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VISITORS TO GUAM: MODELING SATISFACTION, QUALITY AND INTENTIONS

By

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A DISSERTATION

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ABSTRACT

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Achieving customer satisfaction, it can be argued, is the core objective of marketing. However, in the tourism field, academics and managers often use the terms "satisfaction" and "perceived quality" interchangeably. While researchers generally agree that the two are related, they have not yet agreed on the nature of the causal relationship between them. Further, the research into how perceived destination quality and tourist satisfaction influence future purchase intentions remains limited.

Given these issues, a study of the relationships between tourist satisfaction/dissatisfaction, perceived quality, and purchase intentions would contribute to greater understanding of the marketing concept as it applies to tourism. This study addresses the question of how tourists' post-visit evaluations (i.e. satisfaction and perceived quality) of their holiday experience influence their future intentions to return to or recommend a destination to others.

Using survey data collected from 3,108 visitors to Guam between June 1998 to November 1999, a conceptual model relating visitor satisfaction (with individual components as well as with the destination as a whole), perceived quality of the destination, post-visit image and future intentions was developed and tested using structural equations modeling (SEM) techniques.

The model hypothesized that satisfaction with the various components of a destination influenced evaluations of destination quality and overall satisfaction with the

destination. Consequently, these evaluations help form an image of the place as a desirable vacation destination. This resulting image then influences tourists' future intentions regarding the place.

Multiple structural equations models (MSEM) were run to test for differences in model fit between groups according to nationality, purpose of visit or previous visits to Guam. Tourists from Japan, South Korea, Taiwan and Hong Kong were interviewed to collect data for the analysis. By purpose of visit, the sample was divided into pleasure, corporate, and honeymoon groupings. Potential differences between first-time and repeat visitors were also assessed.

The SEM analysis suggested that the original hypothesized model – where image fully mediated the effects of satisfaction and quality on intentions – could be improved by adding a direct path from overall satisfaction to behavioral intentions. This alternative model provided the better fit, indicating that post-visit image did not completely mediate the effects of satisfaction on intentions as had been originally hypothesized. The model also appeared to predict the probability of recommending the destination to others better than did the one based on future intentions to return to Guam. Finally, the MSEM indicated that the models for different groups — by nationality, purpose of visit or previous experience — differed significantly along various paths within the models. Copyright by RAMON BENEDICTO ALDAY ALAMPAY 2003 This dissertation is dedicated to my wife and best friend, Gina, and to our children: Kaipo, Laya and Andre

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CHAPTER I

INTRODUCTION

Satisfaction, it can be argued, is the core objective of marketing. As defined in many textbooks, the marketing concept holds that the function of business is to satisfy consumers' needs at a profit (Hunt, 1977). A typical textbook definition can be found in Kotler, Bowen and Maken (1996) who define the marketing concept as follows:

"The company coordinates all the activities that will affect customer satisfaction and makes its profits by creating and maintaining customer satisfaction ... The marketing concept holds as a philosophy of business that it is the function of business to satisfy consumers' needs at a profit." (p. 35)

Classic models of buyer behavior (Howard & Sheth, 1969) suggest that if a brand or product proves satisfactory, it increases the probability of buying that brand, the next time a similar buying situation occurs. In other words, the marketing concept implies that customers are likely to re-purchase satisfying products or brands. Research also suggests that consumer satisfaction/ dissatisfaction (CS/D) influences other post-purchase behaviors such as word-of-mouth communication and complaining behavior.

In the tourism field, marketing theorists have developed consumer behavior models that adhere to the general principles of the marketing concept. Typically, these models incorporate CS/D as a feedback mechanism for future tourist's decisions and actions. According to these models, satisfaction or dissatisfaction with the tourist experience can influence future intentions to return as they become inputs to the tourists' post-visit beliefs (Um & Crompton, 1990), preferences (Woodside & Lysonski, 1989), and image (Baloglu & McCleary, 1999; Chon, 1990) of the destination. Consequently, all these new cognitions and affect arising from the tourists' post-visit evaluation reinforce their preference structures and influence future decision making (Teare, 1994).

However, the unique characteristics of the tourism product (destination) and experience have important implications on the way that the tourist product is perceived and evaluated. These, in turn, raise questions about the way that the general model of the marketing concept would work in the tourist setting.

First, the substantial service component of the tourist product suggests that it will also possess the distinctive qualities of services previously identified by authors such as Grönroos (1984) and Parasuraman, Zeithaml and Berry (1988) — intangibility, heterogeneity, perishability, and simultaneous production and consumption. Furthermore, the destination product is not one product, but a package of products, services and activities — each capable of inducing feelings of satisfaction or dissatisfaction.

Another issue to consider is that many people have limited volitional control over future decisions to travel or return to a destination. Perceived or actual constraints such as cost, time and the availability of travel companions limit their opportunity and ability to travel — even if they wished to do so.

Even if a tourist is satisfied with a visit and does not recognize any travel constraints, other factors may inhibit a decision to return. For example, some tourists may not want to return (in the near future) simply because they want to visit and experience new places (Crompton, 1979; Dann, 1977).

Given these issues, a study of the relationships between tourist satisfaction/dissatisfaction, attitudes and intentions would contribute to greater

understanding of the marketing concept as it applies to tourism. Possible modifications to the general marketing concept would have important implications for both researchers and managers.

For researchers, such a modification of the tourism marketing concept might also imply reconceptualization of terms like satisfaction and dissatisfaction. At minimum, refinement of what these constructs mean, and how they relate to each other, may encourage more holistic approaches to tourist satisfaction research.

Destination marketers and managers, on the other hand, may be able to devise more effective strategies by appreciating how concepts like satisfaction, quality and image are distinct from, yet related to each other. Moreover, studies like these may help them understand that the way that these constructs interact may be different in the case of tourism destinations. In turn, managers might be encouraged to design creative programs that harness the unique characteristics of the tourism product so that visitors are satisfied and delighted.

Theoretical Background

A review of the literature revealed some key themes in consumer satisfaction research – particularly, as these issues are applied to the tourism field. Researchers generally agree that satisfaction involves a comparison between pre-experience and postexperience cognitive states (Oliver, 1980), wherein the experience is usually defined in terms of purchase or consumption. Based largely on Helson's adaptation level theory (as cited in Yokoyama, 1991), this line of thinking holds that the difference or "discrepancy" between these cognitive states is the central concept to understanding consumer satisfaction.

Typically, the post-experience component has been operationalized as the consumer's perception or evaluation of a product's performance. However, researchers have disagreed on just what the pre-experience standard — the basis by which perceived performance is judged — should be. In brief, the literature suggests that satisfaction is determined by comparing perceived performance with consumers' expectations of the product based on their pre-purchase beliefs (Howard & Sheth, 1969), experience-based norms (Cadotte, Woodruff & Jenkins, 1987), ideals (Boulding, Kalra, Staelin, & Zeithaml, 1993) or sense of what is fair and equitable (Tse & Wilton, 1988). Which standards are used depend on the type of product, the consumer and the environment in which the consumer experience takes place.

The review of literature also suggests that there is a need to distinguish satisfaction from other post-consumption constructs such as attitude, image, and, especially, quality. Both academics and managers often end up using the terms interchangeably. For example, "...the term satisfaction, when used by marketers, frequently refers to an individual's reactions to attributes of a vacation destination for which leisure scientists would use the term quality" (Crompton & Love, 1995, p. 12).

Part of the difficulty in reaching consensus stems from the differences in researchers' use of the same terms for different contexts. For example, researchers and managers have applied the terms to both global- (overall) and component-level evaluations. Similarly, both satisfaction and quality have been used as cumulative (enduring) as well as transaction-specific (temporary) concepts. Some authors have argued that this is an important difference between satisfaction and perceived quality. For example, MacKay and Crompton (1990) have argued that satisfaction refers to a specific

transaction or experience, while quality evolves from the summation of past transactions and experiences with a service.

They also suggest that quality is a predominantly cognitive evaluation based on consumer expectations of what the product *should* be. Satisfaction, on the other hand, has been described as a primarily affective evaluation based on consumer expectations as predictions of what the product *would* be.

While researchers generally agree that the two constructs are related, they have not yet agreed on the nature of the causal relationship between satisfaction and quality. Some (Oliver, 1993a/1993b; Cronin & Taylor, 1994) take the position that service quality leads to satisfaction. On the other hand, there remain others who see satisfaction as an antecedent of service quality (Bitner, Booms, & Tetreault, 1990; Bolton & Drew, 1991). Again, differences in the ways that these authors operationalized quality relative to satisfaction could explain the different conclusions reached by each.

A final observation from the literature is that most authors generally agree that higher levels of perceived quality and satisfaction should positively influence future intentions toward a product. However, research into how this all works in the tourist setting remains limited. Oh and Parks (1997) note that in the hospitality field, research has been focused more on the antecedents of satisfaction rather than the consequences of a satisfying vacation. The tourism marketing literature has also been characterized by an almost complete lack of publications in the areas of destination loyalty and repeat visitation (Oppermann, 1999). Furthermore, there remains a conspicuous lack of research on the link between tourists' satisfaction or dissatisfaction with a destination and their future behavior (Hudson, 1999).

Statement of the Problem and Study Objectives

The main problem to be addressed in this study can be summarized in the following manner:

How do tourists' post-visit evaluations of their holiday experience influence (if, at all) their future intentions regarding a destination?

Phrased in this manner, the research question implies an investigation of the relationships between two main sets of consumer behavior constructs — one set composed of post-visit evaluations, and another set of future behavioral intentions toward the destination. This problem calls for better understanding of how these evaluative and behavioral constructs relate to each other. Thus, it will be necessary to develop and test a conceptual model that captures the interrelationships of these different constructs.

Thus, the main problem provides a research umbrella that covers several objectives to be addressed in this study.

These objectives are:

- 1. To develop a model of tourist behavior that defines and distinguishes between the key post-experience constructs of satisfaction, quality and image;
- 2. To determine the relative contributions of the various components of tourism (hotels, restaurants, shopping establishments, attractions, etc.) to overall satisfaction with a destination;
- 3. To identifying differences, if any, in the predictive power of the model with regard to behaviors that people have varying degrees of control over (e.g., intentions to return and intentions to recommend to friends); and
- 4. To test the effect of individual differences in motivation and level of information on the relationships between the various post-experience constructs.

Definitions of Key Constructs

The key constructs around which this dissertation revolves are satisfaction, perceived destination quality, image and behavioral intentions.

<u>Perceived destination quality</u> is defined as the evaluation that the attributes possessed by a product are consistent with the tourist's belief-based expectations about the characteristic attributes that superior members of that product class (in this context, tourist destinations) should offer. These "characteristic" attributes are elements of the destination over which the tourist-evaluators have very little or no control. Furthermore, this definition suggests that the quality evaluation is predominantly cognitive in nature.

Satisfaction is defined as the evaluation of the tourist's affective reaction to the consumption experience. The tourist's affect is based on a comparison of product performance and the tourist's desires, needs, motives and beliefs about the product's attributes and the benefits to be derived from them. The model acknowledges that tourists realize satisfaction both with the individual components of their holiday experience as well as with the destination as a whole. However, in this study, component-level and overall satisfaction were measured differently.

Image refers to the mental picture that tourists hold about a destination or product. In this study, image corresponds to an attitude in that it represents an enduring positive or negative feeling about the destination (Petty & Cacioppo, 1981). Measured in terms of desirability as compared to other international sites, image is an attitude in that it is also a disposition to respond favorably or unfavorably toward the object (Ajzen, 1988).

<u>Intentions</u> are indications of the willingness and commitment of tourists to perform particular behaviors or actions. For this particular study, the behavioral

intentions to be considered involve returning to the destination and recommending the destination to friends and relatives back home.

Proposed Model

The model shown in Figure 1 is based on a review of the literature on customer satisfaction from the marketing, recreation and tourism fields. It is a generic description of relationships between constructs that this dissertation intends to test empirically. It defines the destination product as a package of services and experiences that can be evaluated independently. Thus, satisfaction can also be determined for each of the destination's individual components.



Figure 1. Proposed Model of Post-Visit Evaluation and Attitude Formation

It is hypothesized that each of these component satisfactions will have direct effects on perceived quality of the destination, and on overall satisfaction with the destination. Furthermore, destination quality is envisioned to be an antecedent of overall satisfaction. In turn, both destination quality and overall satisfaction influence the tourist's post-visit image of the destination. Finally, image is posited to influence behavioral intentions. In the process, it acts as a mediator of the effects of destination quality and overall satisfaction on intentions.

The figure shows four different tour components, each with its own level of satisfaction. These four components correspond to those elements evaluated for this study. It should be stressed that the figure is not intended to depict a comprehensive list of any destination's attributes. The composition of these components will vary depending on the geographic location and type of destination.

Delimitations

The study focused on the consequences, not the antecedents, of tourist satisfaction. It was assumed that in forming satisfaction judgments on various components of the destination product, tourists had consciously or unconsciously processed their experiences in the manner prescribed by the disconfirmation of expectations theory. Thus, the tourists' expectations and performance evaluations were assumed to be largely reflected in stated satisfaction levels.

Furthermore, because the vacation decision involves a much longer time frame than typical consumer products, this project did not attempt to measure future behavior. Rather, as suggested by the theory of planned behavior, the study instead used stated behavioral intentions as a proxy for future behavior.

Limitations of the study

The dissertation was based on analysis of secondary data — data previously collected by the Guam Visitors Bureau. In relying on secondary data, the researcher recognizes that the original purposes for collecting this information were different from those of this current study. As a result there were some inherent measurement problems in the dataset. Because the focus of the original study was on tourist satisfaction, there were more variables associated with component-level satisfaction than any other construct in the proposed model.

Fewer variables were associated with constructs such as destination quality, image and behavioral intentions. In the absence of variables designed to explicitly measure this study's constructs of interest, other variables were utilized as proxies for the missing variables. For example, there was no variable in the survey that directly asked respondents about their overall satisfaction with Guam. There was, however, an item which asked whether "Guam was better than expected." This statement appears to be reflective of disconfirmation, a recognized antecedent of satisfaction. Thus, this specific variable was used as an indicator of overall satisfaction.

The original study also did not include measures of tourist expectations and motivations. However, through the use of simultaneous multi-group modeling, this dissertation explored the use of various categorical variables as possible proxy variables for these absent measures.

CHAPTER II

REVIEW OF LITERATURE

Overview of Consumer Satisfaction Theory

Consumer satisfaction has long been a pillar of the marketing concept. Through the years, marketing researchers have generally defined consumer satisfaction in a relatively consistent fashion (e.g., Howard & Sheth, 1969; Hunt, 1977; Martilla & James, 1977; Swan & Combs, 1976). In its broadest sense, consumer satisfaction involves some form of comparison between pre-experience and post-experience cognitive states (Oliver, 1980), wherein the experience is usually defined in terms of purchase or consumption. Based largely on Helson's (as cited in Yokoyama, 1991) adaptation level theory¹, this line of thinking holds that the difference or "discrepancy" between these cognitive states is the central concept to understanding consumer satisfaction.

In applying Helson's theory to consumer behavior, the consumers' prior expectations represent the standard to which they compare their post-consumption perceptions of a product's performance (Howard & Sheth, 1969). The consumer's expectations are said to be *confirmed* when the product performs as expected. Expectations are *positively disconfirmed* when the brand performs better than expected. On the other hand, expectations are said to be *negatively disconfirmed* when the service or product is perceived to perform worse than expected. Thus, confirmed or positively

¹ Oliver (1980) warns that this was not originally proposed as a satisfaction theory. However, Oliver writes that the theory "squares" with the satisfaction data known to him, and that the theory is "sufficiently general" as to accommodate the consumer satisfaction theories.

disconfirmed expectations lead to satisfaction, while negatively disconfirmed expectations result in dissatisfaction.

Other authors have attempted to refine the model by proposing more nuanced alternatives to the basic confirmation-disconfirmation framework. For example, assimilation-contrast theory (Sherif & Hovland, 1961) — as in classic discrepancy theory — involves a comparison between pre-purchase expectations and post-consumption perceptions. However, assimilation-contrast adds that satisfaction or dissatisfaction is, in the end, a function of the degree of difference between expectations and perceived performance.

If the differences are "not too large" (moderate disconfirmation), consumers are likely to assimilate their evaluation toward their earlier expectations. Thus, high expectations lead to more favorable evaluations; low expectations lead to less favorable perceptions under these conditions. If the disconfirmation is perceived to be "very large", consumers are likely to magnify this contrast in the direction of the discrepancy. Large differences between perceived performance and prior expectations should result in greater satisfaction or dissatisfaction, depending on the direction of the evaluation.

Sirgy's (1984) evaluative congruity model holds that the greatest satisfaction is possible under conditions of positive incongruity, or when the consumer's expectations are negative and perceived performance is positive. On the other hand, negative incongruity (positive expectations vs. negative perceived performance outcome) leads to the least amount of satisfaction. Thus, the model suggests that surprise is an important influence on consumer satisfaction or dissatisfaction.

The Nature of Expectations

In spite of these alternative models, it is nevertheless fair to say that the basic disconfirmation of expectations theory continues to be the dominant model of consumer satisfaction (Spreng & Olshavsky, 1993). However, the popularity of the discrepancy framework has not curtailed debate on what prior expectations really mean and how the evaluation process unfolds.

Early studies (Martilla & James, 1977; Swan & Combs, 1976) tended to frame consumer satisfaction in terms of the predicted quality of the product and its attributes. This means that expectations refer to the consumer's *beliefs* about what product performance *would* be.

Cadotte, Woodruff and Jenkins (1987) argued that the comparison standard should reflect what consumers believe a brand *should*, rather than *would*, provide to meet their needs and wants. They proposed that consumers hold "experience-based norms" that reflect *desired performance* in meeting their needs and wants. However, the consumers' experiences with real brands work to establish constraints on what the level of performance *can* be. These norms may be developed in two ways. The *product type norm* is an average of one's past experiences with the class of products to which the focal brand belongs. On the other hand, *best brand norms* derive from a person's favorite brand.

Boulding, Kalra, Staelin and Zeithaml (1993) identified two classes of expectations – normative and ideal expectations. Normative expectations involve customer expectations about what will and what should happen in their next encounter with a firm. Ideal expectations represent the *optimal product performance* that a customer wants in an ideal sense. In addition to ideal and expected (normative) product

performance, Tse and Wilton (1988) suggested that consumers also held notions of *equitable product performance*. This represents the level of performance the customer *ought* to or deserves to receive based on a perceived set of costs. By comparing cost/reward ratios to those of others in their environment (e.g., merchants, other users of the product, or non-consumers), the consumer is able to evaluate the fairness or unfairness of the transaction.

