

**DESTINATION ATTRACTIVENESS**  
**AS A FUNCTION OF SUPPLY AND DEMAND INTERACTION**  
**CHAPTER ONE**  
**INTRODUCTION**

**INTRODUCTION**

The proposed research presents a model to explain and empirically test the determinants of tourist attractiveness of a destination. Traditionally researchers tended to evaluate destination attractiveness from a supply side or a demand side perspective. The supply perspective is based on the number and quality of available attractions at destination. The demand perspective depends upon the perceptions and interests of travelers in the area.

A few studies have been conducted to examine tourism attractiveness. The most important contributions in this field of inquiry date back to the 1960s and 1970s. Over the last two decades, no study has developed an integrative model capable of investigating the attractiveness of an area by examining the relationships between supply and demand indicators. The guiding principle of this study is that the overall tourist attractiveness of a destination is dependent upon the relationship between existing resources (natural, cultural, historical, etc.) and the perceived value of such resources.

This chapter provides a review and examination of the major concepts relevant to the study of destination attractiveness. In particular, from the research questions the investigation extends to the variables and dimensions used, the analytical models developed, and the measurement tools applied to study tourism attractiveness. The objectives of the study are identified. A brief description of the conceptual model and its methodological aspects is offered. The importance of the contributions and limitations of the study is examined.

**BACKGROUND AND OVERVIEW**

The tourism phenomenon consists of two essential components: an origin and a destination (Uysal, 1998). The first is labeled as tourism demand (representing the tourists) and the second is described as tourism supply and includes elements such as

natural resources, cultural attractions, and historical monuments. In the past, tourism demand has been considered the sole variable of importance by local and national governments. Indeed, tourism policy makers determined visitation trends and studied tourist behavior to measure the contribution of tourism to the economy and to formulate and implement resource allocation plans. The economic benefits of tourism development have been recognized for decades in terms of revenues, taxation, and employment. The economic outcomes of tourism demand have long been the origin of mass tourism promotion and development, especially in developing countries.

The analysis of tourism supply has gained momentum since the erosion of tourist resources caused by mass visitations. Since then tourism has been defined as a landscape industry, and regarded as fully integrated with its environment. This new perspective has served as a catalyst for change in long-term planning and policy making.

The tourist product is comprised of elements such as attractions, services, and infrastructures. Together, these elements comprise the total appeal of natural and manmade characteristics that may exist in the area. Because they differ in nature, researchers have found it difficult to develop a measurement that is capable of examining, evaluating, and comparing many diverse resources, such as theme parks and historical monuments. For example, the intrinsic characteristics, such as use, contribution, and appeal of a lake differ from those of a museum. Each museum or lake is unique in its features and appeal and cannot be appraised as identical to other tourism resources labeled with the same name. Despite this, a universal way of measuring the various tourism elements is crucial if the attractiveness of a given area is to be evaluated.

Tourism literature offers a wide range of approaches that have been used to determine the magnitude of the appeal of a given destination. The nature of destination attractiveness studies may be supply or demand oriented, and/or supply and demand based. Supply studies investigate existing resources (i.e., museums, state parks, lakes, ski resorts) to measure the attraction magnitude of the area. These studies are objective in nature and make use of secondary data which specify the characteristics of the variable or single unit of investigation (Smith, 1987, Spotts, 1997). There are two typologies of demand studies. The first is represented by the investigation of the actual visitation patterns; it is objective and uses secondary data. The second measures the perceived

attraction generated by a single resource or by a region or destination. The studies related to the second typology investigate perceptions, are more subjective in nature and use primary data. The most popular demand measures for determining the attractive power of a region or destination include:

- number of visitor arrivals or number of participants;
- tourism expenditures or receipts;
- length of stay or tourist nights spent at the destination site;
- travel propensity indexes; and
- tourist preferences.

Generally, demand indicators are easily available and very simple to use in terms of comparability and homogeneity. Demand measures are often used to demonstrate that one region is more attractive than others because it receives more visitors, generates more tourism receipts, or encourages visitors to stay longer. This approach is based on the belief that visitation or consumption characteristics are relative to the attractiveness of the area (Oppermann, 1994). In short, the conjecture is that the greater the attraction power of a destination, the higher the number of tourists (and/or the length of stay or the generated tourist receipts). Nonetheless, visitation might be influenced by variables other than simply the attractiveness of the destination. For instance, economic recessions and international armed conflicts have proven to deeply influence visitation patterns despite the absence of changes in the overall appeal of tourist destinations (Cha & Uysal, 1994; Formica and Olsen, 1998; Jurowski and Olsen, 1995).

Among the various sources of measuring attractiveness from a demand perspective, tourist preferences appear more accurate than actual visitation or tourism receipts. In fact, tourists are the ultimate judges in determining the level of attractiveness of a region. Their perceptions about a given area determine its success or failure as a tourist destination. Since perceptions are reality in the traveler's mind, it does not matter how many tourism resources are available in a given area when its overall attractiveness has already been defined (Echtner and Ritchie, 1993; Leyele, 1996). However, the limitation of tourist preferences as attraction measures is that human perceptions are based on personal and cultural beliefs and are influenced by promotional activities and previous

experiences (Milman and Pizam, 1995). In addition, factors like particularly bad weather or a special event may create a distorted perception of a tourist destination.

The supply approaches to tourism attractiveness investigate and measure tourism resources and their spatial distribution. Generally, attraction measures based on supply indicators are quantitative in nature. The supply perspective determines the overall attractiveness of the area by performing an accurate inventory of existing tourism resources. For example, in analyzing tourism resources using a regional perspective, Smith (1987) considered accommodations, recreation establishments, and cultural and natural attractions. Among the variables that Smith used to investigate tourism regionalization in Canada are cottages, marinas, campsites, golf courses, horse riding establishments, and historical sites.

Tourist attractions and resources can be expressed using different measures, such as square meters (forested land), degrees (temperature), miles (roads), and bedrooms (hotels). The existence of tourism resources in a region is a necessary element of tourism attractiveness but it cannot predict the magnitude of the attraction of that region. Otherwise, by simply increasing the number of museums, lodging facilities, and hiking trails we would be able to increase the overall attractiveness of a region. The pulling force of a region depends not only on the number of tourist resources located in a given area but also on how these resources are valued and perceived by tourists.

The inventory of attractions existing in a given area and their subsequent evaluation does not guarantee a comprehensive measurement of tourism attractiveness. The attraction power of tourism resources not only depends on their objective value, but also on the favorable/unfavorable perceptions of a given area. It is therefore necessary to determine destination attractiveness from both an objective (supply) and a subjective (demand) perspective.

## **RESEARCH QUESTIONS**

Tourism, as a socio-economic activity, does not occur randomly. Some regions, destinations, or sites appear to be more successful than others in offering tourism activities and in attracting travelers. The identification and analysis of existing patterns of tourism resources are critical steps in assessing the potential for attracting tourists to a

given area. Because of the dramatic development of technology and transportation, the variety of destinations competing for domestic and international travelers is now much broader than in the past. The pressure exerted by competition is compelling international, national, state, and local governments to re-evaluate the existing tourism resources and to capitalize on them in order to attract more visitors. In a highly competitive tourism market, it is increasingly important to understand the relationships between supply and demand measures of destination attractiveness. A systematic and complete inventory of all tourist assets, their location, measurement, and potential from both perspectives represents a basic condition for any tourist area.

McIntosh, Goeldner, and Ritchie (1995) and Inskeep (1994) contend that the understanding and accurate evaluation of destination attractions can result in substantial economic and socio-cultural benefits. Such benefits may include:

1. Identification of a base to increase the quality of life of residents;
2. Encouragement of the development of infrastructure, recreation, and leisure facilities used by both residents and visitors;
3. Influencing the development of tourism facilities and services that match with the characteristics of the area and the cultural, social and political profile of the residents;
4. The development of tourism in such a way that all the resources of the area will be preserved for present and future use;
5. The integration of tourism policies with other policies developed in the area;
6. The creation of a solid base for decision making and coordination between the private and the public sectors;
7. An increase of the overall satisfaction of visitors;
8. The provision of effective instrument capable of monitoring the changes in tourism attractiveness and of determining the appropriate actions to take.

Despite Inskeep's emphasis on objective supply indicators, destination attractiveness is derived from the subjective evaluation of resources by travelers. Every characteristic that has been classified as a tourism resource would not be considered as such if it were not expected to fill a need, interest or desire.

This study investigates the relationships between the supply and demand elements which contribute to the overall evaluation of destination attractiveness in a specific area. In particular, the questions this research seeks to answer are:

1. Is there an association between supply and demand importance of attractions dimensions?
2. Is there a correlation between the regional availability of attraction dimensions and the perceived availability of the same dimensions?
3. Do traveler segments place a different importance on selected attraction dimensions?
4. Is there a direct relationship between the supply and demand attractiveness of a region and its tourism economic benefits?

## **KNOWLEDGE FOUNDATION**

The theoretical basis and empirical research on tourism attractiveness are derived from multiple disciplines and bodies of knowledge. Those scholars who consider tourism as a landscape industry possess a geographical perspective (Young, 1999; Walmsley and Jenkins, 1992). Others, more concerned with the demand or market outcomes of attractiveness, have built knowledge in the field by borrowing from the marketing literature (Moutinho and Paton, 1991).

Most of the knowledge of tourism attractiveness has come from the analysis of tourism resources as investigated using archival data. During the 1980s, as the tourism industry experienced a change from a seller's to a buyer's market, tourism research switched its attention from supply to demand, or from the product to the tourist. As a consequence, geographers have been replaced by marketers in the evaluation of destination attractiveness. The major pitfall of the studies investigating destination attractiveness from a demand perspective is the assumption of unlimited availability of tourist resources. In fact, unlike most goods or services, tourism resources are limited and are unevenly distributed. The truth is that both approaches, if considered individually, may reveal only limited implications for either geographers or marketers.

Previously scholars have investigated and evaluated destination attractiveness in countries and regions such as South Africa (Ferrario, 1979), Turkey (Gearing, Swart, and

Var, 1974), Greece (Piperoglou, 1966), and British Columbia (Var, Beck, and Loftus, 1977). Others have concentrated on exploring a single aspect of destination attractiveness of a region (Ritchie and Zins, 1978). According to Lew (1987), there are three major approaches to determine the attractiveness of a destination: ideographic, organizational, and cognitive. The first relates to a specific characteristic of a site and is represented by descriptive groups of attributes. The ideographic approach is linked with the supply component of tourism. The second approach (organizational) best describes spatial and temporal relationships between attractions. The cognitive approach is based on the experiential characteristics that relate to the attractions and focuses on the demand component of tourism. The method applied in this study uses multiple approaches.

