treatment.

Intranet communication. Courtyard by Marriott expanded so rapidly that its ability to train and develop managers was stretched to the limit. A communication tool was needed that would be fast, easily disseminated, and user friendly. Courtyard managers determined that an intranet system would be best for this purpose. Outside vendors were hired to assist in designing a system that would allow information to be readily accessible and would require no more than four clicks to gain entry to any topic or subtopic. The result is a system called the SOURCE that uses computers and electronic technology to replace manuals and other printed information. It organizes informa-

³ That study was performed by Graycon Company, an independent research firm. Figures cited here were provided by Scott Heintzeman, a Carlson Companies vice president.

tion into a single, easy-to-use property resource. The SOURCE includes brand system standards, international sales and marketing, incentive marketing, STAR training modules,⁴ accounting, new-hire processing, and a manager's guide to benefits. At least two computer workstations are located in each hotel to allow accessibility to the SOURCE. Updating and changing information is easy and eliminates the need to print and mail hard copies to individual properties. Moreover, the system ensures that all new information is received at the property level in a timely fashion (versus the uncertainty associated with ground-transportation delivery services such as the U.S. Postal Service and private couriers). The program design also includes a section called "What's New" that flags and highlights the latest information.

Measuring success. The intranet system used by Courtyard by Marriott has virtually eliminated paper-work-preparation and hard-copy-distribution costs, and improved staff efficiency, training, and morale. For example, the system has saved a minimum of one hour each time a new employee is hired. Since Courtyard hotels hired some 6,600 new workers in just the first nine months of 1998, that intranet savings allowed more than 6,600 employee work-hours to be expended on other projects. Because the system con-



tains up-to-date operating information and is easily accessible, the need for mid-level supervisors has been reduced, thereby saving even more time and money. Guests are indirect beneficiaries of hotel standards that are consistent, efficient, and timely.

Global 2000. Inter-Continental Hotels & Resorts recognized that it lacked the capability to answer some

Cendant Corporation has linked all of its franchised hotels' MIS functions into one system. Called Power Up, the system consists of four main functions: property management, central reservations, internet communications, and direct marketing.

⁴STAR is an acronym for "Skills to Achieve Results."

These champions believe that the capital required for the technology was negligible when compared to the benefits accrued.

basic marketing questions about its guests and corporate clients. To overcome that limitation it created a centralized system to collect and store (for easy retrieval) guest data about length of stay, travel patterns, and services used. Global 2000 is a strategic-marketing database that is designed to interact with a wide range of reservation and property-management systems worldwide. Implementation of the system required numerous steps. After defining and developing the technology, Inter-Continental determined standards and training processes by taking into account the international nature of the data. Next, a standardized format was created to accommodate different office systems and to summarize revenue information into different source categories. Third, the use of and format for distributing the data were determined. Fourth, the company addressed direct-marketing applications and developed a user-friendly method for data retrieval. To build the database, data are collected from more than 100 hotels (out of 160 within the chain). Those properties represent 90 percent of Inter-Continental's worldwide rooms revenue. Data are gathered from all customers staying at participating hotels, and not just frequent travelers or loyalty-program members. Moreover, data are obtained at check out rather than at the time of reservation to capture guests' complete consumption behavior.

Measuring success. The cost of Inter-Continental's targeted mailings has been reduced and, because the mailings are more focused, they have generated more sales (compared to previous mail-marketing efforts). Participation in the guest-loyalty program has been increased by targeting previously unenrolled frequent travelers with special promotions and reduced membership

fees. The cost-effectiveness of the firm's advertising campaigns can now be tracked by noting the sources of new-customer acquisition. In another vein, Global 2000's data patterns aid managers in finding creative solutions to operational issues while the database provides an added incentive for business partners to join the company. To further measure success, a new series of management and benchmarking reports was developed based on the data for individual hotels, regional sales offices, and Inter-Continental's marketing departments.

