

1-1-1991

Issues for Managing Tourism Information


Robert M. O'Halloran

University of Denver, null@du.edu

Donald F. Holecek

Michigan State University, shbsirc@msu.edu

Follow this and additional works at: <https://digitalcommons.fiu.edu/hospitalityreview>

 Part of the [Hospitality Administration and Management Commons](#), [Recreation, Parks and Tourism Administration Commons](#), [Sustainability Commons](#), [Tourism Commons](#), and the [Tourism and Travel Commons](#)

Recommended Citation

O'Halloran, Robert M. and Holecek, Donald F. (1991) "Issues for Managing Tourism Information," *Hospitality Review*: Vol. 9 : Iss. 2 , Article 4.

Available at: <https://digitalcommons.fiu.edu/hospitalityreview/vol9/iss2/4>

This work is brought to you for free and open access by FIU Digital Commons. It has been accepted for inclusion in Hospitality Review by an authorized administrator of FIU Digital Commons. For more information, please contact dcc@fiu.edu.

Issues for Managing Tourism Information

Abstract

The need for a high quality tourism database is well known. For example, planners and managers need high quality data for budgeting, forecasting, planning marketing and advertising strategies, and staffing. Thus the concepts of quality and need are intertwined to pose a problem to the tourism professional, be they private sector or public sector employees. One could argue that collaboration by public and private sector tourism professionals could provide the best sources and uses of high quality tourism data. This discussion proposes just such a collaboration and a detailed methodology for operationalizing this arrangement.

Keywords

Robert M. O'Halloran, Donald F. Holecek, Issues for Managing Tourism Information, Public – Private Sectors, Education, Conferencing, Research, Data Systems, Wine

Issues for Managing Tourism Information

by

Robert M. O'Halloran
and
Donald F. Holecek

The need for a high quality tourism database is well known. For example, planners and managers need high quality data for budgeting, forecasting, planning marketing and advertising strategies, and staffing. Thus the concepts of quality and need are intertwined to pose a problem to the tourism professional, be they private sector or public sector employees. One could argue that collaboration by public and private sector tourism professionals could provide the best sources and uses of high quality tourism data. This discussion proposes just such a collaboration and a detailed methodology for operationalizing this arrangement.

High quality data available for management decision making is a necessity for tourism and hospitality professionals. What is meant by high quality data? How can tourism professionals best manage information? There are many variables to be considered in this process. Quality can be defined as excellence or superiority, or a degree and/or grade thereof.¹ Quality as a term can also be derived from the mind of the perceiver.² Lack of a single definition for quality is fundamental to understanding how potential consumers or users define it.³ Quality of data can, therefore, be described as an intangible, based on the needs of the individual and coveted by all. Individuals must then develop their own definition for quality based on standards or criteria for the use of data. Quality can also be perceived at different levels: Data or information may be high quality in one instance and lower quality in another. This reinforces the fact that quality and its definition are best judged by its applicability to the situation.

As people become accustomed to high levels of quality, they demand even more.⁴ Therefore, standards are essential to ensure satis-

faction and, thus, quality. Garvin in 1987 recommended eight criteria for defining quality: performance, features, durability, serviceability, aesthetics, perceived quality, conformance, and reliability.⁵ These criteria could be applied to information quality. Once more, one can note that individual interpretation will play an important role in determining quality and its appropriate level. Neill in 1988 discussed the validity of information as a measure of quality. Validity, basically defined, refers to information and its ability to do as it was intended to do. This could be a vital criterion for information.⁶ Neill also recommended a list of questions one might use to determine quality. Covering such topics as reputation of the source, appropriate field of expertise, reputation of the publisher, control methods in the research, adequate information concerning the statistical analysis and the bibliography complied. These criteria could be generally applied to any information sources before the screening of the data was actually conducted.