As stated earlier in this chapter, because tourism as a system is the effect of demand and supply interaction, multiple approaches offer the most reliable analysis of tourism attractiveness (Mitchell, 1979). A seminal work that applied multiple approaches in measuring tourism attractiveness is the 1977 study conducted by Ferrario (1979). This study was based on an earlier investigation conducted in Greece during the early 1960s (Piperoglou, 1966). Ferrario focused on the assessment of tourist resources in South Africa. The analysis was based on the correlation between tourist demand—represented by visitors’ interests—and tourism supply—measured using common factors for various attractions. The author was mainly concerned with “what” and “how” to evaluate and plan tourist resources in South Africa.

The “what” question was answered through a detailed content analysis of ten guidebooks of South Africa, which resulted in a list of 2,365 tourism supply items grouped in 21 categories, such as zoos, historical sites, and tribal African life. Each of the 21 categories was further divided into a number of sub-categories. For example, the category waterbodies was divided into scenic dams and lakes, natural springs, and waterfalls, whereas panoramic scenery was divided into vantage points, scenic drives, mountain scenery, coastal scenery, desert scenery, landmarks and special landscape.

The answer as to “how” to evaluate attractiveness was accomplished by a survey of 5,053 travelers coming from overseas. The results of the survey identified three characteristics—scenery and landscape, wildlife, and natural vegetation—as being the principal attracting forces to international visitors. A complex weighting process

established a numerical coefficient for each of the 2,365 attraction features. Evaluation of tourist supply was based upon the six following dimensions:

1. *Seasonality*, which is the length of stay for each attraction;
2. *Accessibility*, the physical access that connects tourists to the destination and its resources;
3. *Admission*, which implies that many tourist attractions cannot be visited without permission or admission tickets;
4. *Importance*, according to historical, technical, or professional value of the items under investigation;
5. *Fragility*, which depends on how much tourism a given destination is able to sustain without deteriorating its unique features;
6. *Popularity*, made by reputation and a generalized good image of the site.

More than twenty years have passed and no refinement of this important work has been proposed. Yet, the spatial and temporal limitations of Ferrario (1979) and Piperoglou's (1966) works call for a new and more integrated investigation of the nature of the interaction between supply and demand. In particular, existing literature on tourism attractiveness needs reassessment and re-evaluation in terms of knowledge foundation, units of analysis, research design, and methodology.

The present study proposes a tourism attractiveness model that builds on the existing literature and implements innovative theoretical and analytical tools. This study is distinguished by its novel approach of combining tourism resources and destination attractiveness research. The proposed model utilizes established analytical tools to identify tourism attraction dimensions, determine tourism regions, and simultaneously measure and compare attractiveness from a demand and supply perspective.

## **OBJECTIVES**

This dissertation intends to develop a model to determine the tourist attractiveness of different regions and test the relationships between the demand and supply measures of attractiveness. The study uses Virginia tourist regions as the application of the measurement model to be developed. The investigation attempts to build on previous

research assessing and evaluating tourism resources and their level of attractiveness. The research objectives are the following:

1. create a quantitative measurement tool by which the overall attractiveness of regions and/or destinations can be determined;
2. determine the differences and similarities between supply and demand importance of attraction dimensions;
3. identify regional variations in the availability of attractions among regions from a supply and a demand perspective;
4. explain variation between market segments in the perceived importance of attractiveness dimensions;
5. examine the relationships between regional tourist attractiveness and regional economic benefits of tourism.

## **CONCEPTUAL AND ANALYTICAL MODELS OF THE STUDY**

To date, there is no universally accepted measurement of destination attractiveness. Some scholars consider attractiveness from a supply perspective (Romsa, 1981), whereas others consider it from a demand perspective (Muller, 1991). The studies that have measured attractiveness from both perspectives (Ferrario, 1979 and Piperoglou, 1966) utilized complicated procedures and obsolete methodologies.

The model in Figure 1 illustrates the logical sequence of the theoretical components that are critical to the determination of tourism attractiveness. This theoretical model proposes that the overall attractiveness of a region or destination is determined by a supply and demand weighted evaluation of the existing attractions. It is the interaction between the two components that ultimately determines the attractiveness of a region or destination.

The theoretical model in Figure 1 begins with attractions, which are considered the foundation of the tourism phenomenon (Gunn, 1997). The centrality and the evaluation components of the model explore the attraction dimensions and tourist regions from different angles. The centrality approach is based on the relative importance of one

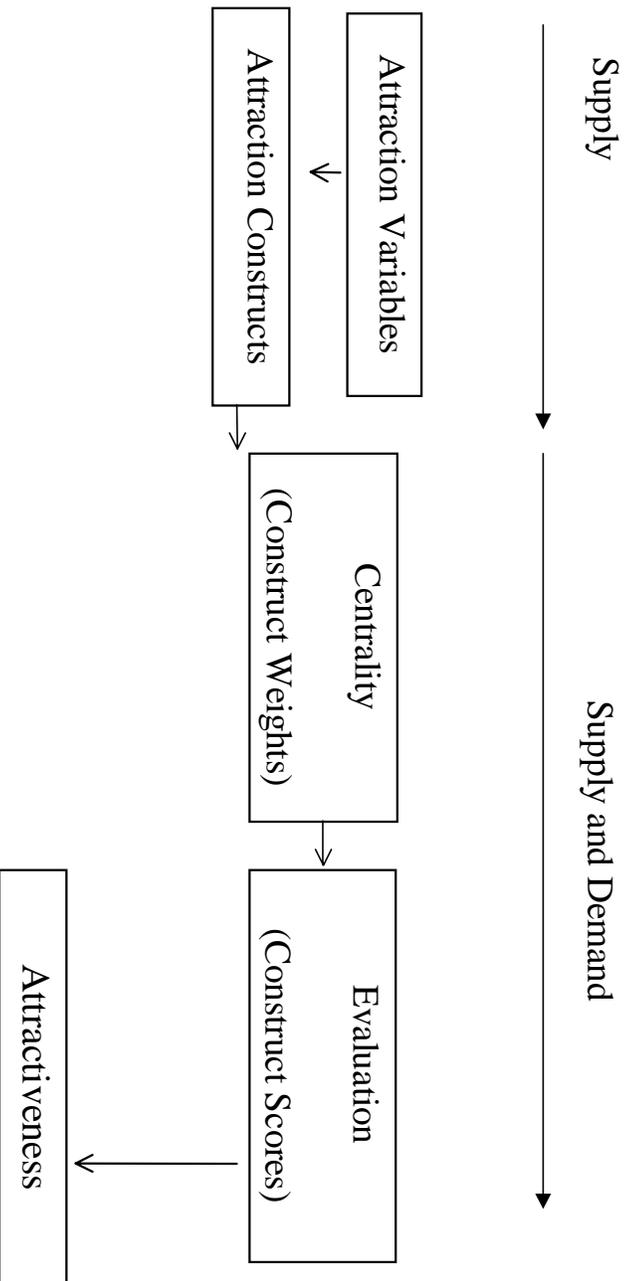


Figure 1. Theoretical Model of Destination Attractiveness

dimension as compared to another. It weights every attraction dimension and determines its magnitude in relation to that of other attraction dimensions. The evaluation component analyzes the availability of the attractions. This component is dependent on a specific region and measures the availability of attractions in that area. Finally, the model suggests that destination attractiveness is the result of weights (centrality) and scores (evaluation) obtained from objective (supply) and subjective (demand) indicators.

The analytical measurement model (Figure 2) provides a structure for empirically investigating relationships between supply and demand measures and providing a measure of overall attractiveness. The model includes attraction variables and economic indicators, constructs (attraction dimensions, travel segments, and tourist regions), and measurement tools (attraction dimensions importance and regional attractiveness evaluations). This model is discussed in Chapter Three in greater detail. Chapter Three also provides with individual models in reference to the research hypotheses.

## **RESEARCH DESIGN AND METHODOLOGY**

The research design and methodology are based on the research question, study objectives, and on the body of knowledge offered by literature on the subject. Despite the growing need for a measure of tourism attractiveness, the prominent literature addressing this topic dates back to the 1960s and 1970s. However, other more recent studies investigating tourism resources offer methodological tools that appear particularly useful for the advancement of tourism attractiveness research (Smith, 1987; Uysal & Potts, 1990). The present study uses different methodological techniques to develop a robust and comprehensive measurement of tourism attractiveness and to test the relationships between its components to complement the existing body of knowledge.

A quantitative statistical approach was selected as the appropriate means of investigation to define and measure the construct of tourism attractiveness. The research employs secondary and primary data collection and analysis. Archival data was collected with respect to tourist resources located in the state of Virginia. Counties and independent cities of Virginia were the subjects of inquiry.

