

# A Case-Based Approach to Understanding Vacation Planning

SUSANI I. STEWART

USDA Forest Service  
North Central Research Station  
Evanston, Illinois, USA

CHRISTINE A. VOGT

Arizona State University  
Tempe, Arizona, USA

*Vacations provide an opportunity to make many choices, and even for travelers who want their vacations to be spontaneous, planning is often an important part of vacationing. Although descriptive studies of travel planning have sketched out the elements of the vacation plan, these elements have not been drawn together in a conceptual model of the consumer planning process. The theory of case-based planning offers a plausible conceptual structure for travel planning. In an exploratory study of the travel planning process, a panel of independent travelers was contacted via destination information packets mailed to information requesters. Travelers who agreed to participate in the study were surveyed repeatedly during vacation planning and travel. A comparison of pretrip plans and on-site behavior showed that travelers developed plans before their trip, but these plans often were changed, especially with regard to on-site activities. Travelers tended to overplan, actuating fewer elements than they planned, and repeat visitors made more congruent plans than first-time visitors. Results suggest that case-based planning is a useful conceptual framework for organizing and extending travel planning research.*

**Keywords** decision making, tourism information, travel planning

Vacations provide an opportunity to make many choices. Travelers can choose a destination, travel companions, lodging, restaurants, activities, modes of travel, and so on. Even for travelers who prefer not to ruin the spontaneity of vacation by seeking information and deliberating in advance (Parrinello, 1993), there is still a series of interrelated logistics to be reconciled, at least in a minimal sense. For those whose aversion to risk (Roehl & Fesenmaier, 1992), desire to save money, or need to satisfy the preferences of a diverse group of travel companions (Fesenmaier & Lieber, 1988) leads them to engage in deliberate considerations and detailed advance arrangements, planning takes on great importance. For the many travelers who fall somewhere in between these extremes, travel planning is an integral part of vacationing.

With respect to planning, the relationship between travelers and tourism marketers can be a mutually beneficial one. Both the structure of the tourism industry and the psychology of travel encourage planning (Mayo & Jarvis, 1981). Tourism service providers expect the visitor to plan ahead and rely on the planning period as a time when potential visitors may be

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Address correspondence to Susan I. Stewart, 845 Chicago Avenue, Suite 225, Evanston, IL 60062, USA.  
E-mail: sstewart/nc@fs.fed.us

open to influence and seeking information (Etzel & Wahlers, 1985; Gitelson & Crompton, 1983). Tourism suppliers often provide services that cannot be saved and resold later and are subject to capacity constraints (e.g., hotel rooms, campsites). Their ability to deliver quality services depends in part on obtaining advance commitments for sales on a given day or night. Travelers associate many risks with travel (Roehl & Fesenmaier, 1992), and planning for basic needs like transportation, food, and shelter is one means a tourist has of managing potential risks. Thus, the practice of making plans can benefit both tourism providers and travelers.

Travel planning has been investigated and described in previous studies (Dellaert, Borgers, & Timmermans, 1997; Gitelson & Crompton, 1983; Walter & Tong, 1977; Zalatan, 1996) but has not been linked to general models or theories of planning (e.g., Hayes-Roth & Hayes-Roth, 1979). However, the extent of previous research that has direct relevance to travel planning is much greater than a survey of "travel planning research" would suggest. Many tourism and recreation studies address concepts typically used in general planning models. Research on which sources of travel information are used, when, why, by whom, and with what effect is a prime example (Etzel & Wahlers, 1985; Manfredo, 1989; Uysal, McDonald, & Reid, 1990; Vogt & Fesenmaier, 1998). In a similar vein, recreation and tourism research has explored the effects of travel experience and destination familiarity on subsequent travel and recreation choices (Fakeye & Crompton, 1991; Hu & Ritchie, 1993; Vogt, Stewart, & Fesenmaier, 1998; Watson, Roggenbuck, & Williams, 1991). Destination choice research (Haider & Ewing, 1990; Um & Crompton, 1990) and related studies of destination image (Gartner & Shen, 1992; Milman & Pizam, 1995), travel motivation (Crompton, 1979; Fodness, 1994), and vacation expectations and satisfaction (Mazursky, 1989; Ross, 1993) also explore cognitions that may play a role in travel planning. This body of knowledge about various aspects of travel-planning behavior can form the basis for applying planning models in the context of travel.

Information use, familiarity and awareness, experience and expertise, mental images and maps, and perception and judgment are some of the basic ideas and mental processes around which cognitive science planning models are built (Simon & Kaplan, 1989). Such models could be used to investigate how tourists construct and change their plans, and how recreation and tourism providers can most effectively aid and influence the entire trip-planning process through marketing and information dissemination. This article reviews various approaches to understanding planning and then presents and tests case-based planning theory applied to vacation planning.

## **Literature Review**

Planning and related behavior has been studied from many perspectives, including cognitive approaches to planning and decision making, attitudinal planning theories, and rational-choice models. The most direct investigations of planning as a cognitive activity in its own right are found in cognitive science, a discipline that blends psychology and artificial intelligence to generate models of human behavior (Posner, 1989). This article applies a cognitive science planning model to vacation planning because, of all the models reviewed, it offers the most comprehensive framework for understanding how individuals reconcile and coordinate interrelated decisions in a complex environment.