Quality Requirements Differ

Quality is a function related to fostering attitudes interwoven with an entire philosophy.⁷ Quality data requirements differ substantially across systems. Cost and benefit decisions concerning the use of certain data are made based on the dependency of the decision on the storage and retrieval of the data, the data ownership, the source affected by data errors, and the degree to which the source is affected.⁸

The limited resources available for data quality maintenance should be distributed in the most effective manner.⁹ Those who demand high quality data associate the data with price, referring to the actual cost of the high quality data, and value, referring to the project or the organization for decision making. If the level of the price or value of these components is adjusted, the others will change accordingly. In this discussion quality (high or low) will be operationalized by its applicability, understandability, and usefulness to the management planning and decision making processes of tourism professionals.

To attempt to quantify research needs, and the needs of a tourism system, one might utilize the following equation stating that "high quality data" are a function of the following criteria: High Quality Data = f(Data Users) +f(Data Types) +f(Data Sources) +f(Policy/Planning and Management Decisions) +f(Data Monitoring, Collection and Storage) +f(Assessment of Community Needs and Training) +f(Accurate Data Assessment) +f(Information Dissemination Channels).¹⁰

Data users can be operators of accommodations, food service, tours, parks, etc., and/or be the tourists involved in the process. Data types range from tax information to visitor counts to destination information to general statistics. The sources of these data are both public and private sector agencies or organizations. Policy, planning, and decision making refers to tasks such as forecasting, budgeting, advertising, and research decisions. The monitoring, collection, and storage of data is conducted differently by each organization. Some methods

are manual and others automated. Needs and training refer to the defining of actual data needs by a user and the ability of that user to recognize the appropriate data for that decision making process and then use it appropriately. Data assessment is the process of matching the data with the need and judging its quality based on pre-stated standards. Finally, dissemination channels refer to getting the right information to the right place at the right time.

All of these factors and the necessity for evaluation point out the need for a workable tourism management information system to better utilize and understand the data available to tourism professionals.

Tourism Information System Is Needed

A 1988 data needs survey of tourism professionals indicated that high quality data are needed, but not always available. Additionally, this study indicated that in lieu of high quality data, many tourism planners and managers will use any data that are readily available.¹¹ What decisions do tourism managers make? Figure 1 illustrates an outline of tourism data needs and decision making processes which outline primarily reflects differences between the public and the private sector and introduces the concept of a tourism management information system as a framework for research and data needs. In the public sector, competition rather than cooperation is promoted among public sector tourism organizations by the fact that their tourism related functions are separated rather than being included in a single tourism authority.¹² Problems of coordination between the public and the private sectors already exist; therefore, it would be helpful to try to bring these two groups closer together by implementing and using an information system.¹³

Because of the nature of research, a gap necessarily exists between the leading edge of theory and its application.¹⁴ Such a major gap could exist at the local and/or regional levels and might be bridged by an information system. The research capability of local and regional tourism managers and planners is often limited due to expense, time, and expertise. The research and interpretation efforts of these tourism professionals are often based on outdated historical data and/or low quality data. This is often the case because there are no other data available for planning and management decisions.

Tourism Management System Can Alleviate Problems

The implementation of a tourism management information system could help to alleviate these problems. Tourism as an industry and the research that is now conducted is faced with a variety of problems that deal with the reliability of the data, incomparability of the data, research requirements for the data, consistency, expense, and sources of data. Government agencies are most often relied on to provide statistics for use in tourism planning and management. For example, the Socio-Economic Studies Division of the National Park Service has, as its mission, according to Division Chief K. Hornback, the production of useful tourism information for decision making in a timely manner.