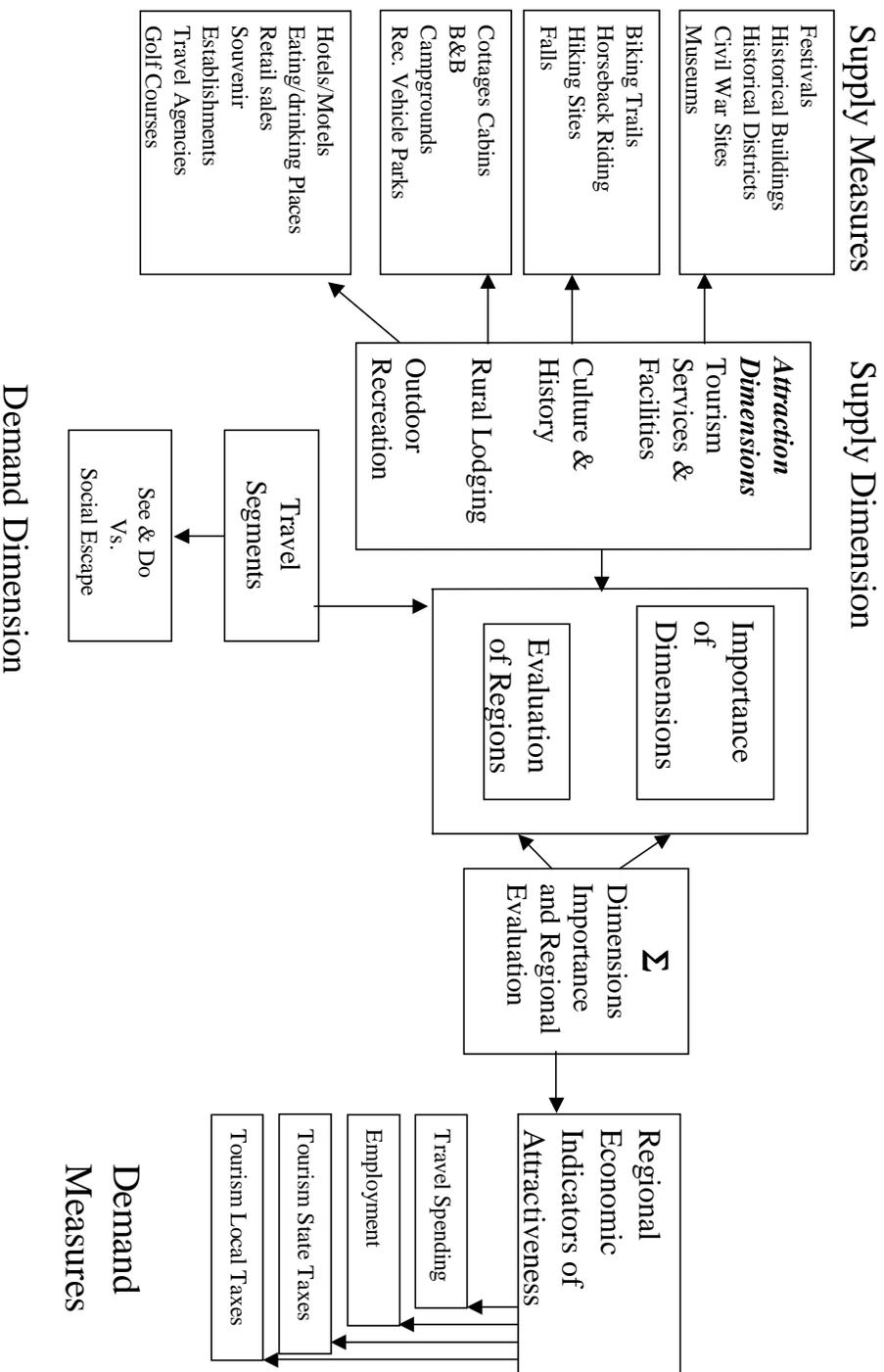


Figure 2. Empirical Model of Destination Attractiveness

The present method adopts eight steps to measure the overall attractiveness of tourism regions of Virginia (Objective One). An additional four steps are performed to achieve objectives Two, Three, Four, and Five. The following are the steps associated with Objective One:

1. Content analysis of the tourist guides of Virginia to determine the attraction variables that are associated with the attractiveness construct.
2. Data collection of attraction variables using Virginia's counties and independent cities as units of measurement.
3. Factor analysis of attraction variables to identify tourism attraction dimensions.
4. Cluster analysis of counties and independent cities based on the attraction dimensions. If successful, tourist regions are delineated using the "homogeneous" resource regionalization criterion. If not, on the "a-priori" regionalization criterion applied by the Virginia Tourist Corporation.
5. Addition of the standardized scores of attraction dimensions belonging to each county/independent city part of the region.
6. Determination of the supply weights of the attraction dimensions results from the sum of squared loadings of each attraction factor.
7. Selection of a team of experts to determine the attraction dimension weights of Virginia regions. The same team of experts determines the attraction dimension evaluations from a demand perspective.
8. Tourist regions are ranked in order of importance based on supply and demand evaluations of identified attraction dimensions using a classification algorithm.
9. The scores of attraction dimensions generated from demand and supply are objectively and subjectively weighted and added. The resulting measure indicates the overall attractiveness of Virginia regions as a function of demand and supply interaction.

The second objective—differences and similarities between the supply and demand attractiveness indicators—is accomplished by comparing the importance assigned by demand and supply to the attraction dimensions. The third objective investigates the similarities and differences in regional availability of attraction dimensions from a supply and a demand perspective and involves the use of a correlation

matrix. The scores resulting from the supply evaluation of defined tourism regions in Virginia are correlated against the demand evaluations of the same regions. A map of supply attraction dimensions then provides the opportunity to analyze regional differences within the state of Virginia. The demand evaluation of the same regions indicates the perceived attractiveness of those regions.

The fourth objective explains the variation between market segments in the perceived importance of attractiveness dimensions. Two travel segments are used in this study: the “See and Do” and the “Social Escape.” These two segments are the result of an exploratory research conducted in Virginia (NFO Research, 1993). The “See and Do” segment is more active in nature, visits multiple sites during the same trip, and enjoys adventure. The principal vacation purposes of the “Social Escape” segment are to rest and relax, while being with family and friends. It is expected that the first segment emphasizes more attraction dimensions that stimulate physical and conceptual activities whereas the second segment values more the attraction dimensions that guarantee the comfort experienced at home, rest and relaxation. A t-test is performed to identify differences in perceived importance of attractiveness dimensions.

In addressing the fifth objective, regressions are used to explain spatial variations of tourism expenditures in relation to the overall attractiveness of a given region from a supply and demand perspective. Likewise, it is possible to determine the influence of the most important attraction factors in explaining the economic benefits of tourism. The economic indicators that are used in the factor analysis are travel spending, tourism/hospitality related employment, and state and local taxes generated by tourism/hospitality firms.

## **TOURIST ATTRACTIONS AS DISCUSSED BY LITERATURE**

The tourism industry has the challenging task of transforming natural and cultural resources into packaged tourist products. This is achieved when we identify and quantify the factors that make a country attractive to tourists. What is it that constitutes a tourism attraction? Lew (1986, p. 3) defines attractions as “things to see, activities to do, and experiences to be remembered.” He suggests that all the elements and conditions that are not available at home and motivate tourists to temporarily move outside of their

residential area should be considered as attractions. The principal components of a tourism attraction are those that entice individuals to travel, to engage in something to see or to do. Attractions, whether natural or man-made, make it possible.

The elements that contribute to the success of a tourism destination have little in common. A major highway system appears totally unrelated to the presence of water bodies or souvenir shops. Jafari (1982, 1983) detected three tourism supply typologies that are interconnected and likely to compose the tourism attractiveness of a region: tourism-oriented products, resident-oriented products, and background tourism elements. The first typology is strictly related to tourist needs and includes hotels and motels, transportation services, recreation and entertainment, food services, etc. The resident-oriented products (pharmacies, gyms, bookstores, etc.) are generally marketed to the community. However, they are increasingly used by tourists as they extend their stay at destination. The background tourism elements are the core tourism attractions, such as the natural, cultural, and man-made resources.

So, what makes an element an attraction? There is no clear threshold between attractions and non-attractions. Ferrario (1979) states that there are a number of factors that cannot be defined as attractions but influence the attractiveness power of a given area. Among these elements, there are: economic factors (exchange rates and cost of living); natural factors (climate and natural disasters); socio-cultural factors (welcoming residents and friendly police officers); and infrastructures.

Richtie and Zins (1978) identify a number of factors influencing the attractiveness of a tourism destination. They are natural beauty and climate, culture and social characteristics, sport, recreation, and education facilities; shopping and commercial facilities; infrastructures; cost of living; attitudes towards tourists; and accessibility of the country.

The services that develop around the attraction often become attractions themselves. A means of transportation is the principal attraction when it is a cruise ship or a historical train. Lodging facilities are perceived as the core attractions if famous people have lived there or when they offer continuing entertainment (i.e., Club Med). Last, but not least, people—both residents and tourists—often become a tourist attraction.

## **CONTRIBUTION OF THE STUDY**

The study contributes to the fields of tourism planning and tourism marketing by providing a model by which a measure of destination attractiveness and an empirical treatment of the elements composing it are analyzed. This study is expected to provide empirical support for the relationship between demand and supply as core components of destination attractiveness, as well as offering theoretical and practical contributions.

### **Theoretical Advancement in Tourism**

This study contributes to the theoretical advancement of the fields of tourism marketing and tourism planning by providing a measure of tourism attractiveness and testing the relationships between its components. A contribution to the existing body of knowledge is achieved by the simultaneous investigation and treatment of supply and demand measures for the development of a destination attractiveness measure. Also, the proposed model provides new understanding about the relationship and interaction between subjective and objective measures of tourism attractiveness.

### **Practical Contribution To Tourism Planners And Marketers**

This study is designed to assist tourism decision makers working for private and governmental organizations in recognizing tourism potentials and development strategies. The findings of this study will prove extremely helpful in planning, marketing, and developing appropriate resource allocation strategies. The decision makers in tourism marketing, planning, and development for the identified tourism regions will direct the most appropriate promotional strategies and create the relative resource allocation policies. For instance, the Virginia Tourism Corporation could use the results of this study to develop an integrated state promotional campaign based on the attractiveness measures of identified regions within the state. Regional and local hospitality and travel associations might find it useful to locate areas where tourist services or facilities are underdeveloped based on their attractiveness potential and encourage their affiliates to allocate more resources. Local public tourism organizations, such as Chambers of Commerce and Conventions and Visitors Bureaus are likely to use the present study to address tourism development issues in their communities. In fact, discrepancies between the perceived attractiveness and the availability of attractions in each delineated region will suggest to what extent, if any, a region has potential for tourism development.

In addition, understanding differences between segments in assigning importance to various attraction dimensions presents critical marketing implications. Realizing, for example, that one segment is more attracted by historical attractions and the other by tourism services will allow tourism decision makers to sharpen their most effective promotional tools to attract both segments by emphasizing different aspects of the same regions.

Planning and development activities aimed at eliciting support for tourism development are better designed if planners and developers are aware not only of the characteristics and peculiarities of the area, but also of the perceptions that demand has of that area. Given the economic importance of tourism investments made both domestically and internationally and the growing interest of governments and private investors in determining areas with tourism potential, it is difficult to believe that this issue has been under-researched. This study offers a simple and effective analytical tool to examine, measure, and select tourism investments in specific regions.

## **LIMITATIONS**

This study investigates the resource structure of tourism in Virginia's counties and independent cities. Virginia was selected because of the variety of its attractions and resources, such as mountains, beaches, historical and cultural landmarks, theme parks, golf courses, etc. The diverse regions of Virginia offer a broad spectrum of tourism supply variables, which allow the achievement of the research objectives. However, the attractiveness indicators that are used in this study may be location dependent and the objective and perceived importance of such indicators may vary from region to region. It is therefore recommended that every delineated tourist region outside Virginia will have to determine the elements that are critical to the destination attractiveness of its own area. Despite of this, the model developed in this study can be universally adopted.