The fundamental cognitive processes on which cognitive science planning models are based, such as the use of information, the formation and change of preferences, and the process of judging of alternatives, are common to planning, choice, and decision-making models. All three types of models represent cognitive processes that are presumed to lie behind observable, goal-oriented behavior (Simon, 1978). Cognitive-planning and decision-making models rest on theories of how memory is created and used and also may seek to

examine or explain how perception, judgment, experience, learning, and expertise affect behavior (Abelson & Levi, 1985; Schank, 1989). The special contribution of choice models is their ability to predict response to hypothetical markets or situations using stated, rather than revealed, preference data (Timmermans & Louviere, 1990). Although choice models are built on cognitive concepts, (e.g., perception, preferences, judgment, and evaluation), their purpose is to predict the outcomes of cognition rather than explore its processes (Abelson & Levi, 1985).

Cognitive planning and decision-making models focus on the processes that underlie behavior. However, the behavior they model differs. Planning models represent the process by which many actions are carried out to achieve multiple, interrelated, sequential goals and is begun in advance or anticipation of action (Hoc, 1988). Decision-making studies are concerned with how people weigh alternatives and evaluate options, but usually in relation to one distinct event, purchase, or issue (Abelson & Levi, 1985).

Similar in name but theoretically distinct, the theory of planned behavior (Ajzen & Fishbein, 1980) is an attitudinal (rather than cognitive) approach to understanding goal-directed behavior. It shares some characteristics with choice, decision-making, and cognitive planning models. As its name implies, it proposes a mechanism that links the individual's intent (i.e., plan) and his or her behavior. In the theory of planned behavior, attitudes, subjective norms, and perceived behavioral control jointly determine intention, which determines behavior. By distinguishing between *perceived* and *actual* behavioral control and emphasizing the role of the former, the theory of planned behavior allows for the influence of factors outside the individual's control that may interfere with or preclude intended behavior.

The most important distinction between the theory of planned behavior and cognitive planning models is, again, the nature of the planning task they seek to predict. Like decision-making and choice models, the theory of planned behavior focuses on single events or decisions, such as the choice of a destination (Um & Crompton, 1990). In contrast, "planning" in cognitive science refers to the special problems of linking together many interrelated decisions and coping with the interactions between them (Hoc, 1988). Decision-making and choice models sometimes address thinking ahead or achieving multiple goals, but multiple or sequential choices usually are treated as special problems, not as essential elements of the problem or decision (e.g., Richard & Sundaram, 1994).

The parallel development of case-based planning in cognitive science (Hammond, 1989; Riesbeck & Schank, 1989) and case-based decision theory in economics and consumer behavior (Gilboa & Schmeidler, 1995) serves to illustrate the similarities and differences between cognitive planning models and rational dynamic models of choice or decision making. In a recent review, Meyer et al. (1997) discuss the difficulty of capturing dynamics in choice and decision-making models and note that Gilboa and Schmeidler's case-based decision theory offers one of the first plausible theories of "learning" (i.e., incorporating the influence of past decisions on the present choice) to be employed in a dynamic decision-making model. Case-based decision theory proposes that consumers deal with uncertainty by basing their judgments of the current situation (or alternatives) on similar cases they have encountered previously.

Gilboa and Schmeidler (1995, p. 608) state that although case-based decision theory and case-based planning share terminology, they are distinct theories, developed independently. However, some of the central premises of both theories are the same: that memory is case-based; that learning modifies the cases; and that cases are reused in subsequent experiences. The major distinction between the two theories is in the contexts for which they were developed; case-based *decision theory*, for single choices made under uncertainty and informed by previous experience; and case-based *planning*, for series of interlinked

choices that also are informed by previous experience. A more subtle difference is in the ways in which uncertainty is treated. Working within economics, in which uncertainty is defined formally by the presence or absence of probabilistic information regarding potential choice outcomes, Gilboa and Schmeidler (1995) put explicit emphasis on this characteristic of the choice environment. In case-based planning, as in most cognitive science models, uncertainty is treated as an implicit and perhaps universal characteristic of planning environments.

Choice, decision-making, and attitudinal planning models are all relevant to travel planning and contribute to our understanding of travel behavior, but they differ in their utility for exploring the planning process itself. Zalatan (1996) makes the distinction between the content and mechanisms of travel planning. Travel planning research to date has tended to emphasize the content (length of stay, activities, etc.) and other characteristics of the plan (such as planning time), but not planning mechanisms. Cognitive theories of decision making, choice modeling, and planned behavior are rich with mechanisms, but those mechanisms are specific to tasks involving a single goal. The development of a general model of travel planning requires finding a workable description of the mechanisms planners use to link together and reconcile multiple goals. The purpose of this article is to determine whether the case-based planning model captures the mechanisms of travel planning and, if so, what it can reveal about travel planning behavior.

### ***Planning in Cognitive Science***

Mechanisms that link together and reconcile many goals are the focus of planning studies in cognitive science. A plan is an individual's reasoned attempt to recognize and define goals, consider alternative actions that might achieve the goals, judge which actions are most likely to succeed, and act on the basis of those decisions (Hoc, 1988). This definition of planning includes actuating the plan, as well as forming it. Most planning models start with a store of knowledge (memory), a means of indexing and accessing knowledge, rules for applying knowledge, and feedback and learning mechanisms that register the effects of the action (Hammond, 1989).

