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An analysis of computer usage and its relationships to marketing decision-making in United States hotels

Cheung, Julia, D.B.A.

United States International University, 1989

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AN ANALYSIS OF COMPUTER USAGE AND ITS RELATIONSHIPS TO MARKETING DECISION-MAKING IN UNITED STATES HOTELS

A Dissertation

Presented to the

Graduate Faculty of the

School of Business and Management

United States International University

In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

By

Julia Cheung

San Diego, 1989

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Chairperson — 3/29/89 Date

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Chapter 1

THE RESEARCH PROBLEM

John Naisbitt wrote in "Megatrends" (1984) about 10 major trends taking place in American society. One of the trends he identified was the shift from an Industrial Society to an Information Society. "The level of change involved is so fundamental yet so subtle that we tend not to see it, or if we see it, we dismiss it as overly simplistic, and thus we ignore it... The problem is that our thinking, our attitudes, and consequently our decision-making have not caught up with the reality of things" (Naisbitt, 1984:3).

Naisbitt (1984) stated that Apple Computers, a pioneer in the field of personal computers, estimated that over half a million personal computers were sold in 1980, and that the total would grow at least 40 percent annually. On the other hand, scientific and technical information was increasing 13 percent per year at the time of this study and was expected to increase to 40 percent per year, thus creating the need for more powerful information systems and increasing the population of scientists. Naisbitt added that this level of information was clearly impossible to handle by present means.

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Information had become very important to modern society. In most businesses, demographic information about clients was not readily available. In the hotel industry, however, it was very easy to track down the demographic information of clients, because every guest or group must register when checking in (Geller, 1983). In 1985, Goffe and Parker stated that computers can greatly simplify the task of managing large masses of information. Unfortunately, at the time of this study, the United States lodging industry was about a decade behind other industries in incorporating computer techniques. Even in those hotels that were using computers, their use was usually limited to the front office, and marketing applications were usually an afterthought, if they were not neglected entirely.

The problem of insufficient computer use in hotel marketing was discussed by several other experts in the hospitality industry; Taylor (1986) stated that the sales and marketing functions have always been deemed beyond the reach of available technique. Sales people still wrote bookings in diaries instead of entering information in computers. With so many variables impacting upon hundreds of bookings, it was very easy to make costly mistakes. For example, salesmen might forget to log their room sales in diaries, causing rooms to be overbooked. Insufficient computer use can also cause problems like delays in replying to customers about the availability of rooms, because data

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is not immediately available. According to Goffe and Parker (1985:110), computers, if utilized properly, could bring many benefits to hotel marketers. They added that computers can be used for following things very easily:

"In advertising, sales promotion and publicity areas:

-- Measurement of the effectiveness of different advertising and commercials.

-- Measurement of the effectiveness of different sales promotion.

-- Preparing past clients mailing list.

-- Monitoring of advertising-to-sales ratios.

-- Preparing advertising budgets.

-- Preparing publicity budgets."

Goffe and Parker (1985:110) continued, stating the different functions of computers for marketing purposes:

"In sales and sales management:

-- Preparation of market share analysis.

-- Tracking and ranking how much business each geographic market brings.

-- Preparing potential clients list.

-- Tracking the reasons for cancelled reservation.

-- Measuring sales-lead to actual sales ratios (comparing whether sales lead have brought in actual sales for the hotel).

-- Tracking and updating of sales-lead age and status.

-- Developing sales-call plans.

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-- Designing sales territories.

-- Preparing future bookings reports.

-- Obtaining up-to-the-minute information on available date, rates and rooms.

-- Preparing sales contracts."

Goffe and Parker (1985:110) further stated the different functions of computers for marketing purposes:

"Agents and other intermediaries:

-- Tracking and ranking how much business each travel agency brings in.

-- Tracking and ranking how much business each airline sales agent brings in.

-- Tracking and ranking how much business each customer transportation firm brings in.

Room rates:

-- Developing a pricing model that determines optimal group rates.

-- Developing a pricing model that determines optimal first time rates.

-- Calculating rates for salesmen to quote to clients in order to have the desired revenue figures.

Quality control:

-- Tracking quality levels over time.

-- Producing a guest satisfaction index.

Catering:

-- Generating banquet event order.

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-- Preparing beverage set-up and requirement reports

-- Display menus and items already sold."

Powell (1977:22) also wrote about the uses of personal computers (PC) for marketing purposes:

" 1) Office follow up-- follow up on leads which may result in new business.

2) Management reports-- data will be gathered about different promotions, and will indicate to management which promotions are most successful in drawing leads for a particular product or service, and which of them have the highest profile.

(a) Data base applications:
-- tracking current customers and the products and services they bought.
-- tracking customers and their gains and losses.
-- managing mailing lists.
-- managing inventories of brochures and other promotional supports.
-- maintaining a current list of products and services.

(b) Spreadsheet applications--
-- forecasting sales
-- client presentation
-- internal presentations

(c) Communicating applications--
-- sending electronic mail
-- distributing all electronic data
-- downloading data file."

Powell (1977:22) added that the unusual uses of PC are:

" (a) Media planning-- to model media placement scenarios with its clients.

(b) Market research-- the main menu allows the user to complete a brief questionnaire on a particular service or product, which provides an instant easy analyzed survey base.

(c) Sales strategic planning-- Human Edge software sales programs which take the user through a series of scripted questions about the psychological characteristics of the salesperson and the prospect. After comparing the answer to a 'knowledge base' developed through much research

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and contained in the software, it prepares a complete report of recommended approaches to be used or avoided at sales meetings."

Taylor (1987) stated that if computers were properly used, they could benefit hotels by: getting higher sales closing ratios; increasing sales call frequency; providing better customer service, which provides salespeople more time to make sales calls; using less time to prepare proposals and quotations; getting greater accuracy in forecasting; getting more systematic work; increasing quality of work; and decreasing response time from clients.

The above uses clearly illustrate that computers could benefit hotel marketers. With so many apparent advantages to the use of personal computers, this research was intended to investigate the possible reasons for the apparent under-use of computers in the hotel marketing industry.

Ein-Dor and Segev (1978) defined insufficient computer use as a problem. They stated (1978:559), " A clear distinction should be made between the success of an Management Information System project, defined as completion on time and within budget, and the success of the MIS, which is the end product of the project. A project may be successful and yet result in an unused and therefore unsuccessful system. A project may be plagued by cost overruns and schedule slippage, and still result in a widely

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used system."

Prior to the research, other studies had investigated this problem, but none had specifically addressed the use of computers for hotel marketing purposes. McFarlan (1981) stated that despite the fact that the commercial use of computers was three decades old, many of the systems being implemented might be classic failures. Even in the 1980's, some computers were running over budget, some were discontinued, while others performed at a level far below expectations. Other systems required major, expensive modification after implementation, even before they were acceptable to users.

According to Tait and Vessey (1988:94), there were different theories of end-user attitudes, which suggested different factors that may contribute to the success of a computer system:

> Some studies regard motivation as the key to MIS success (DeSantis, 1982). Others find a positive relationship between user attitude and the unsuccessful use of an information system. (Maish, 1979; Toubkin and Simis, 1980). Age, training, education, experience, number of years in an organization, and number of years on the job are also found to affect the quality of information use (Fuerst and Cheney, 1982; Sanders and Courtney, 1985; Lucas, 1975; Schewe, 1976). Rockart and Flanney (1983) observed that user education is important and different types of users need different types of training.

Motivalla and Pheny's research (1982:140) found that "the characteristics of individual tasks and the environment in which the tasks take place have a strong and long lasting

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effect on information success." Lusk and Karsnick (1979:788) found that "job and information complexity affects decision quality." Environmental factors within an organization that are said to affect decision support system success include: environmental stress (Motivalla and Pheny, 1982), top management support (Kaiser and Scrinivasan, 1982; Rockart and Flannery, 1083), and environmental uncertainty (Scroeder and Benbasat, 1975).

It has been shown that successful organizations shift their management strategies to meet changes (Greiner, 1972), and that effective support and comprehensive education are a dominant concern when introducing end-user computing (Henderson and Traecy, 1986). Centralized help centers the introduction of consultants and a good reward structure have been shown to increase worker satisfaction (Henderson and Treacy, 1986), and therefore influence a system's success. In their 1987 study, Nelson and Cheney found that computer-related training was positively related to computer-related ability and that computer-related ability was positively related to the use of computer resources.

Purpose of The Research

There were three purposes for conducting this research: (1) to identify factors related to the success of computer systems in the marketing departments of U.S. hotels, (2) to determine whether U.S. hotel marketing

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executives perceived computers to be enhancing their job performances, and (3) to identify the latest applications of computer technology for use in marketing departments in the hotel industry. The latter was done by interviewing several computer vendors in Southern California.

In order to understand the characteristics of different types of hotels and the differences in their ownership, the following definitions were applied:

Resort hotel: a hotel with extended recreational facilities. It has a small proportion of commercial demand and a high percentage of group and tourist demand. It is usually located in secluded locations, but is self-contained, with restaurants and shops.

Downtown hotel: a hotel situated in the downtown region of a city. It usually has a high commercial and meeting demand and a low percentage of tourist demand. A downtown hotel is usually located very close to shops and commercial buildings.

Airport hotel: a hotel situated very close to an airport, it caters primarily to out-of-town business and convention guests who do not know the city and stay for a short period of time.

Roadside hotel: a hotel that is situated close to major highways, catering to guests who seek overnight accommodation during a journey. It has a low percentage of business and convention guests. It also has limited

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facilities and usually charges a lower rate than other hotels.

Convention hotel: a hotel that is usually located in a metropolitan area, catering to meeting and convention guests. It usually has a restaurant, catering service and numerous meeting rooms.

Suburban hotel: catering mostly to tourists, a suburban hotel generally located away from a metropolitan area. A suburban hotel may offer limited recreational facilities, and has its own restaurant.

Management contract hotel: a hotel under a typical management contract, in which an owner signs a chain or management company to a long term agreement, signing over operational responsibilities, while the operator takes charge of the whole project. The hotel firm provides its name, management expertise, staff and reservation network, receiving a fee in return (usually a percentage of gross revenue and an incentive figured as a percentage of gross operating profits). The absentee owner is financially responsible for the property and receives a share of profits after the operator is paid.

Franchise hotel: a hotel that purchases a franchise from large hotels such as the Hilton or Holiday Inn, and operates the hotel under its own management, or has the franchise company cooperate the hotel. The franchise includes an affiliation fee, a royalty fee paid as a

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percentage of room sales based on the number of available rooms, advertising costs, a unit cost per reservation, sign rentals, and other costs, such as stationery or guest supplies.

Chain hotel: one of a series of hotels that are owned by a large hotel company. These companies have standard procedures in operating the hotels. The chain may turn to management contract firms to manage the hotels or sell them to franchises.

Independent hotel: a hotel that belongs to a sole proprietor or partnership, who operates the hotel on its own. The owner receives all the profits of the hotel and is responsible for the costs and losses.

The Research Questions

The study has two research questions, both containing dependent and independent variables, they are listed as follows.

Research Question One

1a. What is the relationship between a variety of measured characteristics of U.S. hotels and the extent of reported use of computers for marketing decisions in U.S. hotels?

1b. What is the relationship between a variety of measured characteristics of U.S. hotel marketing departments and the extent of reported use of computers for marketing

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decision-making in U.S. hotels?

1c. What is the relationship between a variety of measured characteristics of U.S. hotel marketing executives and the extent of reported use of computers for marketing decision-making in U.S. hotels?

Variables. The question required the examination of a relationship between one dependent variable, the extent of reported use of computers for marketing decision making, and three independent variables, characteristics of U.S. hotels, characteristics of hotel marketing departments, and characteristics of hotel marketing executives.

The term extent of reported use of computers was defined as the percentage of total computer time used by different hotel marketing executives for the following marketing functions: (a) advertising, sales promotion and publicity decisions; (b) sales results and sales management decisions; (c) keeping track of performances of agents and other intermediaries; (d) room-rate decisions.

The term extent of reported use of computers was further defined as the number of hours per week each hotel marketing executive actually reported that he or she spent using a computer.

There are three independent variables: U.S. hotels, hotels' marketing departments, and hotels' marketing executives.

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A paradigm of three observable elements defined the first independent variable, type of hotels, as follows:

Element one: number of hotel rooms.

Element two: type of ownership: independent, franchised independent, chain operated or others.

Element three: convention, resort, airport, suburban, roadside or downtown.

Element four: level of top management support for the use of computers, as perceived by marketing executives.

A paradigm of three observable elements defined the second independent variable, type of marketing department, as follows :

Element one: number of sales people.

Element two: reported percentage of the marketing department's efforts devoted to the following functions: advertising, promotion, sales and catering, publicity, and others.

Element three: required frequency (daily, monthly, quarterly, semiannually, or annually) of production of various types of marketing reports (sales, sales budget, future bookings, advertising to sales ratio, client demographic analysis, publicity reports, lost sales, market share analysis, occupancy, promotion budgets, advertising budget, publicity budget).

A paradigm of four observable elements defined the third independent variable, characteristics of hotel

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marketing executive, as follows:

Element one: years on the present job.

Element two: total number of years of computer use for decision-making in hotel marketing administration.

Element three: formal education level.

Element four: time involved in computer training (number of months, number of hours per month).

Element five: personal reactions to the use of computers in hotel marketing.

Research Question Two

To what extent do U.S. hotel marketers perceive that the use of computers has improved the effectiveness of their decision-making?

Variables. A paradigm of 16 observable elements defined the dependent variable, effectiveness of decision-making, as follows:

Element one: assurance of the availability of data.

Element two: the ability to communicate information formally.

Element three: accuracy of information.

Element four: quantity of information content.

Element five: presentation form (for example, in form of graphics, spreadsheet).

Element six: speed of availability and updating of records.

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Element seven: time required for understanding of the problem.

Element eight: shortening time needed to make a decision.

Element nine: comprehensiveness of analysis.

Element ten: clarity of goals and objectives.

Element eleven: ease of presentation of constraints and alternatives for consideration.

Element twelve: directness and accuracy of quantification of action consequences.

Element thirteen: speed of calculation/analysis.

Element fourteen: speed of data handling/collection/correction.

Element fifteen: positive cost displacement (using the computer to do work is faster than getting them done manually, therefore saves money).

Element sixteen: improved procedures of preparing reports. For example, important columns cannot be skipped unless specified by the user.

Summary

Chapter One introduced the research problem, insufficient utilization of computers for enhancing hotel marketing decision-making. It provided a representative sample of existing literature that

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addressed the research problem. It then stated the two research questions, gave the criteria for the data sources, and defined the variables of interest.

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Chapter 2

LITERATURE REVIEW

Very little literature was available pertaining to the use of computers for hotel marketing purposes. No reported dissertation existed that fully investigated the subject. This chapter reviews research and articles related to the general problem area and provides a conceptual foundation for this study.

The chapter is divided into three parts. The first part reviews literature written by experts in the hotel industry. It examines the problem of insufficient computer use in hotel marketing. The second part of this chapter addresses related research. It describes what research has been done in the past concerning factors contributing to the success or failure of computer systems in general business. No formal research was found specifically investigating the hotel industry. In the third part of the chapter, the researcher described personal interviews with a few computer vendors in Southern California, and the latest state-of-the-art computer technology available to the hotel industry at the time of this study. Also, the researcher conducted telephone interviews with some well known hotels and hotel headquarters, and this part of the literature review

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describes how the marketing decision-making process was handled in these hotels.

Computer Usage for Marketing Purposes In the Hotel Industry

Goffe and Parker (1985) stated that the lodging industry was about a decade behind other industries in incorporating computer technology. Even if hotels were using computers, their use was usually limited to the front office, and they were designed and intended to function predominantly as operation systems. Other systems were designed almost exclusively by accounting and finance personnel, primarily for their own needs. Marketing applications were usually an afterthought, if they were not neglected entirely.

Goffe and Parker (1985) further stated that current marketing applications of hotel computers typically involved only basic areas such as guest history profiles, analysis of geographical sources of business, analysis of reservation sources, as well as analysis of certain common statistical results, (such as occupancy and average rate), in two or three major market segments. These limited applications did not begin to make effective use of the computer as a tool for decision-making in marketing. With increasingly intense industry competition, hotel marketing had necessarily become more advanced and aggressive. According to Goffe and Parker (1985), there were five marketing areas that, if

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computerized, would improve quality and quantity of marketing information:

(1) Advertising, sales promotion and publicity:
- (a) Advertising models (for example, to develop optimal media mixes and budgets).
- (b) Measurement of direct-response media productivity.
- (c) Measurement of the sales effects of different sales promotion.
- (d) Generating past-client mailing lists according to various criteria.
- (e) Monitoring of advertising-to-sales ratio.

(2) Sales results and sales management:
- (a) Continuous ranking and tracking by roomnight and revenue productivity of management segment by criteria: (i) geographic region, (ii) demographic characteristics, (iii) repeat purchase rate, (iv) length of stay.
- (b) Continuous ranking and tracking by roomnight and revenue productivity and profit contribution of each sales office or sales executive.
- (c) Lost, cancelled, first-time, repeat and inactive client analysis.
- (d) Generating potential-customer list from inquiries regardless of source and response to: (i) direct mail, (ii) advertising, (iii) publicity, (iv) trade shows.
- (e) Measurement of lead-conversion ratio.
- (f) Automatic tracking and updating of sales-lead age and status.
- (g) Sales management models, (for example, to develop sales territories and develop sales call plans).
- (h) Tracking of changes in market share for any market segment.

(3) Agents and other intermediaries:
Tracking and ranking by roomnight and revenue productivity of: (i) wholesale and retail travel agents, (ii) sales agents, (iii) hotel representatives, (v) other customer transportation firms, (iv) credit card companies.