The analysis includes tourism experts (regional government tourism executives, consultants, marketers, academicians, etc.), instead of actual users, to measure the demand side of attractiveness. It is possible that experts' opinions of tourist attractiveness does not mirror the perceptions of visitors to Virginia. Nonetheless, previous comparative

research has consistently demonstrated that the results obtained by using experts and end users are very similar (Nuttal and Var, 1976; Var et al., 1977; Var and Steiner, 1976).

The choice of the selected variables is based on: (a) a content analysis of current tourist guides and state promotional literature, (b) previous literature, and (c) on data availability. Despite the effort to make the list of tourism resources as comprehensive as possible, there is still room for improvement. Many other items that contribute to attract visitors are excluded because of unavailability or difficulty in defining and operationalizing. In addition, the labeling of the resource components performed in the factor analysis is subject to unavoidable personal bias.

## **ORGANIZATION OF THE STUDY**

Chapter One presents an overview of the study and describes the context within which it was conceived and developed. This includes the background and overview of the problem, the research questions, the knowledge foundation, and objectives. A theoretical model and a measurement model for measuring destination attractiveness are offered. Research design and methodology are discussed and a brief investigation of tourist attractions is included. Finally, Chapter One sets forth the theoretical and practical contributions of the study, in addition to its possible limitations.

Chapter Two is dedicated to a review of the available literature pertaining to destination attractiveness. The background literature referring to the tourism system, tourism planning, and regional analysis of tourism resources is identified. Tourist attractions are presented and classified. This chapter includes a discussion of the procedures used to measure tourist attractions.

Chapter Three focuses on the conceptual model, research hypotheses, research design, and methods of measurement. This chapter also provides a detailed description of the valuation process by which a composite score of overall destination attractiveness is determined. It includes the selection of variables, the statistical analyses that are performed as well as the weighting process that is implemented.

Chapter Four provides the analysis and results of the destination attractiveness measurement procedures and the research hypotheses introduced in Chapter Three. It investigates the supply side of destination attractiveness by discussing the results of the

secondary data attractiveness evaluations and weights. It then offers a destination attractiveness evaluation and weighting measures based on experts' assessments. Finally, it presents the overall measure of destination attractiveness of Virginia tourism regions.

Chapter Five of this dissertation summarizes the significance of the research findings and presents conclusions based on the analysis of the data. In the first section the summary and discussion of the destination attractiveness measurement framework are presented. Next, the hypotheses tests with ANOVAs, correlations, t-tests, and regression analyses are discussed. Theoretical and practical implications, as well as resulting limitations of this empirical study are presented. The last section of this chapter is dedicated to proposed recommendations for destination attraction research advancement.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **INTRODUCTION**

The aim of a literature review is to generate awareness, understanding, and interest for the studies that have explored a given topic in the past. It also defines the current level of knowledge about that topic and its evolution throughout the years. The current body of knowledge identifies the most appropriate tools and procedures to examine the subject matter and often determines the potential limitations of the study.

The theoretical and conceptual research on destination attractiveness is derived from different sources, such as geography, planning, and marketing. This review of literature concentrates on five different clusters of tourism studies: tourism as a system, tourism planning, regional analysis, resource and attraction inventory, and destination attractiveness.

The purpose of this study is to determine the destination attractiveness of selected regions and test the relationships between its supply and demand determinants. The first section of this chapter reviews the concept of tourism as a system. The second section addresses tourism planning and its interrelationship with spatial issues and regional resources. In the third section, the concept of regionalization is analyzed as it pertains to one or more tourist areas. The fourth section presents market segmentation as it relates travelers' motivations with attractions at destination. In the next section an analysis of the resource inventory and attraction literature is presented. The last section explores and defines destination attractiveness.

#### **TOURISM AS A SYSTEM**

The two essential components of a tourism system are an origin and a destination (Uysal, 1998). The origin is made of potential and actual visitors and refers to their residential areas. Literature refers to the origin as tourist demand. The destination is the area that is visited by travelers because of the attraction generated by its resources. Another critical element of the tourism system is the linkage, which includes transportation services, promotional activities, and information. Despite their complementary role within the

tourism system, the linkage components are critical in the destination selection process and influence the entire vacation experience (Fesenmaier and Uysal 1990).

Literature on tourism as a system can be classified in four groups (Uysal, 1998).

They are the following:

- *The early explicit models.* These models focus on the linkage component of travel.
- *Origin-destination models.* The underlying assumption of this school of thought is that the same area can serve as an origin and a destination.
- *Structural models.* These propose that the interaction of supply and demand is dependent on the economic and technological development of the generating areas. The foundation of these models is given by the control of the international transportation services that exist in the metropolitan areas of developed countries. This, in turn, influences tourist movement from the origin to the destination.
- *Evolutionary models.* Tourism as a phenomenon is in constant flux. Using evolutionary models it is possible to monitor these changes from a supply and a demand perspective and investigate the relative effects (Plog, 1974).

Lea (1988) offers a different view of interpreting the tourism system and explaining travel flows. Because of the uneven distribution of capital from country to country, travel flows are generated by wealthy individuals residing in well established metropolitan areas of developed countries to economically and politically depressed countries. Most tourism scholars have opposed this theory; however, a significant amount of international tourism flows in fact moves from developed to developing countries. Despite Lea's (1988) approach, literature supports the assumption that the interaction between demand and supply is the focal point of the tourism phenomenon. A natural consequence of this is that there is an interaction between demand and supply upon which tourism visitation is dependent (Uysal, 1998). The theoretical model that best represents the demand-supply interaction within the tourism system is the functional approach (Leiper, 1990). Two core dimensions are considered by the functional approach: space and traveler behavior. The first is accountable for the spatial variance of travel flows and tourist attendance. Space allows for the measurement and comparison of unevenly distributed resources (Hoover and Giarratani, 1984). The space dimension is readily quantifiable and relatively easy to measure. The behavioral dimension of attractiveness explores the perceived value that is assigned to a

destination by the traveler. Indeed, every individual has a perceived image of the destination and of the resources that are available there. Dann (1996) claims that travelers' perceptions of a destination are especially dependent on marketing activities promoted by the destination. These activities encourage certain expectations about the destination and thereby influences tourist demand.

The tourism system springs from the resources at destination. The variety and blend of resources in terms of physical distribution, importance, and value, determine the attraction power and uniqueness of a destination. However, visitors' awareness and knowledge of the resources at destination influence destination attractiveness, too (Pearce, 1987). In order to learn more about visitors' desires, the supply side (i.e., hoteliers, restaurateurs, transportation carriers, and entertainment professionals) collaborate with the marketing travel link, often represented by travel agencies and tour operators. Their goal is to fulfill the needs of the prospective visitors. Crompton (1979) points out that travelers' needs generate from a lack of socio-psychological equilibrium. From a demand perspective, the main task of the resources at destination is twofold: to deliver the experience that was promoted and to compensate for that disequilibrium by offering an opportunity for relaxation, escape, adventure, or change (Fesenmaier and Uysal, 1990).

In conclusion, a systematic approach is essential to the understanding of tourism and the attractiveness power of tourist destinations. This approach is based on the fact that the very existence of tourism depends upon the availability of destination resources and upon the perception that visitors have of these resources. The literature is rich with models explaining the tourism system (Gunn 1988; Leiper 1979; Mill and Morrison, 1985). Regardless of the nature and model used in each tourism system model, the interaction between demand and supply is the principle on which this study is based.

## **TOURISM PLANNING**

Tourism is an interdisciplinary field and involves a number of different industries and natural settings. Tourism resource planning is essential to stimulate tourism sustainability. Without tourism resource planning, many unintended consequences may develop causing tourist and resident dissatisfaction. These include damage to the natural environment, adverse impacts upon cultural environment, and a decrease in the potential

economic benefits. The negative experience of many unplanned tourist destinations (Acapulco) and the success of most of local and regional planned locations (Galapagos) demonstrate that tourism development should be based on a planning process that includes a solid assessment of the resources at destination and their attractiveness potential (Blank, 1989; Gunn, 1994; Inskip, 1994).

Many governments and private investors have little or no knowledge about measuring tourism resources and developing appropriate tourism plans. Resource assessment and planning become increasingly important in order to achieve long term development of new or developing tourism destinations. Planning is also important for developed tourist destinations where the major efforts are generally focused on revitalizing the area and sustaining its attractiveness over time (Dragicevic, 1991; McIntosh, Goeldner, and Ritchie, 1995; Witt, 1991).

This section is framed in five parts. The introductory section defines tourism planning and its goals. Next is a review of tourism planning. The third part explains the use and application of different planning scales. Tourism supply and its elements are then discussed. The final section analyzes tourism planning from a systems approach.

### **Tourism Planning and Its Goals**

The concept of tourism planning is directly related to tourism development. Planning is subject to a myriad of interpretations. Tourism planning can be viewed either as a process or as an activity. Dredge and Moore (1992) define tourism planning as an activity developed for the benefits of local residents and outside visitors. Backman, Uysal, and Backman (1991) argue that tourism planning is an activity which necessitates the appraisal of current and future resources for tourism development in a given area.

McIntosh et al. (1995) and Inskip (1994) suggested that tourism planning:

1. Provides a base to increase the quality of life of residents because of the economic advantages of long term tourism development;
2. Encourages the development of infrastructure, recreation, and leisure facilities used by both residents and visitors;
3. Requires a development of tourism facilities and services that match with the characteristics of the area as well as the cultural, social and political profile of the residents;

4. Develops tourism in such a way that the resources of the area are preserved for present and future use;
5. Integrates tourism policies with the other socio-economic policies developed in the area;
6. Creates a solid base for decision making and cooperation between the private and the public sectors;
7. Increases the overall satisfaction of visitors;
8. Provides an effective instrument to monitor the changes in tourism development and to determine the appropriate future strategies.

### **The Purpose of Tourism Planning**

The earliest planned settlements date back to ancient Indian cities more than 5,000 years ago (Brunch, 1985). These cities were designed by square blocks and developed to facilitate pedestrian circulation within the urban area. In order to keep track of the rapid development of their urban areas, Romans regularly used zoning and building codes. Medieval towns were usually built on top of hills and were surrounded by walls, which served as a defense against invaders. Urban planning surged in importance during the industrial revolution in England when the first laws concerning comprehensive urban planning were approved. It was not until the present century and, in particular after World War II, that planning started to be perceived as a more integrative discipline. Tourism planning began to embrace social, political, technological, psychological, and anthropological factors. Limited consideration was given to planning, however, because of its interdisciplinary nature and its lack of commonly accepted theories.