An important distinction between planning models (also commonly called "planners" whether referring to models, the programs based on them, or the people whose behavior they simulate) is the way in which they construct plans. The simplest models are based on the logical use of rules to imitate behavior, with a rule or rules strung together to meet each goal (Sharples, Hogg, Hutchinson, Torrance, & Young, 1989). These basic models rely on a create-and-debug paradigm (Hammond, 1989). Create-and-debug planners develop plans one goal at a time (e.g., get to the airport) by retrieving rules for each individual goal from memory (e.g., call a cab). Possible goal interactions or contingencies (e.g., what if the cab does not show up and I miss my plane?) are not anticipated or addressed until after the plan has been constructed and actuated. At that point (e.g., sitting on the curb), the planner must fix the inevitable glitches caused by incorrect goal sequencing or interaction. Create-and-debug models generate and use feedback, but only about the success of each individual rule (the cab did not show up), not about the plan as a whole (the cab did not show up and I missed the plane). If the cab driver does not show up on time, the traveler's failure to achieve the goal "get to the airport" begins a cascade of other events, as each interacting goal in the plan is disrupted by the failure to reach another goal, or the failure to reach it in the proper sequence. To continue the example, the cab may arrive eventually to take the traveler to the airport, but if this does not happen *before* the departure time, it is useless. The individual goal of getting to the airport is met, but the plan still fails because the goals are accomplished out of sequence.

Although create-and-debug planning models can represent a series of interrelated decisions, they are not flexible enough to simulate planning as it occurs in the complex environment of that real world. With anything beyond the simplest situation, debugging is a long, tedious process, and the model does not specify how anything can be learned from mistakes (Hammond, 1989). If the need arises to change the plan, the plan change is treated like any other predictive error, as a failure. Yet changing plans is something people do with great regularity and apparent ease. Developing an adequate theoretical basis for understanding planning requires documenting the extent and nature of plan changes, rather than treating changes as errors (Cropanzano, Citera, & Howes, 1995). Although progress has been made since the development of create-and-debug models (e.g., the computational processing models of Smith, Pelligrino, and Golledge [1982]), many newer models use the same basic mechanisms of rule generation and plan construction as the create-and-debug models and hence share the problem of not coping with real-world complexity, goal interaction, and plan changes.

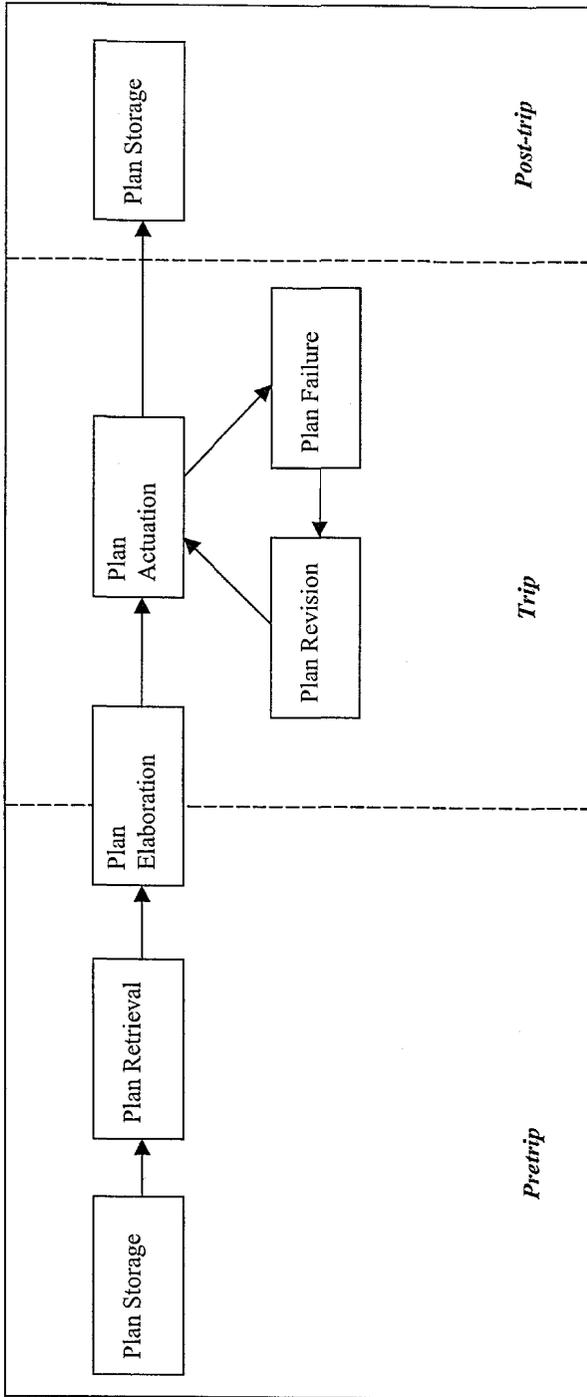
### ***The Theory of Case-Based Planning***

The constant problems arising from goal interaction, sequencing, and environmental change led to the development of the theory of case-based planning (Hammond, 1989; Riesbeck & Schank, 1989). Case-based planners retain many of the assumptions underlying earlier models, that is, that the planner has a store of knowledge together with a means of accessing it and uses rules for applying knowledge. But case-based planning specifies a different and more efficient means of plan production than the create-and-debug method. Rather than constructing a new plan from basic rules each time one is needed, case-based planners retrieve and then elaborate on previous plans (Hammond, 1989). Just as law and business students are taught a variety of cases that illustrate how complex situations have been resolved, case-based planners store cases in memory, which then serve as the initial knowledge base for tackling a new planning situation.