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(4) Pricing Models that:
(i) determine optimal rates, (ii) evaluate the effects of rate changes, (iii) negotiate optimal group rates, (iv) set optimal first time rates.

(5) Quality control:
(a) Tracking quality levels.
(b) Guest satisfaction index.

Thayer C. Taylor (1986:21) also addressed the problem of the insufficient use of computer in sales functions of marketing. In July, 1986, he stated:

> .....hotels have long used computers for many of their 'front-and-back-of-the-house' operations, such as guest reservations, check-in and check-out, receivables, payrolls, housekeeping, and financial statements. But the marketing function has always been deemed beyond the reach of available technology....The complexity of dealing with so many variables forced marketing departments to do it the old fashion way: by having sales people log their entries manually in clumsy diaries... with so many variables impacting upon hundreds of bookings, all large hotels.... were forced to have their salespeople enter each entry the very same way the first innkeepers did it several hundred years ago, these delays result in lost business.

According to Taylor (1986), there could be many inconveniences and inconsistencies in a hotel's marketing department if computers were not used. For example, if a client wanted to know if 500 sleeping rooms, the Grand Ballroom, and five large meeting rooms would be available on the first of July, 1991, the hotel's marketing department would have to go the front office to check the availability of the rooms. Then, someone must check the diaries to see if the meeting rooms were available. Once this had been done,

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they must call the client back with a definite yes or no answer and trust that the client had not booked a competing hotel in the meantime. Sometimes if salesmen forget to log down the business that they have already booked, one meeting room may be booked for two events on the same day.

In the past, getting answers to planners' questions was a laborious, often time-consuming task (Taylor, 1985). But with the help of computers, the entire sales and marketing staff can have simultaneous access to the same data in a uniform format. This results in being able to accurately quote rates and available services to the client during the initial phone inquiry, eliminating unnecessary legwork and saving both time and money for the hotel.

Taylor (1985:122) reported some functions of the Delphi Computer System for the lodging industry:

> Delphi enables hotel's sales and/or catering managers to find out for any day, week, or month, the number of sleeping and function rooms already booked or held tentative, the number of guests anticipated, the revenues projected, rates quoted, the name of the salesperson who made the booking, and other important data.... The Delphi System is also a versatile management tool, allowing hotel staffs to retrieve specialized information quickly that used to take a marketing manager several days to collect. It can print out listing of all the bookings for the rest of the century (1999).
> ....The computerization of the hotel and travel industry is the increased number of ways that the sales and marketing executives can cut expenses, whether it is through faster check-in, easier booking procedures, or time saved setting up a meeting or other large scale event... The marketer who is well-versed in the many cost-cutting measures available today can go a long way toward saving those corporate dollars for something more worth while-- like increased commission.

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According to Perera (1986:22), marketing and sales lagged behind other business functions in the use of software technology, and companies were proceeding slowly with sales and marketing automation. Computer use has become necessary to hotel marketing for the following reasons:

(a) Rising cost: in sales and advertising, the cost to close a sale can be up to $5000. Since 1984, there has been an 88 percent increase in cost to place a full-page, black and white advertisement in a trade magazine, and a cost increase of 112 percent to put the same advertisement in a business publication.

(b) Intensifying competition: high productivity is required simply to maintain high profit levels. The level of competition in marketing has become more sophisticated, software is improving, and computer-based marketing information systems are expected to counteract these competitive forces.

(c) Information processing requirements: to facilitate sufficiently rapid response to competitor's actions and frequent changes in the market place, adequate access to information is required.

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Perera (1986) stated that computers can contribute benefits to marketing: better planning capabilities (since market planning is enhanced by effective performance evaluation) and a measurable increase in the performance of marketing programs, advertising campaigns and selling activities. New products and services can also be readily monitored. In this connection, Perera referred to McGraw-Hill Research (1986), which indicated that the average salesperson spends 61 percent of his time performing non-selling activities such as prospecting, collecting information, travelling and completing reports. Therefore Perera concluded that it is necessary to provide the salespeople with computers, because it will save them time to do the non-selling activities. He stated that in one survey of 200 companies, productivity was increased by 43 percent when salespeople were given strategic information provided by computer based systems. A truly integrated system allows for a multiple data base and helps increase the potential for higher sales and profits.

Moore (1975) stated that in order to build a Marketing Information System for hotels, data must be collected. The data required for a Marketing Information System (MIS) come from a combination of internal sources, including front-of-the-house data bases like hotel guest history, guaranteed corporate accounts, and credit card holders. Back-of-the-house data bases including sales reports, group booking

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reports, occupancy, average rate and hotel forecasts are other possible sources. Data may also be available from external sources such as marketing auditors, market-research studies, and guest comment cards.

According to Moore (1975), a data base can be used for the following marketing functions: future-booking analyses; early warning of soft periods; problem properties; group business leads; convention group profiles; sales office performance; evaluation of marketing programs, and development of new products and services. It can also provide information on reservation-system performance, and on analysis of transient base and corporate history.

The lack of marketing data in the hotel industry was also discussed by A. Neal Geller (1985). He conducted a survey for Peat, Marwick, Mitchell and Company, which focused on the performance indicators or the measures hotel executives deemed most important. The results indicated that negative comments were focused on the hotel system's lack of marketing and competitive data. The data lacked timeliness and failed to provide predictiveness. Executives get excellent analytical information, but when it arrives, it is no longer relevant. Data are also not selective enough, and there is too much duplication. Geller was surprised to learn during the field interviews in the early 80's, that many large hotels had extensive guest-history systems, but the information was still posted manually.

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Geller's survey also asked the respondents for their "wish-list" of improvements to the Hotel Information System. The resulting list included: better ways to measure customer satisfaction; a computerized complaint system; daily sales information; day-of-the-week sales and occupancy information (by day and type of hotel); demand forecast (both general and local); guest history information; marketing information; repeat business information; site analysis; speedier data; sales turndown; sales back-log information; and weekly reports in marketing.

Hotels have to implement more sophisticated programs in marketing, based on better marketing information about current and past guests, and information on future guests. These data are usually analyzed by outside marketing firms, so it is necessary for a hotel to gather marketing information. Hotels have a captive audience because guests must register. In contrast, manufacturers of packaged goods have no direct way of tracking their product from the store to the customer. When a guest registers, hoteliers can find out his demographics. High technology provides the mechanical tools necessary to do the job. A hotel simply has to redesign the processing systems, forms, and reports, and must re-educate the employees.

Dr. Peter C. Yesawich (1977:11-12) talked about the development of marketing plans for hotels, and how computers could help to eliminate much of the tedium. In the

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development of a marketing plan, lodging establishments should follow these steps:

Know the property profile: it comprises the collective facilities and services.

Know the prime prospects: they represent individuals with the highest probability of patronizing the property.

Know the competition: it is necessary to know the competitors who have the same profile as your establishment.

Establish realistic objectives: management must establish occupancy objectives that are realistic - goals that may be obtained given the amount of marketing dollars available.

Formulate a marketing plan: match groups of prime prospects with the property profile.

Implement the plan: execute the components of the plans.

Monitor the effectiveness of the plan: measure the effectiveness of the plan.

Dr. Yesawich (1977) described the computer based system designed by the research company, Robinsons Incorporated, in Orlando, Florida, intended specifically for use in the marketing department of the lodging industry. The system requires no investment in computing hardware from the hotels, but it captures comprehensive information on

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corporate, association, group, travel agents, and individual guests. There are two components of this system: historical prospect research and current research.

The first step in historical prospect research is the compilation of definitive information on all individual and group clients who have patronized a property over the past years. Data, like room rates, number in party, length of stay and total folio charge, is provided. Second, it analyzes movements within each media market by the time of the year, and the profitability of special package plans. Third, it analyzes several "aggregation procedures" designed to specify the characteristics of each segment.

It will only take the computer several minutes to do the analysis, whereas it would take a staff of four trained experts approximately six weeks to do the same analysis for a 250 room hotel. The advantage provided by the computer is evident. After the analysis has been done, the research results may be used to formulate a marketing plan. The plan consists of three components: (1) creating a thematic approach for all advertising based on prospect characteristics dated through research (for example, determining which advertisement appeals should be employed in selected media markets); (2) determining what percentage of market dollars should be allocated to consumer media, collateral material (brochures, etc.) and special promotion; (3) devising a media schedule to achieve maximum impact in

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the major prospect market.

Dr. Yesawich continued by saying that once the hotel has formulated and implemented a sound marketing plan, the next step is to redesign the source document (folio and registration card) to capture additional marketing information and enable a measurement effort. For example, the guest may be asked to provide the number of previous visits he has made, or the degree and type of media influence in his selection of the hotel.

Dr. Yesawich (1977:15) continued, stating that:

> the information from the redesigned source documents is captured daily, in accord with the marketing requirements of the hotel. A sample of the information captured on every guest by the existing installation is: guest name, address, zip code, date of reservation; method of reservation; date of arrival, roomrate; rate plan (special package code, tour number); length of stay; number in party; number of previous visits; purpose of trip; degree of media influence in property selection; payment method; type of guest (corporate, association, group, travel agent, individual etc); group referral number and travel agent name; address and zip code.

This current-prospect information is compiled daily and the results are summarized in a monthly report to make appropriate marketing recommendations based on observed trends. Since these reports are prepared monthly, the effectiveness of the marketing plan may be measured, and modifications of the plan may be implemented immediately to accord with what is occurring in the marketing field.

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Suhr (1981) described another way in which marketing information on guests can be captured. In 1981, the American Express Company offered a marketing service to approximately 600 hotels that accept their credit card. This service was called the Lodging Market Analysis (LMA).

American Express charged a fee to these hotels to produce cross tabulations of the geographical origin of the guests and how much they spend. It is very easy for hotels to collect this information on guests; hotels have long enjoyed the ability to identify who their customers are, and track their expenditures with a high degree of accuracy. This distinct advantage gives management a powerful tool for measuring the effectiveness of marketing plans. Management needs to be able to pinpoint the target market and the competition, because the cost to implement hotel marketing and advertising is very high.

The LMA includes both independent and chain hotels, and reports the following information:

(1) Number of hotel rooms.

(2) Number of destination rooms: destination markets are defined by the Standard Metropolitan Statistical Areas (SMAS) established by the Bureau of Census. The period covered by the report varies with the needs of management, but it can be from a month to a year.

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(3) Percentage of available rooms: the proportion of the number of rooms available in a particular hotel to the total number of rooms in hotels that accept the American Express card.

(4) Origin markets: the geographical origin of guests.

(5) Property data: all information related to the subject property.

(6) Card-member visits: the net number of cardmembers billed by the subject property during the period.

(7) Dollars: the total amount spent by the client.

(8) Percentage total: the percentage of the hotel's total card-member charges incurred by guests from specific origin markets. It gives management a breakdown of its overall dollars business by geographical market.

(9) Average charge: the amount of total charges from each origin market divided by the number of charges at the subject property from the origin market.

(10) Destination data: all the data reported for the subject property provided for the entire destination market.

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(11) Market penetration: a summary measure of the property's performance in comparison with other properties.

In addition, the LMA also indicates the amount of repeat business. Suhr (1981:84) also stated:

> The ability to test the effectiveness of an advertising campaign on a small scale is perhaps the most important advantage offered by the LMA. Using previous LMA data as a benchmark, it is possible to trace with accuracy the effect of advertising directed at one or two markets before expanding the effort to a broader geographical area. The LMA may also be used to measure the effectiveness of different types of marketing efforts.

Suhr (1981:84) continued, stating that:

> The LMA provides an invaluable means of charting changes in travel patterns at a modest cost. Deregulation and the escalation of travel costs, in conjunction with significant demographic shifts, will make it increasingly difficult to identify a property's markets without primary research of the kind supplied by the LMA. Although the LMA cannot take the place of other forms of market research, it is a cost-efficient, reliable technique for gauging the effectiveness of numerous market strategies. In an increasingly competitive environment, the availability and affordability of basic data are significant advantages the successful, hotelier will need to capitalize on.

Neil R. Porta (1980:74) discussed the use of microcomputers for developing forecasts. In forecasting roomnights in hotels, he stated:

> The roomnight forecast is derived from historical information on room-nights sold in previous similar periods, data on advance bookings, the expected occupancy mix, example, weekday versus weekend business, expected seasonal fluctuations,

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> historical data on "no shows" and walk-in business, pertinent regional and national economic forecasts, and analysis of existing and potential competitive properties. The forecasting model appropriate for a given hotel is dependent on such factors as the type of property (convention, commercial, resort), the average rate (economy, standard, luxury), and the property's location (inner city, suburban roadside, rural).

After a roomnight forecast has been done, similar forecasts for the other revenue-producing departments within the hotel can be developed. This sequence is necessary because the number of rooms occupied will directly influence the volume of sales in the food and beverage department and other centers. Porta (1980:76) continued:

> When the forecast for a revenue center has been completed, an average rate or price must be determined. The forecasted average roomrate, for example , will depend on the expected sales mix (singles, doubles, suites, etc.), and must also reflect any price increases planned. When the pro forma profit and loss statement is completed, cash flow can be forecasted using the microcomputer, and each hotel will have to choose a program model appropriate for the property.

Porta (1980) stated that it is necessary for the marketing department to know the forecast and the variance from the actual volume. This information will enable them to make better plans in advance and correctly direct the magnitude of the advertising and sales campaigns. For example, if both the forecast and the actual bookings of the next two months are low, management will increase the amount of sales efforts, and vice versa. By using this technique and data provided by the computer, management can achieve goals more readily. The computer records provide realistic,

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quantitative criteria for evaluating management. It can also help management avoid over or underscheduling its employees. Computers can free managers of many of their routine and time-consuming daily functions.

Porta believed that the computer system is also very beneficial to chain hotels, because the home office can delegate a lot of day-to-day operational information-processing to management at the property level. As a result, less of the routine processing is performed at the company headquarters, freeing up the home office's expensive equipment for other applications. At night, the computers at the property level transmit operating summaries of the day's performance to the home office.

Computers for advertising: Zahradnik (1986) described a computer program called Media Management Plus, intended for hotels conducting their own advertising, which measures the performance of their own advertising programs. This system enables managers to enter their budget and demographic goals and begin "buying" time on different radio and television stations. With each buy, the computer constantly updates figures showing the share of the budget spent, percentage of the budget spent to lure the primary demographic group, and the cost per ratings point and cost-per-thousand by day part. An electronic Rate Card is also provided, and can compare the figures of the cost-per-thousand and cost-per-thousand of different stations based

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on ratios provided by them.

Zahradnik (1986:40-41) explains the usage of the Interactive market systems, Donovan and Market Science Association, which are hooked up to the Nielsen Television Index (NTI), which measures national television viewing and the Nielsen Station Index (NSI), which measures local television viewing. According to Zahradnik, the NTI and NSI offers the following functions:

NTI:
National overnights: household ratings and shares and projected household audience for national sponsored network programs.
Ranking report: weekly report ranking all prime time programs for the previous week.
Cume facility: designed to allow users to evaluate four week reach and frequency of various users of program schedules.
National audience demographic facility: designed to allow users to compare programs on any selected target audience.
Preval/Postval: allow users to match television program profiles to product usage patterns.

NSI:
Metered market overnights: ratings and shares for local stations in 12 markets.
Reach and frequency: measure number of households/persons viewing a proposed schedule and how much repeat viewing is included.
Duplication: evaluate loyalty or turnover in terms of households/persons viewing.
Special rating: to evaluate demographic groups of particular interest (i.e., cable households, upper income, etc.)
Special study area: to produce data by counting grouping, zip code area, etc.
Geo-demographic: evaluate the market place by product usage and life style.

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Zahradnik (1986) described how the Telman's new Micro Network II computer can automatically calculate an advertising plan's audience, coverage, frequency, frequency distribution and expended budget. As the computer helps to reduce the load of the media planners, they will have more time to do other jobs that are more important. Also, they will not need numerous meetings with supervisors but can make a decision on the spot.

The advantages of using computers in marketing was also discussed by Jereski in 1984. Jereski said that managers spend too much time in long-term planning calculations: sales forecasting, annual brand plans, long-term trends, etc. Computer systems can simplify the work load. For example, the Management Decision System allows the users to ask questions like, "What will my sales be in this region if I increase trade allowance by this much?" With the Metaphor System, a salesman can ask the computer about current activity in a region, and the computer will give him a sales breakdown correlated to demographics. From there, the salesman can work on the target marketing details.

The third system that Jereski talked about is a new system from Control Data Corporation. A salesman can get sales results that will show up any anomalies by market. The value of the system is based on the quality of decisions that can be made with it. Another system is Control Data's

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Markman. It is similar to a decision support system, which integrates internal and external data, and it can be used to test the profit impact of alternate marketing plans, to develop strategic annual plans using historical industry-wide data.

The American Marketing Association's (AMA) Great Ideas Task Force has identified the Decision Support System (DSS) as a breakthrough for marketing management. AMA President M. Plotkin cited that the most frequently used programs include "what-if" analysis, distribution, trading area alternatives, test-market measures, and sales and shares monitoring. The computer's structured analyses provide a great number of alternatives. Management must then look at the problems creatively to find a solution. It enables management to evaluate options quickly using its own best judgment. The DSS can be used on a personal computer, and the manager can call on the mainframe personally, if it is properly loaded, without coming up against programming backload.

Knuckles (1986) stated that "the DSS technique avails management of processed information in the right extract, depth and logic - which supports the judgement or decision." The well-constructed DSS asks the kinds of questions that help managers deal with masses of valuable information, it provides single-source storage and retrieval of both corporate and commercial data (for example, Nielson

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reports), and it helps users to develop both standard reports and ad-hoc analyses. Knuckles reported that W. Jamieson, Senior Vice President of Olgilvy and Mather, a well-known advertising company in Chicago, stated that a DSS can help market identification by capitalizing on sometimes-hidden opportunities. It can also help to weigh returns on promotion investment and resource allocation, and it can help managers with complex marketing functions. A DSS can relieve top management of data gathering and allow time for creative marketing efforts.