Planning activities have expanded dramatically during the last few decades and have been developed and implemented by politicians, social scientists, and community representatives. Currently, the stages of implementation and development are significantly more complex than in the past. The new planning activities emphasize a cooperative approach, which results in better reasoned strategies. In the tourism domain three major entities direct the planning business: governmental agencies, supra-governmental agencies (World Tourism Organization), and professional planners. Generally, governmental and private representatives collaborate to develop a sustainable tourist area or destination. Gunn (1994) explained that in a typical tourism development

council there are representatives of lodging, foodservice, transportation, entertainment, and travel businesses. The nonprofit sector is normally represented by tourism associations, festival sponsors, recreational and sport groups. From a governmental perspective, a number of agencies in charge of transportation, leisure and recreation, culture, health, security, and other fields directly or indirectly related to tourism are involved in the planning process. Despite the complexity of the decision making process that is produced by such bureaucracy, the outcomes generally guarantee a long-term integrated development of a tourist area.

According to Pearce (1995), three principal assumptions need to be made in order to develop a solid and reliable tourism plan:

- (a) The tourism phenomenon involves many industries producing both goods and services. The more extensive the understanding of the inter-relationships between the different sectors contributing to the tourism industry, the more likely the tourism planning will be successful;
- (b) An intellectual grasp of the dynamics of tourism development and the forces influencing it; and
- (c) Coordination and integration of state and regional level planning activities with planning functions at the site and local levels. This is a priority for the overall success of the planning process.

### **Planning Scales**

According to the size of the area under investigation, there are three scales of planning: site, destination, and regional (Gunn, 1994, Inskip, 1994, Pearce, 1981).

Site scale planning deals with the single tourism unit, whether it is a hotel, a park, or an amusement attraction. This planning type is becoming widely used and tourism investors have increasingly involved architects, tourism experts, historians, marketers, and engineers in designing their properties. Also, government agencies, private developers, and non-profit organizations are engaged in this type of planning activity. Individual plans should be coordinated to give a sense of identity to the area where they are located. Indeed, the scenery or the particular environmental characteristics of the place may be damaged by the creation and development of a number of unrelated tourism units.

Tourist destination scale. This involves socio-cultural, environmental, political, and economic objectives. There is no clear definition of tourist destination in terms of the physical scale of an area. Gunn (1994:27) defines it as a “geographic area containing a critical mass of development that satisfies traveler objectives.” Mass tourist development is interpreted as an extensive and diversified number of tourist attractions and related services that satisfy the needs and desires of various market segments. These attractions, which may be manmade and/or natural, represent the core reason to visit a tourism destination and generate demand for basic tourist services, such as lodging, restaurants, transportation, health facilities, retail sales, and other activities. In order to be successful, a tourist destination should be easily accessible, dependent on two or more communities, satisfy the needs of diverse groups of customers, and have an efficient transportation system linking demand sites with the tourist destination. Most of the studies implementing environmental, socio-cultural, and economic impacts are developed at this scale. In fact, due to the homogeneity of features and attractions comprising the destination, this scale is most effective in controlling the impacts of tourist development. Planning at this level requires a substantial amount of coordination between the single components of tourism supply.

Regional scale. Planning at the regional level entails a comprehensive structured activity geared towards the integration of the attractions located in a given region or country. The increase in international tourism flows suggests that single units and destinations are likely to succeed when they are located in a region that is tourist friendly and offers a number of attractive alternatives within the region. The development of transportation, ecology, and forestry regional plans should be factored into the particular characteristic of tourism development in that area.

Unfortunately, too often tourism plans relating to the same territory on different levels do not interact with each other (Pearce, 1995). This results in a lack of coordination between plans and leads to inconsistencies in structural and organizational development within the same region.

Literature on tourism planning and regional resource assessment does not always acknowledge Gunn’s planning scales. The difference between regions and destinations is difficult to define and too often the boundaries between the two typologies are unclear.

For example, American or Asian travelers tend to consider Europe as a destination and visit a number of countries in a very limited amount of time. By comparison the areas considered as tourism destinations are much smaller than the size of a continent and are defined within the size of a county or a cluster of counties (Gunn, 1994, 1997).

Therefore, for the purpose of this study, the terms tourist “regions” and “destinations” are used interchangeably.

### **Tourist Supply and its Elements**

Tourism planning integrates all components of supply and their interaction. These components represent the drawing forces generating tourist demand. Lodging and other service facilities function as supporting units and should not be considered as prime motivations to travel (Gunn, 1994). Tourism supply is comprised of attractions, transportation, accommodation, other support services, and infrastructure.

Attractions. This is an indispensable ingredient of tourism supply. In fact, all the other components of supply depend upon major tourist attractions. Attractions may be classified by ownership: nonprofit organizations, private businesses, and government agencies. Another classification is defined by the tourists’ length of stay: the Blue Ridge Parkway, a zoo, or an historic site are touring attractions whereas convention centers, beach resorts, or “Club Med” vacation villages are destination attractions. The most widely used classification related to tourism attractions is based on the resource foundation criteria. This separates natural features—wildlife nature—from manmade structures— historical bridges, casinos, and amusement parks. Many intangible socio-cultural elements should be considered in classifying attractions, such as language, music, traditional cuisine, etc.

Transportation. This component of supply is critical in predicting tourism trends and development of tourism destinations. In the post World War II era mass tourism depended on the development of a railway network. Most early tourist attractions, amusement parks, beach resorts, and spas, were located in the areas surrounding railway stations. The post World War II rise in automobile travel and the most recent increase in air transportation have heavily affected the patterns of tourism flows as well as destinations planning and development.

Accommodation. Pearce (1981) classified accommodations in three major components. First, the commercial sector, which is mostly represented by hotels, motels, and vacation villages. There is also the private sector, which includes second homes, time-sharing properties, and residential buildings used to host family members and friends. Last, there is a hybrid classification, defined by camping and caravanning activities, where private tents and campers or caravans are situated in areas—campsites—managed by business firms.

Other Support Services. Tourists need not only a place to sleep but also a wide range of services that ensure a pleasant stay. These services have been classified by Defert (1967) as: basic (groceries), trade (communications), comfort (clothing), security (health care), and luxury (jewelry).

Infrastructure. The tourism phenomenon relies heavily on public utilities and infrastructural support. Without roads, airports, harbors, electricity, sewage, and potable water tourism planning and development would not be possible. Generally, infrastructures developed only for residents need to be expanded to serve travelers. From a profitability perspective, infrastructure differs from attractions, transportation, and accommodation because it does not generate revenues directly.

In literature, the constructs of “attraction” and that of “resource” have been loosely interpreted and used interchangeably. Indeed, in operationalizing tourist resources and measuring the overall attractiveness of tourist regions, researchers have consistently included the four attraction elements—attraction, transportation, accommodation, and other supporting services—as tourist attractions.

### **A Systems Approach to Tourism Planning**

An overview of the literature on tourism planning has suggested that the most popular and modern planning approach to tourism is best defined as a systems analysis of tourism planning (Formica, 2000). It is an integrative approach that factors all the components influencing the tourism phenomenon and their inter-relationship. As set forth by Fagence (1991) a solid tourism plan for the 1990s and beyond is a tool for managers and investors to:

- Identify the geographical aspects of tourism attractions, transportation, and accommodation in a given area;

- Control the changing pattern of spatial suitability within the national or regional policy;
- Determine and encourage the integration of various kinds of tourism development and their interactions with other economic and social activities; and
- Conceive integrated strategies and policies to develop synergistic strategies with governmental and/or entrepreneurial activities with the ultimate goal of maximizing coordination between private investments and public infrastructures.

In conclusion, tourism planning is now being recognized as a necessary complement to the tourism system. Most public and private tourism organizations integrate tourism planning to the already existing frenetic promotional activities that have been conducted in the recent past. Tourism planning is now used in conjunction with promotion to determine:

“what needs to be promoted, where it is, how well it meets market needs, how well it fits the community, how it utilizes resources, and how it can be expanded or newly developed” (Gunn, 1994, p. *xxiii*).

## **REGIONAL ANALYSIS OF TOURISM RESOURCES**

Tourism is a geographical phenomenon. In fact, the first tourism studies were published more than six decades ago in geography academic journals (Carlson, 1938; Deasy, 1949). Regional analysis as part of the academic investigation in tourism is more recent. Authors such as Vuoristo (1969), and Ginier (1974) have investigated the spatial variations of resorts and attractions in Finland and France respectively. Others have focused on specific sites or attractions, such as ski resorts (Preau, 1968), recreational vehicle camps (Pryce, 1967), and health resorts (Defert, 1960).

Researchers identify and use regions for many reasons, such as planning, administration, resource allocation, marketing, and promotion. Smith (1984), explains eight benefits of regionalization in tourism research. They are listed as follows:

- a. to determine tourism impacts,
- b. to help residents understand the characteristics of their area,
- c. to describe the differences in perceptions of groups towards a given region,
- d. to determine what prospective and actual travelers want from a specific destination,

- e. to establish a priori the regions that will have the highest potential to generate inbound tourism,
- f. to detect spatial differences in tourism potential and development,
- g. to perform planning activities, and
- h. to analyze origin-destination relationships.

Tourism regions can be determined (Smith, 1995) based on the three following criteria: a-priori, functional, and homogeneous. The a-priori regionalization is performed subjectively and it is not the result of a methodical or scientific analysis. The territory of the United States, as well as that of every other country, was defined using this technique, which consists of establishing boundaries and giving a name to the delineated areas. Van Doren and Gustke (1982), used this regional criterion to investigate the spatial distribution of the lodging industry in the United States. A priori regionalization was also used by O'Hare and Barrett (1999) to determine the regional distribution of Peruvian tourism by using the databases offered by the administrative and territorial organizations.

The concept of functional regions comes from "functional space" (Mansfeld, 1990). In tourism, the "functional space" includes the area where the tourist travels to reach the destination (McDonald, 1984). The "access routes," "return routes," and recreational routes" identify the tourist flows within the "tourist space." Smith (1984) defines tourist functional regions as:

"... the result of a common set of recreational and tourism interests, similar social perceptions and values, friendship and kinship ties, historical migration and travel patterns, and similar responses to the economic problem of minimizing travel and distance costs while seeking an acceptable vacation experience" (p. 14).

In tourism, a typical functional approach is represented by the analysis of travel patterns (Mansfeld, 1990). Smith (1984) uses this approach by defining functional tourism regions in Canada and the United States. The identification of functional regions results from travelers' wish to have access to a number of desirable destinations while minimizing costs. As a consequence, the areas identified by Smith (1984) in his study are not homogeneous in terms of their resource base characteristics. He identified seven exclusive regions in the United States and ten regions in Canada. The results suggest that

in Canada a well defined pattern of vacation travel exists between east and west, whereas in the United States the pattern is between the southern and northern regions.