In-house cross-selling. Kimpton Group Hotels and Restaurants wanted to ensure its position as market leader in boutique hotels, and wanted to encourage greater cross-selling among its properties. Kimpton's managers turned to Outrigger Hotels and Resorts, which had been developing a private-label central-reservation-system application for several years (in conjunction with OPUS 2 Revenue Technologies and Enterprise Hospitality Solutions). Kimpton used customer focus groups to determine how the system should be configured to meet its needs. The system was designed so that when a central-reservation agent selects a property and accommodation combination for a hotel for a particular date, the system provides the agent with three initial quotes. Each quote has an on-line incentive-point value assigned to it. This incentive induces the agent to try to sell the most attractive accommodations to earn as many incentive points as possible. Further, the system provides a listing of all rate and room-type combinations available to the general public, so the reservation agent has the opportunity to keep selling to the customer without having to enter multiple requests. The reservation program also encourages cross-

selling by allowing the agent to search for a rate category or special package across all Kimpton Group hotels with one search.

Measuring success. The Kimpton Group's private-label reservation system has improved profits by allowing an 8- to 11-percent increase in ADR with no apparent loss in occupancy. (One way it does this is by ensuring availability for customers who are willing to pay the highest rates.) Centralization of the reservation system has allowed each property to reduce its reservation staff from an average of four or four-and-a-half reservationists to just one-and-a-half (on average). Moreover, it has reduced the number of abandoned phone calls from previous highs of 8 to 10 percent to fewer than 2 percent, and is providing a 90-percent service level (meaning that 90 percent of all calls are answered within the first 20 seconds). Additionally, front-office employees can now be more attentive to guests because they are no longer handling reservation calls. Finally, the system provides meeting planners, travel agents, and individuals with the ability to book any Kimpton Group hotel with a single phone call.

Supporting the corporate vision. Marriott International has developed a strategy and planning process to align its information systems, resources, and technology with the strategy of its operating business. This approach to information technology permits Marriott to assess how well current applications and technology systems support the business and how to improve this support in anticipation of future needs. The information-resources division developed a three-step process to provide both the vision for future systems and technologies and a set of plans to guide execution of current information-based projects.

The three-step process includes: (1) baseline assessment, (2) strategy development, and (3) plan formulation. The strengths and weaknesses of the current information-resources organization and the systems and technology it provides is assessed in the first stage. A baseline is established using both facilitated workshops with senior managers to evaluate current application systems and benchmarks to compare Marriott with other companies. From this assessment, a list of "quick hits" or short-term projects is developed that immediately can improve information-resources support for business operations. For example, several different user help desks from various brands and departments were consolidated into one help desk for all Marriott end users. In the strategy-development phase, information-resources managers work with senior managers from the business (e.g., marketing, food and beverage, sales, rooms operations) to envision and document future business processes and the hotel-of-the-future from a systems-and-technology perspective.

The third phase, plan formulation, involves creating a framework for taking information resources from the current state identified in the baseline-assessment phase to the strategic vision defined in the strategy-development phase. This final phase describes priorities, timing, staffing requirements and sourcing strategies, costs and benefits, required training, and other projects needed to implement as much of the technology plan as possible within a three-year time horizon.

Measuring success. Marriott International's information resources, strategy, and planning process supports its business strategy. The identification and execution of so-called quick-hit actions discovered during the baseline-assessment

phase have yielded increases in operational efficiency and reductions in costs. The framework for annual review and updating of the technology plan and strategy allows the information-resources department to remain aligned with Marriott's business strategy and to stay abreast of important systems and technology trends.

Revenue management. Marriott International has also developed a revenue-management system that isolates the different market segments (e.g., leisure travelers, business travelers) that use the spectrum of Marriott properties and provides a comprehensive understanding of those segments' reservations behavior, price sensitivity, and stay patterns. This information enables Marriott to optimize room revenue by increasing room sales. The system uses proprietary software and is fully integrated with Marriott's reservation program. It creates arrival (demand) forecasts and provides sophisticated inventory-restriction recommendations. The revenue-management program offers the same inventory and rate information to all distribution outlets, so guests find no variation among channels. It also produces overbooking recommendations for each property by factoring in cancellations, early departures, and stay-overs. Finally, the system helps managers to maximize revenue on each room sold by adjusting rates according to demand, and provides Marriott with the ability to cross-sell its properties on a referral basis to any of its guests by allowing sales agents to access occupancy and room-rate information on any Marriott property.