This confusion over the ideal comparison standard has not been limited to the marketing field. In his treatise on job satisfaction, Locke (1969) lamented the failure to distinguish between expectations, needs, wishes and values. These terms, he noted, were being used interchangeably to establish the standard for evaluating job satisfaction. Whereas expectations denote one's beliefs about what will occur in the future, Locke argued that needs should refer to objects and conditions that people require to maintain their physical and psychological well-being. Furthermore, needs should be distinguished from wishes or values — which are what people actually seek to gain or consider beneficial.

Similar notions have been raised in the recreation, leisure and tourism literature. The particularly strong marketing orientation of the tourism field (Ritchie, 1996) has tended to encourage attribute-oriented satisfaction research (e.g., Mazursky, 1989; Pizam & Milman, 1993; Teye & Leclerc, 1998). However, the influence of the recreation and leisure tradition² has also encouraged the perspective that the evaluation is not

² The exchange between Dann (1978) and Pizam, Neumann, & Reichel (1978) is a good illustration of the resulting tension from the multiplicity of research traditions in the tourism field. From Dann's leisure-oriented perspective, tourist satisfaction should be properly studied as a domain of overall satisfaction with quality of life. He held that the tourist satisfaction was much too complex to be subject to the transactional framework of consumer satisfaction. On the other hand, Pizam et al. argued that, indeed, tourist satisfaction could and should be analyzed as a form of consumer satisfaction, albeit a more complex one.

limited to the quality of product attributes *per se*. Leisure researchers have long recognized that recreationists and tourists also hold expectations about a product's potential to fulfill needs or desires and to provide functional as well as psychological benefits (e.g., Bultena & Klessig, 1969; Floyd, 1997).

More recently, other consumer researchers have moved toward integrative rather than exclusive models of satisfaction. These models recognize that attribute-based and need-based expectations both (often times, jointly) influence the consumers' evaluation of and subsequent satisfaction with products and services. It is notable that much of the progress in this area has been achieved in the services marketing arena, where satisfaction research has often been conducted in step with service quality research.

Service Quality and Consumer Satisfaction.

While researchers in the manufacturing sector have traditionally relied on a supply-based definition of product quality — one based on minimizing manufacturing defects (Parasuraman, Zeithaml, & Berry, 1985) — service marketers have leaned toward a more consumer-oriented definition of quality. One reason for this is that consumption and production are said to take place simultaneously in a service. More than with tangible goods, clients play a large part in determining the quality of the service experience. Furthermore, the quality of a service is often more difficult to evaluate than the quality of a typical good. In contrast to goods, services offer few attributes that can be determined prior to purchase and more attributes which can only be discerned after purchase or consumption (Parasuraman et al., 1985).

Thus, service quality, like satisfaction, has often been characterized as a postexperience evaluation. And as with satisfaction, service quality has largely been defined in terms of a disconfirmation of expectations framework. For example, Parasuraman et al. (1985) offered this definition:

"The quality that a consumer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service" (p.46).

The application of discrepancy models to describe both service quality and consumer satisfaction has led to a situation wherein the two constructs have been used interchangeably by both academic researchers and professional marketers. In addition, discrepancy models in studies of perceived quality or satisfaction have tended to focus on relatively similar facets of the product or service.

A review of selected tourism satisfaction studies indicates that researchers often choose to focus on a familiar list of destination and tourist service attributes. For example, various studies (Danaher & Arweiler, 1996; Pizam et al., 1978; Yokoyama, 1991) have identified the following as key dimensions of tourist satisfaction with a destination: lodging facilities and services, transportation, tourist activities and attractions, and the natural environment or physical setting. Studies of specific tourism or recreation services (Crompton, Mackay, & Fesenmaier, 1991; Heung & Cheng, 2000) have similarly focused on specific attributes of the focal service. However, in keeping with the service marketing literature, they recognize that these service attributes may be tangible as well as intangible in character.

Satisfaction studies dealing with specific recreation or tourism activities have also recognized the role of attribute evaluations in determining overall satisfaction with the

experience. However, these studies have acknowledged that individual motivations and objectives also play roles in the final evaluation of the experience.

A study by Mayer, Johnson, Hu, and Chen (1998) identified atmosphere, customer service and process as dimensions of satisfaction with casino gaming. Atmosphere refers to tangible elements of the casino such as interior design and casino size. On the other hand, customer service and process covered the intangible elements of the gaming services. However, in addition to these three dimensions, Mayer et al. also identified a "chance of winning" dimension which reflected visitor expectations about the fairness of the games and their expectations about achieving individual objectives for participation.

Lounsbury and Hoopes (1985) investigated tourist satisfaction with the vacation experience and identified five key factors. Two of these — food and lodging, and natural environment — are associated with specific elements of the destination. Two other factors appear to be related to tourist motivations for going on vacation. A factor labeled "escape" refers to opportunities for getting away from it all. Another factor called "relaxation and leisure" includes tourist perceptions of the way their plans worked out, the amount of fun they had, as well as the amount of relaxation they achieved. Finally, Lounsbury and Hoopes identified a fifth dimension of satisfaction "marriage and family" that corresponded to items pertaining to the respondent's relationship with spouse and family, including the behavior of children during the trip. This suggests that aside from their evaluations of the destination itself, tourists also recognize and evaluate elements that they (as individuals and as members of a travel party) bring to the overall vacation experience.

How do Satisfaction and Perceived Quality Differ?

Some researchers now argue that these personal contributions to the experience — motivations, objectives, desires, constraints, etc. — represent the core issue that differentiates perceived quality from consumer satisfaction. Oh and Parks (1997), for example, have argued that satisfaction is a consumer's *subjective* comparison of expectation and performance. In contrast, service quality represents the researcher's *objective* comparison of expectation and performance.

Oliver (1993a) argued that satisfaction is a *primarily* affective construct even as it also reflects cognitive evaluations of a product's attributes. He noted that attribute satisfaction was distinct from attribute performance. Performance was assessed in the context of its variance and the strength of consumer beliefs. Although, not explicitly labeled as such, this sounds very much like a notion of perceived quality. He also argued that satisfaction could be considered a psychological response to the performance judgment.

Oliver (1993b) expanded on this theme in another paper that proposed a model integrating the satisfaction and service quality literatures. Parasuraman, Zeithaml and Berry (1988) had suggested that service quality is based on expectations as consumer *desires or wants*, i.e. what the consumer feels the service *should* be. On the other hand, satisfaction researchers saw expectations as *predictions* of what the service *would* be. In his model, Oliver recognized that both desires and expectations were used as standards for evaluating product or service performance. This meant that two forms of disconfirmation occurred – one based on ideals or desires, and one based on predictions or anticipations of the product's performance. Spreng and Mackoy (1996) proposed and tested a modified version of this model wherein they identified desires congruency (the disconfirmation of desires) as influencing both perceived service quality and overall satisfaction. In contrast, expectations disconfirmation directly affected overall satisfaction but did not have an influence on the overall perception of service quality.

Since expectations disconfirmation suggests an element of surprise (i.e., actual differing from predicted outcomes), the conclusion is that satisfaction is a more affective evaluation. On the other hand, service quality appears to be a primarily cognitive evaluation based on consumer expectations of what the product or service should be.

Similar insights have been advanced in the tourism and recreation literature. Crompton and Love (1995) argued that service quality refers to the attributes of a service primarily controlled by the supplier. On the other hand, satisfaction (or quality of experience) refers to an emotional state of mind after exposure to the opportunity or service. This framework recognizes that satisfaction is influenced by the tourist's sociopsychological state (mood, needs, disposition) as well as by the specific attributes controlled by suppliers (e.g., facilities, services and attractions).

The Disconfirmation Approach Revisited

The disconfirmation model enjoys strong intuitive appeal as an explanation of how evaluations of satisfaction and quality are formed. However, there is a growing body of research that suggests that direct measures of performance are better predictors of satisfaction, quality and intentions than measures derived through disconfirmation equations.

Peter, Churchill and Brown (1992) have pointed out psychometric problems arising from the use of difference scores, i.e. subtracting one measure from another. They applied these arguments specifically to the SERVQUAL scale (Brown, Churchill, & Peter, 1992) and concluded that there were serious problems in conceptualizing service quality as a difference score. Carman (1990) opined that expectations not based on experience would be likely to be poor standards against which to measure quality of performance.

Cronin and Taylor (1992) found that a directly measured scale (SERVPERF) of the same items covered by SERVQUAL was more efficient than the latter scale. Similar tests in the tourism field have tended to support this conclusion.

Fick and Ritchie (1991) measured service quality in several types of tourism businesses and found that mean perception of performance scores provided better evaluations of service quality than a computed (perceptions-minus-expectations) score. In his study of tourists to Michigan's northwestern coastal region, Yokoyama (1991) found that performance-based model was a better predictor of tourist satisfaction than a discrepancy-based model. Because there was a length of time between the measurement of expectations and performance, he surmised that respondents "could not keep their expectations current and available as a basis to form the comparison which would predict their satisfaction level"(p. 12). Furthermore, he suggested that the comparison process was already included — probably unconsciously and unintentionally — in the respondents' assessment of performance.

Crompton and Love (1995) evaluated seven alternative operationalizations of quality (E, I-P, I x E, I x P, P-E, I x (P-E), and P); where E = expectations; I =

importance; P = performance) and concluded that performance-based operationalizations were the best predictors while the least accurate predictors of quality were the disconfirmation-based measures. Similar findings were reached by Childress and Crompton (1997). However, they noted that the direct performance measure offers little diagnostic potential despite its superior predictive power. This, they argued, could lead to inappropriate priorities being set. Thus, disconfirmation-based formats might still be more useful to managers.

The Relationship Between Perceived Quality and Satisfaction

Another issue that needs to be clarified is the nature of the relationship between perceived quality and satisfaction. While researchers agree that the two are related, there has been some debate regarding the direction of this relationship. Spreng and Mackoy's (1996) model advocated a causal link from service quality to satisfaction. In other words, they supported Oliver's proposition that perceived service quality (PSQ) subsequently resulted in recognition of consumer satisfaction or dissatisfaction. While others (Cronin & Taylor, 1992; Oliver, 1993b) have also adopted this position, another school of thought has advocated the opposite relationship — that satisfaction influences or mediates overall service quality (Bitner et al., 1990; Bolton & Drew, 1991). They hold that the accumulation of satisfaction over time subsequently results in a change in the consumer's assessment of service quality for a specific organization.

Gotlieb, Grewal and Brown (1994) tested these competing models and concluded that the perceived quality \rightarrow satisfaction model provided a better fit for their data than did a model showing the opposite relationship. Furthermore the quality-to-satisfaction model explained more of the variance in behavioral intentions than did the alternative model.

The early confusion regarding the relationship between service quality and satisfaction may be explained in part by the differing notions of specificity associated with each construct. Depending on their research objectives, researchers tended to vary in whether they saw either construct as an enduring evaluation or as a transaction-specific one. Current thinking on satisfaction and service quality now appears to hold that both these constructs can be defined on a transaction-specific (component) level as well as a long-term relationship (or global) level (Teas, 1993).

In the leisure field, Mannell and Kleiber (1997) wrote that satisfaction studies could be distinguished by their level of specificity. For example, some researchers have investigated satisfaction at a transaction-specific level — or what Mannell and Kleiber call the molecular level of specificity. These include studies on specific activities such as camping (Bultena & Klessig, 1969), fishing (Graefe & Fedler, 1986) and hunting (Floyd, 1997). Other researchers have had more global or "molar" concerns related to the issue of how people met all of their leisure needs. In other words, these studies were interested in determining how satisfied people were with their leisure style.

Parasuraman, Zeithaml, and Berry's original work (1985) suggested that service quality was a global and enduring judgment of a service while satisfaction related to a specific transaction. Consequently, they held that service quality resulted from an accumulation of incidents of satisfaction. In a later article (Parasuraman, Zeithaml, & Berry, 1994), the authors reversed themselves and offered a model that held a customer's

overall satisfaction to be a function of his or her assessment of service quality, product quality, and price. However, in this model, both service quality and satisfaction were recognized as transaction-specific evaluations.

Thus, when both constructs are held to be transaction-specific, the contemporary literature now appears to favor the quality-leads-to-satisfaction perspective. The "appraisal \rightarrow emotional response \rightarrow coping" framework applied by Gotlieb, Grewal and Brown (1994) is typical of this school of thought. It holds that an individual's appraisal of the quality of a product is followed by an affective response, satisfaction. Ultimately, this affective response produces coping responses such as behavioral intentions toward the product.

Boulding et al. (1993) explained the link between transaction-specific and global evaluations using a dynamic process model of service quality. The model showed that transaction-specific evaluations of a service contributed, on a cumulative basis, to the overall assessment of service quality.³ Considering that satisfaction is also transaction-specific, the argument could be made that CS/D adds to a cumulative evaluation of the product. While it can be argued that the term quality still applies, it may be more appropriate to use a different label — if only, to distinguish between the immediate evaluation of quality and its enduring counterpart.

There is general agreement that higher levels of perceived quality and satisfaction should positively influence future intentions toward a product. How this process actually works has yet to be fully explained. Compared to the body of work on the antecedents of

³ Boulding et al. (1993) also noted that the customer satisfaction as understood in the popular media, as well as by many corporations, often connoted a cumulative concept. In contrast, the satisfaction measure favored in most academic studies tended to be transaction specific.

both consumer satisfaction and perceived quality, research on the consequences of satisfaction has been relatively limited.

Barsky (1992) conducted a survey of 284 guests of a large San Francisco hotel. Customer satisfaction scores were computed from their responses to questions about their expectations of nine classes of hotel attributes as well as the relative importance of each. These scores were then transformed into ordinal data by establishing three categories of satisfaction scores: highly satisfied, satisfied, and not satisfied. Chi-squared analysis indicated that satisfaction is significantly related to repeat purchase intention ($\chi^2 = 7.850$, df = 2; p = .020), i.e. satisfied and highly satisfied guests also indicated a willingness to return to the hotel.

However, he stressed that this test indicated a relation to repeat purchase intention, not actual purchase. He recommended that the effect of time on purchase behavior be investigated further, suggesting that expectations may change over time.

Boulding et al. (1993) tested their model of service quality using data from two different studies of service quality. The first study involved simulated visits to a hotel by 107 business professionals. The other study was based on a service quality survey of an educational institution's current customers. Given the different service settings, the two studies had different measures for quality and behavioral intentions. In the hotel experiment, the subjects were asked about their likelihood to stay at the hotel again, and to recommend the hotel to friends. The school study, on the other hand, had six items of intended behaviors. These included intentions to say positive things about the school to other people, to contribute money after graduation, and to recommend the school as a place to recruit. Despite the different data collection methods and service settings, their
analysis showed that overall perceived quality significantly related to the index of behavioral intentions in both cases.

Danaher and Arweiler (1996) interviewed 189 tourists about their New Zealand vacation at the airport, just before they departed. Each respondent was asked about four primary components of their vacation: transportation, accommodation, activities and attractions. Each component, in turn, was further divided into subcomponents. For example, the subcomponents of accommodations were hotel, motel, backpacker/YMCA, and relatives/friends home.

Satisfaction with the subcomponents was measured with a three-point disconfirmation scale (worse than expected, about as expected, better than expected). After the subcomponents were evaluated, satisfaction with their related component was gauged on a "very dissatisfied-to-very satisfied" 11-point scale. After all the components were rated in this fashion, respondents were asked about their overall satisfaction with the entire vacation and the likelihood of recommending New Zealand as a holiday destination to family and friends.

Regression analysis indicated that tourist activities (e.g., hiking, white water rafting, etc.) had the strongest impact on overall satisfaction, accounting for almost onethird of the explainable variation. Accommodation and attractions each accounted for a little over one-fourth of the variation. As for the likelihood of recommending, activities was the only component that had a significant impact, accounting for almost eighty percent of the variation.

The R^2 -values for both regressions were relatively low ($R^2 = 0.10$ for overall satisfaction and $R^2 = 0.065$ for recommending). They speculated that this was likely due

to lack of variation in both dependent and independent variables, noting that satisfaction was very high at both the component and overall levels. Arguing that the four components had been identified factors in previous research, they believed it unlikely that an omitted critical component was the reason for the low R^2 -values.

Although, he did not publish any subsequent follow-up, Mazursky (1989) wrote a very interesting article on the relationships between several post-experience variables: perceived performance, disconfirmation of expectations, satisfaction and future intentions. It was interesting not only for its findings but also because the mode of analysis allowed him to illustrate the relationships between these constructs in a relatively novel fashion. By plotting their relative positions on a two-dimensional space, Mazursky submitted very intriguing propositions about the way that these constructs did or did not interact with each other.

His article was based on an exploratory survey of two hundred (200) adult tourists visiting a stalactite cave. A two-page questionnaire administered at arrival recorded their expectations about the tour, as well as their past experience and norms regarding visits to stalactite and other types of caves, and attitudes toward nature reserves. Another questionnaire, given upon completion of the tour, addressed the post-exposure measures (perceived performance, disconfirmation of expectations, satisfaction, and future intentions).

The pre- and post-exposure data were then subjected to a Weighted Smallest Space Analysis (WSSA1) which allowed the variables to be represented on a twodimensional plot. It was observed that the variables associated with the traditional disconfirmation paradigm (expectations, perceived performance, disconfirmation and

satisfaction) were located along a horizontal line within a fairly narrow range. Mazursky described this line as a simplex structure, which means that the variables in it have a degree of similarity such that each is more like its neighbor than those further down the line.

Another set of variables formed a vertical structure, also plotting within a relatively narrow range. These other variables included measures of norms, past experience, and future intentions (to visit and to recommend). Perceived performance and satisfaction variables also fell within this vertical structure. In other words, these two dimensions represented the intersection of the horizontal and vertical simplex structures. One important conclusion from this was that behavioral intentions were not fully mediated by satisfaction derived from a single experience. The vertical structure indicated that intentions were also related directly to past behavior and norms.

A hierarchical regression analysis on the pre- and post-exposure measures provided further insight into these mechanisms. It indicated that satisfaction was solely determined by expectations, performance, and disconfirmation ($R^2 = 0.48$). None of the past-experience and norms measures significantly affected satisfaction. This appears to provide support for the conception of consumer satisfaction as a transaction-specific construct.

The analysis also indicated that previous experience and normative standards about caves — along with expectations, perceived performance and satisfaction (but not disconfirmation) — significantly influenced future intentions to visit and to recommend $(R^2 = 0.51)$. This further supports Mazursky's thesis that the experience-based approach enriches the understanding of satisfaction beyond that which would be developed from a strictly disconfirmation-based approach.

One noticeable limitation of the current satisfaction-quality literature has been the lack of studies that have used both perceived quality and satisfaction to predict future intentions. Cronin and Taylor (1992) were among the first to incorporate both constructs in a single research framework. To summarize their model briefly, they proposed that customer satisfaction was an antecedent of perceived service quality and that both constructs would have significant impacts on purchase intentions. They then tried to apply this model to four types of service firms: banks, pest control, dry cleaning and fast food.