Figure 1
Public and Private Level Tourism Management
and Planning Decision Processes and Data Needs

	Public	Private
Nature of the Management/ Planning Decision Process	<p>Decisions on Increasing tourism in the total county. Decisions looking at economic, social and cultural aspects.</p> <p>Often at the county level the individuals at both levels are the same.</p>	<p>Individual Businesses in the county aiming to improve their own results.</p>
Scope of Appropriate management Information	<p>More aggregated data with an emphasis on expenditure and different measures of these expenditures. County interest focused on forecasting the future and monitoring present day business. (In many ways profit drive with a larger perspective.)</p>	<p>The business are looking for data that will help them increase market share, help to generate new business and boost profits.</p>
Frequency of Reporting	<p>Quarterly, annually, (fiscal year) (Often delays in the sharing of data)</p>	<p>Daily, weekly, immediate needs. (Little data sharing)</p>
Accuracy of the data	<p>Questionable; dependent on the source. Usually use what you can get.</p> <p>Quality of the collection process is the key on either level.</p>	<p>Often based on county data or internal.</p>
Data Storage	<p>Many county organizations use manual filing and supplement this with data from other sources.</p>	<p>Manual or automated dependent on the size of the operation.</p>

It is imperative that the industry in specific regions observe tourism patterns and behaviors over time to properly make management decisions which are directly relevant to these specific regions.

To do this effectively, a high quality database must be collected, coordinated, analyzed, interpreted and distributed, thus creating a management information system for tourism. If it is understood why some counties have one tourism pattern and others have another, planners and managers will more easily understand local economic structure and determine economic dependence of the area on tourism.

Tourism officials in most regions, together with more traditional statistic gathering agencies, have become more conscious of the needs for reliable and detailed tourist data by national, regional, and local governments and those in the private sector.¹⁵ It has been suggested that a tourism management information system would provide the following:¹⁶

- comprehensive basic data
- integrated information
- speedy distribution of data
- time series data
- analysis and monitoring of trends
- adaptability of the system to change

The method for monitoring data in any system would be based on the high or low quality of these data, the subject area the data are drawn from, the source of the data, and the frequency of collection. For both the public and private sectors, the availability of accurate up-to-date information with which to plan and manage is vital to the success of the process. It is essential that the information needs of tourism planners and managers be clearly understood at conceptual and operational levels by public and private interests.¹⁷

Conceptually, a tourism management information system has as its fundamental purpose to improve the quality and efficiency of managerial decision making. A conceptual framework for a marketing management information system was introduced by Kotler in 1976.¹⁸ The same format could be adapted to examine a tourism system. The framework deals with an Internal Intelligence System (collection, storage and retrieval), an External Intelligence System, a Management and Planner Research System (execution of specific studies and analysis), and a Management and Planning Science System which deals with model development, information production, distribution, and control.

Users Can Vary Applications of Data

The deciding factor for the actual use of data is the business segment in which the tourism professional operates. Lodging or food service professionals, for example, will use data to forecast future busi-

ness in their markets and subsequently determine their fair share. Natural or man-made attraction managers and planners can utilize these data to forecast the number of visitors and traffic patterns. Once these data are analyzed, policy can be developed and implemented concerning, for example, environmental impact and carrying capacity. Government agencies and legislators can utilize these data to make funding decisions for local, regional, and state-wide tourism needs. These needs might include specific research projects and/or advertising or public relations issues. Businesses allied with the tourism industry, i.e., telephone companies, food suppliers, vendors, consultants, developers, etc., might also benefit from these data to assist and determine economic stability of their own client base.

Users of an information system would not be limited to businesses and/or associations or government offices, but would also be tourists seeking information about local travel products and services and media representatives seeking to keep the public informed about developments in the tourism industry. These types of data use can contribute to the tourism education training that is often necessary in developing tourism areas, highlighting the benefits of tourism for a local area and the tourism contribution to the local economy.

The needs of tourism professionals versus those of the media and/or the potential tourist differ in terms of specifics. Planners and managers need very specific information that will apply to the viability of their business or region of concern. The media is commonly more interested in timely data that are newsworthy. Tourists require general information concerning what facilities are available to choose from at travel destinations and have little use for specific data or travel flows and trends.

Educators Can Assist Industry

There is a need for training in the use of data and information produced by an information system. Ideally, academic institutions should participate in all phases of an information system. The participation of both educators and industry professionals could produce mutually beneficial results such as updated and applicable research for the tourism industry and enriched teaching materials and more scientific publications for educators. Educational participants could also act as analysts to provide data evaluation, simple descriptive statistics, inferential statistics, specifically requested studies, etc..