Measuring success. Marriott International's revenue-management system has increased revenues by 1 to 3 percent, which translates into hundreds of millions of dollars. Individual properties receive better

guest-profile information for marketing purposes and learn about potentially weak occupancy periods in time to initiate targeted sales efforts. Customers benefit from more-effective inventory control and pricing, and through better management of demand patterns in the following ways: customers are more likely to find a room when they need it, and those who are price sensitive can be accommodated on certain days when they might otherwise have been turned away.

OmniCHARM. Omni Hotels introduced a company-wide property-management system into its CRS to yield a fully integrated, highly efficient reservations system that includes a state-of-the-art revenue-management system. This system, known as OmniCHARM, employs user-friendly PC-based software that is said to be less complicated than the revenue-management systems currently in use by the rest of the industry. Each night all Omni Hotels properties feed their reservations data into OmniCHARM via the central-reservation-information system. OmniCHARM then formulates length-of-stay restrictions to help Omni Hotels maximize room availability and revenue by determining selling strategies for each property regarding rates, length-of-stay restrictions, and the necessary adjustments on weekends versus weekdays. Projections can be made as far into the future as desired.

Measuring success. The OmniCHARM system has resulted in revenue increases of 3 to 7 percent. Guest-service levels are also increasing as a result of the CRS center's database because Omni's managers can stay current on what their customers want and expect. In addition, Omni has significantly reduced hotel overbooking.



Artwork from: News from the Notch, Winter 1997, Vol. XXVII, p. 8.

At The Balsams Grand Resort Hotel, guests' special requests and stated preferences can be recorded in the resort's fully integrated guest-history program.

No more paperwork. At Promus Hotel Corporation, the traditional paper forms used for employee-benefits selection were difficult for employees to follow, and so they made many mistakes. Additionally, it often took a long time for the forms to arrive at corporate headquarters and for the information to be entered into the company system. Moreover, Promus's rapid growth signaled a need for a more efficient payroll-and-benefit system, at a reasonable cost. Promus therefore developed a computerized, integrated payroll-and-benefit accounting system that is accessible on-line. Paperless and seamless, the customized system displays on a computer screen the various benefit options available to an employee. After the employee makes her selections, those choices are automatically transmitted to corporate headquarters where they become part of the payroll-information system.

Measuring success. Promus's on-line integrated payroll-and-benefit accounting system results in virtu-

ally no errors in employees' selection of benefits, which saves time in recording and administering those employee choices. Moreover, human-resources employees can now devote their efforts to other pressing employee issues (rather than spending time correcting administrative mistakes).

Improving Guest Service

The companies and properties listed in this section used information technology to improve guest services, offer distinctive service, or respond to the expressed needs of customers.

Guest-history program. Due to its remote location in the White Mountains of northern New Hampshire, managers at The Balsams Grand Resort Hotel have long recognized that the resort needs a high ratio of return guests if it is to be successful. To entice guests back to The Balsams year after year, management chose to institute a guest-history program that would allow as much customization for each guest

as possible. The program developed was one of the first attempts at using artificial intelligence in a real-time mode for multi-users. The resort collects data on every guest and on every individual who makes an inquiry about the hotel and places those data into that individual's file. The type of information collected includes the dates of the guest's previous visits, the room type and number (and any special requests for room layout), and the rate paid; the guest's housekeeper and server team; and the guest's preferences regarding dining rooms, food and beverage selections, special activities, and tee times or ski runs. Virtually any special request or stated preference can be recorded in the system. The system is fully integrated into the resort's operations, which allows the guest's every need to be anticipated and fulfilled.

Measuring success. The detailed guest-history database at The Balsams has generated high occupancy rates for the hotel. In fact, some 85 percent of the resort's business is from either repeat guests or first-time visitors who are there based on the recommendation of a former guest.

The concierge's helper. Managers at Boston's Fairmont Copley Plaza wanted to provide the most consistent guest service possible. A study indicated, however, that the concierge desk was overloaded with routine tasks, in part because a business center was located there. The Fidelio property-management system was therefore adopted to support the hotel's concierge services. The system allowed the director of concierge services to build a guest-history database that allows the concierge to expedite guest services and otherwise improve overall service levels. This allows the concierge to fulfill all guest needs. For example, the PMS records each guest's stated

preferences regarding a daily newspaper, breakfast, and wake-up call, and whether the guest uses the overnight laundry service. The system identifies those guests who need special attention and allows guests' dining choices to be prioritized. The PMS also contains details about every street in Boston, including how far it is from the hotel and the best way to get there.