They found that service quality had a significant (p = .05) effect on consumer satisfaction in all four samples. However, the direction of this effect was the opposite of what they initially proposed. Furthermore, the results from all four samples confirmed that consumer satisfaction had a significant effect on purchase intentions. However, the effect of service quality on intentions was statistically significant in only three of the four industries (banking, pest control and fast food). They concluded that satisfaction had a stronger and more consistent effect on purchase intentions than did service quality.

Using data collected from visitors to a festival, Baker and Crompton (2000) developed a structural equations model using operationalized constructs similar to those from the Cronin and Taylor study. Quality was operationalized using a perceptions measure while satisfaction was measured with a single item (very unsatisfied – very satisfied) scale. Behavioral intentions were measured with seven items which were

assigned a priori to two domains: loyalty (five items) and willingness-to-pay more (two items).

As with Cronin and Taylor, they found quality to have a significant direct effect on satisfaction. They found that satisfaction (.60, t=9.95, p<.01) had a stronger direct effect on visitors' behavioral intentions than quality (.41, t=6.37, p<.01). However, the total effect of quality on intentions was greater than the total effect from satisfaction. Furthermore, the indirect effect of quality was not fully mediated by their level of satisfaction.

Murphy, Pritchard and Smith (2000) developed a conceptual model of a destination's environment and infrastructure relationships to perceived quality, price and intent. The model was tested using a secondary dataset consisting of 3,088 surveys collected from visitors to Victoria, British Columbia in 1994. Sixteen items from the survey were used as multiple indicators for the five key constructs of their model, with each item being evaluated on a five point, strongly-agree-to-strongly-disagree Likert scale.

They analyzed their data using partial least squares (PLS) analysis. The model explained twelve percent (12%) of the variance in "intention to return", as well as twenty-five (25%) and thirty-seven percent (37%) of the variance in quality and value respectively. They also found that quality ($\beta = 0.30$), but not value ($\beta = 0.08$), had a significant effect on intention to return. As the objective of PLS is prediction in a regression sense, they did not report an overall goodness-of-fit index. Nevertheless, the results of their study provided additional evidence of the relationship between quality and intention to return.

One notable aspect of their model was that their quality construct combined assessments of both quality and satisfaction. The construct had two indicators. One was a statement regarding Victoria's "quality relative to the United States". The second quality indicator was a statement regarding overall satisfaction with Victoria as a destination. In addition, two constructs — environment and infrastructure — also appear to correspond to perceived quality, albeit at the component level (e.g., pleasant climate, attractive scenery, good hotels, etc.).

If one accepts the constructs as labeled, the model appears to hold that destination quality is evaluated at both the component and global levels. However, the inclusion of overall satisfaction as an indicator of global quality suggests that this particular construct can be likened to an attitude in that apparently cognitive (quality) and affective (satisfaction) elements are both present.

Another issue that has not been explored extensively has to do with the effects of nationality and similar variables on satisfaction and behavioral intentions. The investigator found only one study that specifically addressed this issue. Komba (1997) investigated the effects of national characteristics on the satisfaction of tourists with hotels in Tanzania by comparing two international groups (American and German) with domestic tourists from Tanzania. A total of 224 tourists (70 American, 83 German, and 71 Tanzanian) were surveyed at Tanzanian hotels during two separate survey periods in 1994 and 1995. Using a log linear model, he sought to determine whether, given the satisfaction levels with various aspects of a hotel's service, the likelihood of certain behavioral intentions varied from one national group to the other.

The three groups were fairly similar in terms of their criteria for selecting and evaluating hotels. For example, all three groups said that they considered the prices, friendliness of tourists, safety of property and cleanliness of the hotel in evaluating a hotel. However, a pairwise comparison of the groups showed that the American and German markets tended to behave similarly compared to the Tanzanian market. That is, the most differences were observed between the American and Tanzanian segments, while the least differences were detected between the American and German groups. This was consistent with Komba's expectation that the economic, political and cultural similarities between the two international groups would translate to relatively similar consumer behavior.

With regard to future intentions, the results generally supported the thesis that greater satisfaction leads to a greater likelihood of complimenting behavior such as recommending to friends and repeat visitation. However, Komba also found that dissatisfaction was not often followed by a greater likelihood of complaining behavior. In other words, the impact of satisfaction on future intentions was greater than the corresponding impact of dissatisfaction.

Komba explained that cultural and practical considerations could affect the intentions to engage in complaining behavior. Dissatisfied Tanzanians, for example, may complain less because they attribute certain failures to external conditions in the country that are beyond control of the hotels. On the other hand, international tourists may believe that the brevity of their stay in the country lowers the probability of a successful complaint. Thus, they may choose not to complain unless the dissatisfaction involves a factor deemed extremely important such as safety.

Summary and Synthesis

This review has highlighted at least three consistent themes in the consumer satisfaction – service quality literature. First, it is apparent that the disconfirmation of expectations mode is still the dominant paradigm for examining either consumer satisfaction or perceptions of product quality. While there has been some discussion as to the nature of the comparison standard, i.e. expectations, it now appears that researchers are now more open to the idea of multiple standards. In other words, not only are belief expectations used to evaluate performance, but norms, desires and other potential bases for comparison may also be used in conjunction with prior beliefs.

Despite the dominance of the discrepancy framework, comparative studies of alternative measures have consistently shown stronger predictive validity for direct measures of satisfaction and quality. Nevertheless, the disconfirmation model still holds a lot of appeal among researchers and managers.

One could probably explain this as simply a disciplinary resistance to change, given how entrenched the model and its associated instruments (especially, SERVQUAL) are in research and trade circles. Yokoyama (1991), for example, appears hesitant to totally forego disconfirmation despite findings that a direct performance model proved better than a discrepancy-based alternative. He rationalizes his findings by surmising that perhaps disconfirmation of expectations may already be incorporated into the responses to the direct questions about satisfaction and quality.

Crompton and Love (1995) acknowledged the superior predictive validity of direct measures of quality. However, they held that the disconfirmation model offered

a small price to pay for the richness of information that it offers.

Another key element of the literature is that satisfaction and perceived quality are related but distinct constructs. However, in various trade and research publications, it is not uncommon for writers to confuse one construct for the other, freely using satisfaction for quality, and vice versa. This confusion stems in part from the use of virtually similar instruments to measure both constructs. In response, researchers have meticulously argued that satisfaction and quality can be differentiated in terms of "would", "should" and "could" expectations. Unfortunately, the semantic differences do not appear to be clear or obvious enough for people to immediately agree on which construct means what.

Another possible explanation for the frequent misapplication of the terms, is that "satisfaction" and "quality" have been used to refer to transaction-level evaluations as well as to enduring, overall assessments of products and services. This results in different, sometimes contradictory, theories of the causal relationships between CS and SQ. However, in many cases, a more careful reading would reveal that these theoretical differences are likely to be due to differences in level of specificity.

Finally, another consistent thread in the literature has been the proposition that satisfaction and perceived quality affect future intentions, as suggested by the marketing concept. For many managers, satisfaction studies should ultimately be designed to help them identify future courses of action that would increase the probability of repeat purchases. Much of the research has so far been focused on the independent effects of satisfaction or quality on future intentions. Only recently, have researchers moved toward models involving both constructs. There still is no consensus as to which construct has a

stronger effect on intentions, thus there still is some debate on whether managers will be better served by focusing on satisfaction over quality, or vice versa.

Looking specifically at tourist satisfaction research, this area appears to be ripe for more in-depth study. To date, the tourism literature has been built largely on studies involving the elements that make up or lead to satisfaction or perceptions of quality. There still appears to be a lot of area to cover in terms of furthering our understanding of the consequences of this satisfaction.

Although researchers have acknowledged the relationship between tourist satisfaction and future behavior, there has not been a lot of attention given to the unique characteristics of the tourist purchase. Researchers should consider that these purchases, especially those involving long-haul holidays, are highly episodic and infrequent. Thus, the satisfaction-to-behavior link may not be as clear as it might be for an ordinary consumer transaction that involves frequent purchases of products.

The way that most researchers have diagrammed the process, satisfaction or perceived quality directly affects intention. Given the length of time between purchases or visits, it may be appropriate to incorporate an attitudinal change component into the equation. As tourists learn from their experience with a product or destination, their attitudes are inevitably modified (Yi, 1990). It is reasonable to suggest that this new, modified attitude will influence the causal relationship between tourists' immediate satisfaction and their longer term intentions.

Another gap in the literature appears to be that related to group comparisons. As stated earlier, this investigator could only find one study that specifically addressed issues of nationality as related to visitor satisfaction and behavioral intentions. Studies such as

that by Mazursky (1989) also suggest that visitor experience is a key mechanism in decisions to return or to recommend to friends. Thus, experience may be another viable grouping variable in future comparative studies. Another form of group comparison that has not received much attention in the tourist satisfaction literature has been that based on purpose of travel. Given the documented importance of motivation in tourist decisions, it is striking that this aspect of tourist satisfaction research has not been explored extensively.

CHAPTER III

PROCEDURES

This chapter is divided into three parts: (1) a description of the data set to be used, (2) the research models and hypotheses tested, and (3) the statistical procedures and techniques applied to the data set. This dissertation relies on secondary data — data previously collected for another study. Thus, the first part of this chapter covers the source of this data, including an overview of the methods used to collect the data originally. The specific variables from the dataset to be utilized in the study will be identified here. A profile of the subjects included in the study sample will also be included in this section. The second major section of the chapter then discusses the research models and hypotheses to be tested. Definitions of the various elements (constructs and measures) of the models will be presented by relating these elements to specific variables from the data set. Finally, the statistical procedures for testing the hypotheses will be outlined. Because structural equations modeling (SEM) is the major procedural component of the study, a short primer on SEM and the EQS software package will be included in this section.

Overview of Data Set

Primary Data Source and Data Collection Methods

This dissertation was based on secondary data — data previously collected by the Guam Visitors Bureau (GVB). GVB has been conducting these surveys on a quarterly basis since December 1991. Initially, the survey was administered only to visitors from Japan, Guam's most important source of international traffic. Thus, these first surveys were written in the Japanese language. In 1994, recognizing the growing importance of other markets, the GVB began a similar series of Korean and Chinese language surveys.

The specific objectives of the survey are to:

- provide accurate information regarding the demographic characteristics of visitors to Guam;
- provide accurate information regarding the motivations of these visitors, as well as their specific purpose for their current trip;
- provide accurate information on visitor activities what they did on Guam;
- provide accurate information on satisfaction ratings for a wide range of activities and various components of Guam's visitor industry infrastructure; and
- to collect and analyze expenditure data. (Iverson, 1997)

The data were collected through exit surveys of international tourists at Guam International Airport using research methodology developed by the GVB's Research Committee and Market Research and Development, Inc., a Guam-based market research firm. Surveys are collected during a one-week period within a quarter. The sampling period is moved to different months within a quarter from year-to-year. The specific week within the month in which the survey is conducted has varied due to staff, schedule- and administration-related issues that occasionally have arisen.

All flights departing for Japan, Taiwan, Hong Kong and Korea during the sampling period were surveyed. Every nth passenger (with "n" being a randomly chosen number) coming through security for a particular flight was asked to participate in the survey. Based on the airline loads for the week, the "n" was adjusted to allow for a reasonable number of respondents per day of the week. Each day could thus be treated as a panel within the one-week survey period. Thus, the sampling procedure is properly described as a stratified pseudo-random methodology.

Potential respondents were screened to see if they: 1) had stayed on Guam overnight, 2) were Japanese, Korean, Taiwanese or Hong Kong citizens and 3) were over the age of eighteen. Those that qualified were then asked to participate in the survey. Participants filled out the survey at a nearby table. When turning in the completed survey, participants were asked if they needed further clarification on any item in the survey.

Approximately eighty percent (80%) of the individuals encountered met the criteria, with relatively few individuals refusing to participate. Screeners were asked to identify important group patterns among the non-respondents. However, no such patterns were found. No further documentation regarding the data collection procedures can be offered in this dissertation given the secondary nature of the data.

Sample Characteristics

For this dissertation, a sample of 3,108 cases was randomly-generated from GVB's database. This sample represents seventy-five percent (75%) of all interviews conducted by the GVB during the period from June 1998 to November 1999. The sample also represents a cross-sectional view of Guam's most important sources of international tourist traffic: Japan, South Korea, Taiwan and Hong Kong.

A little more than half of the sample (52.4%) is made up of Japanese respondents. Koreans make up the second largest national group (21.6%) in the sample. Respondents from Taiwan and Hong Kong accounted for approximately fifteen (15.1%) and seven percent (7.1%) respectively. Given the focus on international arrivals, the United States was not specifically targeted for the exit survey. Nevertheless, a small number of respondents from the United States were included in the survey for purposes of comparison.

As shown in Table 1, the various national groups differed in their composition according to gender. Overall, the sample was almost equally split by gender, with females forming a slight majority (51.5 %). The Japanese, Korean and Taiwanese groups tended to follow this general pattern, with the Korean group having an almost equal number of males (333) to females (338). Females accounted for almost fifty-five percent of both the Japanese and Taiwanese segments. In contrast, there were more males than females from the Hong Kong and US sub-groups.

Nationality	No. of Males (% within National	No. of Females (% within National	Total (% by Nationality)	
	Group)	Group)		
Hong Kong	130 (58.8)	91 (41.2)	221 (7.1)	
Japan	737 (45.3)	891 (54.7)	1,628 (52.4)	
Korea	333 (49.6)	338 (50.4)	671 (21.6)	
Taiwan	211 (45.0)	258 (55.0)	469 (15.1)	
United States	97 (82.2)	21 (17.8)	118 (3.8)	
Total (% by Gender)	1,508 (48.5)	1,599 (51.5)	3,107 (100.0)	

Table 1. Distribution of Respondents by Nationality and by Gender

When examined as a whole, the sample can be described as relatively young, with half of the respondents below thirty years of age. Including people in the 30 to 39 year bracket, eighty percent of the sample was less than forty (40) years of age. Only seven percent (7.4%, to be exact) of the respondents was at least 50 years old.

As with gender, the national groups also differed in terms of their distribution by age groups (see Table 2). Compared to the other groups, the Japanese segment had a distinctly younger profile as almost sixty percent (59.7%) fell into the youngest age bracket. In addition, almost one-fourth (24.0%) of the Japanese respondents were between 30 to 39 years of age. Thus, more than eighty percent (83.7%) of this segment was younger than forty years.

As with the Japanese market, close to eighty percent of the Korean and Taiwanese markets also fell within the 18 to 39 year age range. However, for these two markets, there was a more equitable split between below-30 and over-30 year old respondents.

In contrast, the Hong Kong and American segments exhibited slightly older age profiles. Respondents from the ages of 30 to 39 made up the largest grouping from Hong Kong, accounting for almost forty percent (40.3%) of the segment. Furthermore, twentytwo percent (22.2%) of the Hong Kong group was made up of people from 40 to 49 years of age. In the American sub-sample, 40 to 49 year olds made up the largest grouping accounting for some thirty percent (30.2%) of all responses. In fact, more than sixty percent (61.2%) of the American segment was reported to be forty years or older.

Nationality	Age Groups (% within National Groups)					Total (% by
	18-29	30-39	40-49	50-59	60 & up	Nationality)
Hong Kong	64	89	49	10	9	221
	(29.0)	(40.3)	(22.2)	(4.5)	(4.1)	(7.2)
Japan	968	389	158	87	30	1,622
	(59.7)	(24.0)	(9.7)	(5.4)	(1.2)	(52.4)
Korea	312	249	69	26	13	669
	(46.6)	(37.2)	(10.3)	(3.9)	(1.9)	(21.6)
Taiwan	186	177	73	22	7	465
	(40.0)	(38.1)	(15.7)	(4.7)	(1.5)	(15.0)
United States	17	28	35	23	13	116
	(14.7)	(24.1)	(30.2)	(19.8)	(11.2)	(3.8)
Total (% by	1,547	932	384	168	62	3,093
Age)	(50.0)	(30.1)	(12.4)	(5.4)	(2.0)	(100.0)

 Table 2. Distribution of Respondents by Nationality and by Age Group

Table 3 shows the distribution of respondents, whether they traveled alone or with companions. Less than one-tenth (7.7%) traveled alone, as almost ninety percent (91.2%) reported traveling with family members or friends (including office mates) to Guam.

Only a very small percentage of Japanese visitors (1.4%) traveled to Guam without any travel companions. The majority of Japanese respondents (61.5%) said that they came with friends, while thirty-five percent said that they were accompanied by their spouses or other family members.

In contrast, family members were the most common travel companions for respondents from Hong Kong (53.4%), Korea (59.6%) and Taiwan (57.1%). However, the proportion of people traveling alone from Hong Kong (14.9%) and Korea (13.0%)

was much higher than that for Taiwan (5.1%). In this regard, the American segment displayed the most atypical profile with a little more than sixty percent (61.5%) traveling without any travel companions.

Nationality		Total (% by			
	Alone	Family	Friends	Other	Nationality)
	33	118	64	6	221
Hong Kong	(14.9)	(53.4)	(29.0)	(2.7)	(7.1)
	23	580	997	22	1,622
Japan	(1.4)	(35.8)	(61.5)	(1.4)	(52.3)
	87	400	180	4	671
Korea	(13.0)	(59.6)	(26.8)	(0.6)	(21.7)
	24	267	177	0	468
Taiwan	(5.1)	(57.1)	(37.8)	(0.0)	(15.1)
	72	16	26	3	117
United States	(61.5)	(13.7)	(22.2)	(2.6)	(3.8)
Total (% by	239	1,381	1,444	35	3,099
Companion)	(7.7)	(44.6)	(46.6)	(1.1)	(100.0)

 Table 3. Distribution of Respondents by Nationality and by

 Travel Companion First Mentioned

The composition of travel parties from each country of origin may be related to differences in purpose of travel by nationality. As shown in Table 4, it appears that Guam is primarily seen as a pleasure travel destination. Almost sixty-five percent (64.4%) of all respondents cited "pleasure" as their primary purpose for visiting Guam. The profile of American respondents is conspicuously different from the other national groups in that only 3 out of 117 (2.6%) individuals claimed to be traveling for pleasure.

Guam appears to be an important honeymoon destination for the Korean market, as one-fourth of all Korean respondents (25.3%) gave this response. This statistic is consistent with the relatively high proportion of family companions reported for the Korean segment in Table 3. Of the four hundred respondents who had traveled with family members, almost three-fourths (71.4%) said that they were traveling with their spouses.