Case-based planning specifies a sequence of activities that the planner undertakes. Figure 1 shows these steps in relation to vacation planning, from pretrip through post-trip. Planning begins with the planner assessing their own set of related goals, as well as the context or setting, and then finding a case in memory that was used successfully in a similar situation (Berger & Jordan, 1992). The retrieved plan (e.g., 10-day vacation) includes many elements (destination choice, transportation mode, on-site activities, etc.), or subplans, and specifies how decisions about these individual elements will interact. Plan elaboration follows plan retrieval. Elaboration involves thinking through the coming vacation and making specific decisions to fill in the generic form. In this way, the general case or template for a 10-day vacation becomes a specific plan for, for example, the winter ski trip or the tropical cruise.

As the vacation begins, plan elaboration continues and plan actuation begins. Actuation, or acting out the plan, is also a test for the plan and may result in plan failures. These are remedied through plan revision, and revisions are actuated. The cycle of actuation-failure-revision-actuation continues throughout the trip. After the trip, the revised plan is stored. Each time a plan is actuated, the knowledge gained from plan failures and revisions is saved as part of the case. Through experience, planners build, refine, store, and reuse increasingly effective plans (Hammond, 1989). Saving this information allows case-based planners to efficiently manage the volume of specific information required to develop workable plans.

The theory of case-based planning shifts attention away from the characteristics of individual rules and techniques for efficiently combining those rules. Instead, the focus



**FIGURE 1** A conceptual model of case-based vacation planning.

of Hammond's (1989) research, as well as of the field applications made by Berger and Dibattista (1992) and Berger and Jordan (1992), is on the nature of the plans, or sets of related decisions, as a whole. Berger and his colleagues demonstrated that case-based planning theory predicted certain characteristics of plans, plan elements, and planning behavior, which could be observed and assessed in human behavior.

### ***Case-Based Vacation Planning***

The unique planning mechanisms hypothesized by case-based planning theory relate to the formation, retention, revision, and reuse of plans. Together with existing knowledge about travel behavior, these mechanisms suggest characteristics of behavior that should be evident in travel-planning behavior. Following the discussion of these characteristics, formal hypotheses regarding the characteristics are derived and tested.

#### ***Plan Revision***

The central role of plan revision in case-based planning suggests that changes will be made as the planner actuates the plan. This is what common sense would suggest; nonetheless, case-based planning predicts that plans will change during actuation (Hammond, 1989), but other models of planning do not address plan change and interpret any deviations from the plan as negative evidence about the planner's predictive ability (e.g., Smith, Clark, & Cotton, 1984).

Consumer and travel-behavior research suggests why travelers might change their travel plans. Reasons include the acquisition of new information that expands the awareness set to include more attractive alternatives or changes the judgment of an alternative's attributes (Bettman, Johnson, & Payne, 1991); variety seeking as the visitor gets bored with an activity or place (McAlister & Pessemier, 1982); heterogeneity of preferences within the visitor's travel party (Fesenmair & Lieber, 1988); or unanticipated constraints to participation, such as illness or bad weather (Jackson, Crawford, & Godbey, 1993). Hence, case-based planning predicts that vacation plans will change and interprets such changes as adaptive, functional aspects of planning behavior.

#### ***Planning for Contingencies***

One characteristic of plan formation derived from case-based planning is the expectation that people anticipate and prepare for contingencies, rather than assuming that everything will go as planned (Berger and Dibattista, 1992). Traditional planning models construct plans only for specific intended behaviors; case-based planning acknowledges that people often cope with uncertainty by preparing plans for more than one set of expected conditions, knowing that they will not actuate all of their plans.

Travelers often have reason to prepare contingency plans. For example, many tourism providers deal with periodic peaks in demand and the resulting capacity constraints only through queuing, such restaurants or boat tours that serve visitors on a first-come, first-served basis, and amusement parks and theaters that stop selling goods or services if capacity is reached. Consequently, travelers face the possibility of being excluded from a facility or service because of congestion, which encourages planning more elements than one intends to actuate and using those that are available. With few exceptions, pricing and queuing practices do not penalize cancellations, but late additions may be costly or unavailable. In addition, the perceived risks of being inadequately prepared to meet basic needs are reduced by overplanning (and thus dropping elements late) and increased by underplanning (and trying to add late). Hence, one form of contingency planning that may be evident in vacation plans is overplanning.

### ***The Role of Experience***

The revision and reuse of plans is predicted by case-based planning theory. Learning is the mechanism by which the “cases” of case-based planning are built, and case-based planning assumes that the individual refines and updates cases to achieve congruence between plans and action. To the extent this is true, experienced travelers should be retrieving more detailed, effective plans from memory and doing more nearly what they intend to do, with fewer deviations each time they visit a destination.