Measuring success. Fairmont Copley Plaza Hotel's use of a property-management system to support its concierge services has pushed the concierge's guest-satisfaction index consistently close to 90 percent. Moreover, the program has encouraged loyalty among a core group of guests who frequently stay at the hotel.

Telephones to go. At the Hotel Nikko in Beverly Hills, guests' comments repeatedly indicated that many guests desired a third phone line so that they could handle multiple data and voice functions simultaneously. A feasibility study, however, indicated that the cost of installing a third wire to each guest room would be prohibitive. Instead, the hotel's managers installed a portable phone system. (Portable service was selected over cellular because of the reputed greater reliability of portable systems.) The system was installed in a relatively short time and with a minimum of inconvenience to guests. The portable phones are available in all guest rooms and meeting rooms, and are issued to selected hotel employees, including housekeepers, bell staff, and workers from the convention-services, maintenance, security, food and beverage, and front-desk departments. The phones have the same features as any other phone, including long-distance-call capability, but they operate only within the confines of the hotel. Extra phones are available upon request and, for bill-

ing purposes, are easily programmed to relate to a specific guest room or to a group's master account. Guests pay \$9.95 per day for use of each portable phone.

Measuring success. Nikko's portable telephone system has been popular with guests. It gives them the ability to place and receive calls from any location within the hotel. As a result, the system has increased guest telephone use by 6.5 percent and telephone revenues by \$2.00 per room-night sold.

Hi-tech concierge. The Ritz-Carlton Chicago found that its concierge and business-center personnel were increasingly being asked computer-related questions for which they did not have answers. In some cases the concierge simply did not have the technological expertise necessary to assist guests, and in other cases the software requested by guests was not available in the business center. The hotel's managers determined that the hotel's MIS department was capable of handling most of the guests' computer-related problems and questions, so a new staff position, the "compcierge," was created within the MIS department. The hotel also purchased additional hardware and software to maintain the desired level of guest service. The compcierge serves guests who are experiencing technological difficulties and loans computer equipment at no extra charge. The compcierge is stationed alongside the concierge desk, near the hotel's business center, from 9:00 AM to 6:00 PM, Monday through Friday.

Measuring success. The Ritz-Carlton Chicago's compcierge position has been well received by guests. Guest requests for computer assistance have increased from two to five per day, and morale among the concierge, business center, and MIS personnel has increased.

The ability to harness technology to improve the efficiency of operations and guest service will be the key to success.

Improving Both Guest Service and Operations

The two companies listed below used information technology to solve guest-service problems, knowing that the solution would benefit the overall operation of their hotels at the same time.

Guest feedback. IMPAC Hotel Group was dissatisfied with its guest-feedback program, which primarily consisted of in-room guest-survey cards. Besides the obvious limitations of such surveys, too much time was elapsing between when the data were collected and when they were compiled and shared with managers. Consequently, the information became essentially a historic review and was not useful for immediate action. IMPAC worked with a software graphics-design company to develop a system that would allow rapid reporting and response to guest feedback. The result is a kiosk containing a touch-screen monitor in the lobby of each IMPAC property. Using the touch screen, guests can answer a series of questions regarding their stay. The guest-tracking questions are designed to solicit comments and allow the guest to rate all hotel departments. The data are downloaded each night and distributed daily to the property's general manager and the corporate office. Data are available at any time during the day, providing the opportunity to immediately address any problems. Additionally, each month the kiosk is rolled into a more-private location and guests are invited to participate in an "associate satisfaction survey." This survey allows guests to provide extensive, confidential comments regarding the performance of the hotel's employees and its operations. Those data are also distributed to managers and executives at the end of the day.

Measuring success. IMPAC's kiosk-based touch-screen guest-tracking system has improved hotel maintenance, employee productivity, and the overall quality and image of IMPAC properties. Guests favor the computerized system, as it gives them greater confidence that the information they provide will be used (compared to completing cards that are left in the room or mailed to some obscure address). Moreover, guest service has improved and response time has been dramatically reduced. Indeed, in some cases the hotel can initiate changes based on guest feedback before the guest has checked out of the hotel. The data have also been useful in the preparation of capital budgets by enabling managers to pinpoint and justify capital-expenditure requests based on the needs and observations reported by guests.