Powell (1977) stated that there are two fundamental things marketers must keep in mind when they want to make use of the personal computer (PC). First, a specific kind of information must be used about competition, suppliers, products, services, markets and distribution channels. Second, a marketer should be made aware of the basic capabilities of computers in organizing, analyzing and communicating data.

Powell (1977:23) identifies the general uses of a PC as:

(1) Office follow up: track and follow up on leads that may result in new business.

(2) Management reports: data will be gathered about different promotions and will indicate to management which promotions are most successful in drawing leads for a particular

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product or service, and which of them have the highest profile.

(a) Data base application:
-- tracking current customers and the products and services they bought.
-- tracking customers and their gains and losses.
-- managing mailing lists.
-- managing inventories of brochures and other promotional supports.
-- maintaining a current list of products and services.

(b) Spreadsheet applications:
-- forecasting sales
-- client presentation
-- internal presentations

(c) Graphic applications:
-- desktop publishing
-- client presentation
-- internal presentations

(d) Communicating applications:
-- sending electronic mail
-- distributing all electronic data
-- downloading data file.

The unusual uses of PC are:

(a) Media planning: to model media placement scenarios with its clients.

(b) Market research: the main menu allows the user to complete a brief questionnaire on a particular service or product, which provides an instant easily analyzed survey base.

(c) Sales strategic planning: Human Edge software sales programs that take the user through a series of scripted questions about the psychological characteristics of the salesperson and the prospect. After comparing the answer to a "knowledge base" developed through much research and contained in the software, it prepares a complete report of recommended approaches to be used or avoided at sales meetings.

Thayer C. Taylor (1987) reported on the uses and benefits of a PC for sales marketing. According to a Sales and Marketing Management Magazine (S&MM) survey, 71 percent of marketers whose salespeople either used or had access to

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PCs reported that they were proving to be an effective aid in improving sales force performance. The average productivity gain was 43 percent.

S&MM's survey, based on 200 responses from salesmen, indicated that PCs increase productivity in the following ways: higher closing ratios; increased call frequency; better account management; more effective follow-up and tracking; more efficient time management; better customer service; more time to make sales calls; less time required to prepare proposals and quotations; greater accuracy in forecasting; more systematic work; increased quality of work; and decreased response time.

Lisa Loeffler (1988) talked about the benefits that computers can bring to sales/marketing managers. She said that a salesperson's time should be spent in closing sales, not on doing follow-up notes and fulfilling literature requests. These tasks, as well as generating leads and qualifying prospects, can be accomplished more efficiently by using a computer.

Loeffler further stated that a marketer's role is to successfully move the prospective client through the AIDA stages (awareness, interest, desire, action). Cost-effective marketing tools can be employed strategically at points after a salesperson has made initial contact. To capture the attention of the client, the computer can be used to do direct mailing and answer literature requests. These

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mailings are designed to generate client needs, and any prospect will be aware of his own needs and problems. To arouse the interest of the prospect, the computer can be instructed to mail a follow-up letter and send additional literature to the client. Maintaining contact also helps to assure that the establishment is considered when the prospect is evaluating choices. With a computerized system, highly personalized correspondence and dialogues addressing specific prospect concerns can be carried out. The marketer can develop highly interactive and dynamic relationships with decision-makers on a mass scale.

When the time comes for the need to sell or "create desire," it is necessary to do a great deal of telemarketing or initiate a number of personal visits by sales people. Many computerized systems include product attribute modules and scripts that can be designed to overcome objections. Information considered valuable to particular prospects can also be stored in the computer data base. Once this has been done, various trade-off analyses can be done to determine each factor's relative importance in the purchase decision.

The February 27, 1987:22 issue of Marketing News reported the following information about a sales-oriented computer system, developed by John H. Barwich, president of Performax Incorporated. The PC contains a video disc, player, video tape camera and recorder, video monitor,

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proprietary equipment interfaces, and computer programs.

Marketing News indicated that:

> The system switches between computer-generated text screens, realistically acted situations on video disc, and live video tape of the trainers' verbal responses. The trainee maintains control of the system.
> The video taped "dialogue" between and video screens the heart of the system, providing the trainee with opportunities to practice, evaluate, correct errors, and improve sales skills in a non-threatening environment.

Also included in the system are study material, narrative introduction, lectures, a skills model, exercises, quizzes and self-critique forms. By utilizing such software, salesmen do not have to spend a lot of time training new people, freeing them to do other administrative work.

Tillinghast (1987) recorded the use of a new computer program for hotel marketers called Selkirk. He said that M. Rowley, director of sales at the Holiday Inn, Arlington, VA, purchased the program for approximately $1500. The program enables Rowley to identify nearby hotels that may send business to the Holiday Inn. Names are obtained by initial personal visits, but follow-up contact is by computer-generated personal letters. A "two-for-dinner" offer mailed to nearby residents brought two thousand diners to the Inn's restaurant.

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In 1985, D. Needle talked about the benefits of Decision Support System (DSS) for business organizations. He said that business executives need to get real time information stored in a mainframe computer without having to learn programming. DSS is user friendly and it offers assistance with the qualitative and quantitative aspects of decision making. DSS allows decision makers to ask questions about a company's performance through selections from a menu or by entering English-sounding phrases. Answers are then provided in graphic form.

A DSS program called Lightyear lets managers "weigh" different factors: either numerically or by using subjective ratings such as "good" and "excellent" - involved in a major decision. Once a model is built, it can be seen in different formats. The numeric mode offers tables of numbers, a graphic mode turns these numbers into charts, and a verbal mode turns them into a textual description.

Needle also talked about the Expert Choice system for decision making. Expert Choice starts with a goal, representing the answer one seeks. From this goal, one decides the factors involved. The goal branches into "leaves," which represent alternatives available. When the decision tree is completed, one enters judgments as to the relative importance of the goal ingredients by using terms like "very important," "quite important," and "not important," etc. The Expert System evaluates these

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preferences and gives these choices a rating. It will then produce a bar chart that tells how judgments relate to one another. If the ratio is one or less, the program deems the judgments reasonably consistent.

The Expert Choice System is used for evaluating choices to highly unstructured problems. The system is constructed from information provided by experts, so when a decision needs to be made, management can seek the advice of Expert System instead of seeking the advice of real experts. Most hotels were using computers for structured or semi-structured problem solving; but the Expert System could solve highly unstructured problems for hotels.

In order for a hotel to benefit from implementing a computer system, it is necessary to begin with the right data base. G. Conlon (1988) stated that in order to set up an effective data base, it is essential for managers to decide very early on the specific types of information they want to put into it. They must also decide what level of detail they want the data base to have, and how information will be updated. It is necessary for managers to make these decisions before designing any models.

Conlon (1988) stated that a system called Marketing Decision Support Systems (MDSS) had been used by several marketing executives from different companies, and their reports indicated that the system was very easy to learn. As a result, too much free rein was given to inexperienced

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users, and many different data bases and programs were set up by individual marketers for their own specific needs. These users then began to exchange models with one another. Soon, the system was over-loaded with all the versions, plus the associated data.

Conlon believed this disadvantage of the user-friendliness of computers may cause managers to forge ahead without enough preliminary discussion of what steps should take place. There was no clear cut plan for training users and no control set up for managing the data base. DSS would not come to full use until a total implementation plan had been developed and approved, and until management was committed to the effective training program.

Conlon went on to discuss the METAPHOR system, which was implemented by the Swift-Eckrich Company. They assigned a co-ordinator to the program to ensure control during implementation. The company also employed 12 people from various disciplines to guide in the selection and development of the program.

The Swift-Eckrich Company began by gathering information from the managers who planned to use the METHAPHOR, and setting up a data base suited to their need. They then pulled their internal sales information from another system that does standard reporting. Any Management Decision Support System depends on the amount of data to be managed and the flexibility that is required. It also must

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take into consideration the most frequent needs of the users and the level of detail they desire.

Since the METAPHOR system was implemented, marketing managers at the Swift-Echrich Company did not have to go to the management-information system department for analysis. They could get the same information themselves on the same day. They can focus on specific opportunities or problems at the necessary level, geographic or otherwise. The program has also been a success because of a five-day training program provided for the users. The first three days of the program familiarize the student with the computer system, and the last two days are spent working with actual data, so the user sees how relevant he can make his manipulation of the data.

There are many business organizations that have used DSS for marketing, but not very many of them have been successful. In 1987:39, Partow-Navid talked about the misuse and disuse of DSS. There are several general reasons for DSS failure, but they can be avoided:

Incompatible match between DSS end user's needs: technical or non-technical mismatch of the DSS capability and the requirements of the users.

Overselling DSS: overstatement of the problems and over-selling of the solution.

Inadequate level of integration: model builders are usually preoccupied with the structure of the

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model. The presence of accurate input and knowledge of appropriate ways of showing the output to the users are assumed.

Failure to secure user satisfaction: determining the goals is the first task in any DSS project and the one most likely to be ignored. The educational background, experiences and preferences need to be established prior to the development of a model.

Partow-Navid (1987:39) continued, stating the reasons for DSS failure:

Lack of a implementation plan: too often DSS developers do not spend time with the new users when the system is first installed. Often, a manual is dropped off on the user's desk, and badly needed personal attention is forgotten.

Inappropriate environment and level of detail: a DSS inherently interacts with the outside environment. To draw boundary lines around any type of DSS, one first needs to clearly identify the system and the environment.

Incomplete documentation: often, after a model is implemented, new data and knowledge become available, and objectives may change. Because of these changes, program comments, documentation, and explanations of routines and variables are

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usually incomplete and obsolete. The only reliable program documentation in an evolving environment is the source model listing. The quality and usefulness of this documentation is dependent on the model design, the experience of the user and the DSS language.

Partow-Navid (1987:39) continued, stating the general reasons for DSS failure:

Using an unrealistic or invalid model: the majority of DSS errors are caused by incorrect assumptions and/or a lack of understanding of the system. It is important for the developer to explain the model to new users, so that they become familiar with the model and its uses.

Failure to employ modern tools and techniques: short cuts are often taken at the expense of clarity. The only reliable short cut in a DSS is to choose a style that can guide a user on his way to understanding.

Property Management Systems: In the August 1987 issue of Lodging Hospitality magazine, there were over 30 Property Management Systems listed. Each of these systems has its own unique qualities, and a hotel must be very careful in choosing the system that is most appropriate for their users.

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Ratkowski (1987:8-9) originated a five-step process to increase the odds of making the right choice:

(1) System qualification: list the requirements of a system ideal for the establishment, then identify the software vendors and costs, then determine what size of computer is needed, and identify major operations to be performed.

(2) Cost/benefit analysis: do not purchase a property management system that decreases net income. Determine the cost savings and increase in revenue the computer can generate.

(3) Rank software programs and select top vendors: key criteria are price, vendor experience and operational expertise.

(4) Making the final decision: observe the software package in operation at a customer site, review user documentation, check vendor reference, and run a credit check.

(5) System configuration: use the expertise of the vendor to determine the most efficient way to achieve goals with the software. Design and document the appropriate policies and procedures.

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(6) Training: the software vendor should provide training to the user.

(7) Implementation and installation: the vendor and the user should work together to implement and install the system.

(8) System audits: the system should be evaluated and audited from time to time to ensure success.

There are many ways to determine whether the amount a manager invests in marketing programs is appropriate for the goals of the business. The traditional ways of budgeting are: matching the competition; relying on agency suggestion; spending what the company spent last year, etc. However, there is a more accurate way to set marketing budgets. In 1987, Lilien wrote about the Advisor Project, which began at MIT's Sloan School of Management, and continued at Pennsylvania State University's Institute for the Study of Business Markets. The Advisor Project builds a data base of the actual market experiences of hundreds of businesses, in order to determine which business experts tend to achieve their marketing objectives.

First, each business's strategic market position and its marketing programs were evaluated. These studies examined the levels and mix of marketing spending typically associated with business performance. Such spending is generally earmarked for projects such as building market

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share or supporting price-positioning objectives. The Advisor Project found that budgeting depends on such general characteristics as a product's position in its life cycle, the number of customers targeted and customer concentration.

Lilien indicated that the Advisor Project was available in the form of a Lotus 1-2-3 spreadsheet program called ADVISOR. This program helps marketers and advertising agencies to evaluate the level and mix of marketing resources required to achieve alternative marketing strategies. It also helps managers to know how much they would be expected to spend to build market share, support price objectives, stimulate distribution channels, or enhance their quality in marketing.

Lilien cautioned that the Advisor's recommendations are not absolute. They simply represent the actions other experts would take in a similar situation. Outside circumstances may dictate another course of action for any given company. Yet, the Advisor Recommendation serves as an initial benchmark for developing and evaluating marketing plans.

The February 1987 issue of Marketing News reported a software package called MARKETING EDGE, which assists in market-business planning, product management and market research. It is an expert system that gives advice to managers by addressing issues such as: which is the fastest growing market segment; who are the company's major

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competitors; what strategies the company should employ; how the company can establish an effective advertising campaign.

Software marketed as an Expert System can range in capabilities from general planning to telemarketing. Persoft Incorporated in Massachusetts developed a system called MORE/2, which can analyze and rank individual names on a mailing list according to their likelihood of response. It can also provide target market analysis, data base consulting, merge-purge and printing functions.

Literature Review on Factors Relating to the Success or Failure of a Computer System

The following review of literature describes research that has been done to address the success or failure of computer systems in the business world. There has been no formal research completed that describes the success or failure of computer systems in the hotel industry for marketing purposes. The reviewed literature will generally define the possible factors contributing to a system's effectiveness.

In 1985, McLeod and Rogers did a mail survey of Fortune 1000 firms about current use of Marketing Information system (MIS). They discovered that 76 percent of the firms had a MIS, and 89 percent of these systems were computer-based.

Half of the managers of the companies that had a computer-based MIS used their terminals daily, and 11

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percent used them at least weekly. They used the terminals for data retrieval (87 percent), for storing data (56 percent), for data processing (49 percent), for receiving reports (44 percent), and for entering modeling scenarios (40 percent).

Typical upper level marketing decisions that were being modeled included new product evaluation (42 percent), product deletion (39 percent), and facility location (24 percent). Middle level management decisions that were computerized included operating budgets (58 percent), pricing (42 percent), assignment of sales territories (24 percent), and advertising media selection (21 percent). Lower level marketing management decisions that were modeled included credit approval (36 percent), reorder point (33 percent), economic order quantity (30 percent), and sales people routing (18 percent). The percentage of firms believing that the upper level managers received the best support computer was 34 percent, while 46 percent believed the middle level received the best support and 19 percent deemed the lower level to be assisted best.

From the above study, it can be clearly seen that Management Information System use had not reached its full potential. The causes of this problem were many and varied. The following research suggests different factors that contribute to the success or failure of different computer systems in general businesses.

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McFarlan (1983) stated that despite the fact that the commercial use of computers was three decades old, many of the systems being implemented might be classic failures. Even in the 1980's, some computers ran over budget, some were discontinued, while others performed at a level far below expectations. Other systems required major, expensive modification after implementation before they were acceptable to users.

Before looking into the cause and remedy of computer system failure, it is necessary to define system effectiveness. Hamilton and Chervany (1981) determined a system's effectiveness by comparing its performance with its objectives, and comparing costs and benefits with budgeted costs and benefits. In the system resource view, system effectiveness is determined by the attainment of a normative state. For example, system effectiveness in terms of human resources might be indicated by the nature of communication and conflict between the MIS and user personnel, user participation in system development, or user job satisfaction. In terms of technological resources, system effectiveness might be indicated by the quality of the system or service labels.

Hamilton and Chervany (1981:61) continued by explaining that there are two kinds of evaluations of computer systems: Summative evaluation determines whether the system has accomplished its objectives, and formative

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evaluation assesses the quality of the system and related support. Objectives may take three different forms:

(1) Information and support objectives: These objectives aim to improve information content, quantity, presentation form, and timeliness. Also included are objectives that aim to improve the support available to users.

(2) User process and user performance objectives: These objectives aim to improve decision makers by improving the following: understanding of problems, communication of information, degree of co-operation and consensus, attitude toward job, and attitude toward MIS. These objectives may also aim to improve the decision making process, including the length of time needed to make decisions, and the comprehensiveness of analysis. They may improve user organization performance via reduced information processing costs and improvements in asset utilization.

(3) Organization performance objectives: These objectives deal with the financial aspects of business. They may include sales revenue, profit contribution, and return on investment. They may also improve customer objectives, such as customer satisfaction, or they may improve organization development objectives, (morale, for example).

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Ives and Olson (1984:587) reviewed 22 studies that evaluated the relationship between user involvement and a system's success. User involvement was defined as participation in the development of a system by a member or members of the target users. Eight studies reported a positive relationship, seven produced negative results, and seven studies were inconclusive. Ives and Olson concluded that:

1. Research on user involvement was rarely based on strong theory.
2. Empirical research has not convincingly demonstrated the benefits of user involvement.
3. The majority of studies on user involvement have been methodologically flawed to the extent that few conclusions can be made about the relationship between user involvement and a system's success.

Several other researchers have studied the relationship between user involvement and system success. They concluded that user participation can provide an accurate and complete assessment of user information requirements (Norton and McFarland, 1975; Robey and Farrow, 1982). Lucas (1974) discovered that user participation can provide expertise about the organization the system is intended to support, expertise usually unavailable within the organization's system group. User participation can also help to avoid the development of unacceptable or

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unimportant features (Robey and Farrow, 1982) and improve user understanding of the system (Lucas, 1974; Robey and Farrow, 1982).