Travel studies have shown that prior experience with the destination plays a significant role in many cognitive processes related to travel planning, including information use (Etzel & Wahlers, 1985); time spent planning (Zalatan, 1996); risk perception (Roehl & Fesenmaier, 1992); site choice (McFarlane, Boxall, & Watson, 1998; Watson, Roggenbuck, & Williams, 1991); destination attractiveness (Hu & Ritchie, 1993); destination image (Fakeye & Crompton, 1991); and satisfaction with a destination (Mazursky, 1989). Case-based planning offers a unifying explanation for the importance of experience: People learn by doing, remember what they learn, and use that knowledge to develop better plans for the next trip.

Although the relationship between experience and successful planning is plausible enough, there are reasons to question whether plan congruence is a goal shared by all planners. A fully congruent plan may rob a vacation of spontaneity, one of the features many travelers desire (Parrinello, 1993). Some psychologists consider “planfulness” a personality trait (e.g., Clausen, 1993), suggesting that not everyone wants to improve plan congruence. Aversion to or acceptance of risk is another characteristic thought to vary across individuals (Machlis & Rosa, 1990), so for some, reducing or eliminating travel risk by perfecting a plan is not desirable.

In summary, case-based planning predicts three unique characteristics of planning. The first is that the plans developed by all planners will be subject to change as they are actuated. The elements initially planned, such as activities, transportation mode, and travel companions, will change for a significant number of travelers. Second, people *expect* that they will need to adjust their plans and develop plans with this in mind. This characteristic of planning should result in people planning for more than they will actuate, as they compensate for congestion and uncertainty by overplanning. Third, experience teaches people how to plan. Experience with the destination makes repeat visitors more efficient at planning, and significantly less likely to need to change their plans. The remainder of this article seeks to test these hypotheses:

*Hypothesis 1.* The elements of a vacation that are planned are different than the elements that are actuated.

*Hypothesis 2.* A greater number of elements are planned than actuated.

*Hypothesis 3.* Planned and actual behavior are more congruent among repeat visitors than among first-time visitors.

These hypotheses were tested by comparing plans, as measured with pretrip surveys, to actuation, measured during the trip itself. The plan is treated as a first measure, and the plan’s actuation, the actual behavior that the tourist reported, as a paired second measure.

## **Methods**

### ***Study Site***

Branson, Missouri, was the setting for this study. Although best known for its big-name country and easy-listening music stars, community leaders often credit its success to a small-town atmosphere and a beautiful natural setting. Five million visitors come to this town every

year. Promotional materials emphasize the number of entertainers, traditional small-town values, and the opportunities for inexpensive family fun. However, the visual landscape of the once-small town is now dominated by oversized, garish theater signs. The streets are crowded with theaters, buffet-style restaurants, and all manner of amusements (water parks, go-carts, miniature golf, wax museums, arcades, bungee jumping, etc.) As the data for this study were being collected, traffic tie-ups were a constant problem because the road system had not yet been expanded. In addition, the steep hills and dammed rivers in the area make the road system somewhat confusing. Both the popularity and the special challenges of Branson make it an ideal setting for investigating how people make and change plans.

### **Data Collection**

Because travel planning occurs over time (see Figure 1), data were collected during the planning period preceding the trip and during the trip itself. The sample was drawn from a pool of information requesters, because this group is often in the early stages of planning a trip. Qualified respondents formed the panel of travel planners who were surveyed at three points in the planning process.

### **Sampling and Postcard Survey Response**

People who requested information about Branson were identified by the local chamber of commerce. Information seekers can request information from the chamber of commerce by calling a local number, a toll-free number, or a toll number. These numbers are widely advertised on television, in print advertisements, brochures, and feature articles. Based on previous experience with postcard surveys dropped into destination information packets, response rates were estimated. Together with estimates of the number of completed surveys needed for analysis, the decision was made to place survey postcards in approximately 16% of the outgoing information packets mailed by the chamber to information requesters<sup>1</sup> during the Summer and Fall seasons of 1994. The postcard placements were done in two stages. Five thousand stamped postcards were sent in groups of 300 per day on two randomly selected days each week between April 18, 1994, and June 13, 1994, and an additional 200 sent on a third randomly selected day of the final week. Two thousand were sent in groups of 250 per day on eight randomly selected days between September 12, 1994 and October 3, 1994.

Postcards were prestamped and posed eight questions pertaining to travel plans, including, "Are you willing to participate in a study of Branson visitors?" Of the 7000 postcards mailed, 1049 were returned and four categories of information requesters were identified: those not returning postcards ( $n = 5971$ ); those responding but not willing to participate further ( $n = 92$ ); those responding and willing to participate but not traveling to Branson within the time frame of the study, or responding after the date of their trip had passed ( $n = 301$ ); and, finally, the study participants, those responding, willing to participate, and traveling to the destination within the study's time frame ( $n = 636$ ).