The responses from Hong Kong, Japan and Taiwanese tourists appear to be similar in that pleasure travelers accounted for at least seventy percent of each of these national groups. However, it is also noticeable that a relatively large number of Japanese (19.6%) chose "company trip" as their main purpose of travel. Again, this is consistent with findings in Table 3, which showed a higher proportion of friends in the Japanese travel party. This may be a reflection of the importance of "Office Ladies" and other work-related segments within the Japanese market.

	Purpose of Travel						Total
	Honey-			Comp.	Visit		(% by
	moon	Pleas.	Bus.	Trip	Friends	Other	Nation)
Hong Kong	5	174	25	5	8	4	221
	(2.3)	(78.7)	(11.3)	(2.3)	(3.6)	(1.8)	(7.1)
Japan	88	1,148	11	315	13	51	1,626
	(5.4)	(70.6)	(0.7)	(19.4)	(0.8)	(3.1)	(52.5)
Korea	169	326	49	18	74	32	668
	(25.3)	(48.8)	(7.3)	(2.7)	(11.1)	(4.8)	(21.5)
Taiwan	52	345	25	40	6	0	468
	(11.1)	(73.7)	(5.3)	(8.5)	(1.3)	(0.0)	(15.1)
United States	14	3	2	0	0	98	117
	(12.0)	(2.6)	(1.7)	(0.0)	(0.0)	(83.8)	(3.8)
Total	328	1,996	112	378	101	185	3,100
(% by Purpose)	(10.6)	(64.4)	(3.6)	(12.2)	(3.3)	(3.4)	(100.0)

 Table 4. Distribution of Respondents by Nationality and by Purpose of Travel

Limitations of the Data

In undertaking the analysis of the Guam Visitor Bureau's survey data set, the researcher recognizes that the original purposes for collecting this information were different from those of this current study. The researcher thus acknowledges the potential

for invalidity. According to Kiecolt and Nathan (1985) this is the major drawback to secondary analysis of existing survey data: "Surveys rarely contain all the variables of interest to the secondary researcher, and even when they do there may be too few indicators of a concept for reliable measurement" (p. 14).

In the GVB's questionnaire, there were more variables associated with component-level satisfaction than any other construct in the proposed model. Fewer variables appeared to be associated with constructs such as destination quality, image and behavioral intentions. This required that assumptions be made regarding which variables in the data set best corresponded to these constructs. In the absence of explicit measures for this study's constructs, variables in the secondary data set were utilized as proxies for the missing variables.

How well this approach yields good measures of the central concepts of this dissertation can be evaluated with covariance analytic techniques afforded by some specific software packages. Kiecolt and Nathan (1985) identified the strengths of programs like LISREL and EQS. First, these programs allow the researcher to identify items that are poor measures of a construct, and which ones are central to the construct. Furthermore, by allowing constructs to be correlated, these techniques point to potential problems of collinearity if the correlated constructs are used as independent variables. Finally, covariance analytic techniques correct for the measurement error associated with many surveys. The procedures for conducting these analyses will be discussed in detail later in the chapter.

Research Models and Hypotheses

Elements of the Model.

The key constructs of the model are satisfaction, destination quality, image and behavioral intentions. *Destination quality* is defined as the tourist's overall evaluation of the excellence or inferiority of a destination's attributes. Although it is very likely that tourists do employ a disconfirmation-like process in order to determine destination quality, the definition used here is analogous to direct measures of performance or quality such as Cronin and Taylor's (1992) SERVPERF. In this study, four variables will be used as indicators of destination quality: 1) cleanliness, 2) safety, 3) communication, and 4) ease of travel within the destination.

Satisfaction refers to the tourists' assessment of their response to the performance of tourist services (in the case of component satisfaction) or the destination as a whole (in the case of overall satisfaction). This assessment is transactional in nature in that it refers only to a specific encounter with the product or service.

Satisfaction is measured at two levels in this study. At the component level, tourists were asked how satisfied or dissatisfied they were with 1) their accommodations, 2) dining in Guam, 3) the shopping establishments they visited, and 3) the various tourist attractions or activities that they experienced during their stay. Hotel satisfaction was measured in terms of satisfaction with eight attributes of hotel service, both tangible (e.g., facilities) and intangible (e.g., staff service). Dining satisfaction did not refer to a single dining establishment but to a general evaluation of Guam restaurants as a whole based on five attributes of dining service.

In contrast to the hotels, satisfaction with shopping establishments and with tourist attractions were not rated on specific product attributes. Instead 16 shopping establishments were identified by name and satisfaction for each store was then solicited. Similarly, the survey did not attempt to break down 17 different attractions into particular service attributes. Instead each type of attraction was rated on an overall basis.

However, it is highly unlikely that tourists would be able to form satisfaction ratings for all shops and attractions in the list because very few (if any) would have been able to experience every single one. Thus, the number of items a tourist would respond to would vary by the number of shopping establishments and tourist attractions he or she actually visited. To allow for useful comparisons across the sample, mean satisfaction ratings for each respondent were computed based on the number of shops and attraction items that they had valid responses for. The assumption is tourists would not be able to rate their satisfaction with a shop if they did not have any experience with the shop to begin with.

Aside from component-level satisfaction, the proposed model also includes an overall satisfaction construct. The data set does not include any variable that specifically asks about satisfaction. However, there is one specific item which asks whether "Guam was better than expected." This statement appears to be reflective of disconfirmation, a recognized antecedent of satisfaction. Another item in the survey asks whether or not "Guam was enjoyable." These two variables echo Hunt's (1977) conception of satisfaction as a quasi-cognitive construct in that it is an evaluation of whether the experience was at least as good as it was supposed to be as well as an evaluation of an

emotion. For this reason, the "disconfirmation" and "enjoyable" variables will be used as indicators of the overall satisfaction construct.

Image refers to the mental picture that tourists hold about a destination or product. In contrast to satisfaction, image is not limited to a specific past experience but is also assumed to be an enduring evaluation that can carry over to the next purchase decision and experience. For this study, there is only one measure for the image construct. The item asked respondents to compare Guam to other international sites on a seven-point "least desirable to most desirable" scale. Measured in this manner, image is arguably an attitude in that it is a disposition to respond favorably or unfavorably toward the object (Ajzen, 1988) and that it represents an enduring positive or negative feeling about the destination (Petty & Cacioppo, 1981).

Intentions are indications of the willingness and commitment of tourists to perform particular behaviors or actions. The behavioral intentions to be considered here involve 1) returning to the destination and 2) recommending Guam to friends and relatives back home. Table 5 summarizes the key elements of the model and the specific variables to be used as their indicators.

Construct	Variables	How the Variables were Measured
(# of Measures)		
Hotel Satisfaction	Hotel rooms	1 = Very dissatisfied
(8)	Hotel view	4 = So-so
	Hotel furnishings	7 = Very satisfied
	Hotel cleanliness	
	Hotel food	
	Hotel staff friendliness	
	Hotel service	
	Hotel value for money	
Dining Satisfaction	Dining cleanliness	1 = Very dissatisfied
(5)	Dining food quality	4 = So-so
	Dining staff friendliness	7 = Very satisfied
	Dining service	
	Dining value for money	
Shopping	16 specific shopping	1 = Very dissatisfied
Satisfaction (2)	establishments plus 1 "Other"	4 = So-so
		7 = Very satisfied;
		A mean shopping satisfaction score was
		computed for each respondent by summing up
		all the ratings and then dividing by the number
		of items with valid responses.
	"Shopping enjoyable or not"	1 = not enjoyable; 7 = enjoyable
Satisfaction with	Beach resorts; Dinner cruises,	1 = Very dissatisfied
Attractions (1)	Dinner shows; Dog races;	4 = So-so
	Fishing, Golf, Gun shooting;	7 = Very satisfied;
	Helicopter tour; Jet skiing; Mini-	
	golf; Museums; Nature tours;	A mean score for attractions was computed for
	Para-sailing; Scuba diving;	each respondent by summing up all the ratings
	Sightseeing; Theme restaurants;	and then dividing by the number of items with
	Water parks.	valid responses.
Destination Quality	"Guam clean or not"	All rated on a 7-point scale.
(4)	"Guam was safe or not"	
	"No problems with	Cleanliness: I = unclean; 7 = clean
	"Going around was easy"	Sarety: 1 = unsare; / = sare
		Communication and Ea-
		Communication and Easy: $1 = \text{strongly disagraps} \ 7 = \text{strongly agree}$
Querall Satisfaction	"Guam was better than avmasted "	i - subligity disagree, / - subligity agree
(2)	Guain was bener man expected."	Discontininiation.
(2)	"Guam was enjoyable or not "	1 - suongiy uisagite, / - suongiy agite
	(Fniovable)	Enjovable
		L_{ij} U_{ij} U
Image (1)	"Pate Guam as a destination"	1 = least desimble; 7 = most desimble
Intentions (2)	"Dian to vigit Cuem again "	1 - Icasi ucsilable, / - Illosi ucsilable
	Fian to visit Guam again."	Dour rated on / pt scale where:
	will recommend Guam.	1 - suongly disagree; / = suongly agree

Table 5. Constructs of Interest and their Associated Measures

Relationships of the Elements

Hoyle (1995) defines a model as "a statistical statement about the relations among variables." Figure 2 thus depicts the hypothesized relationships between the various constructs and measures introduced in the preceding section.

The model suggests that tourists evaluate and derive satisfaction from the various components of a destination. Thus, the model has four exogenous factors corresponding to the tourists' satisfaction with Guam's hotels; dining establishments; shopping and attractions. It is hypothesized that each of these component satisfactions will have direct effects on perceived quality of the destination, and on overall satisfaction with the destination. Furthermore, destination quality is envisioned to be an antecedent of overall satisfaction.

After tourists have experienced a destination, the model suggests that tourists' overall satisfaction and their perception of the destination's overall quality lead to the formation or modification of their image of Guam. Finally, this post-experience image influences the tourists' intentions toward Guam in terms of recommending Guam or planning to return to Guam. In other words, the effects of perceived destination quality and overall satisfaction on tourist intentions are mediated by the new or modified image.



Figure 2. Hypothesized Relationships between Constructs

Hypotheses

Figure 2 is, in effect, the visual representation for this dissertation's first hypothesis regarding the process involved in post-visit evaluations. Stated as a formal research statement, it can be written as:

Hypothesis 1. The proposed model in Figure 2 will fit the data perfectly.

Thus, Figure 2 illustrates a hypothesis about the entire set of variables, constructs and relations that make up the model. To better understand how the model works, hypotheses about specific relationships in the model must also be proposed and tested.

Hypothesis 2 presupposes that, in general, tourist activities or attractions offered at a destination will more accurately reflect the tourists' motives for selecting Guam than do its hotels, restaurants or shopping establishments. In most tourist decisions, attractions should function as pull factors in the manner described by tourism motivation researchers (Witt & Wright, 1992; Dann, 1977; Crompton, 1979). Thus, it is feasible that attractions will have a larger impact on overall satisfaction than will the hotels and shops of Guam. However, this may not necessarily be true for perceived destination quality because it is a more objective evaluation which does not give as much import to personal motives and needs.

Related to this, the study's definitions of the two constructs also assume that emotional responses to the destination are incorporated into overall satisfaction rather than the quality evaluation. For this reason, overall satisfaction is believed to play a bigger role in attitude formation than destination quality. Thus, the second and third hypotheses can be stated as follows:

- Hypothesis 2. Satisfaction with activities and attractions will have a stronger direct effect on overall satisfaction than satisfaction with any of the other components.
- Hypothesis 3. Overall satisfaction will have a stronger direct effect on image than will destination quality.

Hypothesis 4 is based on the literature on attitude and behavior which recognizes that the link between the two is less than perfect. Factors such as the amount of time between attitude and behavior as well as perceived behavioral control (Ajzen, 1985/1988; Ajzen & Driver, 1992) can affect the predictive power of attitude on behavior. For many tourists, the decision to return to Guam is likely to involve a fairly long period of time between visits as well as a recognition of potential constraints on time, money and the availability of suitable travel companions. In contrast, word-of-mouth recommendations may be initiated fairly soon after the trip and — in the case of negative word-of mouth limited only by personal notions of propriety or courtesy. Thus:

Hypothesis 4. The model will predict the intention to recommend to friends better than the intention to return to Guam.

The model presented here, as well as the secondary data with which the model will be tested, involves post-visit evaluations of Guam. However, the literature suggests that constructs like satisfaction and perceived quality are also determined in large part by the visitors' prior expectations. Thus, the final set of hypotheses attempts to examine, albeit indirectly, the effect of expectations on the post-visit model.

The effects of expectations must be assessed indirectly because the data set used for this study did not include any expectations variables. However, there are categorical variables such as purpose of travel, nationality, and previous experience (i.e. repeat visitors vs. first-time tourists) that may be used to find an indirect answer to the problem.

Purpose of travel is interpreted in this study as suggestive of the tourists' motivations for visiting Guam. Differences in motivation have been found to subsequently influence customer or visitor satisfaction (Mayer, Johnson, Hu, & Chen, 1998; Lounsbury & Hoopes, 1985). Similarly, purpose of travel may factor into Spreng and Mackoy's (1996) conception of desires congruency.

Komba (1997) also suggests that nationality may influence satisfaction and behavioral intentions. He argued that economic, political and cultural similarities of national groups may determine their prior norms and expectations, thus influencing the subsequent evaluation of the tourist destination or establishment. Prior experience has also been found to significantly influence visitor satisfaction and intentions (Mazursky, 1989) in much the same manner – by influencing consumer norms and expectations.

Interestingly, visitor bureaus often use these variables (purpose of travel, nationality, and prior experience) as bases for segmenting their target markets. The assumption is that the resulting segments are distinct from each other in terms of product needs and preferences. Differences in the way that promotional programs are directed at the segments may also affect the type and amount of information received by each.

The approach taken here will be to hypothesize that these variables exert moderating effects on the various elements of the general model. In other words, if these segments do differ in terms of expectation, it may be reasonable to expect the model to perform differently between groups segmented by nationality, purpose or previous

experience. The variables can thus be used as virtual proxies for the missing expectation variables. The specific hypotheses to be tested are listed below:

- *Hypothesis 5. The structural model will differ significantly between nationalities.*
- Hypothesis 6. The structural model will differ significantly between groups with varying motivations as implied by stated purpose of travel.
- Hypothesis 7. The structural model will differ significantly between groups with varying levels of knowledge about the destination as implied by prior experience.

Statistical Procedures

Overview of SEM and the EQS program.

The major analysis for this dissertation will involve structural equations modeling (SEM) using the EQS program. Thus, a short introduction to the technique is appropriate at this time.

Structural equation modeling (SEM) is a comprehensive approach to testing hypotheses about relations among observed and latent variables (Hoyle, 1995). Published research articles may also use other names to refer to the family of models covered by SEM. Alternative labels for the procedure include covariance structure analysis, latent variable analysis, confirmatory factor analysis or LISREL analysis (after the name of the most popular SEM software package in the market). According to Hair, Anderson, Tatham, and Black (1998), all SEM techniques, regardless of their label, are characterized by:

- 1) estimation of multiple and interrelated dependence relationships, and
- 2) representation of unobserved or latent concepts in these relationships, accounting for measurement error in the process.

Hoyle (1995) writes that SEM has at least four major similarities with standard statistical approaches such as correlation, multiple regression and ANOVA. First, all these techniques are based on linear statistical models. Second, the statistical tests associated with all these techniques are valid only if certain assumptions about the variables are met. For SEM, these assumptions are independence of observations and multivariate normality. Third, none of these approaches offer statistical tests of causality. They merely offer necessary, but not sufficient, evidence of causality. Finally, post-hoc adjustments to the initial hypothesis dramatically increase the likelihood of sample-specific results. This raises the necessity of cross-validating the model.

However, Hoyle (1995) also points out that SEM differs from the standard approaches in three important ways. First, any model to be tested must be formally specified beforehand. Second, only SEM can estimate and test relations between latent constructs or factors. Hoyle argues that this is probably the most compelling attribute of SEM.

However, he also notes that the third distinguishing attribute of SEM can be considered as its relative weakness. Tests of structural equation models are rather ambiguous, compared to the relatively straightforward tests of the standard models. He attributes this to the effects of data and model characteristics on the χ^2 variate, on which most SEM fit indices are based. Given this, the recommended approach has been to rely on multiple fit indices and evaluate the χ^2 goodness-of-fit test with reference to the power of the test, given the characteristics of the model as well as the data.

Models constructed through SEM involve two types of variables. Latent variables are hypothesized and unobserved constructs that can only be approximated by some

measured indicator. Latent variables correspond to factors or principal components in exploratory factor analysis. *Manifest variables* are the observed variables collected from respondents through various methods. In this instance, the manifest variables were gathered as part of a survey.

For purposes of simplicity, this study will rely on the labeling conventions of the EQS program to distinguish these two variables from each other. Thus, the term "variable" in any model to be analyzed refers to a measured or observed variable. Unobserved variables, i.e. latent constructs, in these models will be called "factors".

About EQS

Researchers engaged in SEM can choose between several computer programs for testing and evaluating their models. The most widely used SEM program appears to LISREL (LInear Structural RELations). Other popular packages include AMOS, CALIS and EQS (Bentler, 1995). This dissertation is based on analysis using the EQS program.

In general, the results of SEM conducted using EQS and LISREL should be consistent across the two programs (Byrne, 1995). However, there are some differences between the two programs that may be useful to note.

In contrast to LISREL, EQS does not use Greek symbols and notations to label the various SEM elements. Rather, it uses the letters V, F, and E to describe variables, factors, and error terms, respectively. Relationships between variables are written as standard regression equations, in contrast to the matrix-based approach of LISREL. For some researchers, EQS's approach facilitates model specification as well as the reporting of the analysis. More substantively, the EQS approach in correcting the χ^2 statistic yields more reasonable results under conditions of nonnormality (Byrne, 1995). In other words, EQS appears to be more robust to nonnormality than does LISREL. As noted earlier, SEM assumes that the variables are multivariate normally distributed. However, this may be an unreasonable assumption, in practice (Micceri, 1989). The EQS approach loosens this requirement and allows a wider range of data to be analyzed. This feature is particularly useful in this dissertation because many satisfaction studies tend to have skewed distributions (Peterson & Wilson, 1992). A more detailed discussion of EQS's approach to nonnormality and the underlying elliptical theory can be found in Bentler (1995).

SEM Procedures

The application of SEM to this project will be adapted from the procedures outlined by Reisinger and Turner (1999) and Hair, Anderson, Tatham, and Black, (1998). This general approach can be described as a six-stage process of structural equations modeling. These stages are:

- 1. Model conceptualization
- 2. Model specification
- 3. Model identification and parameter estimation
- 4. Assessment of model fit
- 5. Model modification
- 6. Cross-validation of the model

Analysis of the General Model

The model conceptualization stage describes hypothesized relationships between the latent constructs (i.e. component satisfaction, overall satisfaction, destination quality, image, and behavioral intentions) and their measured variables or indicators (see Table 5). A theoretical measurement model reflective of these relationships will first be developed using exploratory factor analysis (EFA) under SPSS. Latent constructs will be extracted from the dataset using maximum likelihood analysis with oblique rotation — an approach which closely approximates that of SEM in that the factors are assumed to be correlated.