Ives and Olson (1984:588) stated that user participation may lead to increased user acceptance by:

1. Developing realistic expectations about system capabilities (Gibson, 1977).
2. Providing an arena for bargaining and conflict resolution about design issues (Keen, 1981).
3. Leading to system ownership by owners (Robey and Farrow, 1982).
4. Decreasing user resistance to change (Lucas, 1974).
5. Committing users to the system (Lucas, 1974).

Tait and Vessey (1988) found that system complexity and resource constraints have a strong effect on system success. Management reacts to system complexity when determining the degree of user involvement to employ a system development effort. The risk of system failure will increase as available resources (for example, time and finance) are constrained.

According to Tait and Vessey (1988:92), there are other theories of end-user attitudes which suggest different factors that may contribute to the success of a computer system:

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Some studies regard motivation as the key to MIS success (DeSanctis, 1982). Others find a positive relationship between user attitude and the successful use of an information system. (Maish, 1979; Toubkin and Simis, 1980). Age, training, education, experience, number of years in an organization, and number of years of experience on the job are also found to affect the quality of information use (Fuerst and Cheney, 1982; Sanders and Courtney, 1985; Lucas, 1975; Schewe, 1976). Rockart and Flanney,(1983) observe that user education is important and different types of users need different types of training.

Motivalla and Pheny's research in 1982 found that the characteristics of individual tasks and the environment in which the tasks take place have a strong and long-lasting effect on information success. Lusk and Kersnick (1979) found that job and information complexity affects decision quality. Environmental factors within an organization that are said to affect Decision Support System success include environmental stress (Motivalla and Pheny, 1982); top management support (Rockart and Flannery, 1983); and environmental uncertainty (Scroeder and Benbasat, 1975).

It has been shown that successful organizations shift their management strategies to meet changes (Greiner, 1972), and that effective support and comprehensive education are dominant concern when introducing end user computing (Henderson and Traecy, 1986). Centralized help centers, the introduction of consultants and a good reward structure have been shown to increase worker satisfaction (Henderson and Treacy, 1986), and therefore influence a system's success.

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In their 1987 study, Nelson and Cheney found that computer-related training was positively related to computer-related ability, and that computer-related ability was positively related to the use of computer resources. In general, companies spent less than two percent of their Information System resources (human and financial) on training end users.

There are three primary places where end users can obtain training. Computer training in college seems to support programming, modeling and graphing abilities, as well as the ability to use application development software (for example, Lotus 1-2-3-) and operating systems. College computer training also better enables users to understand computer generated output. Computer training received from the employing company seems to emphasize the handling of data communication, hardware, graphics and operating systems. Vendor training is significantly correlated with the ability to use packaged application software, as well as other proprietary-oriented abilities such as hardware manipulation and data communication.

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Interviews with Southern California Computer Vendors and Major San Diego Hotels

In addition to the literature surveyed, the researcher conducted an interview with Mr. Thomas Costello, a consultant with the Image Hospitality Consultants, a San Diego- based company. They provide computer systems for hotels and specialize in both front and back office uses. Mr. Costello stated that in the past several years, more hotel functions are being computerized. Marketing functions are often included in the software packages, but not very many marketing managers have begun to use them. He surmised that marketing managers are usually so busy with daily operation workloads that they hardly have any time to learn to use the marketing software.

Mr. Costello indicated that the Hospitality System has a dynamic marketing function for hotel uses. It allows the smallest property to produce aggressive marketing plans without an exponential increase in the cost of labor. The guest/marketing mailing package allows hotels to select guests from their history file which fall into desired target market areas. They may then choose to send a direct mailing to this group with their own form letter and envelope; the entire process takes place in a matter of minutes. Users of this system may opt to produce a data base file of selected guests for analysis. The selection process may be based on room revenue, total number of nights, state, zip code, etc.

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The group marketing/mailing package allows hotels to select a desired target market area. Along with the guest marketing/mailing package, this package allows the hotel to enter companies or groups into the data base. These groups do not necessarily have to be previous guests of the hotel; indeed, an excellent use of the package would consist of entering the names of travel agents for mailing. Companies or groups may be selected by zip code order, original contact, source of business, etc.

According to the interview and the literature reviewed, there appeared to be a great deal of marketing software in the hospitality market for hotel uses. Very little research has centered around the extent to which computers could benefit hotel marketers. The researcher concluded that it was necessary to study possible uses of computers in the hotel marketing field and apply the results to practical hotel needs.

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Process of Marketing Decision-Making in Selected U.S. Chain Hotels

In order to find out how marketing-decisions were made in different types of hotels, the researcher conducted telephone interviews with a few well-known hotels in San Diego, California:

(1) Embassy Suites (Downtown San Diego)

The western regional office of the Embassy Suites Hotels is located in Dallas, Texas, and there are seven District Marketing Directors (D.M.D.) located in this office. These Directors handle all marketing decisions (advertising, promotion, publicity). Within the local hotel properties of the Embassy Suites is a Director of Sales who manages the sales staff and implements sales decisions. The Director of Sales also makes decisions on brochure promotions, conditional on the approval of the general manager.

(2) Omni Hotel (Downtown San Diego)

The headquarters of the Omni Hotels is located in Hampton, New Hampshire. The San Diego Omni Hotel is a management-contracted hotel, and the Director of Marketing is in charge of all marketing decisions, conditional on the approval of the general manager. Their promotion and advertising is contracted through the Chapman/Warwick Advertising Agency, as the New Hampshire office gives them only national sales leads.

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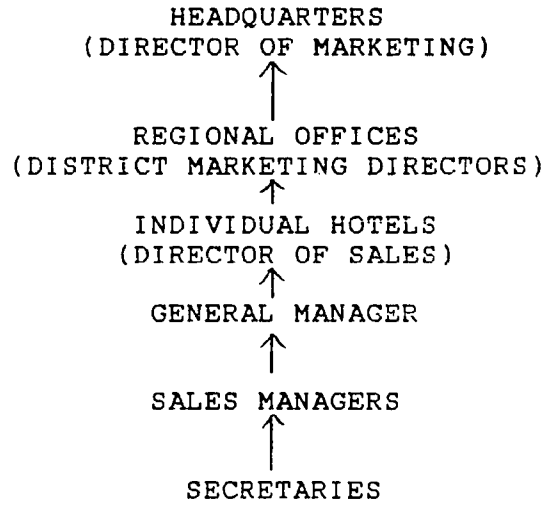
Figure 1

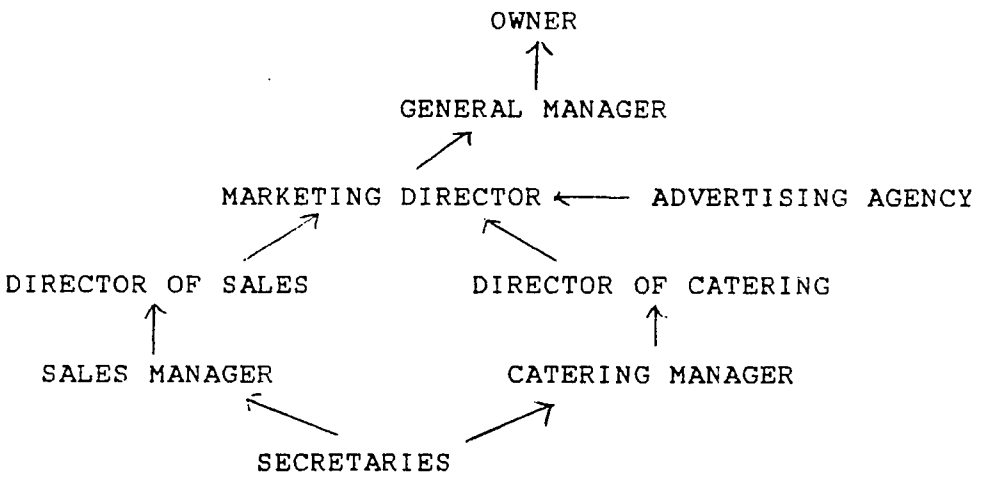
Marketing Decision-Making Process of the Embassy Suites Hotel in San Diego



↑ The hierarchy of the channel of command of the marketing decision-making process.

Figure 2

Marketing Decision-Making Process of a Typical Indpendent Hotel



↑ The hierarchy of the channel of command of the marketing decision-making process.

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(3) Forte Hotels International Incorporated (El Cajon)

The El Cajon office serves as the headquarters of the Travelodges, Viscount Hotels and various other exclusive hotels throughout the nation. The Director of Marketing here implements any national or international marketing decisions for all of the hotels. These hotels may be company owned, franchised or management contracted, but each has a director of sales on the property. Occasionally these hotels cooperate to share the expenses for different promotions in their regions.

(4) Holiday Inn (Embacadero and Harbor View, San Diego). These two hotels are corporately owned. They each have a director of sales on the property and must get approval from the headquarters in Memphis, Tennessee for their marketing budgets. The headquarters also implement national and international advertising for all Holiday Inns worldwide. The Holiday Inn Embacadero and Harbor View do their own advertising and promotions, and they may or may not use an advertising agency on a given project.

(5) Holiday Inn (Mission Valley and Montgomery Field)

These two hotels are franchised. They pay a fee in order to use the name "Holiday Inn," and they benefit from the corporation's 800 number for reservations and national and international advertising. They have a director of sales on the premises who is in charge of local marketing decisions.

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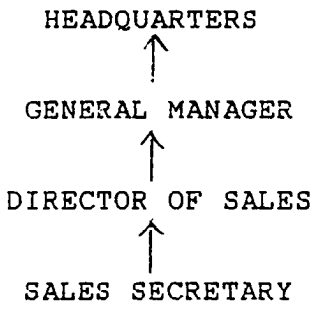
Figure 3

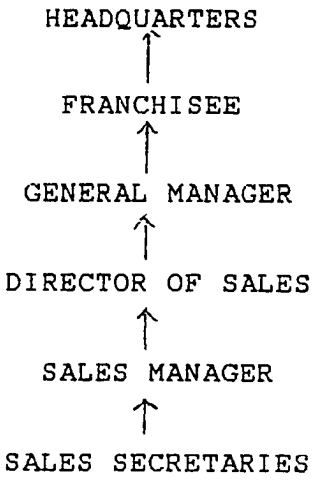
Marketing Decision-Making Process of the Holiday Inn Harbor View, San Diego (a Corporately Owned Hotel)



↑ The hierarchy of the channel of command of the marketing decision-making process.

Figure 4

Marketing Decision-Making Process of The Holiday Inn Montgomery Field, San Diego (a franchised hotel)



↑ The hierarchy of the channel of command of the marketing decision-making process.

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(6) Marriott Hotel (Mission Valley)

The headquarters of Marriott Hotels is located in Washington, D.C. All of the national and international advertising and promotions on television, radio, or newspapers with national coverage (such as U.S.A. Today) is handled at the headquarters. The Marriott Hotel in Mission Valley is a management contracted hotel, so the Director of Marketing reports to both the headquarters in Washington, D.C. and also to the management company, which is located in Pittsburgh, Pennsylvania. Marketing budgets must be approved by the Pittsburgh office, but are implemented locally.

(7) Headquarters of the Marriott Hotels (Washington D.C.)

The headquarters of the Marriott Hotels implement all national and international marketing decisions. The head of the department is the Senior Executive Vice President of Marketing, and he reports to the Executive Vice President of the Lodging Group. All major marketing budgets have to be approved by the President and the Board of Directors.

Managers report to the Director of Sales, Director of Advertising and Promotion and the Director of Public Relations, who reports to the Marketing Vice President, and he, in turn, reports to the Senior Executive Vice President of Marketing.

The Marriott Hotels have three major sources of clients: leisure, convention and business travelers.

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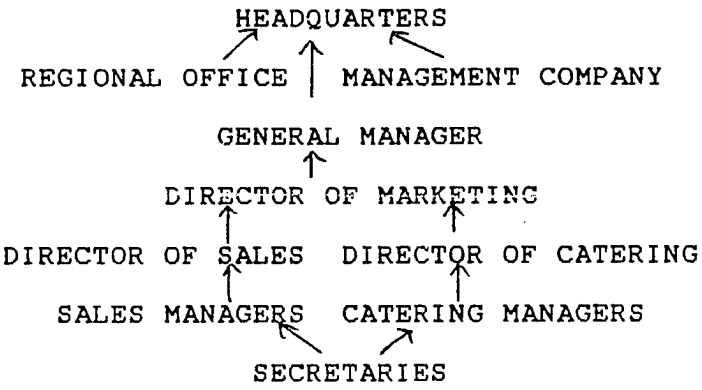
Figure 5

Marketing Decision-Making Process
of the Marriott Hotel in
Mission Valley, San Diego
(a Management Contracted Hotel)



↑ The hierarchy of the channel of command of the marketing decision-making process.

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There are outside advertising firms and public relation firms for each market segment. For international operations, the office in London sub-contracts advertising and public relations firms to work for them.

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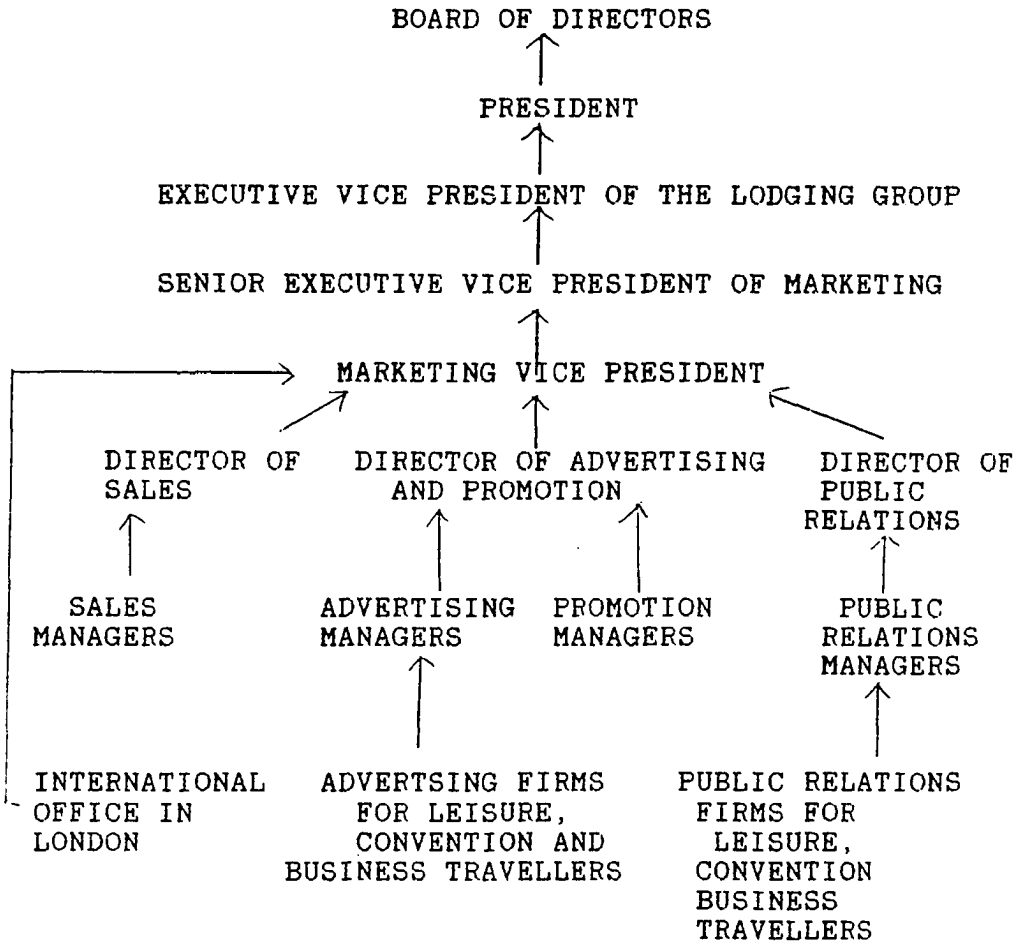
Figure 6

Marketing Decision-Making Process of The Marriott Hotels Headquarters, Washington, D.C.



↑ The hierarchy of the channel of command of the marketing decision-making process.

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Summary

Chapter Two was divided into three parts. The first part reviewed literature from the hotel industry, and described the problem of insufficient computer use in the marketing department of hotels. It also discussed us the different uses of computers for hotel marketing purposes.

The second part of the chapter reviewed research that has been done to investigate the problem of under-utilizing the full potential of computers. It also included research on the different characteristics of people and of organizations who contributed to the success or failure of computer systems in general business.

The third part of the chapter described personal interviews the researcher conducted with a few computer vendors in Southern California, and it gave the state-of-the-art of computer technology for hotel marketing purposes. This part of the chapter also described the process of marketing decision-making of a few well-known hotels in San Diego.

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Chapter 3

METHOD

The research was designed to investigate the problem of insufficient computer use in hotel marketing. The first research question addressed the issue of how extensively computers are used in the following marketing areas: (1) advertising, sales promotion, and publicity, (2) sales and sales management, (3) agents and other intermediaries, (4) room rates, (5) quality control, (6) catering. The second research question investigates the extent to which hotel marketers feel that computers can improve their decision-making abilities. The two research questions are as follows:

Question One:

1a. What is the relationship between a variety of measured characteristics of U.S. hotels and the extent of reported use of computers for marketing decisions in U.S. hotels?

1b. What is the relationship between a variety of measured characteristics of U.S. hotel marketing departments and the extent of reported use of computers for marketing decision-making in the marketing departments of U.S. hotels?

1c. What is the relationship between a variety of measured characteristics of U.S. hotel marketing executives and the

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extent of reported use of computers for marketing decision-making in U.S. hotels?

Question Two:

To what extent do U.S. hotel marketing executives perceive that the use of computers has improved the effectiveness of their decision-making?