### **Pretrip Surveys and Diaries**

Survey materials were sent to study participants, 1 to 3 weeks prior to the date of travel they had indicated on the postcard. Participants were sent a personalized letter of explanation and directions, a pretrip survey to be returned immediately, a diary survey to be returned after their trip, a refrigerator magnet, and two prepaid envelopes. The letter explained that respondents would have a chance to win two nights' lodging and tickets to

<sup>1</sup>Because the focus of our study was trip-planning behavior, chamber-of-commerce personnel were asked not to place the postcards in mailings being sent to bus tours or convention visitors, as these travelers have much of their itinerary planned for them by trip organizers.

various attractions at the destination. This incentive package was donated by the chamber of commerce and local merchants. A reminder and thank-you postcard were sent 1 week after the materials had been mailed. From May 1994 to January 1995, pretrip surveys and diaries were received. Response rates were calculated as the number of receipts divided by the number of surveys sent ( $n = 636$ ). For the pretrip survey, a response rate of 60% was obtained ( $n = 379$ ); 47% of the diaries were returned ( $n = 296$ ). Because some people returned only the diaries, the matching sets of pretrip surveys and diaries was 44% of those mailed, or 282 cases.

### **Analysis of Nonresponse**

A nonresponse check was done by telephone, sampling from those who ceased participation at different stages of the study, and no significant demographic differences were noted between respondents and nonrespondents. A mix of reasons was given for dropping out of the study. Some reasons are general to survey research (e.g., don't like to participate in surveys), some are more specific to panel research (e.g., no time, forgot to bring the diary) or to this study (e.g., not taking the trip they were asked to report on). Panelists were instructed to return the survey materials whether or not they made the trip, but few nontravelers appear to have done so. Aside from underrepresenting nontravelers, however, no differences were observed with regard to the travel characteristics of respondents and nonrespondents.

### **Measurement and Analyses**

The data from the pretrip and diary surveys constitute a set of time-ordered measures of travel-planning behavior. Pretrip surveys asked about plans for selected aspects of the trip. As the trip unfolded, information was recorded in the diary each day for a measure of on-site, or actual, trip behavior. The two survey instruments thus captured each respondent's planned behavior, within a few weeks of departure, and on-site behavior, constituting matched samples with test/retest data. Specifically, respondents were asked about the elements of their travel plans in closed-ended questions that reflected the travel and activity options available at the destination. Questions covered length of stay, travel party, transportation, accommodations, and activities.

The goal of the analyses was to assess the relationship between travel plans and actual behavior using measures of concordance and symmetry. Concordance means that plans did not change, that is, the measures of planned and actual behavior match. Changing the plan (e.g., dropping or adding a member of the travel party) is considered discordance. Symmetry describes the cumulative nature of changes made across the sample of travelers and characterizes any observed discordance. If equal numbers of people dropped and added a given feature of the trip, the discordance is considered symmetric. Asymmetric discordance indicates the predominance of one kind of change. McNemar's chi-square statistic is intended for use with matched samples if responses are dichotomous (in this case, e.g., whether the respondent *did* or *did not* plan or engage in an activity) and tests the probability that any asymmetry could have occurred by chance (Gower, 1985, pp. 316–363). In situations in which missing data in a cell caused McNemar's test to be unreliable, SPSS 8.0 (SPSS, Inc., Chicago, IL) applied a binomial test instead. Each test provided counts of added and dropped plan elements.

Testing hypothesis 3 required a segmentation analyses based on experience with the destination. Two groups were formed (repeat visitors,  $n = 180$ , and first-time visitors,  $n = 100$ ) to explore the effects of experience on the nature of change in travel plans. One additional variable that could influence the number of plan changes is visitor's length of stay. However, average length of stay for repeat visitors (4.3 days) and first-time visitors (4.2 days) was not significantly different (independent samples  $t$  test, two-tailed unequal variance,  $t = .07$ ,  $df = 163.6$ ,  $p = .946$ ).

**TABLE 1** Planned Versus Actual Length of Stay in Branson

Planned length of stay	Actual length of stay				
	1 day	2 days	3–4 days	5–7 days	7+ days
1 day	<u>40%</u>	40%	20%	0%	0%
2 days	4%	<u>75%</u>	16%	4%	0%
3–4 days	0%	5%	<u>88%</u>	7%	0%
5–7 days	0%	4%	10%	<u>83%</u>	2%
7+ days	0%	0%	10%	0%	<u>90%</u>

Note:  $n = 251$ . McNemar's  $\chi^2 = 5.956$ ;  $df = 10$ ,  $p = .819$ , *ns*.

## Results

Most respondents stayed at the destination for as long as they had planned (Table 1). The underlined entries on the diagonal of Table 1 show where planned and actual length of stay are equal. Values above and below the diagonal indicate under- and overestimates, respectively. The most concordance in length of stay was for the over-7-day segment (90% kept their plans to stay over 7 days). The least concordance was for the 1-day segment. Forty percent of the respondents planning to stay just a day actuated their plans, more than half stayed longer than a day. If visitors changed plans, they were more likely to lengthen (percentages above the diagonal) than shorten their stay, although the asymmetry of length of stay changes was not significant (McNemar's  $\chi^2 = 5.956$ ,  $df = 10$ ,  $p = .819$ ).

Table 2 illustrates patterns of change in the remaining elements of the trip: travel party, travel mode, accommodations, and activities. The composition of the travel party was fairly stable, and none of the asymmetry tests in this category were significant at  $\alpha < .05$ . In general, respondents were more likely to travel without planned companions (26 travel-party drops) than to add new members to the group (20 travel-party adds). Similarly, planned and actuated travel modes were consistent. The only significant asymmetry was for traveling with one's own car ( $p = .02$ ). Only one respondent dropped plans to drive their own car, whereas nine respondents drove their own car when they had not planned to at the time of the pretrip survey.