Look to Book. Radisson Worldwide, which is firmly committed to maintaining good working relationships with the travel industry, sought to develop a competitive advantage by strengthening its ties with travel agents. As a result it developed its "Look to Book" program. This travel-agent award program requires no paperwork and no manual processing, and it works on all GDS systems worldwide. Best of all, it allows Radisson instantly to recognize and award each travel-agent booking. The program was designed to communicate with travel agents within three to seven seconds of a booking and includes a "bank" that securely manages the rapid deposit and withdrawal of "Look to Book" points. Using the Look to Book program, a travel agent can earn points redeemable for hotel stays, travel, and gifts each time the agent reserves a Radisson room on-line. After every transac-

tion, an electronic notice is immediately sent to the individual, showing the number of points that have just been earned, as well as giving the status of the agent's total current redeemable points and the earned points pending from reservations not yet consumed. Radisson also created a seamless interface between its host systems and agents' GDS systems, which allows for rate integrity. That interface also allows travel agents to bypass the GDS database and view full-text room descriptions directly from Radisson's own database. (That innovation is now an industry standard.)

Measuring success. Radisson's "Look to Book" program has enticed more than half of the world's travel agents to participate in the program. Agents like the fact that they can individually earn and redeem Look to Book points. As a result the program has been profitable and adds value to the hotels that come into the Radisson system. Radisson does about \$1 billion in worldwide travel-agency business annually.

Insights from Champions

The IT best-practice champions, for the most part, believe that using technology to enhance marketing efforts is a necessity in today's competitive environment. These champions believe that the capital required for the technology was negligible when compared to the benefits accrued. Because the support of senior management is crucial when proposing new technology, however, managers and others who propose such changes must be prepared to "show incremental profit and revenue," according to Inter-Continental's Annette Kissinger.

Second, when designing or greatly modifying the organization's

technology, ensure that the marketing and operations departments are involved in the project. As Courtyard's Kelly Vytlačil suggests, "Spend the time to research the needs of the field personnel," to which he adds, "design the information around how users want to see it, rather than how content owners want to present it." In other words, design the system to be user friendly.

Third, our champions repeatedly noted the importance of ensuring that all personnel are informed about and trained in all operational aspects of any new technology prior to fully implementing the system. Consequently, managers should consider slowly rolling out the new technology to keep from overwhelming the training staff and to allow time for employees to adapt to the changes.

Fourth, use technology to eliminate paperwork and reduce response time to guest requests. In general, new technology should improve employee productivity and morale. Such has been the experience of many of the best-practice champions profiled here, including the Barbizon Hotel and Empire Hotel New York, Candlewood Hotel Company, and Courtyard by Marriott.

Fifth, take the time to extensively research third-party system and software providers to find the most cost-effective vendor. That is not always an easy task, yet as Candlewood's Lisa Penn noted, "The cost, time, and effort are well worth it."

Sixth, consider the use of only only network architecture instead of personal computers when designing a system. IMPAC Hotel Group, Courtyard by Marriott, and the Barbizon Hotel all found network systems to be faster and more economical than individual PC-based work stations.

Seventh, recognize that technology is a long-term investment and design the system to accept future changes. Finally, the technology should not detract from personal service to the guest, but instead should enhance it.

Streamlining for Profitability

We believe that the ability to harness technology to improve the efficiency of hotel operations and service to guests will be the key to future success in the hotel industry. The IT best-practice champions mentioned here have shown us how they used information technology to develop specific competitive advantages and generate increased revenues in the process.

For the most part, the best practices related to information technology involved streamlining operations by reducing paperwork, speeding information dissemination, and increasing employee productivity—thereby increasing profitability. Other practices entailed collecting more detailed data on guests or providing more data to reservations agents, both for the purpose of increasing sales. Few practices, though, emphasized using information technology for the sole purpose of upgrading guest services. While a focus on improving hotel operations through information technology is crucial and commendable, the paucity of IT practices designed strictly for the guest is surprising, since such practices could easily result in enhanced revenues as well as more-satisfied guests. This gap in applying information technology to guest services may indicate there is much room for innovators to use technology to substantially improve the guest's lodging experience and thereby position the hotel organization as the preferred choice of the consumer. **CQ**