Educators/analysts and institutions could act as key components in the distribution of the data. Each institution could identify one or more individuals who could facilitate data and information distribution for his or her area. Most states have a variety of public and private colleges and universities which could operate in conjunction with organizations such as the Cooperative Extension Service with offices in most U.S. counties to distribute the needed information to participating tourism organizations. Tourism educators and researchers at these institutions might also coordinate distribution of information at the varied conferences and meetings held in most states and their regions.

Neill suggested the role of information analysts as part of the information communication process.¹⁹ The term information analyst has traditionally referred to librarians, but this does not have to be the case. In the library setting, the library science information officer might have the responsibility to find and evaluate data and assess the quality of that data. The individual in this position in a system would act as a quality filter for data and information. Neill also pointed out that the position of information analyst requires a subject background in the field being researched, in this case, hospitality and tourism. This position as part of a system would have responsibilities such as communication of results and planning, development, and maintenance of the system. Hospitality and tourism educators are ideally suited for the role of system information analyst. These individuals need to be recognized as a key part of the quality information filtering process with the potential for using their quality assessments in a more public way through a system of critical review of data.

Planners and managers will need to be aware of the importance of research to accomplish their jobs. Many tourism professionals may not have the skills necessary to conduct research and interpret data or perhaps are not aware of what their research needs may be.

Conferences Can Be Source for Data

Tourism and hospitality conferences held across the country might serve as focal points for collecting and disseminating data. Such meetings and conferences include state tourism conferences, monthly and annual meetings of the regional and national Travel and Tourism Research Association, meetings of the Council of Hotel, Restaurant and Institutional Educators, Cooperative Extension Service seminars, meetings of the Hotel/Motel Association and the restaurant associations (local, state and federal), and meetings of the American Society of Travel Agents and the National Tour Association.

Meetings and conferences held throughout the year could also be used as vehicles to distribute updated information, collect additional data, and recruit users of tourism information to a system. This would allow for input from an interested cross section of tourism professionals. Using the results of such meetings as a guide, a study could be conducted by analysts to accurately assess the data needs and interpretation capabilities of data users. In conjunction with this study, training sessions could be developed to help potential users gain the necessary skills (identify, interpret, and analyze data) to properly utilize the system. Training sessions could be offered on a variety of topics such as data availability (types and sources), data costs, utilization of data, individual need assessment, data limitations, computer use, information networking, and data sharing. These sessions could be tailored for specific individual tourism business segments such as lodging, restaurant, recreation, etc.

Additionally, many operations will need access to modern technologies. This may mean new equipment as well as techniques for some organizations. Much of the data and information in a system

could be best accessed through simple database and/or spreadsheet programs which would require only the purchase of off-the-shelf computer programs. Use of these programs would require an organization to have a personal computer, monitor, keyboard, and a printer. Costs of basic hardware and software need not exceed \$3,000 to 5,000, which is not excessive considering the additional applications which will be found for the equipment once it is available. Tourism organizations with this equipment and commercial software could then have the data and information distributed to them on floppy disks, thus reducing paperwork and making the system more manageable for all users. Use of these technologies would require coordination of systems to provide the users with compatible forms of data and information. One should also be aware that computers are but one part of a system of information technology in use in the tourism industry.²⁰

System Funding Issues Must Be Addressed

This type of system will cost a significant sum of money, and funding issues must be addressed as part of the overall system evaluation. Initial funding or seed money might be acquired through state and federal tourism organizations, but alternative sources and/or cost sharing plans also need to be considered.

Funding plans must consider the costs associated with data collection, planned analyses, available skilled personnel to administer the system, hardware and software technological costs, reproduction and dissemination costs, etc. Individual educators and researchers could attempt to solicit grant money from a variety of foundations and agencies, but these dollars have also become scarce and, when available, are earmarked for short duration projects. Money might be sought from the state, but these monies too are generally earmarked for short term programs.