The results of the EFA will provide some information regarding the validities of the constructs to be included in the SEM. Cronbach's coefficient alpha (∞) will be used to assess the reliabilities of the scale constructs.

Model specification involves the construction of a path diagram of causal relationships between the latent factors and converting this diagram into a set of structural and measurement equations. This path model reflects the hypotheses described in detail in the preceding section, and illustrated in Figure 2.

Model identification and parameter estimation will then be done using the EQS software package. Model identification addresses the extent to which the available data are sufficient to enable parameter estimation. If there are no identification problems, the parameters of the model will be estimated using the maximum likelihood (ML) method.

The assessment of model fit (for both the measurement and structural models) can be done using a variety of methods. Applied to the measurement model, the technique corresponds to a confirmatory factor analysis (CFA). The evaluation of the structural model, on the other hand, addresses the hypothesized relationships between the latent constructs and their various indicators as described in Hypotheses 1 through 3. As suggested by the literature, multiple measures of goodness-of-fit will be evaluated.

A model modification stage may be suggested by the results of the assessment of model fit. That is, Stage 4 may suggest a need to modify the hypothesized model. Specifically, the standardized residuals and the modification indices (MI) calculated by EQS will be examined to determine any possible modifications to the model. Such modifications may be made if they can be theoretically justified, with the aim of improving model fit. At this point, the researcher acknowledges that the analysis will become exploratory in nature.

Hair et al. (1995) suggest that the final stage of SEM involve a *cross-validation* of the model. This requires that the modified model (or models) be cross-validated with a new data set. This was done by randomly dividing the sample into two parts. Assessment of the model's fit for both samples could be done simultaneously as EQS has the ability to analyze multiple samples and test for significant differences between the samples.

Multiple Group Analysis of the Model

The multiple-sample method used for cross-validation can also be used to compare differences of model fit between specific sub-groups in the sample. However, in this instance, groups were identified *a priori* rather than through random selection. The model was run separately for each of the three segmentation bases, each run corresponding to a statistical test of Hypotheses 5 to 7. In other words, the model was simultaneously tested on different national groups. Then, the model was tested on groups

according to their stated purpose of travel. Finally, multiple group analysis was done by dividing the sample into first-time visitors and repeat or previous visitors to Guam.

The model fit indices for each group were then compared. In addition, the investigator also examined the various parameters of the model to see if there were significant differences between the groups on these parameters (e.g., path coefficients, variances, etc.).
CHAPTER IV

FINDINGS AND DISCUSSION

Initial Assignment of Variables and Constructs

The Working Data Set

An initial examination of the survey instrument revealed fifty-six (56) different items that appeared to be relevant to the investigation. Of these, forty-six (46) items referred to visitor satisfaction with specific components of Guam's tourist product. Eight items pertained to specific attributes of the respondent's hotel. Five items asked the respondent to rate their satisfaction with specific attributes of their dining experience in Guam, without reference to any one single establishment. The survey also contained questions about satisfaction with seventeen (17) different tourist activities or attractions as well as their satisfaction with sixteen (16) individual shopping establishments. Respondents rated only those activities and shops that they had actually visited or participated in. In addition, one item asked the respondents to rate how enjoyable or unenjoyable their overall shopping experience in Guam had been. Finally, the list of variables included nine items that reflected the tourist's overall evaluation of Guam seven of these appear to be related to issues of overall quality and satisfaction, with two other items related to future intentions.

Although there were many more items pertaining to component level satisfaction, this project's main interests were with the factors associated with the nine overall evaluation items described above. Thus, it was necessary to reduce the list of component satisfaction items into a more manageable subset through exploratory factor analysis and, where feasible, by averaging sets of related variables.

Data Reduction and Simplification.

Respondents were asked to rate only those shops or activities that they actually experienced during the trip. Thus, it was unlikely for them to have rated every single shop or activity on the list. To enable valid comparisons between individuals, composite scores for satisfaction with shops and satisfaction with tourist activities were developed using the mean of all shops or attractions rated by each respondent.

Exploratory factor analysis was also employed on the component satisfaction variables as an additional aid to data reduction. As suggested by Hair et al. (1998), the factors were extracted through common factor analysis (maximum likelihood) routines with oblique rotation (oblimin) using the Statistical Package for Social Sciences program. Common factor analysis is used primarily to identify the underlying dimensions of a list of variables. In contrast, principal component analysis is used when the objective is to summarize the original information into a minimum number of factors. Oblique rotation methods, unlike orthogonal methods, allow the factors to be correlated. This, according to Hair et al. (1998) is a more realistic approach that leads to theoretically more meaningful factors or constructs (p.110).

The EFA was conducted on two levels. First, the various sets of variables described in Table 5 were evaluated for unidimensionality — unidimensionality being a necessary condition for assigning meaning to constructs (Anderson & Gerbing, 1988).

Each set was analyzed independently to see if only one factor or dimension was underlying the variables. Reliabilities for each variable set were evaluated with Cronbach's coefficient alpha. After the separate EFAs, all the variables in the working set were factor analyzed as one merged superset to see if the combined set would yield the same number of dimensions as did the individual EFAs.

Based on a latent root criterion of eigenvalue > 1.0, only one factor could be extracted from the five variables for dining satisfaction. Similarly, only one factor could be extracted from the eight items associated with hotel satisfaction. However, an examination of the scree plot for the hotel satisfaction variables (see Figure 3) suggested that a two-factor solution (eigenvalue = .902) might be worth exploring. A second factor analysis was then undertaken, this time specifying two factors for extraction.



Figure 3. Scree Plot of Hotel Satisfaction Variables

The pattern matrix generated from this second analysis is shown in Table 6. Two variables — hotel food and hotel value — did not load cleanly. That is, these variables had statistically significant loadings (greater than .30) on Factors 1 and 2.

	Factor 1	Factor 2
Rate hotel furnishings	0.948	0.021
Rate hotel rooms	0.904	0.028
Rate hotel cleanliness	0.787	-0.109
Rate hotel view	0.716	0.015
Rate hotel service	-0.030	-0.973
Rate hotel staff friendliness	-0.053	-0.942
Rate value for money	0.325	-0.460
Rate hotel food	0.319	-0.447

 Table 6.
 Pattern Matrix from Factor Analysis of Hotel Satisfaction Variables

A re-run of the factor analysis, this time without the two problematic variables, mirrored the factor loadings of the initial run. That is, furnishings, rooms, cleanliness and view again loaded on one factor, while staff and service both loaded on the second factor. These results appeared, on their face, to be more theoretically consistent with the literature that describe services in terms of their tangible and intangible elements. Thus, it was decided to exclude the two suspect items from subsequent analyses. Factor 1 was labeled hotel tangibles (furnishings, rooms, cleanliness and view) while hotel intangibles (staff friendliness and service) was the label for Factor 2.

Factor analysis was then conducted on a merged set of variables composed of the six remaining hotel satisfaction items, the five dining satisfaction variables, and the two items for shopping satisfaction. In the initial factor analysis, three factors were extracted – two corresponding to the tangible and intangible hotel factors identified earlier, and the

third factor being composed of the five dining satisfaction and the two shopping items. However, the two shopping items had very weak loadings (less than 0.300) on this third factor.

A second run, this time specifying a four-factor solution yielded the pattern matrix shown in Table 7. This result now mirrors the results from the separate EFAs conducted previously, with two hotel satisfaction factors, one dining satisfaction plus one factor for satisfaction with shopping.

	Factor			
	1	2	3	4
Dining service	0.957	-0.063	-0.107	-0.079
Dining staff satisfaction	0.944	-0.075	-0.106	-0.085
Restaurant food	0.808	0.044	0.065	0.089
Cleanliness of dining	0.796	0.138	0.058	0.009
Dining value for money	0.740	0.017	0.048	0.140
Hotel furnishings	-0.014	0.904	-0.024	0.019
Hotel room	0.002	0.878	0.029	0.011
Hotel cleanliness	0.025	0.774	-0.111	-0.021
Hotel view	0.009	0.729	0.005	-0.015
Hotel service	0.002	0.064	-0.874	0.027
Hotel staff friendliness	0.025	0.019	-0.853	0.039
Enjoyable shopping	0.002	-0.026	-0.017	0.718
Mean satisfaction with shops	0.016	0.023	-0.028	0.656

 Table 7. Pattern Matrix from Factor Analysis of Hotel, Dining and Shopping Satisfaction

Table 8 shows the reliabilities (Cronbach's alpha) for each of the factors. For factors with only two items, the bivariate correlations are also reported.

	No. of Items	Reliability
		(Correlation)
Factor 1: Dining	5	.917
Factor 2: Hotel tangibles	4	.902
Factor 3: Hotel intangibles	2	.926
		(.862)
Factor 4: Shopping	2	.655
		(.502)

Table 8. Factor Reliabilities of Hotel, Dining and Shopping Satisfaction

In evaluating scale reliability, the lower limit for Cronbach's alpha is generally accepted to be .70 (Peter, 1979). The reliabilities for the first three factors are well above this standard. The shopping factor is marginally below the .70 benchmark. However, this is an acceptable result because Cronbach's alpha is known to have a positive relationship to the number of items in a scale. Thus the fact that there are only two items in the shopping scale could have resulted in a lower alpha. The significant inter-item correlation between the two shopping variables provides additional support for the scale's reliability (Hair et al., 1998).

The final data reduction step was based on Yuan, Bentler and Kano's (1997) recommendation to average variables when the number of items becomes large. They noted that the most frequently used methods for model evaluation — maximum likelihood (ML) and asymptotically distribution free (ADF) generalized least squares — may not give reliable inferences under such conditions. They wrote that averaging the observed variables (which are assumed to depend on only one latent variable) increases the accuracy of estimators and tests, and improves normality of the averaged error.

Because this project was not as concerned with attribute level satisfaction as with the overall evaluations, averaged variables were deemed appropriate. The hotel

satisfaction and dining satisfaction factors were all reduced to averaged variables. The shopping factor was retained because one of the items, satisfaction with shopping establishments, was already a composite item representing the mean of all shops rated by each respondent. Thus the final set of variables to be included in the structural equations exercise are as follows⁴:

- 1. Hotel tangibles the mean of satisfaction ratings for hotel furnishings, cleanliness, view and room;
- 2. Hotel intangibles the mean of the respondent's satisfaction ratings for hotel staff friendliness and hotel service;
- Dining satisfaction the mean of five items rating the respondent's satisfaction with dining in Guam (food, cleanliness, value for money, staff friendliness, and service);
- 4. Enjoyable shopping;
- 5. Satisfaction with shops a composite score derived by computing the mean of all shops or stores actually visited by the respondent;
- 6. Satisfaction with tourist attractions a composite score derived by computing the mean of all activities or attractions actually experienced by the respondent;
- 7. Destination cleanliness;
- 8. Destination safety;
- 9. Easy to get around;
- 10. No problems with communication;
- 11. Guam was better than expected used as a proxy for overall satisfaction;
- 12. Rate Guam rates Guam as a desirable or undesirable destination;
- 13. Enjoyable destination;
- 14. Plan to return to Guam again; and
- 15. Will recommend Guam to friends and relatives back home.

⁴ Descriptive statistics (means and standard deviations) for these variables are listed in Appendix A.

The procedure for conducting the SEM followed the recommended two-step approach of Anderson and Gerbing (1988). Using this approach, the measurement model is first estimated. Then, the full model is tested with the measurement and structural submodels being estimated simultaneously.

They argue that this two-step approach provides a comprehensive assessment of construct validity. The measurement model provides a test of convergent and discriminant validity. An assessment of nomological validity is then offered by the test of the structural model.

In general, this exercise in SEM tests Hypothesis 1 that "the model will fit the data perfectly." This general hypothesis incorporates several hypotheses about relationships between latent variables. These are that:

- 1. Tourist satisfactions with the various components of the destination (hotels, dining, shopping and attractions/activities) directly affect tourist conceptions of both destination quality and overall satisfaction;
- 2. Destination quality and overall satisfaction are related but distinct construct. More specifically, destination quality is a predictor of overall satisfaction, thus partially mediating the effects of the various component satisfactions on overall satisfaction; and
- 3. Image fully mediates the effects of overall satisfaction and destination quality on future intentions.

In addition to the general Hypothesis 1, three other hypotheses were submitted in Chapter 3. These have to do with the relative impacts of certain latent variables on other constructs in the model. To review, these are:

- Satisfaction with activities and attractions will have a stronger direct effect on overall satisfaction than satisfaction with any of the other components.
- Overall satisfaction will have a stronger direct effect on image than will destination quality.

• The model will better predict the intention to recommend to friends than the intention to return to Guam.

The Measurement Model

In SEM, the measurement model corresponds to a confirmatory factor analysis wherein the researcher specifies, *a priori*, which variables define the factors. In CFA, the variables are assumed to be indicators of unobserved factors or latent constructs. This approach differs from exploratory factor analysis where there is no pre-assignment of variables to factors by the researcher. Rather, the researcher "interprets" the factors based on the loadings of the variables.

There were a total of 15 variables included in the analysis, based on a sample size (after listwise deletion of cases) of 1,846. These variables were posited to be indicators of eight latent constructs: hotel satisfaction, dining satisfaction, satisfaction with shopping, satisfaction with tourist attractions and activities, destination quality, overall satisfaction, image, and future intentions. Figure 4 shows the hypothesized relationships between the observed variables and the latent factors.

For identification of the measurement model, the variances of the factors were fixed at 1.0. The error terms for factors with only one indicator were fixed at zero (i.e., single indicator factors were assumed to be without measurement error).



Figure 4. The Measurement Model

Assessment of Model Fit.

Using programs like EQS and LISREL, researchers can utilize several different tests to evaluate model goodness-of-fit. Measures of model fit are generally classified into three types: (1) absolute fit measures, (2) incremental fit measures, and (3) parsimonious fit measures.

Absolute fit measures directly assess how well a model reproduces the sample data. In contrast, incremental fit indices compare a proposed model with a more restricted baseline or null model. The index then measures the proportionate improvement in fit between the proposed and reference models (Hu & Bentler, 1995). Finally, parsimonious fit measures compare models with different numbers of coefficients (therefore, different degrees of freedom) and determine the fit achieved with each coefficient (Reisinger & Turner, 1999).

However, there is no single "best" measure of model fit. Because each test or index has its own inherent limitations, Hair et al. (1998) recommend using one or more measures from each type. This provides a consensus across different indices as to the proposed model's goodness of fit.

Table 9 lists the various goodness-of-fit measures used in this analysis along with the levels of acceptable fit suggested for each index by the literature. A major criticism of the χ^2 test is that as sample size increases, the measure has a greater tendency to indicate statistical significance. In other words, if sample size is large enough, a significant *p*value will be reported for any specified model (Hair et al., 1998). Given the relatively large sample size here, the significant χ^2 test was not altogether unexpected.

Nevertheless, the normed chi-square statistic derived by dividing χ^2 by the model's degrees of freedom was still unacceptably high.

	Recommended Level of	Results
	Acceptable Fit	of First CFA
Absolute Fit Measures		
Likelihood ratio chi-square	Nonsignificant <i>p</i> -value	$\chi^2 = 825.622$
statistic (χ^2)		df = 65
		<i>p</i> <.001
Goodness-of-fit index (GFI)	> 0.90	.935
	(Bagozzi & Yi, 1988)	
Root mean square residual	< 0.08	.091
(RMR)	(Reisinger & Turner, 1999)	
Root mean square error of	< 0.08	.080
approximation (RMSEA)	(Gundersen, Heide, &	
	Olsson, 1996)	
Incremental Fit Measures		
Normed Fit Index (NFI)	> 0.90	.929
Non-Normed Fit Index	> 0.90	.893
(NNFI)		
Comparative Fit Index (CFI)	> 0.90	.934
Adjusted Goodness-of-Fit	> 0.90	.880
Index (AGFI)		
Parsimonious Fit Measure		
Normed chi-square $(\chi^2 \div df)$	2.0 to 5.0	12.70

 Table 9.
 Goodness-of-Fit Measures for the Proposed Model

* - Reference: Hair et al., 1998 unless specified

However, the other fit indices appeared to offer better results. Acceptable levels of fit were suggested by the GFI, NFI and CFI — all of which were greater than the .9 standard — as well as RMR. The NNFI and AGFI — at .893 and .880, respectively were marginally lower than the standard. Marginal fit was also suggested by an examination of RMSEA. After the assessment of overall model fit, the different measurement equations were examined. EQS estimates the parameters for the equations that relate the measured dependent variables to their posited latent constructs. These coefficients can then be evaluated for significance using a standard <u>z</u>-test. For this initial test, all the estimated parameters of the measurement model were significant (i.e. $z > \pm 1.96$).

EQS provides two types of tests for identifying means of modifying the proposed model to improve its overall fit. The Wald or W-test — equivalent to the modification index in LISREL — evaluates the effect of adding restrictions (dropping free parameters) to the model. On the other hand, the Lagrange multiplier (LM) test evaluates the effect of reducing the restrictions on the model (adding parameters to the model).

The LM test for this initial run suggested large increases in chi-square could result from allowing the variables "ease of movement" and "communication" to load on several construct other than that originally specified for them (destination quality). In addition to the hypothesized loading on destination quality, these two variables appeared to crossload on the satisfaction, image and intention factors.

Anderson and Gerbing (1988) identified four basic ways of dealing with indicators that do not "work out as planned": relate the indicator to a different factor, delete the indicator from the model, relate it to multiple factors or use correlated measurement errors. The first two methods, according to them, are preferred because these preserve the potential for unidimensional measurement. It was decided to opt for deletion of the offending variables because the LM tests suggested that they could be related to any other endogenous factor. Furthermore, it may have also been possible that the two variables were indicators of some other related but unspecified latent construct.

Estimation of this modified measurement model produced fit indices (other than χ^2) that generally exceeded all the recommended standards for good fit, e.g., $\chi^2(40, N=1846) = 202.323$, p<.001; GFI=.984; AGFI=.963; NFI=.980; NNFI=.968; RMR=.038; RMSEA=.047. The normed chi-square — the ratio of chi-square to degrees of freedom — was much improved. The normed chi-square of 5.058 was just slightly over the upper limit of the preferred 2 to 5 range.

After evaluating the overall fit of the model, the internal fit of the model was assessed. First, the convergent and discriminant validity of the model was evaluated. Then, construct reliabilities and average variances extracted were computed for each latent factor.