Criteria for Data Sources

(1) Each U.S. hotel selected (including regional offices or headquarters) must have been using computers for the past year in its marketing department. (2) The hotel must have fifty or more rooms. (3) There must be more than two people working full time in the marketing department. (4) Responding managers must have worked full time in the job for at least a year. (5) Each manager must have been using computers on the job for at least a year.

Collection of Data

The collection of the data required the development of a survey instrument, which would provide relevant and sufficient data to answer the research questions.

Data Sources

In order to implement the study it was necessary to distribute the survey questionnaire to a sample group satisfying specific criteria. Participation in the study

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sample required the hotels chosen to have used computers for the past three years in their marketing department, and that these hotels have 50 or more rooms. Also, there must have been more than two people working full-time in the marketing department. One hundred and seventy hotels were selected from three California counties: San Diego, Orange and Los Angeles. Addresses and phone numbers were obtained from the Hotel and Tour Book of the American Automobile Club of Southern California (California-Nevada edition). These hotels were chosen at random by taking the odd numbered hotels from each page of the Hotel and Tour book.

Instrumentation

The instrument was designed to obtain data from practitioners in administration and management roles in which utilization of computers for marketing decision-making was employed.

The first part of the questionnaire required answers to be given by check marks or numbers, while the second and third parts of the questionnaire required the respondent to choose the most appropriate of multiple answers by putting an "x" in the corresponding box. This format was designed to decrease item ambiguity, thereby adding to the quality of data collected. The instructions provided for the respondent were designed to be unambiguous, as were the response options.

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The first part of the questionnaire was designed to determine the demographics of the hotels, the characteristics of their marketing departments and of their marketing managers. The hotels were classified by type of ownership (independent, franchised, chain operated, management contract or others), type of hotel (convention, resort, downtown, suburban, airport or roadside), and by hotel size.

The marketing department can be differentiated in terms of the extent of computer use in various functions (i.e., sales, advertising, publicity, pricing of room rates, catering, promotion, and keeping track of performance of agents etc). The demographics of the marketing managers surveyed were collected because the number of years they have been at the present job, their education levels, whether or not they have a college degree in computer science, the time they have been involved in computer training, where they obtained such training, whether or not they have a personal computer at home, and the extent to which they feel that the computer is easy for them to use may all be related to the success of computer systems in hotels marketing departments.

Other than demographics, factors exist that may influence the degree of computer use. These include whether managers feel that the data provided by the computer is relevant to marketing uses, and the policies of a company.

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A company can, for example, increase computer use by supporting computer training and by taking action to help the employees if they have difficulties in using computers.

The second part of the questionnaire investigated whether tasks were completed through the use of computers or done manually in the following marketing areas: advertising, sales promotion and public relations, sales and sales management, tracking agents and other intermediaries, analysis of room rates, quality control and catering. Where computers were used in the above areas, the study was also concerned with determining the intensity of such use and its relationships with other variables.

The third part of the questionnaire helped to determine the degree of improvement that computers were felt to be responsible for giving decision-making in marketing. Improvements in decision-making were examined in terms of the support computers can provide. This support included a shortening of the time needed to make decisions and understand problems, and the speed of availability and updating of records. Because some decision-makers may feel that doing reports manually is easier than using computers, the researcher gave opportunity to report several levels of improvement.

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Procedure

One hundred and seventy hotels from Southern California were chosen randomly from the Hotel and Travel Index book. The researcher then called each hotel and obtained the name of the marketing director or administrator in charge of marketing decision-making. If the respondent cooperated, the researcher then asked whether computers are used in their marketing department. If so, the questionnaire was mailed to each computer-using respondent. Accompanying the questionnaire was a cover letter that explained the nature and purpose of the research. In addition, a stamped, self-addressed return envelope was provided. The researcher also included a self-addressed postcard, enabling the respondents to request a copy of the results of the research.

Analysis of Data

The researcher used three tests to analyze the data collected. The Pearson *r* was used for detecting significant associations between the variables of interest. Student's *t*-tests and analyses of variance were used to explore differences between different types of hotels, marketing departments and marketing managers in terms of the variables of interest.

For Research Question One, the levels of significance used were 0.005 for the characteristics of U.S. hotels and 0.001 for the characteristics of marketing departments for

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the correlation analysis. (Those values were chosen because the number of correlations examined in these parts was so large; it was necessary to utilize the .005 level of significance in the first and .001 level of significance for the second. This was done in order to minimize the number of spuriously "significant" outcomes that would have emerged at less stingent levels.)

A more common significance level of 0.05 was chosen for the analyses of variance and t-tests. The possible numbers of significant differences were far fewer for these statistical tests.

For Research Question Two, Student's t-tests for deviation of any given mean from a pre-determined neutral value (1.5), were used. It sought significant perceived improvements or hindrances that resulted when computers were used for marketing decision-making. The level of significance of .01 was selected for decisions concerning the deviation of a mean from the scale's neutral point of 1.5. The neutral point distinguishes between marketing decision-making that brings improvments and that which hinders.

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Research Assumptions

It was assumed that the selection of the group surveyed was appropriate for the purposes of the study. It was also assumed that the questionnaire was an appropriate tool for gathering the information. Lastly it was assumed that the responses from the hotel marketing executives were accurate and representative of their knowledge and experience.

Delimitations

A delimitation of the study was its geographic focus on Southern California hotels. This research was conducted in the hotel industry, and therefore the results apply only to hotels. There are many factors that may affect the extent of use of reported use of computers in hotel marketing departments, but in this study, only three global factors were taken into account: (a) a variety of measured characteristics of U.S. hotels, (b) a variety of measured characteristics of U.S. hotels' marketing departments, and (c) a variety of measured characteristics of hotel marketing executives.

The research studied the following characteristics of the marketing executives and the relationships of these characteristics with the reported extent of use of computers in hotel marketing: (a) years on the present job, (b) total number of years of computer-use for marketing decision-making, (c) education level, and (d) time involved in

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computer training (number of months and number of hours each month).

Results of the Research

Of the 170 questionnaires the researcher sent out, there were 40 responses (24 percent). Of these, 26 respondents asked for the results of the research to be sent to them.

The hotels that returned the questionnaire had an average of 342 rooms, and were mostly independent (32 percent) and management contracted (30 percent) hotels. The types of hotels that responded most were resort hotels, convention hotels and suburban hotels. There was an average of four sales representatives working in the marketing departments.

A chi-square test was conducted to determine whether the proportions of returned questionnaires were similar to the proportions sent to hotels in three size categories (1 to 150 rooms, 150 to 300 rooms, 300 rooms or more). The chi-square frequencies are shown in Table A, and the result (chi-square = 8.282, p=.016) reveals that the "returned" proportions were significantly different from the "sent" proportions. Specifically, smaller hotels returned less than their share of the questionnaires and larger hotels returned more. This should be borne in mind when results are evaluated.

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Table A

Chi-Square Measuring the Proportions of Questionnaires Sent to Different-Sized Hotels and the Proportions Received

	1-150 rooms	150-300 rooms	300 + rooms	Total
Sent Out	61	56	53	170
Teceived	8	10	22	40

Chi-Square = 8.282, df = 2, p=.016

The marketing executives had an average of three years of working experience. They were mostly college graduates, but were generally non-business majors.

Regarding computer training, most of these executives answered that they were trained by their company. They reported an average of two months of training and felt that it was too little. These executives did not have computers at home, but they found it to be moderately easy to use the computer.

The respondents were asked to state briefly what gave them the most difficulty in using the computer, but only 22 responded to the question. The following were the exact answers that they gave: "Knowing all the functions the computer can do for marketing decision-making"; "Taking the initiative to start learning how to use the computer"; "Not having an easy guide/index to report printouts"; "Compiling reports based on inaccurate data"; "Malfunctions of the

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computer"; "Remembering how to get into the information I want"; "Without full comprehension of lotus capabilities and waste time"; "Lack of understanding program and language"; "Lack of appropriate program"; "Remembering it is a programmed computer and not a live system"; "Print options and flexibility when doing reports"; "Remembering what reports are on which menus"; "System differences"; "Learning software and familiarizing it"; "Management are limited in computer use, while support staff (secretaries) are more trained"; "Slowness of the computer"; "Understanding the program and key codes"; "Getting the time for training"; "How to access information on the computer"; "Program not being set up to reflect the needs of marketing analysis"; "Learning new programs"; "Program limitations"; "Working out errors."

Summary

Chapter Three described how the questionnaire was developed and also gave its purposes. The questionnaire was mailed to Southern California hotel marketers who met the criteria for data sources. The data analysis featured Student's *t*-tests, analyses of variance and the Pearson *r*. The study questionnaire was described, as were the procedures used to conduct the study. Research assumptions and delimitations were reported to show the overall scope of the study and to inform readers of the population to which

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generalizations may or may not apply.

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Chapter 4

FINDINGS

This chapter is divided into four parts. The first three parts pertain to the findings of Research Question One, and Part Four pertains to the findings of Research Question Two.

Characteristics Of U.S. Hotels

The Pearson r was used to measure the relationships between a variety of characteristics of United States hotels and (a) the extent of reported use of computers for hotel marketing and (b) the perceived usefulness of different types of marketing reports. The levels of significance chosen were set in accordance with the total number of correlations examined, such that in no single section would there be a likelihood of more than one spuriously "significant" correlation being reported. This meant that in the group of correlations with "characteristics of U.S. hotels," the 462 correlations required a significance level of .005 or better.

The characteristics of U.S. hotels can be divided into three areas: number of hotel rooms, types of ownership (independent, franchise, chain, management contract) and type of hotel (convention, resort, downtown, suburban,

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airport, roadside). Each characteristic of U.S. hotels was analyzed to see what relationship it bore to (a) the extent of reported use of computers for hotel marketing and (b) the perceived usefulness of different types of marketing reports. The results are presented in Table 1.

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Table 1

Significant Correlations ($p \leq .005$) Between Characteristics Of U.S. Hotels and Variables Measuring (1) the Use or Non-Use of Computers for Marketing Decision-Making, (2) the Perceived Usefulness of Each Individual Report

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
Number of hotel rooms with Requirement of reports on "pricing models that generate optimal room rates"	1= not required 0=required	38	-.525	p=.001
Whether hotel is franchised with Usefulness of reports on "keeping track of hotel roomnights and revenues each sales manager brings in"	1=franchised 0=non-franchised 4=very useful 1=not at all useful	28	-.512	p=.005
Whether the hotel belongs to a chain with Frequency of doing reports on sales-lead age and status	1=chain hotel 0=non-chain hotel 5=daily 4=weekly 3=monthly 2=quarterly 1=annually	15	.704	p=.003
Whether the hotel belongs to a chain with Perceived usefulness of doing reports on "keeping track of and comparing how much business various tourist bureaus bring in"	1=chain hotel 0=non-chain 4=very useful 1=not at all useful	17	-.659	p=.004

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Table 1 (continued)

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
Whether the hotel belongs to a chain with Usefulness of doing reports on advertising budgets	1=chain hotel 0=non-chain hotel _____ 4=very useful 1=not at all useful	27	.574	p=.002
Whether the hotel belongs to a chain with Usefulness of doing reports on publicity budgets	1=chain hotel 0=non-chain hotels _____ 4=very useful 1=not at all useful	23	.568	p=.005
Whether the hotel belongs to a chain with Whether reports on "keeping track of and comparing how much business various tourist bureaus brings in" are done manually	1=chain hotel 0=non-chain hotel _____ 1=reports are done manually 0=reports are not done manually	38	.573	p=.001
Whether the hotel belongs to a chain with Whether reports on banquet event orders are done manually	1=chain hotel 0=non-chain hotel _____ 1=reports are done manually 0=reports are not done manually	38	.475	p=.003

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Table 1 (continued)

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
Whether the hotel is a convention hotel with Whether reports on "keeping track of the hotel room-nights and revenue each sales repre-sentatives brings in" are done manually	1=convention 0=non-convention hotel 1=reports are done manually 0=reports are not done manually	38	.618	p=.0005
Whether the hotel is a resort with Perceived use-fulness of doing reports on banquet event orders	1=resort hotel 0=not a resort hotel 4=very useful 1=not at all useful	22	-.588	p=.004
Whether the hotel is a suburban hotel with Whether reports on "guest satisfaction index" were done manually	1=suburban hotel 0=non-suburban hotel 1=reports were done manually 0=reports were not done manually	38	-.457	p=.004
Whether it was an airport hotel with Requirement of preparing sales contracts	1=airport hotel 0=non-airport hotel 1=not required 0=required	38	.552	p=.0005

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Table 1 (continued)

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
Whether the hotel is a "roadside" hotel with Perceived usefulness of preparing reports on "keeping track of the hotel roomnights and revenue each sales manager brings in"	1=roadside hotel 0=non-roadside hotel 4=very useful 1=not at all useful	28	-.712	p=.005

The findings in Table 1 are as follows:

There was a significant negative correlation between the number of hotel rooms and the requirement of reports on "pricing models producing optimal room rates for groups." Consequently, the more rooms a hotel had, the more likely it was that such a report was required.

There was a significant negative correlation between whether a hotel was franchised and the perceived usefulness of doing reports on "keeping track of hotel roomnights and revenue each sales manager brings in." Thus, this type of report was seen as more useful in franchised hotels.

There was a significant positive correlation between whether a hotel was a chain hotel and the frequency of updating computerized reports on "sales lead age and status." Accordingly, in the hotels belonging to a chain, such computer reports were prepared more frequently than in non-

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chain hotels.

There was a significant negative correlation between whether a hotel was a chain hotel and the perceived usefulness of doing reports on "keeping track of and comparing how much business various tourist bureaus bring in." This means that this type of report was seen as less useful in hotels belonging to a chain.

There was a significant positive correlation between whether or not the hotel is a chain hotel and the following marketing reports: (a) the perceived usefulness of doing advertising budgets, (b) the perceived usefulness of doing publicity budgets, (c) whether reports are done manually when "keeping track of and comparing how much business various tourist bureaus bring in," and (d) whether reports are done manually for banquet event orders. These correlations indicated that (a) in non-chain hotels, the marketing managers perceived greater utility in doing advertising budget reports and publicity reports, (b) the marketing managers of non-chain hotels were more likely to do manual reports (as opposed to computerized) on "keeping track of and comparing how much business various tourist bureaus bring in," and (c) the managers were more likely to do manual reports for banquet event orders, instead of doing such reports on the computer.

There was a significant positive correlation between whether a hotel was a convention hotel and whether reports

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were done manually when "keeping track of the hotel roomnights and revenue each sales manager brings in." Therefore, the marketing managers of convention hotels did such a report manually more often than managers of non-convention hotels did.

There was a significant negative correlation between whether the type of hotel was a resort hotel and the perceived usefulness of doing reports on banquet event orders. Consequently, this type of report was seen as less useful by managers of resort hotels than by mangers of non-resort hotels.

There was a significant negative correlation between whether a hotel was in a suburban area and whether reports on the guest satisfaction index were done manually. This means that suburban hotels were less likely than other hotels to do such reports manually and used a computer more often than the non-suburban hotels did.

There was a significant positive correlation between whether the hotel was in an airport area and whether there was a requirement to do reports for "preparation of sales contracts." Such a correlation shows that airport hotels were less likely than others to be required to prepare sales contract reports.

There was a significant negative correlation between whether the hotel was a roadside hotel and the perceived usefulness of doing reports on "keeping track of the hotel

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roomnights and revenue each sales manager brings in." Thus, this type of report was seen as less useful to roadside hotels than to other types of hotels.

A one-way analysis of variance was used to test for significant differences among the four types of ownership of hotels: independent, franchised, chain and management contract and (a) the extent of reported use of computers for hotel marketing and (b) the perceived usefulness of each group of marketing reports. A significance level of .05 was chosen; there were no significant differences found among the four types of hotels with different kinds of ownership. The results are shown in Table 2.

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Table 2

Analysis of Variance comparing Types of Ownership in terms of variables measuring (1) Extent of Reported use of Computers and (2) Perceived Usefulness of Computers for Marketing Decision-Making

(Results with p≤0.05 are treated in separate tables.)