The continued success and support of the system will also require cost sharing by its users. This funding could take the form of a membership fee for access to the system and additional payment for specific information requested. It should also be noted that discussion of funding issues should be part of the data awareness training sessions. Local tourism organizations would need to develop research budgets. These budgets could be funded based on sales and use tax revenues and/or room assessment revenues generated in the local area. Because all businesses in the area would be contributing through general tax payments, a certain amount of information would be provided to all tourism businesses regardless of participation in the system or not.

An additional source of funding could be certain private organizations, for example, American Automobile Association, American Telephone and Telegraph and local telephone companies, product vendors, etc. These organizations have a vested interest in local business development and its efficient operation and, therefore, may contribute to such a system. Though these and other organizations might provide financial assistance, they should not be thought of as the sole source of funding. All funding would have to be facilitated through an adminis-

trative organization. This might be done on a rotating basis for a certain period of time. It will be important for the success of a system that all organizations and individuals that benefit from the system share in its support.

Developing, implementing, and maintaining a system will require a stable base level of funding over time. The scale of a system must reflect the projected level of continuing funding available. Special grants, one time and short in duration, can be effectively utilized to develop and/or refine a system component, but stable funding is required to keep the basic system fully operational. Stable funding is required to recruit and retain key personnel, to provide training and support to system users, to collect, store, and retrieve information from the system, and to coordinate current and future activities. This is the crucial funding issue. While the amount of funds to support tourism may be growing in total, the percentage earmarked for research remains small.

Even more of a problem for funding a system is the almost universal tendency to allocate the limited funds available to relatively short-term projects. The funding requirements for a system demonstrate the need for some fundamental restructuring of how tourism research is funded in most states. A short-term special project funding system simply is not the answer to this industry's on-going long-term need for information. This argument further suggests that how tourism research is funded is tied to the narrow and short-term nature of planning and decision making prevalent in tourism organizations. Since there is a linkage between research funding cycles and the nature of research outputs, and probably between research outputs and the length of the planning horizon, a fully-funded and operational system could be a key in breaking the short-term planning cycle characteristic of most tourism organizations.

What, then, is the solution to a systems's funding needs? To cover the base or fixed cost of a system there seems to be no alternative to state funding either out of general tax revenues or some form of user fees collected by the state. The latter may be preferable since revenues are likely to be more predictable and to increase to some extent with inflation. Other sources of funding should be pursued to refine the system or to explore new or expanded research applications or concepts. User fees should be considered, but they should be modest so as not to limit access to a system whose base cost is supported at least indirectly by the industry. Fees for customized services, for example, more in-depth analyses than those considered part of the basic system information, should be charged to recover full costs. In time, various sectors of the industry may seek more specialized data from an information system.

Data Collection, Availability Must Be Assessed

To implement a system, several administrative details should be addressed. The first is the availability of data from agencies that currently collect data concerning the tourism industry. Though many of

these agencies do not specifically set out to collect tourism data, they inadvertently collect useful information. A department of the treasury, for example, collects sales and use tax data that are applicable to the tourism industry as it pursues its overall mission of collecting monies to support state government services. The availability of these tax collection data could be crucial in developing a high quality tourism industry database since the cost of collecting such data so frequently from so many businesses from across the state could be prohibitive for an information system.

To make such data more useful, collection agencies will often need to collect information and categorize it differently so that tourism businesses by county or city can be identified. Though this would require some additional cooperation from the various departments collecting such data, the information compiled would be far richer in detail and specificity and would add greatly to the understanding of local tourism industries. Since tourism industry development can add to the economic stability of an area and increase tax revenues, the benefits of a high quality system extend far beyond the industry itself. Many states and/or individual counties often already have on hand a great deal of data that could be utilized. By making the most of an already existing resource, the tourism industry in all regions of a state could reduce research costs.