Convergent validity was assessed by examining the regression coefficients of the observed variables on their respective constructs. Z-tests on these parameters all proved significant at the .05 level, thus providing support for convergent validity in the model. Discriminant validity was assessed by constraining two estimated constructs to be equal (correlation fixed at 1.0) and then conducting a LM test (equivalent to chi-square difference tests) on the constrained and unconstrained models. This was done separately for each pair of constructs. Significant improvements in chi-square for the unconstrained versus the constrained model were observed in all the individual tests, thus suggesting discriminant validity (Anderson & Gerbing, 1988).

The fit of the model's internal structure can also be examined through the computation of construct reliabilities (CR) and average variances extracted (VE). The recommended standards for structural equation models are to have construct reliabilities

greater than or equal to .6 and average variance extracted of at least .5 (Bagozzi and Yi, 1988).

The composite reliability of a construct is calculated as:

Construct Reliability =
$$\frac{\sum (\text{standardized loading})^2}{\sum (\text{standardized loading})^2 + \sum \varepsilon_j}$$

where ε_j = measurement error for each indicator.

Average variance extracted is another measure of reliability. It reflects the amount of variance in the indicators accounted for by the latent construct (Hair et al. 1998) and is calculated as:

Variance Extracted =
$$\frac{\sum (\text{standardized loading}^2)}{\sum (\text{standardized loading}^2) + \sum \varepsilon_j}$$

where ε_i = measurement error for each indicator.

As shown in Table 10, the composite reliabilities and variances extracted for all the multiple-indicator constructs were better than the minimum standard described earlier. The shopping satisfaction construct produced the lowest VE and CR (.510 and .675, respectively) among all the factors, while the best results were obtained from the quality construct (VE=.688, CR=.815).

Factor	Indicators	Standardized Loading*	Variance Extracted	Construct Reliability
Hotel	Tangibles	.742	0.623	0.766
	Intangibles	.836		
Shopping	Enjoyable shopping	.766	0.510	0.675
	Store satisfaction	.661		
Quality	Safety	.804	0.688	0.815
	Cleanliness	.858		
Satisfaction	Better than expected	.804	0.682	0.811
	Enjoyable	.824		
Intentions	Recommend	.882	0.613	0.757
	Plan to return	.698		

 Table 10.
 Assessment of Construct Reliabilities and Variances Extracted

* Measurement error = (1 – Standardized Loading)

The Structural Model

The model shown in Figure 5 shows the hypothesized relationships between the constructs defined earlier in the measurement model. To simplify the illustration, only the latent variables are shown in the figure. The measured variables and error terms associated with each construct are omitted from the figure. Nevertheless, all of these parameters were still included in the actual test of the 8-factor model. All the component satisfaction constructs (hotel, dining, shopping and attractions) were allowed to covary. As suggested by the literature, an alternate model was also tested. This alternative model is basically the same as the hypothesized model with one additional path — direct path from overall satisfaction to intentions (designated with a dashed line in the figure).

Because there were two competing models to be tested, each model was subjected to cross-validation using a split sample. The test sample of 1,846 cases was split into two equal groups. One group was designated as the calibration sample and was used to test the models first. The second, validation sample was then used to cross-validate the results.



Figure 5. The Structural Model

As shown in Table 11, the original hypothesized model provided less than acceptable results in both samples. Chi-square was large and significant, with the normed chi-square well above the preferred ratio. Other than the GFI, all fit indices were below .9. RMSEA was also unacceptably high.

 Table 11.
 Results of Cross-Validation Procedures; Comparison of Goodness-of-Fit

 Measures for Hypothesized and Alternative Models

	Chi-Square (df)	р	Normed Chi- Square	RMSEA	Ranges of Overall Fit Indices
Calibration Sample (n=923)					
Hypothesized Model	759.283 (50)	<.001	15.19	.124	.791 – .912
Alternative Model	135.509 (49)	<.001	2.77	.044	.960 – .984
In the alternative model, a p	ath was sugges	ted from	overall sat	isfaction to	intentions
Validation Sample (n=923)					
Hypothesized Model	666.775 (50)	<.001	13.36	.116	.801 – .923
Alternative Model	121.163 (49)	<.001	2.47	.040	.964 – .985
In the alternative model, a path was suggested from overall satisfaction to intentions					
Note: RMSEA = Root Mean Square Error of Approximation. Overall model fit indices					
include Normed Fit Index (NFI), Non-normed Fit Index (NNFI), Comparative Fit					
Index (CFI), Goodness-of-fit Index (GFI), and Adjusted Goodness-of-fit Index (AGFI)					

In contrast, the indices for the alternate model, from both the calibration and validation samples, suggested a much better fitting model. Chi-square was still significant but greatly reduced from that of the original model. More conspicuously, the normed chi-square was now within the acceptable range of 2 to 5. All overall fit indices were better than .9, with small RMSEA for both samples.

Despite the good overall fit for Model 2 (the alternate model), the Wald test indicated several statistically nonsignificant paths. In order of estimated improvement of Chi-square (based on the calibration sample), these were: quality \rightarrow image; dining

satisfaction \rightarrow overall satisfaction; image \rightarrow intention; and attractions satisfaction \rightarrow quality.

Table 12 presents the solutions for the dependent constructs in equation form (See Figure 6 for the graphical representation) based on the estimates of the standardized coefficients from the calibration sample. The four nonsignificant paths are reflected by the relatively low coefficients for the respective independent latent variables within the equations. Thus, in the destination quality equation, F4 or satisfaction with attractions has a weight of only .055. Other dependent variables in the other solutions with weights less than .10 were also considered statistically insignificant.

Table 12. Standardized Solutions for Dependent Construct	Table 1	12.	Standardized	Solutions	for De	pendent	Construct
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Construct	Standardized Solution	R ²				
Destination quality (F5)	.311(F1) + .222(F2) + .229(F3) + .055(F4) + .754(D5)	.432				
Overall satisfaction (F6)	.118(F1) + .015(F2) + .351(F3) + .173(F4) + .403(F5) + .559(D6)	.688				
Image (F7)	.014(F5) + .449(F6) + .888(D7)	.211				
Intentions (F8)	.879(F6) + .016(F7) + .463(D8)	.786				
Notes: F1=hotel satisfaction; F2=dining satisfaction; F3=shopping satisfaction; F4=attractions						
satisfaction; D = error term for construct						

That attractions satisfaction did not have a significant direct effect on destination quality may be an indication that destination quality may reflect tourist evaluations of facilities per se. Note that the indicators for destination quality in the model are cleanliness and safety. Since many attractions in Guam are based on the natural rather than the built environment, these may not be perceived as contributing greatly to the destination's overall quality.



Figure 6. Structural Model with Factor-to-Factor Path Coefficients

In contrast, attractions had a stronger and statistically significant effect on overall satisfaction. This is compatible with our conception of satisfaction as including personal characteristics and motivations in the overall evaluation. Nevertheless, satisfaction with shopping had the greatest effect (both direct and total) on overall satisfaction among all the components. One interpretation of this could be that shopping should be interpreted as a primary tourist activity or attraction of Guam on the same level of importance as beach activities, for example. Dining, it appears, is less important to the attainment of overall satisfaction — perhaps because it is not considered to be a primary tourist activity.

There may be tendency for planners and managers to assume that sun, sand and water activities are the main activities in Guam simply because of its island nature. However, there may be a cultural component (particularly among Japanese) that dictates the inclusion of shopping as a necessary activity in any trip, particularly to a foreign destination (Iverson, 1997).

Destination quality did not have a statistically significant effect on the tourist's overall image of Guam. This may be interpreted as a reflection of the way in which image was operationalized. Cleanliness and safety (the indicators of destination quality) may not be critical ingredients of a "desirable" destination. However, this does not mean that tourists would not wish for cleanliness and safety in their next vacation destinations.

It can be observed that R^2 for image was relatively low. The regression function explained only some twenty-two percent of the variance in the image construct. This was in contrast to the R^2 for the other endogenous constructs which ranged from .432 to .786. Again, this suggests shortcomings in the specification of the image construct as defined by the available set of measured variables. There may be variables, outside the existing data set, that can contribute to a more complete operationalization of the tourist's image of Guam as a vacation destination.

These could include measures of the tourist's prior knowledge, beliefs or attitudes toward Guam as a vacation destination. These could probably be included in future models and may be expected to explain a much greater proportion of image variance than what was achieved here.

Of particular interest in this study were the tourists' future intentions toward Guam. Comparing the two behaviors listed in the survey, the model appears to predict visitor intentions to recommend (R^2 =.759) better than their intentions to visit again (R^2 =.468). One explanation for this would be that it is easier for tourists to commit to the former behavior than to the latter. Based on the Theory of Planned Behavior (Ajzen, 1985; Ajzen & Driver, 1992), tourists may perceive that they have less control over their ability to travel to Guam again than over their ability to spread word-of-mouth. Telling friends about one's vacation is not as constrained by time, money and the availability of travel companions as planning another vacation would be.

The Multi-Group Structural Equations Model (MSEM)

In cases where data are gathered from individuals belonging to different groups, Bentler (1995) suggests that it may be appropriate to question whether one is dealing with a single population or with multiple populations. He writes:

"If a model having identical parameters in all groups can fit acceptably, the resulting model covariance matrices are identical ... and the samples can be treated as arising from the same population. If the models of the various groups have parameters that are different, the resulting model covariance matrices will be different and the various samples must be treated as arising from different populations. One can then conclude that there is an interaction between population membership and structural model." (p. 150)

In this particular sample, at least three bases for grouping have been identified: by nationality, by purpose of travel and by previous experience with Guam. Descriptive statistics by group - i.e., means and standard deviations by nationality, purpose and experience – are reported in the appendices.

Three separate analyses based on these grouping variables were conducted in EQS. Although this type of analysis could have been done using linear regression path analytic models, MSEM was preferred because of its ability to test the applicability of a model to different groups simultaneously without having to bother with interaction terms and nested models (Scott-Lennox & Lennox, 1995).

MSEM allows researchers to test different types of hypotheses regarding group differences. This study focused on only one type of hypothesis. The general hypothesis for the three MSEMs was that of equal factor regression coefficients (Factor-to-factor paths). Thus, the analyses tested whether the path coefficients among the latent factors was the same across groups. If so, then the latent causal process in the model would be similar across groups. This can occur even if the variances or covariances of the factors are not equal (Bentler, 1995).

By Country of Origin

For the cross-national analysis, three sub-groups were identified — one group from Japan (n=979), another made up of visitors from South Korea (n=212) and a merged grouping of visitors from Hong Kong and Taiwan (302). Although the Japanese subgroup was distinctly larger than the other two, this was not expected to be a problem since both the Korean and ethnic Chinese groups each had at least 200 cases. This was well above the minimum of 100 cases typically recommended in the SEM literature.

The multi-sample model appeared to fit the data very well. Although the chisquare statistic was significant – $\chi^2(173, N=1493) = 358.470$, p<.001 — it was small for the degrees of freedom involved (Normed $\chi^2=2.072$). Overall fit indices for the multisample model ranged from .945 to .973 while the error or residual-based indices were small (RMR=.073; RMSEA=.028).

Three factor-to-factor paths were not statistically significant ($\alpha = .05$) in all groups: dining satisfaction \rightarrow overall satisfaction; quality \rightarrow image; and image \rightarrow behavioral intentions (refer to Figure 7). However, satisfaction with tourist attractions had a statistically significant, albeit small (.051, Z = 2.171; p < .05) effect on quality. In the initial SEM, this path was not significant at the .05 level.



Figure 7. Multiple-Sample Structural Equations Model by Nationality

The Lagrange multiplier (LM) test revealed four significant factor-to-factor path differences, all of which involved differences between the Japanese sub-group and one or both of the other national groups. Specifically, the Japanese differed from the Koreans with regard to the path from overall satisfaction to image ($\alpha = .05$) and from the Hong Kong/Taiwan group with regard to the effect of shopping satisfaction on overall satisfaction ($\alpha = .10$). Furthermore, significant differences involving the path from image to behavioral intentions were found to exist between the Japanese group and the two other groups. However, as noted earlier, this particular image \rightarrow intention path was not statistically significant in any of the groups.

An analysis of the unconstrained multi-sample model revealed the magnitude of these differences. The groups produced significantly different weights on two specific paths. Regarding the effect of shopping satisfaction on overall satisfaction, the estimated coefficients were slightly lower for Japanese respondents (.323) than for the other groups (all at .424). However, it was the Korean group (.855) which differed from the other groups (.674) in terms of the effect of overall satisfaction on destination image.

By Purpose of Travel

The multi-sample SEM according to purpose of travel involved three groups. The largest of these (1,008; 70.05%) was made up of the respondents who signified "pleasure" as their main purpose for traveling to Guam. Respondents traveling for business or on a company-sponsored trip were lumped together to form a "corporate" group (243; 16.89%). The third group included in this analysis was made up of "honeymooners" (188; 13.06%).

As with the earlier cross-national analysis, this multi-sample model appeared to fit the data very well. Again, the chi-square statistic was significant: $\chi^2(173, N=1493) = 452.617$, p<.001. However, the normed chi-square ($\chi^2/df = 2.616$) was small and within the recommended range of 2 to 5. Overall fit indices for the multisample model ranged from .931 to .960 while the error or residual-based indices were small (RMR=.078; RMSEA=.034). All of these suggested excellent fit with the data.

Four factor-to-factor paths were not statistically significant ($\alpha = .05$) in all groups: dining satisfaction \rightarrow overall satisfaction; attractions satisfaction \rightarrow quality; quality \rightarrow image; and image \rightarrow behavioral intentions (refer to Figure 8). These were consistent with the original findings from the single sample SEM involving all respondents.

The Lagrange multiplier (LM) test revealed significant differences between the honeymooners and one or both of the other groups in terms of factor-to-factor coefficients. The results of the LM test suggested significant differences ($\alpha = .05$) between the honeymoon and pleasure groups with regard to the coefficients for two paths: hotel satisfaction \rightarrow destination quality and destination quality \rightarrow image. However, the latter was not statistically significant in either group. Honeymooners also differed from corporate travelers on two paths: attractions satisfaction \rightarrow destination quality ($\alpha = .05$), and dining satisfaction \rightarrow destination quality ($\alpha = .1$).



Figure 8. Multiple-Sample Structural Equations Model by Purpose of Visit

The significant constraints were released and the model was then retested. Significant differences across groups were found in terms of the effect of hotel satisfaction on destination quality. Business travelers had the largest coefficient (.589) followed by honeymooners (.462). Pleasure visitors had the smallest coefficient at .246. Dining satisfaction also had a significant effect on destination quality for both honeymooners and pleasure travelers (.176 for both groups). In contrast, dining satisfaction did not have a significant effect on destination quality among business travelers with a coefficient near zero (.021).

By Previous Experience

The final MSEM divided the sample according to whether they were first-time visitors or whether they had previously visited Guam. Almost eighty percent (1,203 of 1,493 cases) of the respondents were visiting Guam for the first time. Only 290 people (19.42%) responded that they had been to Guam previously.

As with the two other multi-sample models, the measures of model fit were all satisfactory. Although the chi-square test was significant $--\chi^2(110, N=1493) = 383.081$, p<.001 — the small Normed χ^2 (3.483) suggested that this was acceptable for the degrees of freedom involved. All overall and incremental measures were greater than .9 (NFI=.962; NNFI=.961; GFI=.964; AGFI=.940). In addition, the root mean squared residual (RMR=.068) and root mean squared error of approximation (RMSEA=.041) were both small.

Five factor-to-factor paths differed significantly between the two groups (see Figure 9). Statistically significant differences ($\alpha = .05$) were detected involving the paths related to the effects of attractions satisfaction, hotel satisfaction and destination quality on overall satisfaction. Furthermore, the two groups also appeared to differ in terms of the effects of dining satisfaction and shopping satisfaction on destination quality. However, for both these paths, statistical significance could only be claimed at $\alpha = .10$.

For first-timers, neither hotel satisfaction nor dining satisfaction had a statistically significant effect on overall satisfaction. In the full sample SEM, only the latter (dining \rightarrow overall satisfaction) was not statistically significant. Additionally, the following paths could not be considered to be statistically significant: attractions \rightarrow destination quality; destination quality \rightarrow image; and image \rightarrow intentions.

In contrast, the returning visitors model had only four nonsignificant paths. As with all previous analyses, attraction satisfaction \rightarrow quality; dining satisfaction \rightarrow overall satisfaction; and image \rightarrow intentions were not statistically significant. However, contrary to the results of the original model, hotel satisfaction among returning visitors did not have significant direct effect on overall satisfaction. Conversely, destination quality had a statistically significant effect on image for the returning group (this path was not significant in the original model).





A model wherein the significant paths were released from the equality constraint was then analyzed to estimate the coefficients for the paths on which there were significant inter-group differences. Two paths, in particular, exhibited significantly larger coefficients for the repeat visitors group than for the first-timers. With regard to the effect of shopping satisfaction on destination quality, the coefficient for the repeaters (.413) was almost twice that of the first-timers (.225). Similarly, the effect of destination quality on overall satisfaction was much greater for repeat visitors (.733) than for first-time visitors (.379).

CHAPTER V

SUMMARY AND CONCLUSIONS

A major assumption of the marketing literature is that higher levels of satisfaction with a product or service lead to more frequent purchases of that product or service. In the tourism field, this means that satisfaction or dissatisfaction with a destination experience can influence future intentions to return to that destination as well as other behaviors related to that place (e.g., word-of-mouth recommendations).

This dissertation can be said to represent a critical look at that assumption. How valid is it, considering the unique elements of the tourist product? This study thus addressed the question of how tourists' evaluations of a recent visit to a place influence their future intentions regarding that destination. In this particular study, that question was posed to international visitors to the island of Guam.

The methods and findings related to this specific research problem are summarized in this chapter. First, the procedures or research methodologies employed will be presented. The specific findings of the data analysis, as they relate to the specific research hypotheses will then be summarized and conclusions presented. Following the summary of findings will be a summary section on the conclusions reached based on the findings, as well as a discussion of their implications. Finally, the chapter — and the dissertation — will conclude with a section outlining recommendations for further study.

Summary of Procedures

The dissertation was based on analysis of secondary data collected through exit surveys of international tourists at Guam International Airport. A sample of 3,108 cases — representing seventy-five percent (75%) of all interviews conducted by the GVB during the period from June 1998 to November 1999 — was randomly-generated from GVB's database. The sample also represents a cross-sectional view of Guam's most important sources of international tourist traffic: Japan, South Korea, Taiwan and Hong Kong.

The first objective of the project was to develop a model of tourist behavior that defines and distinguishes between the key post-experience constructs of satisfaction, quality and image. An initial examination of the survey instrument revealed fifty-six (56) different items that appeared to be applicable to this objective.