Planned and actual overnight accommodations were divergent, and changes were asymmetric. Across this category, there was a net loss of 68 cases, indicating many more drops than adds. Fifty-eight travel parties decided to stay overnight once they arrived ( $p = .00$ ), and motels incrementally gained customers (net gain, 38;  $p = .00$ ). Other accommodation types (i.e., recreational-vehicle parks, campgrounds, cabins, resorts, condominiums) had some, although not significant, net losses of customers.

People planned far more activities (in total, 683 planned activities) than they eventually engaged in (425 actuated activities). Across the seven elements of activities, five showed significantly asymmetric patterns of change ( $p = .00$ ), in each case because of more people canceling than adding the activity to their plans. Only recreation at nearby lakes comes close to being added (22 times) as often as it is dropped (29 times). Music shows are unusual among activities in that most people both planned to and did attend them. Of all the activities available at this destination, they were the least subject to change.

To test whether repeat visitors were likely to have more congruent plans than first-time visitors (hypothesis 3) counts of trip elements added and dropped were analyzed for two experience level groups. As shown in Table 3, repeat visitors made proportionately fewer changes than first-time visitors, except in the category of travel party. For travel mode,

**TABLE 2** Plan Changes by Trip Element

Trip element	Planned	Changes to plan		Actuated	Probability values
		Add	Drop		
Travel party					
Spouse	201	4	5	200	1.00 <sup>b</sup>
Children	52	3	6	49	.51 <sup>b</sup>
Friends	65	3	8	60	.23 <sup>b</sup>
Relatives	61	7	6	62	1.00 <sup>b</sup>
Traveling alone	2	3	1	4	.63 <sup>b</sup>
Subtotal	381	20	26	375	
Travel mode					
Own car	192	9	1	200	.02 <sup>b</sup>
Rental car	36	4	4	36	1.00 <sup>b</sup>
Airplane	29	6	2	33	.29 <sup>b</sup>
Recreational vehicle	20	2	1	21	1.00 <sup>b</sup>
Subtotal	277	21	8	290	
Accommodation					
No overnight stay	1	58	0	59	.00 <sup>a</sup>
Resort	39	16	22	33	.42 <sup>a</sup>
Motel	138	52	14	176	.00 <sup>a</sup>
Bed and breakfast	4	2	4	2	.69 <sup>b</sup>
Campground	13	3	6	10	.51 <sup>b</sup>
Cabin	11	4	9	6	.27 <sup>b</sup>
Condominium	25	4	12	17	.08 <sup>b</sup>
Private home	2	2	5	5	.22 <sup>b</sup>
Recreational-vehicle park	18	4	12	10	.08 <sup>b</sup>
Subtotal	251	148	80	319	
Activities					
Music show	253	2	18	237	.00 <sup>b</sup>
Amusement park	148	4	75	77	.00 <sup>a</sup>
Lakes	48	22	29	41	.40 <sup>a</sup>
Fishing store	84	4	56	32	.00 <sup>a</sup>
Water park	17	8	13	12	.38 <sup>b</sup>
State parks	69	2	69	2	.00 <sup>a</sup>
Historical reenactment	64	8	48	24	.00 <sup>a</sup>
Subtotal	683	50	308	425	
Total	1592	239	422	1409	

<sup>a</sup>Binomial distribution.

<sup>b</sup>McNemar's chi-square.

Note:  $n = 282$ . Multiple responses were permitted.

13 changes were made by repeat visitors (representing 7% of the repeat-travel parties) in comparison with 16 changes made by first-time visitors (representing 16% of the first-time travel parties). The greatest difference between these two groups of visitors was in the proportion who changed their plans for activities (118% of repeat visitors versus 146% of first-time visitors). Across all elements of the travel plan, the average number of changes made by repeat ( $M = 2.19$ ) and first-time visitors ( $M = 2.67$ ) was significantly different ( $t = -2.01$ ,  $df = 168$ ,  $p < .05$ ).

**TABLE 3** Plan Changes by Trip Element, Repeat and First-time Visitors

Trip element	Repeat visitors <sup>a</sup>			First-time visitors <sup>b</sup>		
	Added	Dropped	Total	Added	Dropped	Total
Travel party	13	18	31 (17% <sup>c</sup> )	7	7	15 (15%)
Travel mode	9	4	13 (7%)	12	4	16 (16%)
Accommodations	94	44	138 (77%)	54	36	90 (90%)
Activities	28	184	212 (118%)	22	124	146 (146%)
Total	144	250	394	95	172	267
Changes per person ( <i>M</i> )			2.19 <sup>c</sup>			2.67 <sup>d</sup>

<sup>a</sup>*n* = 180.

<sup>b</sup>*n* = 100.

<sup>c</sup>31/180, the proportion of visitors who changed their plans.

<sup>d</sup>Independent samples *t* test, one-tailed unequal variance: *t* = -2.01, *df* = 168, *p* < .05.

Note: Multiple responses were permitted.

## Discussion

Hypothesis 1 predicted that travel plans would not match actuated travel. Hypothesis 2 predicted that travelers would overplan and consider a more diverse set of travel companions, transportation, accommodations, and activities than they would act on. The data partly supported these claims, and differences in the extent and pattern of both changes and overplanning were evident across the categories of plan elements.