VARIABLES / TYPE OF OWNERSHIP	INDEPENDENT	FRAN-CHISE	MEAN CHAIN	CONTRACT	F	SIGNI-FICANCE
Report required for advertising, sales and publicity. Y=0 N=1	.32	.23	.27	.21	.32	p= .81
Report done manually for advertising, sales and publicity. Manually=1 non-manually=0	.42	.29	.27	.18	.82	p= .49
Frequency of doing computerized reports on advertising,sales and publicity. 5=daily 1=annually	3.23	3.27	2.57	2.77	1.61	p= .21
Usefulness of doing reports on advertising, sales and publicity. 4=very useful 1= not at all useful.	3.37	3.08	3.26	3.66	1.47	p= .24
Report required for doing sales and sales management. Y=0 N=1	.26	.11	.25	.05	2.52	p= .07
Report done manually for sales and sales management. Manually=1 non-manually=0	.30	.22	.20	.33	.52	p= .67
Frequency of doing computerized reports on sales and sales management. 5=daily 1=annually.	3.75	4.48	3.92	3.61	1.59	p= .21
Usefulness of doing reports on sales and sales management. 4=very useful 1=not at all usefulness.	3.56	3.16	3.28	3.54	.85	p= .48
Report required for agents and other intermediaries. Y=0 N=1	.46	.17	.65	.39	2.69	p= .06
Report done manually for agents and other intermediaries. Manually=1 non-manually=0	.02	0.00	.11	.45	1.66	p= .19
Frequency of doing reports on agents and other intermediaries. 5=daily 1=annually.	3.44	3.63	3.25	3.38	.11	p= .95
Usefulness of doing reports on agents and other intermediaries. 4=very useful 1=not at all useful	3.18	2.69	3.39	3.26	1.73	p= .18
Report required for room rates. Y=0 N=1	1.10	.17	.47	.24	1.49	p= .23
Report done manually on room rates. Manually=1 non-manually=0	.14	.20	.52	.13	1.94	p= .15
Frequency of doing reports on room rates. 5=daily 1=annually.	3.00	5.00	3.60	3.98	1.66	p= .22
Usefulness of doing room rate reports. 4=very useful 1=not at all usefulness.	2.38	2.67	3.08	3.63	1.67	p= .20
Report required for quality control. Y=0 N=1	.46	.83	.10	.09	1.43	p= .25
Report done manually on quality control. Manually=1 non-manually=0	.50	.33	.30	.91	1.11	p= .36
Frequency of doing quality control reports. 5=daily 1=annually.	3.00	2.50	2.79	2.80	.07	p= .97
Usefulness of doing quality control reports. 4=very useful 1=not at all useful.	2.64	2.88	3.50	3.67	2.37	p= .09
Report required for catering functions. Y=0 N=1	.43	.33	.33	.67	1.13	p= .35
Report done manually on catering functions. Manually=1 non-manually=0	3.08	1.22	3.53	.93	2.00	p= .03
Frequency of doing catering reports. 5=daily 1=annually.	5.00	5.00	3.67	4.40	.98	p= .44
Usefulness of doing catering reports. 4=very useful 1=not at all useful	3.33	3.25	3.07	3.71	.51	p= .68

*= p≤0.05

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A one-way analysis of variance was used to test for significant differences among the six different types of hotels (convention, resort, downtown, suburban, airport and roadside) and (a) the extent of computer use for hotel marketing and (b) the perceived importance of each group of marketing reports. A significance level of 0.05 was chosen and the results are displayed in Tables 3 and 4.

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Table 3

Analysis of Variance Comparing types of Hotels In terms of variables measuring (1) Extent of Use of Computers and (2) the Perceived Usefulness of Each Group of report for Marketing Decision-Making

(Results with a significant level of ≤ 0.05 are treated separately.)

VARIABLES \ TYPE OF HOTEL	MEANS							
	CONV	RESORT	DWNTWN	SUBURB	AIRPO	ROAD	F	SIGNIFICANCE
Report required for advertising, sales and publicity. Y=0 N=1	.22	.20	.25	.28	.34	.43	.49	p= .78
Report done manually for advertising, sales and publicity. Manually=1 non-manually=0	.28	.34	.24	.35	.29	.00	.36	p= .88
Frequency of doing computerized reports on advertising,sales and publicity. 5=daily 1=annually	2.91	2.71	2.61	2.86	3.54	5.00	2.51	p= .05*
Usefulness of doing reports on advertising, sales and publicity. 4=very useful 1= not at all useful.	3.43	3.34	3.47	3.434	3.73	3.33	.53	p= .75
Report required for doing sales and sales management. Y=0 N=1	.10	.15	.14	.20	.29	.13	1.01	p= .42
Report done manually for sales and sales management. Manually=1 non-manually=0	.21	.28	.14	.31	.31	.22	.87	p= .65
Frequency of doing computerized reports on sales and sales management. 5=daily 1=annually.	3.65	3.72	3.62	3.94	4.06	5.00	1.74	p= .15
Usefulness of doing reports on sales and sales management. 4=very useful 1=not at all usefulness.	3.43	3.38	3.61	3.46	3.50	2.67	.52	p= .76
Report required for agents and other intermediaries. Y=0 N=1	.48	.44	.33	.54	.57	.00	1.12	p= .36
Report done manually for agents and other intermediaries. Manually=1 non-manually=0	.08	.08	.50	.58	0.00	0.00	1.59	p= .18
Frequency of doing reports on agents and other intermediaries. 5=daily 1=annually.	2.80	2.86	3.60	3.35	3.44	3.00	.69	p= .63
Usefulness of doing reports on agents and other intermediaries. 4=very useful 1=not at all useful,	2.38	2.78	3.51	2.85	2.89	2.75	.98	p= .44
Report required for room rates. Y=0 N=1	.87	1.07	.26	.45	.33	.50	.66	p= .65
Report done manually on room rates. Manually=1 non-manually=0	.20	.21	.29	.20	.35	0.00	.30	p= .91
Frequency of doing reports on room rates 5=daily 1=annually.	2.80	2.67	2.25	3.00	2.50	-	.19	p= .94
Usefulness of doing room rate reports. 4=very useful 1=not at all usefulness.	3.28	3.21	3.27	3.21	3.38	1.00	1.80	p= .14
Report required for quality control. Y=0 N=1	.32	.35	.22	.18	.18	.25	.38	p= .86
Report done manually on quality control. Manually=1 non-manually=0	.28	.44	.63	.50	.85	.50	.37	p= .87
Frequency of doing quality control reports. 5=daily 1=annually.	7.05	7.81	7.89	5.557	7.22	9.00	1.68	p=.16
Usefulness of doing quality control reports. 4=very useful 1=not at all useful.	3.50	2.61	3.43	3.86	3.50	2.00	4.19	p=.005
Report required for catering functions. Y=0 N=1	.24	.26	.26	.24	.27	.16	.03	p=.99
Report done manually on catering functions. Manually=1 non-manually=0	.44	.42	.38	.36	.59	.50	.29	p=.91
Frequency of doing catering reports. 5=daily 1=annually.	4.33	5.00	4.00	4.20	5.00	-	.46	p=.75
Usefulness of doing catering reports. 4=very useful 1=not at all useful	3.00	2.86	3.67	3.41	3.75	2.00	.95	p=.47

*=p≤0.05

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Table 4

Analysis of Variance Comparing Six Types of Hotels, (Convention, Resort, Downtown, Suburban, Airport and Roadside), in Terms of the Frequency of Doing Advertising Reports

(scale: 5=daily 1=annually)

SOURCE	D.F.	S.S.	M.S.	F	SIGNI-FICANCE
Between groups	5	8.53	1.71	2.51	$p \leq .05$
Within groups	41	27.88	.68		
TOTAL	46	36.40			

	N	MEAN	S.D.
Convention	9	2.91	1.07
Resort	10	1.70	1.11
Downtown	7	2.61	.45
Suburban	12	2.86	.51
Airport	8	3.54	.70
Roadside	1	5.00	-
TOTAL	47	2.96	2.96

Scheffe Test - At the .05 level, no two means were significantly different.

At the 0.05 level, roadside hotels were significantly different from other types of hotels in the frequency of doing advertising reports. Roadside hotels did such reports more frequently then other types of hotels.

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Table 5

Analysis of Variance Comparing Six Types of Hotels, (Convention, Resort, Downtown, Suburban, Airport and Roadside), in terms of the Perceived Usefulness in doing Quality Control Reports

(Scale: 4=very useful 1=not at all useful)

SOURCE	D.F.	S.S.	M.S.	F	SIGNI-FICANCE
Between groups	5	9.95	1.99	4.19	p=.0045
Within groups	34	16.15	.48		
TOTAL	39	36.40			

	N	MEAN	S.D.
Convention	7	3.50	.50
Resort	9	2.61	1.17
Downtown	7	3.43	1.53
Suburban	11	3.86	.32
Airport	5	2.00	.50
Roadside	1	3.35	-
TOTAL	25	3.35	.81

Scheffe Test - At the .05 level, suburban hotels and resort hotels were significantly different in the perceived usefulness of doing quality control reports. Suburban hotels perceived them to be more useful. No other mean difference were significant.

At the 0.05 level, there was a significant difference between suburban hotels and resort hotels in their perception of the usefulness of doing quality reports. Suburban hotels perceived them to be more useful.

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Characteristics of Marketing Departments

The Pearson r was used to analyze the relationships between the characteristics of marketing departments (number of sales representatives, functions of the marketing department, and the amount of computer time devoted to doing different marketing functions) and (a) the extent of computer use for marketing purposes and (b) the perceived usefulness of each individual marketing report. A significance level of 0.001 was chosen, and the results are displayed in Table 6.

Table 6

Significant Correlations ($p \leq .001$) Between Characteristics of Hotel Marketing Departments and Variables measuring (1) the Extent of Reported use of Computers for Marketing Decision-Making and(2) the Perceived Usefulness of Each Individual Marketing Report

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
The number of sales representatives with The number of hours in computer time various sales reps spend in doing catering reports	_____	38	.623	p=.0005
The percentage of time various marketing departments devote to doing market analysis with The requirement of doing sales-call reports	_____ 1=not required 0=not required	38	.613	p=.0005

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Table 6 (continued)

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
The percent of time various marketing department devote to doing market analysis with The perceived usefulness of doing reports on "keeping track of the hotel roomnights and revenue each sales manager brings in"	4=very useful 1=not at all useful	28	.623	p=.0005
The percent of time various marketing departments devote to doing market analysis with Frequency of doing reports on "keeping track of and comparing how much business various travel agencies bring in"	5=daily 4=weekly 3=monthly 2=quarterly 1=annually	25	.501	p=.001
The percent of time various marketing department devote to doing market analysis with Whether reports are done manually on "keeping track of and comparing how much business each hotel franchiser brings in"	1=reports were done manually 0=reports were not done manually	38	-.502	p=.001

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Table 6 (continued)

VARIABLES	PERTINENT CODE VALUE	N	r	SIGNI-FICANCE
The amount of computer training provided by the hotel with Frequency of preparing reports on "keeping track of quality levels over time "	5=daily 4=weekly 3=monthly 2=quarterly 1=annually	7	-.950	p=.001
The percentage of time various marketing department spent in keeping track of performance of agents with whether quality control reports were done manually	1=reports were done manually 0=reports were not done manually	34	.31	p=.036

The findings of Table 6 are as follows:

There was a significant positive correlation between the number of sales representatives working in a marketing department and how much computer time was devoted to preparing catering reports. Therefore, the marketing departments with more sales representatives spent more time in preparing catering reports on the computer than those with fewer sales representatives.

There was a significant positive correlation between the percent of time a marketing department devoted to doing sales-related activities and the requirement of doing sales-

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call planning reports. This means that those marketing departments that spent more time in doing sales activities were more often the ones that required sales-call planning reports.

There was a significant negative correlation between the percent of time a marketing department devoted to market analyses and the perceived usefulness of doing reports on "keeping track of the hotel roomnights and revenue each sales manager brings in." This correlation indicated that this type of report was perceived as more useful in marketing departments which spent less time in market analysis.

There was a significant negative correlation between the percent of time a marketing department devoted to doing market analyses and the frequency of making computer reports for "keeping track of and comparing how much business various travel agencies bring in." Thus, the more time marketing departments devoted to doing market analysis, the less likely they were to prepare reports on "keeping track of and comparing how much business various travel agencies bring in."

There was a significant positive correlation between the percent of time marketing departments devoted to doing market analysis and whether they prepared manual reports on "keeping track of and comparing how much business the hotel franchiser brings in." Such a correlation showed that the more time marketing departments devoted to doing market

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analysis, the more likely they were to prepare "manual" as opposed to "computerized" reports on "keeping track of and comparing how much business the hotel franchiser brings in."

There was a significant negative correlation between how much computer training various hotels gave to their marketing executives and whether computerized reports were prepared on "keeping track of quality levels of the hotel over time." Therefore, the more computer training a hotel gave to its marketing executives, the less likely that reports on "keeping track of quality level over time" were required.

There was a significant positive correlation between the percentage of time various marketing departments spent in keeping track of performance of agents and whether quality control reports were done manually. The more time various marketing departments spent in keeping track of performance of agents, the more they were likely to do quality control reports manually.

Characteristics of Marketing Executives

A two-tailed *t*-test was also used to analyze whether there was a significant difference between marketing executives who had computers and those who did not have computers and (a) the extent of computer use for hotel marketing and (b) the perceived usefulness of each group of marketing reports. A significance level of 0.05 was set

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and the results showed that there were no significant difference between the two groups at that level. The results are shown in Table 7.

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Table 7

T-tests Between Marketing Executives who Had Home computers and those who Did Not, in terms of variables measuring (1) the Extent of Reported Use of Computers and (2) its Perceived Usefulness

VARIABLES	MEANS NO HOME COMPUTERS	MEANS HAD HOME COMPUTERS	t	SIGNIFICANCE
Report required for advertising. sales and publicity. Y=0 N=1	.27	.25	.23	p=.82
Report done manually for advertising, sales and publicity. Manually=1 non-manually=0	.32	.23	.79	p=.44
Frequency of doing computerized reports on advertising,sales and publicity. 5=daily 1=annually	2.85	3.17	-.68	p=.51
Usefulness of doing reports on advertising, sales and publicity. 4=very useful 1= not at all useful.	3.39	3.42	-.15	p=.88
Report required for doing sales and sales management. Y=0 N=1	.17	.20	-.29	p=.77
Report done manually for sales and sales management. Manually=1 non-manually=0	.30	.20	1.06	p=.31
Frequency of doing computerized reports on sales and sales management. 5=daily 1=annually.	3.82	4.12	-1.22	p=.25
Usefulness of doing reports on sales and sales management. 4=very useful 1=not at all usefulness.	3.34	3.67	-1.53	p=.15
Report required for agents and other intermediaries. Y=0 N=1	.50	.30	1.83	p=.08
Report done manually for agents and other intermediaries. Manually=1 non-manually=0	.12	.27	-.55	p=.60
Frequency of doing reports on agents and other intermediaries. 5=daily 1=annually.	3.25	3.86	-1.32	p=.22
Usefulness of doing reports on agents and other intermediaries. 4=very useful 1=not at all useful	2.89	3.09	-.62	p=.54
Report required for room rates. Y=0 N=1	.40	.99	-.91	p=.38
Report done manually on room rates. Manually=1 non-manually=0	.24	.29	-.25	p=.81
Frequency of doing reports on room rateS. 5=daily 1=annually.	3.74	4.17	-.80	p=.47
Usefulness of doing room rate reports. 4=very useful 1=not at all usefulness.	3.08	2.89	.26	p=.48
Report required for quality control. Y=0 N=1	.40	.14	1.28	p=.21
Report done manually on quality control. Manually=1 non-manually=0	.56	.50	.24	p=.81
Frequency of doing quality control reports. 5=daily 1=annually.	2.73	3.00	-	-
Usefulness of doing quality control reports. 4=very useful 1=not at all useful.	3.26	3.29	.10	p=.93
Report required for catering functions. Y=0 N=1	.25	.15	.80	p=.43
Report done manually on catering functions. Manually=1 non-manually=0	.49	.40	.54	p=.60
Frequency of doing catering reports. 5=daily 1=annually.	4.27	4.25	.04	p=.97
Usefulness of doing catering reports. 4=very useful 1=not at all useful	3.26	3.70	-1.40	p=.18

*=p≤0.05

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A two-tailed t-test was used to analyze whether there was a significant difference between marketing executives who were business majors or non-business majors in college and (a) the extent of reported use of computers for hotel marketing and (b) the perceived usefulness of each group of marketing reports. A significant level of 0.05 was chosen, and the results are displayed in Tables 8 and 9.

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Table 8

T-test Comparing Marketing Executives Who Were Business Majors and Non-business Majors In terms of variables Measuring (1) the Extent of Reported Use of (2) Its Perceived Usefulness

(Results with p≤.05 are treated in separate tables.)

VARIABLES	MEAN BUSINESS MAJORS	MEAN NON-BUSINESS MAJORS	t	SIGNIFICANCE
Report required for advertising, sales and publicity. Y=0 N=1	.28	.27	.13	p=.90
Report done manually for advertising, sales and publicity. Manually=1 non-manually=0	.18	.46	-2.19	p=.04*
Frequency of doing computerized reports on advertising,sales and publicity. 5=daily 1=annually	2.96	2.87	.23	p=.82
Usefulness of doing reports on advertising, sales and publicity. 4=very useful 1= not at all useful.	3.45	3.35	.58	p=.57
Report required for doing sales and sales management. Y=0 N=1	.16	.23	-.90	p=.38
Report done manually for sales and sales management. Manually=1 non-manually=0	.24	.34	-1.09	p=.29
Frequency of doing computerized reports on sales and sales management. 5=daily 1=annually.	3.85	3.97	-.54	p=.59
Usefulness of doing reports on sales and sales management. 4=very useful 1=not at all usefulness.	3.52	3.32	-.98	p=.34
Report required for agents and other intermediaries. Y=0 N=1	.43	.48	-.45	p=.65
Report done manually for agents and other intermediaries. Manually=1 non-manually=0	.30	.02	1.75	p=.10
Frequency of doing reports on agents and other intermediaries. 5=daily 1=annually.	3.53	3.09	1.05	p=.31
Usefulness of doing reports on agents and other intermediaries. 4=very useful 1=not at all useful	3.22	2.50	1.84	p=.09
Report required for room rates. Y=0 N=1	.76	.45	.96	p=.35
Report done manually on room rates. Manually=1 non-manually=0	.21	.38	-1.01	p=.33
Frequency of doing reports on room rates. 5=daily 1=annually.	3.80	3.50	.63	p=.54
Usefulness of doing room rate reports. 4=very useful 1=not at all usefulness.	3.24	2.58	1.21	p=.25
Report required for quality control. Y=0 N=1	.43	.25	.69	p=.50
Report done manually on quality control. Manually=1 non-manually=0	.67	.36	1.08	p=.29
Frequency of doing quality control reports. 5=daily 1=annually.	2.94	2.50	1.10	p=.29
Usefulness of doing quality control reports. 4=very useful 1=not at all useful.	3.50	3.06	1.27	p=.22
Report required for catering functions. Y=0 N=1	.25	.23	.19	p=.85
Report done manually on catering functions. Manually=1 non-manually=0	.44	.52	-.48	p=.64
Frequency of doing catering reports. 5=daily 1=annually.	4.18	4.33	-.19	p=.86
Usefulness of doing catering reports. 4=very useful 1=not at all useful	3.60	2.81	1.70	p=.12

*=p≤0.05

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Table 9

Significant Mean Differences ($p \leq .05$) between Marketing Executives Who Were Business or Non-Business Majors in Terms of Whether Advertising Reports were Done Manually

(Scale: Manually=1 non-manually=0)

VARIABLE	GROUP	N	MEAN	S.D.	t	SIGNI-FICANCE
Whether advertising reports were done manually.	Business majors	21	.18	.28	-2.19	p=.038
	Non-business majors	16	.46	.44		

There was a significant difference between marketing executives who were business majors and those who were non-business majors and whether advertising reports were done manually. Those who were non-business majors did more often advertising reports manually rather than business majors, who preferred to use the computer.