Another recommendation for system implementation is the development of a network of colleges and universities and educators who have an interest in tourism. This network could provide the needed expertise in a variety of regions in a state to assist in analyzing and training data users and in overall tourism training and development. Such an extended network would greatly expand the direct reach of a system and provide a local contact to assist in both training and in collecting data for the central system. These services could potentially be the initial contact with local tourism professionals and coordinate activities with educational institutions and educators.

To assist in making the information system a reality, county and community organizations and private businesses will need to collaborate to form an information network. Using, for example, a county or city tourism association or college or university as the coordinating body, individual businesses could provide local operating statistics to the coordinating body that could aggregate the data on the local level for planning use. This aggregation would also serve to protect the privacy of the individual business. The perceived competitive threat might be greater at the local level; hence, some businesses might put more trust in a distant body, a university, for example, than in a chamber of commerce. A hotel, for instance, could provide occupancy and rate information; a restaurant might provide average check and customer counts and specific tourism attractions could provide visitor counts, etc. These data could be utilized locally and then assimilated into the larger system.

In each case, the data provided to the system by the local organization would be analyzed, interpreted, and examined for additional

uses or more in-depth interpretations. Thus the system and the data in the system are dynamic. The system would offer an ongoing process that would collect data in a variety of forms, produce data in specifically requested forms, and distribute these data to users of the system.

Professional Staff Is Essential

To ultimately make an information system a success, a strong centralized element with a professional staff and funds is essential. In some cases, highly-populated metropolitan areas or counties might be able to develop their own internal framework, but this would isolate many other areas. Potentially, there are three possibilities for such a coordinating unit: a major university (center), a state agency (commerce, travel, etc.), and a quasi-public institute. Centers are perhaps the best choice of the three.

Centers are a mechanism which brings together people from a wide range of disciplines to work on a particular issue or problem.²¹ The lack of an academic discipline and specific industry focus in tourism make the center concept ideal.²² The functions of such centers have been identified as tourism and travel research, extension education, information distribution, and academic course offerings.²³ These functions coincide directly with the purpose and function of an information system and/or educator network. In Michigan, for example, Michigan State University is the home base for the Michigan Travel, Tourism and Recreation Resources Center. Many other universities also have tourism centers: Arizona State, Northern Arizona, California State University (Chico), University of Colorado (Boulder), University of Central Florida, University of Hawaii at Manoa, University of Idaho, University of Massachusetts, University of Minnesota, University of Southern Mississippi, Columbia College (Missouri), University of Missouri, Montana State, Kearney State University (Nebraska), University of Nevada (Reno), University of New Hampshire, Niagara (N.Y.), Rochester Institute of Technology, North Carolina State, Appalachian State, Oregon State, Pennsylvania State, University of South Carolina, Clemson University (South Carolina), Black Hills State College (South Dakota), Texas A & M, Virginia Polytechnic Institute, and the University of Wisconsin.²⁴

The level of tourism involvement is not, however, consistent state to state. Some states do not have universities so well positioned. In those cases a state department of commerce or a tourism board or travel bureau might be a more appropriate coordinating unit. If none of these options exists, an institute of the same model as the United States Travel Data Center at the state level might be the appropriate choice. Whatever the choice, the need for a strong centralized unit is essential to the success of a system. Sem in his discussion of centers outlined the basic needs for the long-term life of tourism centers, and by doing so summed up the basic needs of a high quality information system.

Businesses must also start investing in education through endowments and create a long-term base of funding. Individuals and organizations associated with tourism must encourage legislatures and uni-

versities to reallocate funds to support the tourism industry and, finally, industry must begin asking universities for assistance in developing education programs and planning research programs.²⁵

A tourism information system would continually add data sources and data types, and after initial analysis, these data would be reintroduced into the system. Use of an information system will enable tourism managers and planners to shift from their preoccupation with short-term development and economic impacts to a more balanced approach with long-term planning in which research, modeling, and goal setting directly complement all development plans.²⁶ Key to this effort would be the identification of high quality data, data users and their special needs, educator involvement as information analysts, funding, collaboration from various public and private organizations to share data, and the housing and distribution of these data to users. Those in need of data for tourism planning and decisions should strive for a system that is a cross between what they think they need, what they really need, and what is economically feasible.²⁷

References

¹W. Morris, ed., *The American Heritage Dictionary of the English Language*, (New York: Houghton Mifflin, 1976).