Forty-six (46) of these items referred to visitor satisfaction with specific components of Guam's tourist product. One item asked the respondents to rate how enjoyable or unenjoyable their overall shopping experience in Guam had been. Finally, the list of variables included nine items that reflected the tourist's overall evaluation of Guam. Seven of these seemed to be related to issues of overall quality and satisfaction, with two other items related to future intentions.

Given the large number of variables available, it was necessary to reduce the list to a more manageable subset. Exploratory factor analysis was employed on the variables related to hotel and dining satisfaction. As a result, these variables were reduced to three composite variables, two related to hotel satisfaction and one representing satisfaction with dining in Guam.

Respondents were asked to rate only those shops or activities that they actually experienced during the trip. Thus, it was unlikely for them to have rated every single shop or activity on the list. To enable valid comparisons between individuals, composite scores for satisfaction with shops and satisfaction with tourist activities were developed using the mean of all shops or attractions rated by each respondent.

Thus the final set of variables to be included in the analysis were the following:

- 1. hotel tangibles;
- 2. hotel intangibles;
- 3. dining satisfaction;
- 4. enjoyable shopping;
- 5. satisfaction with shops;
- 6. satisfaction with tourist attractions;
- 7. destination cleanliness;
- 8. destination safety;
- 9. ease of getting around;
- 10. communication;
- 11. overall satisfaction;
- 12. desirability (of Guam as a vacation destination);
- 13. how enjoyable Guam was;
- 14. plan to return to Guam; and
- 15. to recommend Guam to friends and relatives.

Structural equations modeling (SEM) using the EQS program was then used to develop and test a model based on the research problems and hypotheses. The procedure for conducting the SEM followed the recommended two-step approach of Anderson and Gerbing (1988). Using this approach, a measurement model was first estimated. Then, the full model was tested with the measurement and structural submodels being estimated simultaneously.

According to Anderson and Gerbring, this two-step approach offers a comprehensive assessment of construct validity. The measurement model provides a test

of convergent and discriminant validity. On the other hand, a test of the structural model presents an assessment of nomological validity.

After the model was tested using the data from the entire sample, multi-group SEM was employed to test for differences between different groups. Because the survey did not include measures of the visitors' prior knowledge of Guam nor of their motivations for traveling to Guam, group memberships were used as proxies for differing levels of information, as well as differences in travel motives.

In this particular sample, three bases for grouping were identified: by nationality, by purpose of travel and by previous experience with Guam. Three separate analyses were conducted using these bases. Although this type of analysis could have been done using linear regression path analytic models, MSEM was preferred because of its ability to test the applicability of a model to different groups simultaneously without having to bother with interaction terms and nested models (Scott-Lennox & Lennox, 1995).

The MSEM specifically addressed the general hypothesis of equal factor regression coefficients (factor-to-factor paths) between groups. That is, the analyses tested whether the path coefficients among the latent factors was the same across groups.
Summary of Findings

As recommended by Anderson and Gerbing (1988), a two-step approach to SEM was used. First, a measurement model — corresponding to a confirmatory factor analysis — was estimated. There were a total of 15 variables included in the analysis, based on a sample size (after listwise deletion of cases) of 1,846. These variables were posited to be indicators of eight latent constructs: hotel satisfaction, dining satisfaction, satisfaction with shopping, satisfaction with tourist attractions and activities, destination quality, overall satisfaction, image, and future intentions. Figure 10 shows the hypothesized relationships between the observed variables and the latent factors.

For identification of the measurement model, the variances of the factors were fixed at 1.0. The error terms for factors with only one indicator were fixed at zero, i.e. single indicator factors were assumed to be without measurement error.



Figure 10. The Measurement Model

Given that there is no single "best" measure of model fit, several indices were used to assess the measurement model following Hair et al.'s (1998) suggestion. Table 9 (see page 72) lists the various goodness-of-fit measures used in this analysis along with the levels of acceptable fit suggested for each index by the literature.

Given the relatively large sample size here, the significant χ^2 test was not altogether unexpected. Nevertheless, the normed chi-square was still unacceptably high. The other indices, particularly the NNFI, AGFI and RMSEA, suggested a marginally acceptable fit. However, a Lagrange multiplier (LM) test suggested significant improvements in model fit could result from allowing the variables "ease of movement" and "communication" to load on several constructs other than that originally specified for them (destination quality).

In other words, they could be associated with any other endogenous factor in the model. Alternatively, these two variables could have also been indicators of some other related but unspecified latent construct. Thus, it was decided to modify the model by deleting these two offending variables. The subsequent estimation of the modified measurement model produced fit indices (other than χ^2) that generally exceeded all the recommended standards for good fit.

Next, the internal fit of the model was assessed. Convergent validity was assessed by examining the regression coefficients of the observed variables on their respective constructs. Z-tests on these parameters all proved significant at the .05 level, thus providing support for convergent validity in the model. Discriminant validity was assessed by constraining two estimated constructs to be equal (correlation fixed at 1.0) and then conducting a LM test (equivalent to chi-square difference tests) on the

constrained and unconstrained models. Significant improvements in chi-square for the unconstrained versus the constrained model were observed in all the individual tests, thus suggesting discriminant validity (Anderson & Gerbing, 1988).

In addition, the fit of the model's internal structure was examined through the computation of construct reliabilities (CR) and average variances extracted (VE). Based on minimum recommended levels of .6 and .5 for construct reliabilities and average variance extracted, respectively, the computations provided additional support for the model's internal fit.

One conspicuous statistic generated from the exercise was the high correlation coefficient between the intention and overall satisfaction constructs (.914). Ideally, a researcher would expect, from the beginning, to detect a strong association between these two constructs. However, a score relatively close to one may suggest to some relations that overall satisfaction and future intentions should belong to one rather than two independent but related constructs.

Nevertheless, such a conclusion would run contrary to the body of literature that holds otherwise. It is surmised that this extremely high correlation is simply an artifact of the data collection process. Since the survey was conducted immediately after the visit, the responses, particularly those related to future intentions, may have been influenced by the mood of the tourists at that time. This might heighten the correlation between the primarily affective construct that is satisfaction and the behavioral intentions construct.

Structural Model

The model shown in Figure 11 shows the hypothesized relationships between the constructs defined in the measurement model. To simplify the illustration, only the latent variables are shown in the figure. The measured variables and error terms associated with each construct were omitted from the figure. All the component satisfaction constructs (hotel, dining, shopping and attractions) were allowed to covary. As suggested by the literature, an alternate model was also tested. This alternative model is basically the same as the hypothesized model with one additional path — a direct path from overall satisfaction to intentions (designated with a dashed line in the figure).

Because there were two competing models to be tested, each model was crossvalidated using a split sample. The test sample of 1,846 cases was split into two equal groups. One group was designated as the calibration sample with which to first test the models. The second half of the sample was then used to cross-validate the results for both models.

The original hypothesized model provided less than acceptable results in both samples (See Table 11, page 78). By contrast, the indices for the alternate mode — for both the calibration and validation samples — suggested a much better fitting model. Chi-square was still significant but greatly reduced from that of the original model.

Despite the good overall fit for Model 2, the Wald test indicated that overall fit (based on the Chi-square statistic) could probably be improved by releasing the following paths: quality \rightarrow image; dining satisfaction \rightarrow overall satisfaction; image \rightarrow intention; and attractions satisfaction \rightarrow quality.



Figure 11. The Structural Model

An assessment of the standardized solutions for each of the dependent latent constructs revealed that R^2 for image was relatively low. The standardized function explained only some twenty-two percent of the variance in the image construct. This was in contrast to the R^2 for the other endogenous constructs which ranged from .432 to .786. This suggests limitations in the specification of the image construct as defined by the available set of measured variables. In particular, the non-inclusion of pre-visit expectations, motivations or levels of information could explain the relatively poor specification of the image construct.

The model appeared to predict visitor intentions to recommend Guam better than it did their intentions to visit Guam again. One explanation for this was that tourists may feel less constrained to commit to the former behavior than to the latter. At that stage of the journey, visitors already may have fully-formed plans to recount their visit to friends, relatives and colleagues back home. For some, the opportunity to tell their social circle about their experiences in a foreign destination may even have been an ego-enhancing motivation for coming on the trip (Dann, 1977).

In contrast, the notion of a return visit to Guam, let alone another foreign trip to any destination, may not yet be very concrete to many respondents. Further, for such a trip to be realized, tourists would probably need to address several constraints (e.g., cost, availability of travel companions, lack of free time, etc.) before being able to declare their true travel intentions.

Another issue that was examined was the relative contribution of the various component satisfactions to overall satisfaction. Satisfaction with shopping had a greater effect (both direct and total effects) on overall satisfaction than did their satisfaction with

attractions. This may suggest — for the market segments included in the study — that shopping should be interpreted as a primary tourist activity or attraction of Guam on the same level of importance as beach activities, for example. In addition, there may be a cultural component (particularly among Japanese) that dictates the inclusion of shopping as a necessary activity in any trip, particularly to a foreign destination (Iverson, 1997).

Multiple sample analysis was also conducted to determine differences in model fit between groups. This was done by dividing the sample according to three common market segmentation criteria: by country of origin, by purpose of travel, and by previous experience with Guam — and then testing for differences.

The practice of market segmentation assumes that segments have different interests and needs. Furthermore, segmentation by purpose and by experience suggests differences in motivation and level of knowledge about Guam, respectively. Motivation and level of information have been said to influence satisfaction and perceptions of quality through their roles in determining visitor expectations.

Because there were no expectation variables in the database, the effect of expectations on perceived quality and satisfaction could not be modeled directly. However, using the three segmentation variables in the MSEM was seen as a way of examining the moderating effects of differences in expectations by groups. In other words, the segmentation criteria were used in the MSEM as proxies for the missing expectations construct.

Multiple-sample structural equations modeling was conducted separately for each grouping variable. The objective was to test for differences in the factor-to-factor path

coefficients between groups. Significant differences were found in each multi-sample run, using each of the segmentation criteria.

In the MSEM by country of origin, most of the significant differences involved the Japanese respondents and one or both of the other national groups. No significant differences were found between the Korean and Hong Kong-Taiwan groups. The exercise indicated that the Japanese segment differed significantly from the Hong Kong/Taiwan group with regard to shopping satisfaction \rightarrow overall satisfaction and from the Korean group along the overall satisfaction \rightarrow image path. Furthermore, significant differences involving the image \rightarrow intentions were found between the Japanese group and the two other segments.

Specifically, the MSEM showed that the effect of shopping satisfaction on overall satisfaction was slightly lower for Japanese visitors than for either of the two other segments. Could it be that Japanese visitors, as a group, are more experienced international shoppers than other visitor groups? If so, Japanese visitors may be more jaded with regard to the shopping activity. Shopping, for the Japanese, may be more of a cultural obligation than an activity that they look forward to compared to how they are excited by other types of tourist activities.

Similarly, the MSEM by purpose of travel found significant between-group differences involving the honeymoon segment and the two other segments. No significant differences were detected between the business and pleasure segments. The results indicated that the effect of hotel satisfaction on destination quality was higher for honeymooners than it was for pleasure visitors to Guam. Assessing the magnitude of this

difference, the effect of hotel satisfaction on destination quality was much lower for pleasure travelers than for business travelers and honeymooners.

Honeymooners may be more conscious about service quality in hotels than pleasure travelers because the honeymoon is a much more significant life experience than typical pleasure trips. In addition, the hotel in which they spent their honeymoon might hold much sentimental value for a visiting couple. Similarly, business travelers may view hotels as both a base for their business activity, as well as a place where they can rest and refresh themselves before another day of work.

Thus, the hotel is a much more important element of the overall visit to honeymooners and businesspeople than for pleasure visitors. For this reason, honeymooners and business travelers may be more sensitive to differences in hotel service quality than pleasure travelers. For the latter group, the activities and services inside the hotel might not be as critical to the Guam experience as the tourist services found outside the hotel.

How does the model differ for honeymooners compared to business travelers? The MSEM that satisfaction with attractions and dining had stronger effects on the overall assessment of quality for honeymooners than for business travelers. The result probably reflects the importance of the work activities to the business traveler, as much as it reflects the relevance of attractions and dining establishments to a honeymooning couple. Again, this may be expected since the opportunity to engage in recreational or tourist activities would not be a primary motivation for most business travelers.

These differences may have important implications for marketing and promotions. For hotels, the findings may suggest that promotional strategies built around the hotel's

in-house services and physical facilities might be more appropriate for honeymooners and business travelers. On the other hand, marketing campaigns that sell Guam as tourist destination might be better for pleasure travelers. Hotel brochures might show the convenience of their location relative to the key tourist attractions or they could stress other features or facilities of the hotel and how they facilitate access to the different recreational opportunities on the island. Business travelers may also pay attention to communications that show how the hotels can facilitate their business activities while in Guam. For the GVB, differentiated marketing campaigns for the pleasure, honeymoon and business segments may also be in order. For pleasure travelers and honeymooners, the emphasis should be on tourist attractions and activities (including shopping), perhaps adding a little bit more information on hotel facilities for the honeymooners.

In the comparison of first-time and repeat visitors, two paths exhibited significantly larger coefficients for the repeat visitors group than for the first-timers. First, the coefficient for first-timers was almost half that of repeat visitors on the effect of shopping satisfaction on destination quality. This suggests that the shopping activity may not be as critical for first time visitors as it is for repeat visitors. First-time visitors to Guam may be more concerned with discovering and evaluating the other aspects of the destination such as the hotels and tourists attractions. Given their previous experience with Guam hotels, restaurants and attractions, repeat visitors might no longer be particularly surprised by the quality level of these components. However, the shopping experience could be significantly changed for each new visit when the tourist chooses to buy new items or to buy for different people each trip.

By contrast, first-timers would be experiencing — and evaluating — everything for the first time. Thus, satisfaction with hotels, shopping and attractions all would have a bearing on their overall assessment of Guam's quality.

The second key observation from the comparison of first-time and repeat visitors was that the effect of destination quality on overall satisfaction was much greater for repeat visitors than for first-time visitors. A possible explanation for this could be that there is an element of surprise related to the first-timers' overall satisfaction⁵ that is related to factors other than the supplier-based components that factor into destination quality. For repeat visitors, the novelty of the experience may no longer be as significant. Therefore, they could rely on a more cognitive, quality-oriented assessment of overall satisfaction.

Implications

The first objective of this study was to distinguish satisfaction, quality and image — all post-visit constructs — from each other through a proposed model of tourist behavior. The exercise of testing the model that described the relationships between these constructs was thus equivalent to testing Hypothesis 1 that the model would fit the data perfectly. Overall, the results of the structural equations modeling exercise provided some support for this hypothesized model. However, some paths in the proposed model were not validated.

⁵ This corresponds to Spreng and Mackoy's (1996) conception of expectations disconfirmation, as well as Crompton and Love's (1995) assertion that satisfaction is influenced as much by specific supply-based attributes (e.g. facilities, services and attractions) as by the tourist's socio-psychological state (mood, needs, disposition).

In particular, it appeared that image did not fully mediate the effects of overall satisfaction on intentions. To the contrary, the direct effect of satisfaction on intentions was even stronger than that of image on intentions. The measurement model already hinted at this result given the strong correlation between satisfaction and intentions. Does this mean that the hypothesized mediation should be discarded altogether? Or is this result simply an artifact of the data collection method — an illustration of the halo effect with the survey coming immediately at the conclusion of a satisfying trip?

The second study objective was to determine the relative contributions of the various components of tourism (hotels, restaurants, shopping establishments, attractions, etc.) to overall satisfaction with a destination. Thus, Hypothesis 2 stated that tourist satisfaction with the different attractions around Guam would have the strongest effect on perceived quality and overall satisfaction. It was assumed that the attractions best represented the motivations or factors that "pulled" the tourists to Guam. The other components — accommodations, dining and shopping — were interpreted as providing a layer of support services around the core tourist activities.

Hypothesis 2 was supported only in that tourists' satisfaction with attractions had a stronger effect on overall satisfaction than did satisfaction with either accommodations and dining. However, the hypothesis was not supported by the stronger direct effect on overall satisfaction by shopping satisfaction. The exercise suggests that shopping should be treated as a tourist activity in its own right. At least for the markets included in this study, and for the island of Guam, shopping plays a large role in determining both perceived quality and overall satisfaction. The SEM has also demonstrated that perceived destination quality and overall satisfaction are distinct constructs. The model has thus provided additional support for the definition of quality in terms of those attributes that the visitors perceive to be beyond their control (Crompton & Love, 1995). In comparing the effects of both constructs on image, strong support for Hypothesis 3 was found. Hypothesis 3 had suggested that overall satisfaction would have a stronger direct effect on image than perceived destination quality.

Furthermore, the model has shown that overall satisfaction has a greater impact on future visitor intentions than does perceived quality. This is consistent with the marketing concept, which suggests that a marketing entity's profits are gained through consumer satisfaction. Although it may be convenient and tempting to focus only on those attributes that are directly controllable by management, destinations should be forewarned that perceived quality is not the only source of visitor satisfaction. That is, there does not appear to be a one-to-one correspondence between higher ratings for quality and ultimate visitor satisfaction. Thus, in seeking to improve quality, managers should aim to improve the quality-enhancing attributes such that satisfaction is maximized.

If higher ratings for perceived quality do not automatically translate to satisfaction, what are destinations to do? The results suggest that improving quality should not be an end in itself. Other factors must be considered as well. What are the other antecedents of satisfaction? The literature suggests that visitors themselves contribute much to their own satisfaction. Destinations should thus be aware of visitors' travel motivations as well as the benefits they expect to derive from the different

attributes of a destination. Some researchers (Spreng & Mackoy, 1996) have suggested that perceived quality should be management's focus because it involves those attributes within management's control.

While the motives of visitors and their expectations of personal benefits may indeed be beyond a destination's control, the satisfaction of these motives and expectations may still be manageable, albeit indirectly. Research into how visitors derive benefits from destination attributes (such as those based on a means-end framework) may better show destination managers how particular elements can contribute to visitor satisfaction. Such research may not explicitly demonstrate how to manage visitor satisfaction. Nevertheless, it may enable destinations to identify the means for achieving satisfaction by pinpointing specific attributes to work on.

There also was an interest in learning about the effects of satisfaction and perceived quality on the behavioral intentions of visitors to Guam. Recognizing that tourists may be predisposed differently toward different actions, the study sought to compare the predictive power of the hypothesized model on behaviors over which tourists have varying degrees of control. Hypothesis 4 suggested that the model would predict visitor intentions to recommend Guam better than it would their intentions to return to Guam.

The findings supported Hypothesis 4, and thus also appeared to uphold the theory of planned behavior (Ajzen & Driver, 1992). The theory suggests that the strength of association between attitude and actual behavior is determined by the level of control people believe they have over the behavior. The more that the tourists recognize constraints against behavior (visiting or recommending), the less likely it is that the

positive attitude will result in action. In this case, the tourists may feel less constrained about recommending Guam to their friends and relatives. On the other hand, returning to Guam may be constrained by factors such as time, expense and the availability of travel companions.