Consistent with hypothesis 1, plans regarding accommodations and activities were subject to considerable change, and the patterns of change and stability across plan elements are noteworthy. The greater number of adds than drops in accommodation plans could be the result of each travel party staying in only one type of accommodation despite plans to move around, or it may reflect a tendency to make a number of reservations and make the final choice on-site. Activities tended to be dropped from plans once at the destination, with relatively few additions. Music shows, one of two elements in the activity category that did not evidence much change, are Branson's claim to fame, which may explain why visitors tended to keep the plans they made for seeing shows. However, plans regarding length of stay, travel party, and travel mode often were carried out as planned. Few changes were made in these categories, and the resulting patterns were symmetrical.

Results showed evidence of overplanning (hypothesis 2) in the categories of travel party and activities. Activities were the most changeable plan elements, and patterns of change support the notion that people had made many more plans than they acted on. Branson's self-image of a charming small town belies the difficulty of getting from one attraction to another, something first-time visitors would be unlikely to know before their visit. Some rearranging of activity plans to better account for location, proximity, and peak crowding at especially popular sites is plausible.

The variation in patterns across the plan elements may reflect the planner's response to pricing practices, including the use of queuing to manage congestion (e.g., on-site activities). Under congested conditions, it may not be possible to add an activity or reservation (unless an informal market exists). One would expect more dropping than adding under these pricing conditions. Motels, airlines, campgrounds, music shows, and many other activities that are subject to capacity constraints may require advance commitments, may offer limited or no refunds for cancellations, and may preclude travelers from adding, for example, another

member to their travel party, another show to their schedule, or another night to their stay. Changes in travel-party size are not themselves subject to financial penalty but would interact with all other elements of the trip, including accommodations and transportation, and so could be costly.

In addition to the economic structure of tourism, the psychological motives listed earlier for changing plans may apply differently across the categories of plan elements. For example, variety seeking and heterogeneity of preferences may be most relevant regarding activity changes; risk aversion or acceptance may affect how accommodations are arranged and adjusted. Negotiating constraints (Jackson et al., 1993) could result in changes in any category.

Hypothesis 3 predicted that first-time and experienced visitors would exhibit different planning behavior and was supported. The results suggest that, on the whole, experienced travelers were more successful at doing what they intended to do during their Branson visit. In this regard, this study is consistent with the many other travel behavior studies that have found differences associated with experience and further supports the use of case-based planning as a conceptual model of the travel-planning process.

## Conclusions

This study provides initial insights regarding planning and plan revision through the course of a vacation. Vacation planning already is institutionalized in the travel industry, not only in the form of travel agencies, but also in groups such as the American Automobile Association, which provides travel planning information and services to its members. Yet in spite of its relevance to the travel industry, the actual process individuals use to plan trips largely has escaped attention.

Travelers did develop plans before their trip, but these plans were subject to change, especially with regard to on-site activities, suggesting that good information about activities should be available at the destination. More generally, case-based planning theory would suggest that travel information should be designed for repeated reference and ongoing use, at least through the course of the vacation. Furthermore, experience with a destination made a significant difference in how much adjustment was needed once the planner was on site. Observing differences across experience groups lends support to the central premise of case-based planning, that people learn from their experiences and use what they have learned in their subsequent experiences.

The results of this study should be interpreted with the understanding that the sample was drawn from among information requesters, who may be more involved in travel planning than those who do not request destination information. Without sampling from nonrequesters, it is not possible to know what bias, if any, the sampling frame might introduce. There are also some limitations associated with using cognitive science planning concepts and models to understand travel behavior. Most are focused on individual behavior and do not consider the interplay between family and friends, a factor that could be strongly influential (Gitelson & Kerstetter, 1994; Seaton & Tagg, 1995). It is possible that two members of the same travel party could have different plans, either by agreement or due to different understandings of what was agreed to, and that differences within the travel party's "plan" would create a need to change plans. The relationships between members of a travel party also might be a factor in plan adjustments. The dynamics of planning within, or for, travel parties bears further research.

Although the evidence presented here is not strong enough to rule out the possibility that mechanisms different from those specified in case-based planning were at work in the minds of these travelers, this study does demonstrate the usefulness of case-based planning

as a conceptual model of the travel-planning process. The model offers a way of integrating existing knowledge regarding the content of travel plans with a planning mechanism that is, on its face, a plausible description of what travelers are thinking and doing at different times during their trip. Furthermore, case-based planning is consistent with much of what we know about detailed aspects of travel behavior and provides a way of extending that knowledge to arrive at a more comprehensive and unified perspective on travel planning. The breadth of its perspective allows examination of planned and actual behavior across the many interlinked choices that make up a travel plan, rather than on a choice-by-choice basis. In this way, comparisons can be made between elements of the plan and the relative stability of each assessed. Case-based planning theory does not require an artificial simplification of the planning task facing the traveler; planning can be studied as it occurs in the real world.

Case-based planning theory deserves further attention and application within the field of natural resources, recreation, and tourism. Although this study was set in a high-profile, mass tourism destination, the case-based planning model may be equally useful in understanding behavior in many settings ranging from planning a wilderness trip to visiting a large urban area. The influences of personal knowledge and experience, environmental and economic factors, general planning habits or tendencies, personal preferences, and group influence on travel plans and plan changes should be explored further.

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