Lastly, a one-way analysis of variance was done to analyze whether the place the marketing executives got their computer training (college, computer vendor, company, themselves) affected (a) the extent of reported use of computers for marketing decision-making and (b) the perceived usefulness of each group of marketing reports. A significance level of 0.05 was set. No significant differences were found. The results are shown in Table 10.

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Table 10

ANOVAS for Differences between groups of Marketing Executives with different Sources of Computer Training in terms of variables measuring (1) The Extent of Computer Use and (2) Perceived Usefulness of each type of Marketing Reports.

(Results with p≤0.05 are treated in separate tables.)

VARIABLES / SOURCES WHERE MARKETING EXEC .VES GOT THEIR COMPUTER TRAINING	MEAN COLLEGE	VENDOR	COMPANY	YOURSELF	F	SIGNIFI-
Report required for advertising, sales and publicity. Y=0 N=1	.37	.22	.27	.33	.29	p=.83
Report done manually for advertising, sales and publicity. Manually=1 non-manually=0	.12	.00	.33	.20	1.06	p=.38
Frequency of doing computerized reports on advertising,sales and publicity. 5=daily 1=annually	2.71	2.25	3.14	2.64	.72	p=.54
Usefulness of doing reports on advertising, sales and publicity. 4=very useful 1= not at all useful.	3.58	4.00	3.30	3.73	1.99	p=.13
Report required for doing sales and sales management. Y=0 N=1	.22	.04	.15	.26	1.09	p=.36
Report done manually for sales and sales management. Manually=1 non-manually=0	.40	.14	.25	.22	.93	p=.43
Frequency of doing computerized reports on sales and sales management. 5=daily 1=annually.	3.89	4.13	3.79	3.97	.31	p=.82
Usefulness of doing reports on sales and sales management. 4=very useful 1=not at all usefulness.	3.24	3.18	3.39	3.75	1.56	p=.21
Report required for agents and other intermediaries. Y=0 N=1	.57	.38	.38	.54	.88	p=.46
Report done manually for agents and other intermediaries. Manually=1 non-manually=0	.14	0.00	.17	.00	.35	p=.79
Frequency of doing reports on agents and other intermediaries. 5=daily. 1=annually.	2.54	3.00	3.47	3.36	1.47	p=.24
Usefulness of doing reports on agents and other intermediaries. 4=very useful 1=not at all useful	2.66	1.00	3.02	2.63	1.47	p=.24
Report required for room rates. Y=0 N=1	.76	.00	.60	1.08	.43	p=.73
Report done manually on room rates. Manually=1 non-manually=0	0.00	0.00	.14	.36	1.32	p=.29
Frequency of doing reports on room rates 5=daily 1=annually.	3.33	4.00	3.60	4.40	.71	p=.56
Usefulness of doing room rate reports. 4=very useful 1=not at all usefulness.	2.83	4.00	2.94	3.13	.25	p=.86
Report required for quality control. Y=0 N=1	1.07	.25	.42	.36	.85	p=.48
Report done manually on quality control. Manually=1 non-manually=0	.60	0.00	.41	.94	1.11	p=.36
Frequency of doing quality control reports. 5=daily 1=annually.	4.00	3.00	2.67	2.70	1.96	p=.17
Usefulness of doing quality control reports. 4=very useful 1=not at all useful.	2.60	4.00	3.29	3.22	.81	p=.49
Report required for catering functions. Y=0 N=1	.38	.00	.16	.36	1.40	p=.26
Report done manually on catering functions. Manually=1 non-manually=0	.61	.34	.47	.37	.39	p=.76
Frequency of doing catering reports. 5=daily 1=annually.	4.00	3.00	4.22	4.00	.28	p=.84
Usefulness of doing catering reports. 4=very useful 1=not at all useful	2.40	3.00	3.46	3.37	1.59	p=.28

*=p≤0.05

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The Perceived Usefulness of Computers for Marketing Decision-Making

Student's *t*-tests for deviation of any given mean from a pre-determined neutral value (1.5) were used to analyze the second research question, which sought significant perceived improvements or hindrances that resulted when computers were used for marketing decision-making. The level of significance of $p<.01$ was selected for decisions concerning the deviation of a mean from the scale's neutral point of 1.5. The neutral point distinguishes between marketing decision-making that brings improvements and decision-making that hinders. Table 11 displays the findings.

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Table 11

Significance of Mean Deviations of Response Means from the Neutral Point in terms of the Perceived Effects of Computer Use on Various Areas in Marketing Decision-Making

(Scale: Values below 1.5 indicate a perceived hindrance due to computers. Values above 1.5 indicate perceived improvement due to computers.)

Areas of Marketing Decision Making	N	Mean	S.D.	t	Significance
Assurance of the availability of data	29	3.1724	.658	13.68	$p<.0005$
The ability to communicate information formally	30	3.2667	.640	15.13	$p<.0005$
Quantity of information available	31	3.3871	.667	15.75	$p<.0005$
Accuracy of information	31	3.2581	.682	14.36	$p<.0005$
Presentation form	31	3.3548	.661	15.63	$p<.0005$
Speed of updating records	31	3.3871	.884	12.45	$p<.0005$
Time need to understand the problem	31	2.8387	.898	8.30	$p<.0005$
Shortening time to make a decision	31	2.9355	.854	9.36	$p<.0005$
Comprehensiveness of analysis	30	3.0333	.765	10.98	$p<.0005$
Clarity of presentation of goals and objectives	31	2.8065	.873	8.34	$p<.0005$
Ease of presentation of constraints and alternatives	31	2.6129	.844	7.34	$p<.0005$

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Table 11 (continued)

Areas of Marketing Decision Making	N	Mean	S.D.	t	Significance
Direct and accurate quantification of action consequences	29	2.5517	.783	7.23	$p < .0005$
Speed of calculation/ analysis	31	3.5161	.677	16.59	$p < .0005$
Speed of handling/ collection/correction	31	3.4516	.675	16.09	$p < .0005$
Positive cost displacement	30	2.8667	.900	8.32	$p < .0005$
Procedures for doing reports	31	3.0968	.831	10.70	$p < .0005$
TOTAL FOR ALL AREAS	25	3.1225	.566	14.33	$p < .0005$

Examination of Table 11 reveals that each of the areas as well as the total for all areas were significant at the .0005 level, showing that there was a uniform belief in the positive effects of computers in these areas. In fact, even the lowest mean (2.55 for "direct and accurate quantification of action consequences") was in the area labelled "considerable improvement." This is further supported by the observation that, out of a total of 489 responses, only 8 check marks were found in the "hindrance" category.

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In the second part of the analysis of Research Question Two, the various areas affecting marketing decision-making were ranked according to the mean of perceived level of improvement attributable to computer use, with rank 1 indicating the greatest perceived improvement. This is shown in Table 12.

Table 12

Ranking of the Various Areas Affecting Marketing Decision-Making

Scale: 1.0 = a hindrance rather than an improvement.
2.0 = slight improvement.
3.0 = considerable improvement
4.0 = great improvement

AREAS	Scale MEAN	S.D.	RANK OF MEAN
Speed of calculation analysis	3.52	.658	1
Speed of data handling/collection/ correction	3.45	.640	2
Quantity of information available	3.39	.667	3.5
Speed of updating records	3.39	.682	3.5
Presentation form	3.35	.661	5
The ability of communicate information formally	3.27	.844	6
Accuracy of information	3.26	.898	7
Assurance of the availability of data	3.17	.854	8
Procedures for doing reports	3.10	.765	9
Comprehensiveness of analysis	3.03	.873	10

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Table 12 (continued)

AREAS	Scale MEAN	S.D.	RANK OF MEAN
Shortening time to make a decision	2.94	.844	11
Positive cost displacement	2.87	.783	12
Time needed to understand the problem	2.84	.677	13
Clarity of presentation form	2.81	.675	14
Ease of presentation of constraints and alternatives	2.61	.900	15
Direct and accurate quantification of action consequences	2.55	.831	16

It can be seen that "speed of calculation/ analysis" was considered to be the area in which computers were responsible for the most improvement in decision-making, while "direct and accurate quantification of action consequences" was seen as least responsible for improvement, even though it had a mean in the "considerable improvement" range.

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Summary

For Research Question One, the study showed 10 significant correlations between (1) the characteristics of U.S. hotels and the extent of reported use and of perceived usefulness of computers in marketing decision-making, (2) the characteristics of U.S. marketing departments and the extent of reported use and of perceived usefulness of computers for marketing decision-making, (3) the characteristics of U.S. hotel marketing executives and the extent of reported use and perceived usefulness of computers for hotel marketing decision-making.

Significant differences were also found between whether the marketing executives were business majors or non-business majors in college and whether they had a personal computer at home to (a) the extent of computer use for hotel marketing and (b) the perceived usefulness of each group of marketing reports.

Significant differences were also found between the type of ownership of the hotels (independent, franchise, chain, management contract) and also the six types of hotels (convention, resort, downtown, suburban, airport and roadside) with (a) the extent of computer use for hotel marketing and (b) the perceived usefulness of each group of marketing reports.

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Student's *t*-tests were used to answer Research Question Two. There was a uniform belief in the positive effects of using computers for marketing decision-making. In fact, even the lowest mean (2.55 for the perceived effect of computerization on "direct and accurate quantification of action consequences") was in the area labelled "considerable improvement." This is further supported by the observation that, out of a total of 489 responses, only 8 check marks were found in the "hindrance" category.

Finally, the means of the perceived effects of computer use in marketing decision-making were placed in rank order for examination of their relative values.

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Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The research focused on an examination of the extent of computer usage for marketing decision-making in United States hotels and also the perceived improvements or hindrances they bring. A summary of the research has been developed to provide a brief overview of the research problem. The literature selected and reviewed to complement the present study has been summarized, as has the research method. The information obtained from the implementation and data collection procedures have been interpreted and condensed to provide concise answers to the research questions formulated for this study and are presented as summary findings.

The chapter also includes conclusions based on the findings reported for the research questions. It also includes the implications and applications of the research. Lastly, it includes recommendations for future research, which, if implemented, would serve to contribute to an increased understanding of the importance of maximizing computer usage for marketing decision-making in hotels.

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Summary

The following is the summary of the research problem; the research questions, the purpose of the research and the criteria for data sources.

The Research Problem

The research investigated the problem of insufficient computer use in the marketing departments of U.S. hotels. Ein-dor and Segev (1978:559) defined insufficient computer as a problem, stating, "A clear distinction should be made between the success of an MIS project, defined as completion on time and within budget, and the success of the MIS, which is the end product of the project. A project may be successful and yet result in an unused and therefore unsuccessful system. A project may be plagued by cost overruns and schedule slippage, and still result in a widely unused system."

The U.S. lodging industry was about a decade behind other industries in incorporating computer techniques. (Goffe and Parker 1985). Even if hotels were using computers, their use was usually limited to the front office, and marketing applications were usually an afterthought, if they were not neglected entirely. At this point, the researcher used the problem of insufficient computer use as the research problem.

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Research Question One

1a. What is the relationship between a variety of measured characteristics of U.S. hotel and the extent of reported use of computers for marketing decisions in U.S. hotels' marketing departments?

1b. What is the relationship between a variety of measured characteristics of U.S. hotel marketing departments and the extent of reported use of computers for marketing decision-making in the marketing departments of U.S. hotels?

1c. What is the relationship between a variety of measured characteristics of U.S. hotel marketing executives and the extent of reported use of computers for marketing decision making in U.S. hotel marketing departments?

Research Question Two

To what extent do U.S. hotel marketers perceive that the use of computers has improved the effectiveness of their decision making?

Purpose of the Research

There were three purposes for conducting this research: (1) to identify the factors related to the degree of success of computer systems in the marketing departments of U.S. hotels, (2) to determine whether U.S. hotel marketing executives perceive computers to be enhancing their job performance, and (3) to identify the latest applications of computer technology to the marketing

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departments in the hotel industry. This was done by interviewing several computer vendors in Southern California.

Criteria for Data Sources

(1) Each U.S. hotel selected (including regional offices or headquarters) must have been using computers for the past year in its marketing department. (2) The hotel must have had 50 or more rooms. (3) There must have been more than two people working full time in marketing. (4) The questionnaire was directed to the marketing manager or the general manager in charge of implementing and controlling marketing plans. (5) Responding managers must have worked full time in the job for at least a year, and must have been using computers on the job for at least a year.

Review of Selected Literature

The literature review was divided into three parts. The first part reviewed literature from the hotel industry, and described the problem of insufficient computer use in the marketing department of hotels. It also explained the different uses of computers for hotel marketing purposes.

The second part of the chapter reviewed research that has been done in the past to investigate the problem of under-utilizing the full potential of computers. It also

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gave research on the different characteristics of people that contribute to the success or failure of computer systems in general businesses.

In the third part of the chapter, the researcher described personal interviews with some computer vendors in Southern California, and the latest state-of-the-art computer technology available to the hotel industry. Also, the researcher conducted telephone interviews with some well-known hotels and hotel headquarters, and this part of the literature review described how the marketing decision-making process was made in these hotels.

Method

The method used for the research required a valid survey instrument. A questionnaire was developed and was sent to 170 Southern California hotels.

Collection of Data

The collection of the data required the development and validation of a survey instrument that would provide relevant and sufficient data to answer the research questions.

Data Sources

In order to implement the study it was necessary to distribute the survey questionnaire to a sample group satisfying specific criteria. Participation in the study sample required that the hotels chosen had used computers

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for the past year in their marketing department, and that these hotels had 50 or more rooms. Also, there must have been more than two people working full-time in the marketing department. One hundred and seventy hotels were selected from three California counties: San Diego, Orange County and Los Angeles. Addresses and phone numbers were obtained from the Hotel and Tour book of the American Automobile Club of Southern California. These hotels were chosen at random by taking the odd numbered hotels from each page of the Hotel and Tour book.

Instrumentation

The instrument was designed to obtain data from hotel marketing executives who utilized computers for marketing decision-making.

The first part of the questionnaire was designed to determine the demographics of the hotels, their marketing departments, and their marketing managers. The hotels were classified by type of ownership (independent, franchised, chain operated, management contract or others), type of hotel (convention, resort, downtown, suburban, airport, or roadside), and hotel size.

The marketing department was differentiated in terms of the extent of computer use in various functions, sales, advertising, publicity, pricing of room rates, catering, promotion, and keeping track of performance of agents. The questionnaire then examined the demographics of the

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marketing executives (for example, education level, years on the present job).

Other than demographics, factors exist that may influence the degree of computer use. This includes whether managers felt that the data provided by the computer was relevant to marketing uses. The policies of a company can also influence the degree of computer use within its departments. A company can increase computer use by supporting computer training, and by taking action to help the employees if they have difficulties in using them.

The second part of the questionnaire investigated whether tasks were completed by computers or done manually in the following marketing areas: advertising, sales promotion and publicity, sales and sales management, agents and other intermediaries, room rates, quality control, and catering. If computers were used in the above areas, the researcher was also interested in determining the intensity of use and its relationship with other variables.

The third part of the questionnaire helped to determine the degree of improvement that computers can provide for decision-making in marketing. Improvements in decision-making were examined in terms of the support computers can provide.

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Procedure

One hundred and seventy hotels from Southern California were chosen randomly (taking the odd numbered hotels of each page) from the Hotel and Travel Index book. The researcher then called the hotels and obtained the name of the marketing director or administrator who was in charge of marketing decision-making. If the respondent cooperated, the researcher then asked whether computers were used in their marketing department. After this information was obtained, the questionnaire was mailed to the computer-using respondent. Accompanying the questionnaire was a cover letter that explained the nature and purpose of the research. In addition, a stamped, pre-addressed return envelope was provided to increase the response rate. The researcher also included a pre-addressed postcard, if the respondents would like to have a copy of the results of the research. Depending on the response rate, the researcher conducted personal interviews with the respondents in the San Diego area.

Analysis of Data

The researcher used three tests to analyze the data collected. The Pearson r was used for detecting significant associations between the variables of interest. Student's t-tests and analyses of variance were used to explore differences among different types of hotels, marketing departments and marketing managers in terms of the frequency

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of use of computers.

For Research Question One, the levels of significance used were 0.005 and 0.001 for the correlation analysis. A significance level of 0.05 was chosen for the analysis of variance and t-test. For Research Question Two, a significance level of 0.01 was chosen.

Findings and Conclusions

Of the 170 questionnaires sent by the researcher, 40 (24 percent) were completed and returned, and 25 requested that the results of the research to be sent to them. The survey data resulting from the implementation of the research design formed the basis from which the findings were drawn. A review of the findings resulted in the conclusions to each of the research questions formulated for the current study.

The significant findings from the two research questions are summarized as follows:

Research Question One

(A) Characteristics of U.S. Hotels

(1) The more rooms hotels had, the more likely they were to do reports on "pricing models producing optimal room rates."

(2) Roadside hotels more frequently did computerized advertising, sales promotion and publicity reports than other types of hotels (downtown, convention, resort, airport, roadside).