²R. Martin, "Contaminants in Relation to the Quality of Seafood," *Food Technology*, (December 1988), p. 104.

³K. McNutt, "Consumer Attitudes and the Quality Control Function," *Food Technology*, (December, 1988), p.97.

⁴*Ibid.*

⁵D.A. Garvin, (1987). "Competing on Eight Dimensions of Quality," *Harvard Business Review*, (November-December, 1987), p. 101.

⁶S.D. Neill, "The Information Analyst as a Quality Filter in the Scientific Communication Process," *Journal of Information Science*, (January-February, 1988), p. 3.

⁷R.R. Pedraja, "Role of Quality Assurance In the Food Industry: New Concepts," *Food Technology*, (December 1988), p. 92.

⁸D.P. Ballou and G.K. Tayi, "Methodology for Allocating Resources for Data Quality Enhancement," *Communications of the ACM*, (March, 1989), p. 320.

⁹*Ibid.*

¹⁰D.L. Edgell, "The Formulation of Tourism Policy: A Managerial Framework," *In Travel, Tourism, and Hospitality Research: A Handbook for Managers and Researchers*, (New York: John Wiley and Sons, Inc., 1987), p. 23-34.

¹¹R.M. O'Halloran and D.F. Holecek, "Tourism Professionals Indicate Research Needs," *FIU Hospitality Review*, (Fall 1989), pp. 37-44.

¹²D.F. Holecek, "A Model for Michigan's Tourism System With Implications for Research," Symposium Proceedings, *Michigan Tourism: How Can Research Help?* Special report No. 6, Agricultural Extension Station, Michigan State University, 1982, pp. 17-22.

¹³C.S. O'Halloran, *Tourism Planning: An Investigation of Some of its Basic Components*, Dept. of Parks and Recreation Resources, Michigan State University, 1985, unpublished.

¹⁴J. Rovelstad, "State of the Art in Research, Symposium Proceedings," *Michigan Tourism: How Can Research Help?*, Special Report No. 6, Agricultural Extension Station, Michigan State University, 1982, pp. 61-68.

¹⁵R.R. Baron, *Information System for Tourism*, Invited Paper, International Tourism Congress on New Perspectives and Policies, Marmarin, Turkey, July 1978, pp. 30-53.

¹⁶*Ibid.*

¹⁷J.R.B. Ritchie, *Tourism Management Information System-Conceptual and Operational Issues*, Symposium on Tourism and the Next Decade, Issues Paper, March 11-15, 1979, Washington, D.C.

¹⁸P. Kotler, *Marketing Management: Analysis, Planning and Control*, (New York: Prentice Hall, Inc., 1980), pp. 601-606.

¹⁹Neill, *op. cit.*

²⁰A. Poon, "Tourism and Information Technologies," *Annals of Tourism Research*, (October/December, 1988) pp. 531-547).

²¹J. Sem, "Status of Tourism and Travel Centers Within the University System," *Travel Research: Globalization, the Pacific Rim and Beyond*, Twentieth Annual Conference Proceedings, Travel and Tourism Research Association, Honolulu, Hawaii, 1989, pp. 143-150.

²²*Ibid.*

²³*Ibid.*

²⁴*Ibid.*

²⁵*Ibid.*

²⁶D. Getz, "Models in Tourism Planning," *Tourism Management*, (March 1986), pp. 21-32.

²⁷Kotler, *op. cit.*

Robert M. O'Halloran is an assistant professor in the School of Hotel and Restaurant Management, University of Denver; **Donald F. Holecek** is director of Michigan Travel, Tourism and Recreation Resources Center, Michigan State University.