Homogeneous regions are identified by objective analysis and are selected and named based on a set of similar attributes or characteristics. Objective quantitative analyses of tourism regions have been conducted since the 1960s. Piperoglou (1966) in Greece, Ferrario (1979) in South Africa, and Gunn (1979) in Texas have formulated and applied methods to define regions based on tourist resource attributes, such as culture, history, and nature. The tourism literature offers other examples of homogeneous regionalization. In conducting a study to identify regions with tourism potential in Canada, Gunn (1982) used a cartographic analysis. He concluded that the spatial distribution of tourist attributes and their degree of popularity, together with natural and cultural resources, are useful elements to identify tourist regions. Other studies conducted in international settings (Klaric, 1992; Smith, 1987) demonstrate that the homogeneous method tends to identify regions that are substantially different from those already delineated by the a priori regionalization method. In other words, the administrative regions or political subdivisions do not necessarily correspond to the tourist regions defined by objective analysis of tourist attractions.

Despite the theoretical and practical foundation of these earlier studies, Smith (1987) claimed that tourism regional analysis literature has been under-researched:

“because of the geographical location of some of the authors, because many of their publications do not appear in tourism journals, and because their methods often lack direct relevance to problems beyond the academic challenge of defining a tourism region” (p. 255).

Tourist regions can be identified by using a work intensive method called cartographic regionalization. It consists of defining regions by identifying a set of key features. Cartography is considered as an alternative or complementary approach to the purely quantitative methods used in regionalization (Lawson and Baud-Bovy, 1977). It requires a complete inventory of resources and entails the production of maps. In each map the entire area is delineated and the identification of a single feature is highlighted in

the corresponding sub-area(s). Map overlays synthesize the tourist features and indicate the areas of the region with the highest tourist potential. A much quoted example by Gunn (1979) utilized nine maps to represent the value distribution for each tourism resource factor in a South-Central Texas area including 20 counties. The overall evaluation of the region was the result of the sum of the scores based on the nine resource factors. The results showed that, based on the entire natural and cultural resource factors used, the Texas regions were classified as having a “strong,” “good,” “moderate,” “fair,” or “weak” destination potential. In his study, Gunn used a computer mapping system that incorporated the resource weighting and the computation of the resulting composite scores.

Other more traditional cartographic regional methods have been used by Georgoulas (1970) in Malaysia and Piperoglou (1966) in Greece. Most recently, Gunn (1997) used the computer Geographic Information Systems (GIS) program to classify and map resource factors existing in Illinois for regional analysis purposes. Gunn’s study (1997) first used composite maps representing the natural and cultural resources including 12 factors—water, vegetation/wildlife, soils, natural developments, transportation, cities, prehistory, history, economic development, cultural development, transportation, and cities. The resource factors were then mapped to indicate the areas which have the highest tourism potential. The computer program was instrumental in creating composite scores and in revealing tourist areas within the state context.

Smith (1987) used a scientifically based model to conduct a regional analysis study of tourism resources. Using a four-step procedure, he defined a number of regions within the Canadian province of Ontario based on county-level resource patterns. First, sixteen resource indicators were identified. Next, the resource indicators were factor analyzed and the factor scores were used to identify county variations. Then, cluster analysis was employed to group counties in regions with similar resource patterns. The fourth step consisted of identifying the relationship between tourism resources and tourism economic impact. The findings confirmed that the Ontario counties are significantly different in terms of tourism components.

In order to investigate the relationship between the existing resource base and tourism economic impact, Smith selected two economic variables: tourist receipts and the

percentage of tourism expenditures in a county to total provincial receipts. The regression model shows that the economic impact of urban tourism is far greater than that of outdoor tourism. This demonstrates an attempt to connect supply and demand. Smith's (1987) goal was to demonstrate that a direct relationship exists between spatial patterns of tourism resources and spatial variations in aggregate tourist spending. The researcher used data that was easily available but he did not consider the demand side evaluation of attractiveness. Indeed, tourist receipts as a variable does not operationalize or measure the degree of attractiveness of a destination (Spotts, 1997). It is useful, however, in identifying correlations between supply and demand patterns.

The methodology used by the 1987 Smith's study was tested in South Carolina by Lonvingood and Mitchell (1989), Backman, Uysal, and Backman (1991), Uysal and Potts (1990), and in Michigan by Spotts (1997). Cha and Uysal (1994) applied the same procedure to identify tourist regions in Korea. Table 1. offers an overview of the characteristics of Studies on Tourism Regional Resources that Applied Smith's (1987) Model.

In conclusion, regional analysis is an important research tool that can be used to fully understand form and function of tourism resources with a geographical perspective and to evaluate them in relation to tourism demand features. In addition, regional analysis allows the identification of significant regional variations that ultimately affect the region's capability of attracting visitors. Finally, an in-depth knowledge of tourism resources at a regional level allows for the interpretation of how one region relates to and influences other regions.

## **ATTRACTION INVENTORY**

Tourism encompasses a number of industries which produce a large amount of goods and services that appeal to visitors' desires and tastes. The difficulty of defining tourism has contributed to a lack of understanding of what should and should not be included. In his effort to define tourism from a supply perspective and to demonstrate that tourism is an industry with a measurable impact, Smith (1988) grouped tourism products into goods and services, accommodation, transportation, travel services, foodservices, recreation/ culture/entertainment, and retail goods. Smith's (1988) definition of the supply

Table 1. Characteristics of Studies on Tourism Regional Resources that Applied Smith's (1987) Framework

<b>Author</b>	<i>Smith</i>	<i>Lovingood &amp; Mitchell</i>	<i>Backman, Uysal, &amp; Backman</i>	<i>Uysal &amp; Potts</i>	<i>Cha &amp; Uysal</i>	<i>Spotts</i>
<b>Year</b>	1987	1989	1991	1990	1994	1997
<b>Site</b>	Ontario	S. Carolina	S. Carolina	S. Carolina	Korea	Michigan
<b>Sub-areas (i.e., Counties)</b>	47	46	46	8	15	83
<b>Analysis</b>						
<b>Indices/Variables</b>	16	13	24	28	25	36
<b>Factors</b>	4	4	6	2	2	6
<b>Clustered Regions</b>	6	6	3	3	3	8
<b>Correlation Between Economic Measures and Regions – Dependent Variable(s)</b>	2 Tourist receipts, % of tourist receipts to total receipts	4 No of visitors, tourist receipts, state and local tourism tax	1 Local tourism tax receipts	5 Tourism expenditures, employment, payroll, state and tax receipts	3 Sales of hotels, service firms, and recreational/cultural firms	1 Tourist receipts
<b>Method</b>	Factor Cluster Regression	Factor Cluster Regression	Factor Cluster Regression	Factor Cluster Regression	Factor Cluster Regression	Factor Cluster Regression

side of tourism is: “the aggregate of all retail businesses that produce commodities for the traveler, regardless of his motivations or other personal characteristics” (p.190). This definition does not take into account the intangible and non-economic measures that are a major component of the supply-side of tourism.

Natural beauty, cultural resources, leisure and recreational facilities, hospitality services, and other tourism supporting services need to be considered when determining the attraction inventory of a given region. For many decades, tourism researchers have tried to find an objective, comprehensive way of analyzing, classifying, and measuring tourist attractions. In fact, the attractions’ diverse function and complex nature make this goal almost unattainable. The objective of most tourist regional attractions studies is to find a procedure or index by which the single attributes can be generalized and compared in some manner. How can we accurately measure the comparison between a festival versus a landscape? Ferrario (1976) conducted a visitor analysis, a panel expert investigation, and a guidebook content analysis to determine a common denominator, which measures the individual and collective attractiveness of tourist resources. Specifically, he grouped 2,365 attractions in 21 groups and surveyed tourists’ perceptions about them. The guidebook content analysis was used for the purpose of determining the number and physical location of the attraction. The expert opinions were instrumental in determining the accessibility of the attractions in terms of seasonality, conservation, popularity, admission, accessibility to the closest urban area, and importance. Lew (1986), instead, measured the Singaporean attractions simply by performing a content analysis of selected guidebooks. This methodology allowed Lew (1986) to determine the different types of attractions, the overall attraction portfolio of the destination, and the changes in attracting features. The attraction significance of each Singaporean attraction was based upon the extent of its inclusion in the guidebooks in terms of text, photographs, maps, and advertisement.

Most researchers agree that the core resources that attract visitors to a destination are environmentally and culturally based (Alhemoud and Armstrong, 1996; Faulkner, Oppermann, and Fredline, 1988). However, there is little agreement regarding the terminology to define the core components of the supply side. Lew (1986), Pearce (1981), and Leiper (1979) call them attractions while Ferrario (1976), Jafari (1982), and

Smith (1987) use the term resources. Gunn (1994, p. 57) defined attractions as: “the energizing power-unit of the tourism system.” He analyzed resources in a different section of his book “Tourism Planning” but eventually stated that attractions are represented by natural and cultural resources. Because of the similar use of the terms “resources” and “attractions,” in the present study they are used interchangeably.

### **Classification of Tourist Attractions**

When analyzing regional resources it is necessary to use objective measurement and to determine their potential in attracting visitors. Kaiser and Helber (1978) note that a beach by itself is not sufficient to attract visitors. Researchers are advised to collect information about the presence of natural and manmade factors that might discourage swimming or sailing activities on site. Another essential factor suggested by Kaiser and Helber (1978) in the objective measurement of an attraction is its appeal to the potential tourist segments that are targeted. Some attractions, such as coastal areas, are more likely to attract visitors from contiguous areas whereas major special events are not particularly dependent on space and time factors. In truth, many more factors influence domestic and international travelers’ destination choices. This is the essential reason why a universal measurement of destination attractiveness has yet to be found.

Kaiser and Helber (1978) framed tourism resources in two groups. The first, comprised of cultural/historical, environmental, recreational, entertainment, shopping and dining, architectural, and natural attributes, relates to the marketed image of the destination. The second, which includes transportation, support industries, land, labor force, capital, and governmental attitudes, pertains to the infrastructure within the destination. This classification assists in the understanding of the interplay between the different elements of tourist resources at destination. Despite their supply approach, Kaiser and Helber (1978) were aware of the fact that when investigating the tourism system, tourists’ awareness of supply resources needs to be considered. In fact, they acknowledged that some resource typologies exert a stronger attraction force than others and need to be marketed in order to create tourist demand. The infrastructural resources are an integral part of the tourist experience but are not likely to enhance the promotional image of the destination.