(3) Suburban hotels were significantly different from

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resort hotels in the perceived importance of doing quality control reports. Suburban hotels perceived that these reports were more important than other types of hotels did.

(B) Characteristics of Marketing Departments

(1) The more time marketing departments spent in doing market analysis, the more sales-call reports, and the more reports on "keeping track of the hotel room nights each sales manager had brought in" were required.

(2) The more time a marketing department spent in doing market analysis, the more reports on "keeping track of the hotel room nights each travel agency brought in" were required.

(3) The more time a marketing department spent in doing market analysis, the less frequently it did reports on "keeping track of quality level over time."

(C) Characteristics of Marketing Executives

(1) Marketing executives who were non-business majors did more advertising reports manually (as opposed to doing them on the computer) than did business majors.

(2) There were no significant relaionships between where the marketing executives got their computer training (computer vendor, college, company, themselves) and (i) the extent of computer use in marketing departments and (ii) the perceived usefulness of the different types of marketing reports.

(3) There were no significant differences between marketing

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executives who owned home computers and those who did not, in terms of (i) the extent of computer use in marketing departments and (ii) the perceived usefulness of the different types of marketing reports.

Research Question Two

The data recorded in response to the second research question of the current study indicated that there was a uniform belief in the positive effects of the use of computers for hotel marketing purposes. In general, hotel marketers perceived that computers could bring "considerable improvements" to marketing decision-making. The four areas in which they saw the most improvement were speed of calculation/ analysis, speed of data handling/ collection/ correction, speed of updating records, and quantity of information available.

Findings Related to Context and Literature

The findings reported for the current study were generally in agreement with those cited in the literature reviewed as an integral part of the research design. The research concurred with the literature reviews that computers could bring improvements to marketing decision-making. The literature pointed out that the hotels in general were not making maximum use of computer technology in marketing, the current research found out that only small hotels (342 rooms or less) did not make good use of

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computers, but larger hotels (342 or more rooms, four sales representatives working in marketing departments) did make good use of computers.

Tait and Vessey (1988) found that system complexity had a strong effect on system success. The current research concurred with the above study. When the respondents were asked what gave them the most difficulties when using the computer, they gave the answers that the different programs were too hard to learn, and there were no good guides or indexes to help them to learn the system.

Fuerst and Cheney (1982), Sanders and Courtney (1985), Lucas (1975), and Schewe (1976) stated that training, education, experience, number of years in the organization, and number of years on the present job were vital in affecting the quality of information used. The research also concurred with the above studies: Most of the respondents had an average of three years on the job, and they were college graduates. These were the respondents who made good use of the computer for marketing purposes: They used the computer almost every week for different marketing reports instead of doing them manually, and they felt that the computers were "somewhat useful" in marketing decision-making.

Nelson and Cheney (1987) found that it was important to have computer-related training in order to have an effective system. The current research found that it was

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true. Although most respondents felt that computers were relatively easy to use, they felt that it was necessary to have more training. These respondents had an average of two months, training two hours each week training, and they felt that it was not enough to help them.

Problems with the Research

After reviewing the questionnaire, the researcher found out that Question Six could be eliminated: "In each week, about how many hours of computer time is devoted to each of the following marketing areas ?" This question was repetitive of Question Sixteen, in which the respondents were asked whether the marketing reports were done on the computer and how often these reports were done.

Different sales promotions, publicity and advertising programs may not be done at the individual hotel property but at the corporate office. The hotels that have their headquarters doing the different marketing functions would answer that the reports were not done on the computer. That would affect the outcomes of the research. The researcher suggested that the questions on advertising, promotions and publicity be directed to regional office and headquarters of hotels only.

In Research Question Two, respondents were asked to state whether computers could give improvements to various areas of marketing decision-making. There were two areas that were not very clearly defined in the questionnaire and

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should have been improved before sending them out to the respondents; those areas were: (1) "direct and accurate quantification of action consequences" and (2) "ease of presentation of constraints and alternatives."

Implications and Applications

It is apparent that most of the hotel marketing executives surveyed believed that computers could provide considerable improvements in marketing decision-making. They perceived that computers could speed up their handling of data and also increase the quantity of marketing information that could be stored. However, the marketing executives who responded to the research had on average four sales representatives reporting to them, and worked in a hotel that had on average 342 rooms. Hotels with substantially fewer rooms were not able to reply to the researcher, because most did not have computers in their sales offices. This implies that the larger a hotel is, the more likely it is to utilize computers in its offices. The researcher suggests that small hotels that do have computers in their front offices should explore the benefits they can provide in their marketing departments.

The research showed that most hotels emphasize sales rather than other marketing functions. Marketing executives spend an average of 50 percent of their time selling hotel rooms. There is no doubt that sales is an important aspect of hotel marketing, but other areas should receive a

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proportionate share of time. It is true that most hotels have an advertising agency to handle promotion and advertising functions, but measures should be taken to find out how effective these programs are. In order to accomplish this, it is necessary to use the computer to analyze how much revenue was generated by a given advertisement or promotion, and how much was spent implementing it. From this information, the hotel can efficiently generate a budget appropriate to its needs.

The study showed that although sales is an important aspect of hotel marketing, reports on market analysis are not done very frequently by computer. This implies that marketing executives make a lot of sales calls, but they do not spend enough time analyzing the origins of their clients, and may be targeting the wrong market. The computer can easily analyze the origins of hotel clients, because they register this information as they check in. If marketing executives spend more time doing such analyses, they will improve the success of their sales calls.

There is another important report that the computer can prepare, which has generally been ignored by marketing executives: updated sales lead reports based on the age and status of the lead. The computer can efficiently do chronicle updates of the results of different sales leads, and indicate the dates that sales representatives should call on those clients. If marketing executives do more such

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computerized reports and also follow up on their sales leads, they will probably be able to make more successful sales calls.

The latest development in computer technology for hotel marketing purposes is yield management. It is an expert system in which the computer calculates the optimal room rates for different groups or individuals. The computer calculates these rates based on the availability of hotel rooms for different dates. This is particularly useful because sales representatives can quote the best possible rates to their clients, make a reasonable profit for the hotel, and they do not have to wait for the marketing director to approve the rates they quote. The study showed that computer capability is not used very frequently, and if hotel executives would use it more, they would ensure that the hotel is always charging the best rates based on the availability of rooms and the season.

The study showed that quality control reports and guest satisfaction index reports were also not done very frequently on the computer. Managers do not usually keep these reports when done manually; they glance over them, and may pay specific attention if problems are arising for the hotel. It is necessary to have computerized records of quality control and guest satisfaction, so that management can pinpoint problem areas more efficiently.

Hotel managers should be very careful when choosing

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the appropriate software. The study showed that some of the difficulties marketing executives encountered when using the computer were "program limitations" and "learning software and becoming familiar with it." There are different software packages on the market that may be suitable for one type of hotel and not for another. Managers should choose the appropriate software and train and encourage their employees to use it extensively on the job, so that different marketing programs can be implemented more efficiently.

The researcher suggests that universities and colleges that offer courses in hotel administration should emphasize the importance of computer operations and teach how to make use of the information computers can provide. The study supports this suggestion by showing that executives who were business majors in college utilize the computer more often on the job than those who were non-business majors. Thus, it follows that if executives are taught to use marketing functions in college, they will eventually use them on the job. Many marketing executives will come from the ranks of college students, thus, if colleges and universities make extensive use of computers in class, the U.S. hotel industry will eventually be able to efficiently implement computer technology to its marketing decision-making.

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Recommendations For Future Research

The researcher's current study only included three characteristics (U.S. hotels, marketing departments and marketing executives) affecting the extent to which computers were reportedly used and their perceived usefulness. The researcher suggests that more characteristics could be examined, including, for example, user involvement, user attitudes, system complexity and resource constraints. The hotels surveyed need not to be limited to Southern California. Hotels nationwide or worldwide could be included.

The latest computer technology applicable to hotel marketing purposes was yield management. It is an expert system that constantly monitors room revenue by making an optimal match of accommodations and guests. The computer program advises the reservationists what price to charge to different groups of clients (for example, first time clients, repeat clients) during different periods (high or low season) in order to achieve the ideal mix of performance and strategy fulfillment. This computer system was not being used by many hotels nowadays, because it was a new system. In the future, research can be conducted to find out whether this new technology is effective, and whether it is applicable to different types and sizes of hotels.

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APPENDICES

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APPENDIX A

LETTER OF INTRODUCTION

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USIU

10455 Pomerado Road • San Diego, CA 92131

SCHOOL OF BUSINESS AND MANAGEMENT
(619) 693-4615

November, 1988.

Mr./Ms.
Marketing Executive
Name of hotel
Address
Address

Dear Mr./Ms._____

As you are probably aware, little research has been done which indicates the extent to which computers are being used in hotel marketing departments, and the extent to which they are perceived as an aid to the decision-making process. To this end, I respectfully request twenty minutes of your time to complete the attached questionnaire. The data collected will help to expand the level of knowledge about this very turbulent area of change in the U.S. hotel industry.

Selected hotels in Southern California which are representative of those using computers for hotel marketing are being asked to provide answers for this study. Specifically, the intent is to identify the extent to which computers are seen as improving the decision-making ability of hotel marketing departments, and to record the newest and most useful applications of computers in hotel marketing operations.

If you would like to receive a summary of the results of this study, please fill in the enclosed postcard and mail it separately from the questionnaire, so as to ensure that your name and that of your hotel are not connected in any way with your responses. All responses will be completely confidential. Upon completing the questionnaire, please return it in the enclosed stamped envelope.

Your prompt attention to this matter would be most appreciated.

Respectfully,

Julia Cheung
Researcher

Frederick W. Dow Ph.D., F.R.S.A.
Chairman of Dissertation Committee

Enclosures

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APPENDIX B

INSTRUMENT

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QUESTIONNAIRE

1. Number of guest rooms - _____

2. Type of ownership - independent ____, franchised _ chain operated ____, management contract ___, others _____.

3. Type of hotel - (if more than one category applies, please prioritize them)
convention ____, resort ____, downtown _____, suburban _____, airport _____ , roadside ____.

4. Number of sales representatives reporting to you _____

5. Generally, about what percentage of its time does the marketing department devote to each of the following areas?

sales	____%
advertising	____%
pricing of room rates	____%
catering	____%
promotion	____%
market analysis	____%
public relations/publicity	____%
keeping track of performances of agents	____%
others (please specify)	____%

6. In each week, about how many hours of computer time is devoted to each of the following areas?

sales	____ hours per week
advertising	____ hours per week
public relations/publicity	____ hours per week
market analysis	____ hours per week
pricing of room rates	____ hours per week
catering	____ hours per week
promotion	____ hours per week
keeping track of performances of agents	____ hours per week
others (please specify)	_____

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7. How many years have you worked in your present job? _____ years.

8. What is your education level?
high school _____, some college _____,
college graduate _____, post graduate _____.

9. In what area is your college degree ?
_____

10. Where did you receive your computer training?
College _____, computer vendor _____
On the job training at your company _____
By yourself _____

11a. How many months of formal computer training have you had? _____ months
b. How many hours per month does this traing require?
_____ hours

12. Do you have a personal computer at home?
yes _____ no _____

13. How easy is it for you to use the computer at work?
very hard _____ hard _____ moderately easy ___
very easy _____

14. To what extent does your company provide computer training?
none at all ___, very little _____,
the right amount _____, more than enough _____.

15. State briefly what gives you most difficulty when using the computer?

_____

_____

_____

_____

_____

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QUESTION 16

A. In column A, please put an "X" in the boxes to show whether you prepare each of the following reports in your department.
B. In column B, please evaluate the usefulness of these reports by circling the right answer.

Types Of Reports:	A							B
	THIS REPORT IS NOT REQUIRED	THIS REPORT IS DONE MANUALLY, NOT ON THE COMPUTER	THIS REPORT IS REQUIRED AND WE DO IT ON OUR COMPUTER					PLEASE EVALUATE THE USEFULNESS OF THIS REPORT FOR MARKETING DECISION-MAKING: 1 = not at all useful 2 = slightly useful 3 = somewhat useful 4 = extremely useful
			daily	weekly	monthly	quarterly	annually	
In advertising, sales promotion and publicity areas:								
Reports on the effectiveness of various advertising and commercials.								1 2 3 4
Reports on the effectiveness of various sales promotion.								1 2 3 4
Past-clients mailing lists.								1 2 3 4
Monitoring of advertising-to-sales-ratios.								1 2 3 4
Advertising budgets.								1 2 3 4
Sales promotion budgets.								1 2 3 4
Publicity budgets.								1 2 3 4
In sales and sales management:								
Market share analysis.								1 2 3 4
Keeping track of how much business each geographic market brings.								1 2 3 4
Keeping track of the hotel roomnights and revenue each sales manager brings in.								1 2 3 4
Potential clients lists.								1 2 3 4
Keeping Track of the reasons for cancelled reservations.								1 2 3 4
Comparing sales lead to actual sales ratios.								1 2 3 4
Updating reports on sales-lead age and status.								1 2 3 4
Sales-call planning reports.								1 2 3 4
Future bookings reports.								1 2 3 4
Sales reports.								1 2 3 4
Up-to-the-minute information on available date, rates and rooms.								1 2 3 4
Preparation of sales contracts.								1 2 3 4

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	A							B
	THIS REPORT IS NOT REQUIRED	THIS REPORT IS DONE MANUALLY, NOT ON THE COMPUTER	THIS REPORT IS REQUIRED AND WE DO IT ON OUR COMPUTER					PLEASE EVALUATE THE USEFULNESS OF THIS REPORT FOR MARKETING DECISION-MAKING. 1 = not at all useful 2 = slightly useful 3 = somewhat useful 4 = extremely useful
			daily	weekly	monthly	quarterly	annually	
Agents and other intermediaries								
Keeping track of and comparing how much business various travel agencies brings in.								1 2 3 4
Keeping track of and comparing how much business various tourist bureaus brings in.								1 2 3 4
Keeping track of and comparing how much business various planner of business meeting brings in.								1 2 3 4
Keeping track of and comparing how much business the hotel franchisor brings in.								1 2 3 4
Room Rates:								
Reports on pricing models producing optimal rates for groups.								1 2 3 4
Pricing model for determining optimal first-time rates.								1 2 3 4
Reports including the calculation of rates for salesmen to quote to clients in order to have the desired revenue figures.								1 2 3 4
Quality Controls								
Keeping track of quality levels over time. (Quality of rooms, restaurants etc)								1 2 3 4
Guest satisfaction index reports. (Satisfaction of rooms, restaurants etc.)								1 2 3 4
Catering:								
Generating banquet event order.								1 2 3 4
Beverage set-up and requirement reports.								1 2 3 4
Reports on available menus and items already sold.								1 2 3 4

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QUESTION 17

PLEASE PUT AN "X" IN ONE OF THE BOXES TO THE RIGHT FOR EACH AREA:

To what extent has the use of computers resulted in improvements or hindrances in marketing decision-making in each of the following areas?

	EFFECT ON MARKETING DECISION-MAKING			
	a hindrance rather than an improvement	slight improvement	considerable improvement	great improvement
Assurance of the availability of data				
The ability to communicate information formally.				
Quantity of information available.				
Accuracy of information.				
Presentation form. (for example graphics, spreadsheet)				
Speed of the updating of records.				
Time needed to understand the problem.				
Shortening time need to make a decision.				
Comprehensiveness of analysis.				
Clarity of presentation of goals and objectives.				
Ease of presentation of constraints and alternatives.				
Direct and accurate quantification of action consequences.				
Speed of calculation/analysis.				
Speed of data handling/collection/correction.				
Positive cost displacement (economies of people, equipment).				
Procedures for doing reports.				

Others (please specify)

_____

_____

_____

_____

APPENCIX C

HOTELS WHICH PARTICIPATED IN THE RESEARCH

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Hotels which participated in the research:

Anahiem Plaza Resort - Anaheim
Best Western Seven Seas Lodge - San Diego
Beverly Wilshire Hotel - Beverly Hills
Budget Hotels of America - San Diego
Carlsbad Inn Beach and Tennis Resort - Carlsbad
Doubletree Hotel - San Diego
Embassy Suites Hotel - San Diego
Empress Hotel of La Jolla - La Jolla
Forte Hotels International Incorporated - El Cajon
Hacienda Hotel at Los Angeles Airport
Hacienda Hotel - Old Town, San Diego
Holiday Inn Harbor View - San Diego
Holiday Inn Montgomery Field - San Diego
Hotel Del Coronado - Coronado
Hotel Queen Mary - Long Beach
Hotel Concord - Orange
Howard Johnson Hotel - San Diego
Howard Johnson Plaza Hotel - Los Angeles
Hyatt Wilshire - Los Angeles
Hyatt Regency Alicante - Garden Grove
Hyatt Regency - Long Beach
Inn By The Sea - La Jolla
Irvine Marriott Hotel - Irvine
Le Meridien San Diego at Coronado
Marina Del Ray Marriott - Marina Del Ray
Miramar-Sheraton Hotel - Los Angeles
Newport Beach Marriott - Newport Beach
Newporter Resort Hotel - Newport Beach
Omni San Diego Hotel - San Diego
Ramada Hotel - Downtown San Diego
Ramada Inn - Old Town
Ramada Inn - Burbank
Ramada Renaissance Hotel - Long Beach
San Diego Princess - San Diego
San Diego Marriott - Mission Valley
Seapoint Hotel - San Diego
Sheraton Plaza La Reina Hotel - Los Angeles
Sports Arena Travelodge - San Diego
Surf and Sand Hotel - Laguna Beach
The Beverly Hilton - Beverly Hills
The Courtyard by Marriott - Buena Park
The Sheraton on Harbor Island - San Diego
Town and Country Hotel - San Diego
Warner Center Marriott - Los Angeles

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