Thus, the GVB, as well as other similar organizations, should consider strategies for encouraging word-of-mouth (WOM) behavior from their visitors. Encouraging them to purchase Guam-labeled merchandise, or even to bring home promotional materials from the visitors bureau could facilitate the story-telling process among friends and relatives. Governments and other sponsors of travel bureaus should also review their policies for evaluating the performance of destination promotion boards. The number of returning visitors (particularly for long-haul destinations) may not be a valid mechanism for assessing the effectiveness of a tourism program.

These findings do support the principal contention of the marketing concept that a business (in this case, a destination) should seek to satisfy customer needs at a profit. However, the implication that this profit will come from a process of repeat visits by satisfied tourists does not appear to be as valid for long-haul travel destinations like Guam. Destinations such as Guam should consider a marketing model based more on generating visitation from referrals than on repeat visitation from satisfied visitors.

The study's final research objective was to test the effects of motivation and level of information on the different post-experience constructs in the model. Specifically, the factor-to-factor relationships described in the model were simultaneously tested for differences between groups identified by nationality (Hypothesis 5), stated purpose of

visit (Hypothesis 6), and previous visitation (Hypothesis 7). These are common criteria used by destination marketers to segment their target markets.

For this analysis, the tourist's prior experience with Guam was used as a proxy for his or her level of information about Guam. The tourist's stated purpose of visit was then used as a proxy for motivation. It was assumed that country of origin, as a reflection of cultural differences in tastes and preferences, would also be possible proxy for differing motivations. Furthermore, since visitor bureaus run different marketing campaigns for each country, the levels of information about Guam in each country market could also be assumed to vary.

Subsequent multiple sample analyses of the hypothesized model supported hypotheses 5, 6, and 7 by detecting significant differences between groups. Country of origin, purpose of visit, and previous visitation experience thus appeared to validate their use as market segmentation criteria. The moderating effects of these variables on the model suggest that they could be used as proxies for varying levels of information, motivation and, by extension, expectations.

Implications for Destination Marketers

One key finding from the study is that tourists' perceptions of a destination's quality are not the same as their satisfaction with their visit to the place. Furthermore, overall satisfaction has a greater impact on future visitor intentions than perceived quality. Although it is probably desirable for a destination to be perceived as offering high quality accommodations and tourist services, it may still fall short on satisfaction if tourists perceive it as sterile, bland or overpriced.

Both perceived quality and satisfaction are based on the tourists' prior expectations. In cultivating these expectations through marketing, destinations like Guam may also need to provide more than just quality-related information. For example, marketing material should not talk only about the whiteness of the sand nor the clarity of the ocean waters. Rather, the copy or imagery in the material should also convey the opportunities for enjoyment of these resources. This enjoyment can come directly through specific beach activities, or indirectly, as in the case when the beach is simply the setting for a honeymoon or some other special occasion.

This may be even more appropriate when the marketing objective is to encourage return or repeat visitation. Facilities like hotels and restaurants — or more accurately, the quality of these facilities — may represent known quantities for people who have already been to the destination. Marketing materials may need to point out less familiar elements of the destination in catering to the tourists' desire for novelty, even from a familiar destination. Examples would be out-of-the-way dining establishments, rare shopping bargains, and other activities off the beaten path.

Popular hotels, restaurants and sights need not be ignored. However, the marketing organization might want to emphasize the intangible elements of these components, e.g., sentimental associations, convenience of location, etc., rather than the standard recitation of features, rates and facilities. This principle may also be applied to the marketing of specific tourist establishments. A hotel should not just describe the size or luxuriousness of its rooms to prospective tourists. Rather, it should present the large, luxurious suites as venues for tourists to indulge or to escape, depending on the anticipated motivations of target market groups.

It has been suggested that marketing organizations — in this case, destinations — should try to lower the expectations of tourists. These would then be easier to match or exceed. This, the argument goes, would improve the destination's ability to achieve satisfaction. However, by introducing motive-oriented information to prospective visitors, is there a risk of raising expectations beyond the destination's ability to satisfy them?

Marketers should acknowledge that tourists already have particular travel motivations and preferences even before they are exposed to promotional material from a given destination. Thus, in addressing these motivations through marketing is not the same as creating new expectations. Rather, a destination like Guam will be providing information that can affirm, validate or build on these latent expectations.

Perhaps the more appropriate admonition with regard to the management of expectations is that marketers should help prospective visitors develop realistic expectations. If tourists hold very high — almost unrealistic — expectations, it may be difficult for a destination to meet these expectations. However, if they opt to use marketing as a mechanism for consciously toning down visitor expectations, visitor bureaus might likewise dampen enthusiasm for the destination even before tourists have decided on a place to visit.

For destinations like Guam, it may be to their advantage that their target markets are relatively long-haul travelers. They have potentially greater control over the information that is delivered to the target markets in that most of the information processed by tourists will likely come from the visitor bureaus. In contrast, short-haul or cross-border travel markets (e.g., US to Mexico, Hong Kong to Taiwan) may have much

more convenient access to news, and other bits of information about the destination from sources other than the visitors bureau. However, there will be no assurance that all of this information will be what the visitors bureaus would consider reliable nor positive.

Recommendations for Further Study

This study has been based on secondary analysis of data gathered by the Guam Visitors Bureau. As such, the results of the study have been constrained by artifacts from the original data collection. These limitations should be addressed in future studies.

First, it appears that there are issues arising from the fact that the survey was administered immediately upon exit from Guam. It would be interesting to have studies with longer periods between the actual experience and the administration of the survey. Studies that track visitors over time would also be useful. Although recall bias will be a concern, longitudinal studies like these could be used to see if the model decays over time. For example, will the high correlation between overall satisfaction and future intentions, detected in this study, decrease with time? Conversely, will the relatively low effect of image on intention increase when the tourists have had some time to reflect on and process the information from their vacation?

Regarding this particular issue, two possible approaches come to mind. One approach would be to apply a constraint-negotiation framework to the problem. Jackson, Crawford, and Godbey's (1993)⁶ framework suggests that tourists (assuming that they want to do so) will return to Guam if they can successfully negotiate a hierarchy of constraints between them and their desired activity. Conversely, failure to mitigate the

⁶ This builds on their earlier work in Crawford, Jackson and Godbey (1991).

effects of these constraints will result in a decision not to travel to Guam. Thus, intentions to return may be strengthened or formed when constraints can be successfully negotiated.

Researchers may hypothesize that immediately after a trip (as was the case in this study), tourists will still be euphoric over the success of the vacation. In such a state, they may not be as aware of any possible constraints such as time, money or lack of a suitable travel companion, as they would probably be after some time has passed. However, when some time has passed, the tourists may look at a return trip more objectively, recognizing possible constraints to travel. Thus, even if they were extremely satisfied with their trip, they might not as easily claim any intention to return if that option appears realistic from a constraint-negotiation perspective.

Another approach might be to consider that the tourists' emotional states at departure will be different from their emotional states after a month. Bagozzi, Gopinath and Nyer's (1999) review suggests that this difference in emotion and mood may have important effects on the tourists' appraisal of Guam as well as their evaluation of a possible return to Guam. They note that the influence of mood on evaluation has already been demonstrated for a variety of stimuli. In general, researchers have found that individuals in positive-mood states evaluate objects more positively than individuals in neutral- or negative-mood states.

A month or so after a visit to Guam, it may be expected that tourists will have moved toward a more neutral-mood state than what they will have been in when departing from Guam. Based on Bagozzi et al. (1999), tourists in this mood-state might then lean toward a more neutral evaluation of Guam. Another limitation of the study has to do with the fact that the original survey apparently focused on tourist evaluations at the business or service level. Thus, were relatively few variables were included that are associated with quality at the destination level. This model might be strengthened by adding more variables that could be used as indicators of perceived quality at the destination level (e.g., "beauty of scenery", "clean air", etc.).

There were two variables, originally assigned to the destination quality construct, that were subsequently dropped from the model. These were "communication" and "ease of getting around." These were dropped because the confirmatory factor analysis suggested that they might be indicators of an unspecified, unknown construct. Both variables were originally thought to be indicators of destination quality because the destination can provide facilities and infrastructure that enhance these attributes. Thus, the destination exercises some degree of control over the provision of these attributes.

However, upon further reflection, it could also be argued that the tourists also enjoy some control over these two variables. The degree to which tourists are conversant in English, or their level of travel experience could influence how they perceive these two variables. For example, English-speaking visitors or people who have recently been to Guam might report fewer problems with communication or with getting around. Thus, the control exhibited by the destination can be described as partial, rather than full control. This might suggest that another quality construct — one that recognizes tourist inputs — should be added to the model.

Researchers may also wish to investigate how the model can be applied or modified for other types of destinations. As a tourist spot, Guam is a tropical destination

heavily dependent on its natural resources. However, much like Hawaii and Saipan, it caters to a relatively traditional tourist market made up of mass tourists from Asia and the United States. Thus, the built component of its tourist product (hotels, restaurants, shops, etc.) is also highly developed.

In contrast, a destination like Boracay Island in the Philippines would be much less developed. Although it has relatively similar tourist assets (beach, warm weather, marine activities), its tourism infrastructure is definitely not at the same level as Guam's. Resorts in Boracay, as well as many other emerging destinations in the Asia-Pacific region, are generally small, and follow the traditional design of island huts. Dining and shopping establishments on the island may be described as basic relative to the more urbanized restaurants, shops and malls on Guam.

In such a destination, the attractions should play an even more important part in the travel experience. Will Boracay now provide better support for hypothesis 2 — that satisfaction with attractions and activities have the strongest direct effects on overall satisfaction? The analysis might be extended further by acknowledging that Guam and Boracay are at different stages in their life-cycles, Guam being more mature than Boracay.

Researchers might therefore ask, whether the relative importance of attractions decreases as a destination matures. As markets – through increased marketing exposure or through actual visitation – become more familiar with Boracay's attractions, these become basic elements to be expected from any trip to the island. On the other hand unique lodging facilities, and other visitor amenities may be seen as extras that go beyond

the basic expectation of a Boracay trip. These extras might then provide a greater contribution to the post-visit evaluation of the destination.

Finally, future investigations following this dissertation's line of inquiry may employ qualitative methods to complement the exit survey data. Focused group interviews or unstructured conversations with tourists may enable researchers to extract more detailed recollections of visitor experiences. Such in-depth information may uncover facets of perceived quality and satisfaction that survey questionnaires would not be able to tap.

Conclusion

Any study based on analysis of secondary data must recognize the limitations of secondary data. This investigator acknowledges the weaknesses of using data collected by others. The data was collected for purposes that were different from – though related to – this dissertation's research objectives. Inevitably, some factors were not operationally defined as well as they could have been if measured with primary data expressly collected for the purpose. Furthermore, the sample used for the survey represented the target markets of Guam. The visitor markets for other destinations in the Asia-Pacific region may not be similarly structured. Finally, visitor evaluations of destinations – Guam, in the case of this particular survey – reflect the unique characteristics or attributes of the place.

Thus, the results of this dissertation must be treated with caution. But, they can be related to previous, as well as ongoing, research on quality and satisfaction such that future directions for extending the model can already be identified. However, more

primary research is needed to validate the assumptions that needed to be made for this study, particularly those involving the indicators of destination quality and image. Nevertheless, there are a few practical and theoretical conclusions that can be made at this point.

First, this study has highlighted some of the opportunities for conducting sophisticated analysis using secondary tourism data. More specifically, it has demonstrated the benefits from strengthening academe-CVB partnerships in research. A more open attitude towards sharing data can be a mutually-beneficial arrangement for both parties. Academics are given access to information and research materials that they may not have the resources to collect on their own. On the other hand, visitor bureaus can tap the technological expertise and alternative perspectives that outside researchers have to offer.

The partnership might be even more fruitful if academic researchers and industry leaders can collaborate even earlier in the research process. For example, researchers could work with their counterparts from the CVB in designing or modifying survey instruments such that the items correspond to the specific research interests of both academe and industry. This should minimize the need to rely on assumptions about variable and construct meanings that had to be made for this study.

Second, this dissertation has elaborated on the difference between quality and satisfaction, as well as the relationship between the two constructs. For both managers and researchers, these findings indicate a need to view destination products holistically. This perspective understands that tourist evaluations of a visited destination go beyond

the physical attributes of the place. They also assess the feelings that result from experiencing these place attributes.

Thus, it is important that both managers and researchers recognize the experiential nature of the destination product. For managers, this implies a return to the basics of the marketing concept. They should resist a tendency to focus solely on the quality-related, internal elements of their product such that visitor satisfaction stops being the primary objective of the organization. Finally, the symmetric notions of "experience as product" and "product as experience", hopefully, represent a promising direction in research that enables students of consumer behavior to elaborate more completely on the concepts of quality, satisfaction, image, and intentions with regard to visitor destinations.

APPENDICES

APPENDIX A.

Means and Standard Deviations of Variables

Variable	Mean	Standard Deviation	
Hotel tangibles	5.25	1.37	
Hotel intangibles	5.43	1.32	
Dining satisfaction	5.23	1.16	
Enjoyable shopping	5.49	1.40	
Shopping satisfaction	5.35	1.10	
Attractions satisfaction	5.78	1.11	
Cleanliness	5.41	1.38	
Safety	5.72	1.27	
Easy to get around	5.35	1.60	
No problems with communication	5.56	1.43	
Better than expected	5.50	1.40	
Enjoyable destination	5.75	1.25	
Rate Guam	5.86	1.53	
Plan to return to Guam	5.52	1.78	
Recommend to friends	5.47	1.46	

Notes:

- 1. Total n = 3,108; Valid (listwise) n = 1,846
- 2. All items rated on 7-point scales where 1 represents the most negative rating (e.g., "very dissatisfied", "strongly disagree", "least desirable", "unclean", etc.) and 7 is the most positive rating (e.g., "very satisfied", "strongly agree", "most desirable", "clean", etc.)

APPENDIX B

	HK-Taiwan		Japan		Korea	
	(n=690)		(n=1628)		(n=6/2)	
Variables	Mean	s.d.	Mean	s.d.	Mean	s.d.
Hotel tangibles	5.647	1.172	5.000	1.408	5.295	1.432
Hotel intangibles	5.618	1.246	5.214	1.337	5.725	1.421
Dining satisfaction	5.450	1.086	5.086	1.204	5.316	1.218
Enjoyable shopping	5.184	1.298	5.585	1.360	5.070	1.500
Shopping satisfaction	5.373	1.141	5.335	1.073	5.361	1.260
Attractions satisfaction	5.587	1.050	5.899	1.103	5.619	1.225
Cleanliness	5.569	1.362	5.205	1.487	4.616	1.564
Safety	5.367	1.378	5.572	1.323	5.012	1.495
Easy to get around	5.888	1.131	5.575	1.266	5.434	1.242
No problems with communication	5.829	1.173	5.090	1.329	5.280	1.308
Better than expected	5.455	1.354	5.789	1.257	5.512	1.331
Enjoyable destination	5.066	1.449	5.613	1.288	4.982	1.410
Rate Guam	5.103	1.452	5.764	1.146	5.175	1.451
Plan to return to Guam	4.969	1.699	5.476	1.489	4.959	1.676
Recommend to friends	5.226	1.503	5.429	1.303	5.013	1.459

Means and Standard Deviations of Variables by Nationality

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Note: All items rated on 7-point scales where 1 represents the most negative rating (e.g., "very dissatisfied", "strongly disagree", "least desirable", "unclean", etc.) and 7 is the most positive rating (e.g., "very satisfied", "strongly agree", "most desirable", "clean", etc.)

APPENDIX C

	Honeymoon (n=328)		Pleasure (n=1996)		Corporate (n=490)	
Variables	Mean	s.d.	Mean	s.d.	Mean	s.d.
Hotel Tangibles	5.475	1.257	5.173	1.417	5.279	1.315
Hotel intangibles	5.807	1.187	5.389	1.360	5.345	1.319
Dining satisfaction	5.337	1.108	5.211	1.204	5.207	1.173
Enjoyable shopping	5.231	1.439	5.427	1.394	5.347	1.357
Shopping satisfaction	5.256	1.191	5.350	1.110	5.391	1.106
Attractions satisfaction	5.901	0.934	5.775	1.109	5.713	1.180
Cleanliness	4.875	1.513	5.292	1.484	5.022	1.503
Safety	5.114	1.403	5.491	1.371	5.360	1.345
Easy to get around	5.569	1.262	5.700	1.216	5.431	1.284
No problems with communication	5.449	1.272	5.336	1.330	5.177	1.299
Better than expected	5.766	1.111	5.672	1.314	5.584	1.310
Enjoyable destination	5.386	1.225	5.379	1.407	5.278	1.347
Rate Guam	5.620	1.124	5.565	1.306	5.299	1.334
Plan to return to Guam	5.242	1.502	5.287	1.604	5.165	1.584
Recommend to friends	5.362	1.303	5.336	1.382	5.164	1.427

Means and Standard Deviations of Variables by Purpose of Travel

Note: All items rated on 7-point scales where 1 represents the most negative rating (e.g., "very dissatisfied", "strongly disagree", "least desirable", "unclean", etc.) and 7 is the most positive rating (e.g., "very satisfied", "strongly agree", "most desirable", "clean", etc.)

APPENDIX D

	Repeat visit (n=620)		First time (n=2308)	
Variables	Mean	s.d.	Mean	s.d.
Hotel Tangibles	5.137	1.408	5.233	1.382
Hotel Intangibles	5.291	1.381	5.451	1.345
Dining Satisfaction	5.227	1.177	5.217	1.195
Enjoyable shopping	5.436	1.383	5.369	1.399
Shopping satisfaction	5.343	1.204	5.350	1.103
Attractions satisfaction	5.738	1.133	5.768	1.124
Cleanliness	5.317	1.514	5.123	1.506
Safety	5.487	1.369	5.383	1.397
Easy to get around	5.597	1.248	5.626	1.239
No problems with communication	5.203	1.286	5.332	1.333
Better than expected	5.735	1.316	5.628	1.301
Enjoyable destination	5.405	1.345	5.337	1.395
Rate Guam	5.572	1.326	5.482	1.316
Plan to return to Guam	5.648	1.456	5.141	1.619
Recommend to friends	5.413	1.351	5.260	1.406

Means and Standard Deviations of Variables by Previous Experience with Guam

Note: All items rated on 7-point scales where 1 represents the most negative rating (e.g., "very dissatisfied", "strongly disagree", "least desirable", "unclean", etc.) and 7 is the most positive rating (e.g., "very satisfied", "strongly agree", "most desirable", "clean", etc.)

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