Part of the literature is more explicit in suggesting an analysis of tourist attractions based on the concept of tourism as a system. MacCannel (1976, p. 41) refers to “an empirical relationship between a tourist, a sight and a marker,” while Leiper (1990, p. 371) states that attractions exist only when “the three elements—demand, supply, and linkage—are connected.” Because of the complexity of measuring such a subjective relationship between the market area, the resources at the destination, and the accessibility, the authors do not offer any methodological model for evaluation. However, one of the most commonly accepted attraction divides touring and destination attractions (Lew, 1987). Because “the physical factors for tourism do not have equal influence upon potential development” Gunn (1979, p. 272) suggests that touring and destination tourism criteria can be used to measure the different degrees of tourism attractiveness of the same region. In fact, access and mobility are critical variables for touring tourism whereas attraction variety and entertainment are essential elements of destination tourism.

In the search for a consistent and effective terminology to define and classify attractions, Lew (1986) used the distinction between fascination and comfort attractions. The first attraction typology is represented by the core resources, such as wildlife, scenery, and festivals. The second relates to the goods and services that make the stay at destination possible, such as lodging facilities and restaurants.

Georgoulas (1970), in evaluating the magnitude of the tourism resources in Penang, Malaysia, has introduced the concepts of passive features (which include scenic, shoreland and upland relaxation, climatic relief, and race track), and active features (swimming, water sport, walking, golf, collecting biological and botanical specimens, hunting, and fishing). Despite its original methodology, Gergoulas’ approach has not been replicated. In attempting to determine the quantity and quality of selected physical resources, the author developed a complex model that ultimately lacked practical application.

To facilitate the understanding and categorization of tourism supply elements, Jafari (1982) calls them “The tourism market basket of goods and services.” He then divides them into three groups:

- *Tourism-oriented products*. These are the elements that make tourism possible and cater to the immediate needs of the travelers, such as lodging, food-service, and travel services.

- *Resident-oriented products.* As is contrasted with the tourism-oriented products, this group of goods and services is aimed at the residents first. Hospitals, groceries, bookstores, cleaning services are some of the resident-oriented products. Tourists tend to make a more extensive use of these products as their length of stay at destination increases.
- *Background tourism elements.* Tourists experience the background tourism elements without expressly looking for them. They are exposed to vistas, monuments, and new cultures, which represent the natural, sociocultural, and manmade attractions constituting visitors' main reasons for travel.

The combination of the elements composing the tourism market basket of goods and services determines the overall tourism experience (Pyo, Uysal and McLellan, 1991). As a result, the complementary nature of tourist resources results in a higher degree of attractiveness (Uysal, 1998).

There is little consensus on the resource items that need to be included in the identification and evaluation of destination attractiveness. Particularly after the major contribution by Gearing et al. (1974), tourism researchers have begun to speculate about what needs to be measured and how. Among the most cited studies, Gearing et al. (1974) identified 17 resource items and grouped them into five attribute factors: "natural," "social," "historical," "recreation and shopping," and "infrastructure, food, and shelter." An in-depth investigation of these elements follows shortly in this chapter. Ferrario (1979) determined 2,365 resource items, which were classified into 21 categories. Ritchie and Zins (1978) formulated eight attraction factors, whereas the works by Liu (1988) and Hu and Ritchie (1993) listed 16 resource items. The following is a description of the most commonly used tourist attraction factors.

#### Cultural/Historical

The tourism phenomenon is heavily dependent on the cultural/historical features offered at the destination (Makens, 1987). The growing interest of tourism as a learning experience increases the value of this attractiveness dimension (Tighe, 1986). There are a number of variables that are part of the cultural/historical resource dimension. Their natures, functions and scopes are different. Determining and evaluating the magnitude of cultural features of a region is therefore a complex task.

Particularly challenging is determining the magnitude of tourist migrations based on heritage and ancestry. These are quite significant in some parts of the world, such as the in United States and Australia. The majority of residents from those countries has descendants from other continents and, because of it, they are naturally pulled to visit the areas in where their families originated. A similar phenomenon is related to Jewish people visiting Israel from every part of the world. Equally challenging is the measurement of the attraction force generated by cultures located in remote areas to residents living in metropolitan areas of developed countries (e.g.: Pacific Islands and Los Angeles residents).

Festivals and special events are a growing element of the cultural/historical resource dimension (Frisby and Getz, 1989). Festivals have frequently been labeled as cultural events because they bring to life old traditions, together with local culture and history. Janiskee (1996) reported that in the United States the number of community festivals has doubled in 14 years—more than 1,000 festivals are added every year—and, in 1996, their number exceeded 20,000. Overall, festivals and special events have been often included in regional resources and attractiveness studies.

Museums, as well as archeological sites, are typical attraction indicators and are often included in the scientific analysis of the cultural/historical base of a given region or destination. Indeed, many countries, such as Egypt, Greece, and Italy have built their tourism image around their ancient civilizations.

#### Natural Attractions and Outdoor Recreational Activities

Natural vistas and appealing landscapes have always been key elements in determining the tourism attractiveness of a region. Despite the importance of this supply component, few studies in tourism attractiveness include measurements of natural components. Researchers are particularly challenged when attempting to objectively assess the environmental potential of pristine and secluded areas because of the lack of commonly accepted measurements. Ferrario (1976) reports that many studies conducted in the 1960s and 1970s have attempted to determine the real value of a landscape by grouping its numerous components into meaningful clusters. The clusters are then evaluated according to their uniqueness, aesthetics, usage, etc. Finally, the sum of the evaluations given to the grouped components indicates the overall measurement of the

landscape attractiveness. Despite the effort to make this measurement procedure as objective as possible, the categories and ratings are rarely accurate and inevitably subjective. One of the most recent studies that attempted to measure landscape characteristics used image advertising. In exploring Riding Mountain National Park, in Canada, Mackay (1995) identified three landscape perception elements: attractiveness, uniqueness, and texture.

An important component that has been used as a proxy to measure the natural environment is recreational areas. Generally, attractions such as state parks, hiking and biking trails, and horseback riding facilities have a well-defined set of specific features that can be observed and measured (Cheung, 1972; Cesario, 1969; and Van Doren, 1967).

### Shopping

Shopping for nonessential goods and services is increasingly perceived as a leisure activity (Martin and Mason, 1987). The retail industry located in destination areas is aware of it and is constantly increasing the number of shopping facilities and outlets to improve the overall quality of the visitors' experience (Howard, 1990). Three major shopping categories have been identified (Johnson, 1990). The first is based on the creation and development of a pleasant shopping environment and is labeled "ambient leisure." It mostly focuses on unique design and specialty products that are imbued with the unique cultural/historical characteristics of the area. The second—new generation mall—is represented by giant complexes that include malls and recreation attractions, such as theme parks. The last is labeled "heritage-destination leisure" and it is geared towards niche retailers and appeals particularly to those who tour the area.

There are several advantages in combining tourism with shopping. Shopping is an incentive to spend more time at destination and offers retailers the opportunity to interact with a population that has a higher disposable income and is particularly interested in the local products (Heung and Cheng, 2000). Shopping is a typical tourism supply variable and appears quite often in attractiveness studies.

### Infrastructure

The infrastructural dimension is a necessary element for tourism development. However, transportation, travel services, health facilities, sewage, electricity, and water supply are all basic elements for attracting visitors to a destination. The overall

infrastructural components are created for residents but are used by tourists, too (Jafari, 1982). Generally, they are expected to be available at a destination and are not promoted as an attraction factor. Most of the attractiveness studies, therefore, do not include the infrastructure as a necessary factor (Liu, 1988; Philipp, 1993). The study by Gearing et al. (1974) is the single work on attractiveness that clearly specifies infrastructure as a factor grouping under which many supply elements fall. Most of the other attractiveness studies, however, identify single infrastructural elements that are deemed as particularly important, such as accessibility and transportation (Ferrario, 1979; Ritchie and Zins, 1978).

### **Variables Used To Represent Tourism Attractions/Resources**

Both regional resources and attractiveness studies contain a list of variables to indicate, describe, and evaluate the available tourist resources. Generally, the selection of supply elements is the first methodological step in these works. The majority of the regional analysis studies have applied the methodology of the seminal work by Smith (1987). The criterion that guided the selection of the variables used in this group of studies is their availability on a regional or local level. Because data collection depended exclusively on secondary data at a county, province or regional level, only the variables that were available throughout the investigated area were considered for the analysis. A detailed description of these, as well as other regional analysis studies in tourism, follows.

In the article “Regional Analysis of Tourism Resources” Smith (1987) identifies 16 indices of resource patterns: various lodging facilities, marinas, golf courses, historic sites, provincial parks, ski slopes, festivals and tours. No explanation is provided about the selection criteria used to determine the resources. The factor analysis that was performed on the resource items resulted in four dimensions, namely “Urban tourism,” “Outdoor recreation,” “Cottaging and boating,” and “Urban fringe tourism.” These four resource components were able to explain 77.9% of the variance.

Lovingood and Mitchell (1989), selected 13 variables, including lodging, golf courses, festivals, boat ramps, historical sites, population, and natural sites. Attempts were made to replicate the variables used earlier by Smith but, because of a lack of data availability, a reduced number of variables was selected. Despite of the relatively modest

number of resource items used, the overall resource variance explained was 86.4%, higher than that in Smith's (1987) study. The grouping of variables revealed four resource dimensions that differed from those in Smith's study. They were labeled "Urban recreation-amenities rich," "Urban recreation-tourism," "Boating and camping," and "Outdoor recreation-nature oriented."

The study by Backman, Uysal, and Backman (1991), used 24 resource items that were grouped into five factors, namely "Tourism supporting services," "Accommodation/Resort," "Camping," "Outdoor activity," and "Historic/ Environment." The three factor analyses that were performed in this study revealed higher variances than those reported in previous studies: 90.3%, 92.0%, and 92.9%.

Uysal and Potts (1990), in investigating the available resources in South Carolina, listed 28 supply variables ranging from transportation to boat ramps. The authors' definition of regional tourism resources is comprehensive and includes superstructural and infrastructural variables, cultural/natural attributes, and labor force. Two resource factors, "Tourism supporting services" and "Accommodations/Resort amenities" explained 90.3% of the variance in the tourism supply measures.

Cha and Uysal (1994) used Smith's model to conduct a regional analysis of tourism resources in Korea. The 25 variables were comprised of many infrastructural items indirectly related to tourism. Those include radio stations, health facilities, and wholesale establishments. When grouped, the supply indicators explained 94.4% of the overall variance and resulted in "Tourism supporting services" and "Area size/cultural assets."

The most recent publication that followed Smith's (1987) approach was written by Spotts (1997). The author substantially increased the number of resource variables to 39 and obtained six tourism resource dimensions. They were labeled "Urban," "General Wildland," "General Coastal," "Parkland," "Lake Michigan Coastal," and "Canoeing/ORV Riding" and captured 70.4% of the overall resource base variance.

These six studies representing the empirical core of the body of knowledge on regional tourism resources have used different resource attributes based on their availability. The factored groups that result from the resource base variables differ widely

in terms of nature and structure, number, item representation, and variance explained.

Their differences may be dependent upon:

- a. *The number and nature of the selected resource indicators.* The studies varied significantly in terms of variable selection. Specifically, the variables fluctuated from 39 to 13. For example, Smith (1987), Spotts (1997), and Lovingood and Mitchell (1989) used tourism related indicators exclusively, whereas Uysal and Pott (1990) and Cha and Uysal (1994) included other infrastructure and general services indicators. The nature of the selected resource indicators varied not only because of data availability, but also because of the geographical position of the area under investigation. For instance, downhill skiing is a critical attraction in Canada but it is not present in South Carolina. Seashore data can be used in South Carolina but cannot be used in the province of Ontario.
- b. *The unique characteristics of the area under investigation.* Because of variations in area extension and/or climate factors, the state of Michigan has characteristics that greatly differ from South Carolina or Korea.
- c. *The purpose of the study.* Most of the regional resource studies intended to shed light in the fields of tourism planning and development. Specifically, they looked at issues such as accessibility, development potential, economic growth, policy, and management. Spotts' (1997) article, instead, focused only on the marketing implications of regional tourism resources.

Other studies that have served as a foundation for developing a deeper understanding of tourism resource analysis come from Goodrich's (1977) and Gunn's (1979). Contrary to the literature that has been recently examined, the first study is demand based. This study investigated travelers' perceptions of nine Central and North American regions. Ten resource dimensions were selected and four of them related to the availability of lodging, leisure, and entertainment facilities. The rest address historical/cultural interest, scenic beauty, resident attitudes, rest and relaxation opportunities, shopping facilities, and cuisine. Gunn's (1979) study is mostly geography based. The resource scale is represented by nine indicators, which considered the following:

- the natural aspect of the resources (water, waterlife; topography, soils, geology; vegetative cover, wildlife, pests; and climate, atmosphere),
- attractions (esthetics, existing attractions, and history), and
- infrastructure (service centers and transportation).

This resource list is generally adjusted and controlled by “program factors,” which include marketing activities, planning policies, and development issues. Frequently, the program factors emphasize different aspects of the tourist resources. For example, marketing tends to highlight attractions, planning focuses on the natural aspect of the resources, and development concentrates on destination infrastructures.

The tourism system is generated by tourism resources and attractions; these are the tourist components at destination (Crompton, 1990). Because of the complexity and the nature of the attractions, researchers are still unable to define in detail the attractions and resources that are essential in generating tourism visitation. Apparently, the importance of single or clustered attractions is dependent upon the characteristics of the region. Although there is little agreement as to what constitutes a representative base of tourism resources, the general tendency is to approach it from a broad perspective so as to include all its manmade and natural elements.

## **TRAVEL SEGMENTS**

Market segmentation’s primary goal is to identify groups of individuals with similar needs and wants (Uysal and McDonald, 1989). The complexity of demand and supply variables into which the vacation market can be segmented makes tourism segmentation studies particularly challenging. Among the most popular variables used to perform market segmentation in the tourism industry there are: vacation attributes (Crask, 1981), benefits sought by travelers (Gitelson & Kerstetter, 1990; motivations (Formica and Uysal, 1998), Locker & Perdue, 1992), personal value systems (Madrigal and Kale, 1994), product bundles (Oh, Uysal and Weaver, 1995), and origin and family group-type (Ralston and Crompton, 1988).

Although it is not the exclusive factor, motivation represents a major component of explaining human behavior (Crompton, 1979; Fodness, 1994). Motivations include the

personal psychological needs (such as value systems, and benefits sought) that are likely to be satisfied through the activities performed during the tourism experience.

The theoretical underpinnings of tourism segmentation are based on two forces: push and pull. Travelers participate in a number of activities because they are “pushed or pulled” by two factors: their motivations and the destination attributes. Pull factors are represented by the attraction variables available at destination, such as museums, parks, shopping facilities, and beaches. The tangible aspect of pull factors has been discussed and analyzed throughout this chapter. The travelers’ perceptions of the attractions at destinations are also elements of the pull factors. The socio-psychological elements that compel individuals to travel and experience activities at destinations are called push factors. As every other socio-psychological element, push factors are intangible and are expressed by specific needs and desires, such as rest and relaxation, excitement, adventure, social interaction, and social status (Uysal, Gahan, and Martin, 1993). The results of push and pull factors are different. Push factors generate the need to go on vacation whereas pull factors are related with the destination choice.

Push and pull motivation literature consistently confirms that destination characteristics and travel motivations are interrelated (Goodrich, 1978). Baloglu and Uysal (1996) found that four different segments—sports/activity seekers, novelty seekers, urban-life seekers, and beach resort seekers—were attracted by different destinations based on their motivations. Sports/activity seekers were focused on destinations that would provide a vast variety of outdoor activities, water sports, nightlife and entertainment. Novelty seekers were targeting destinations rich in cultural and natural resources. Urban-life seekers were most interested in the infrastructures and services that make tourism possible, such as restaurants and comfortable hotel rooms. Beach/resort seekers are especially attracted by destinations with warm and sunny weather, exotic environments, and beaches.

Different attraction dimensions are perceived differently by different market segments. Brayley (1990), for example, found that psychocentrics would assign a higher weight than allocentrics to finance-related attraction attributes, such as price levels at destination. Literature is rich in studies that relate travel motivations to the subjective and objective availability of destination attractions (Oh, Uysal and Weaver, 1995; Pyo,

Mihalik, and Uysal, 1989; Uysal and Oh, 1995). Overall, the results of these studies have consistently shown a relationship between motivation traveler segmentation and attraction typologies. Reasons for travel may correspond to certain benefits that are to be valued and obtained at the destination.

This study tests the importance of different attraction dimensions from the perspective of two market segments traveling in Virginia, identified by the NFO Research (1993). The segmentation strategy was based on a psychographic analysis of travelers' motivations. The first segment, "See and Do," is more active in nature and is interested in experiencing new and exciting things while on vacation. "See and Do" individuals value intellectual and physical stimulations. The second segment, "Social Escape," seeks tranquility while on vacation and values the comfort available at home while spending relaxing time with family members and friends.

## **ATTRACTIVENESS AND ITS MEASUREMENT**

This section of the review of literature focuses on destination attractiveness. There are two basic approaches to measure tourism attractiveness: demand and supply. The first is based on the assumption that "the travel destination reflects the feelings, beliefs, and opinions that an individual has about a destination's perceived ability to provide satisfaction in relation to his or her special vacation needs" (Hu and Ritchie, 1993, p. 25). Similarly, Mayo and Jarvis (1981) argue that tourism attractiveness is dependent on the personal benefits of travelers and on the perceived delivery of those benefits. The last, the supply approach, is best defined by Kaur (1981). He considers tourism attractiveness as the drawing force generated by the overall attractions existing in a given place at a certain time.

Nyberg (1995) claims that, in addition to the supply and demand approaches, the entire tourism system—visitors, destination, and the linkage between the two—needs to include a definition of attractiveness. The current body of knowledge in tourism attractiveness suggests that the main concern of scholars, researchers, and practitioners is not related to the theoretical investigation of the attractiveness concept itself but to the possibility of finding a universal method for its measurement. Some authors are more interested in the differences among visitors' perception of attractiveness of a region,

destination, or site (Embacher and Buttle, 1989; Philipp 1993) and ignore an analysis of the actual supply resource base. Others (Ferrario, 1979; Piperouglou, 1967) are more interested in the evaluation—by experts and actual or prospective visitors—of the resources that are available at destination.

Overall, most of the literature on destination attractiveness recommends the formulation and implementation of the following procedure (Nyberg, 1995; Pearce, 1981):

- Define the region under investigation
- Measure the unit area
- Inventory the resources of the region
- Group the resources into attraction factors or categories
- Evaluate the attractions
- Present the results in a geographical fashion

#### **Define The Region Under Investigation**

The procedural analysis of destination attractiveness generally begins with selecting a specific area for attraction analysis. A variety of methods are available to determine the resource base of a region. Most of the studies relate to administrative territories, such as:

- a cluster of tourist sites (Anderson, 1986; Gearing and Var, 1977; Georgulas, 1970),
- a single site (Butler, 1991),
- a province (Smith, 1987),
- a planning district (Var et al., 1977),
- a region within a state (Gunn, 1979),
- a state (Brayley, 1990),
- a country (Ferrario, 1979; Gearing et al., 1974; Crompton, 1979; Pearce, 1982; Potter and Coshall, 1988), or
- a number of countries (Hu and Ritchie, 1993; Embacher and Buttle, 1989).

Usually, the more extended the area, the more important the detection and classification of the sub-areas that have the highest attractiveness potential (Lawson and Baud-Bovy, 1977).

It is interesting to note that the analysis of most recent studies measuring attractiveness extends to regions or countries (Liu, 1988; Tang and Rochananond, 1990). The earlier studies in recreation and tourism, however, tended to investigate specific sites and resources. For example, Cheung (1972) and Knetsch (1977) considered natural parks, while McAllister and Klett (1976) analyzed the attractiveness of ski slopes and winter facilities. For the purpose of this study the region under investigation is the state of Virginia.

### **Measure the Unit Area**

There is a substantial agreement among researchers and tourism planners that tourist regions do not necessarily correspond to administrative regions. In particular, supply (Smith, 1987) studies have demonstrated that the patterns of spatial distribution of resources do not always coincide with the administrative and political boundaries. Van Doren (1967) was concerned with the inability of attractiveness scales and indicators to incorporate attributes that are relevant for travelers but defy jurisdictional borders and physical limitations. Indeed, tourists can be interested in touring the Grand Canyon while being unaware of the identity of the states in which it is located. Among the most popular studies that used attraction indicators to define tourist regions are those by Gergoulas (1970), Piperoglou (1966), and Ferrario (1979). These studies used point data and symbols to identify single attractions first, important clusters of resource attributes second, and tourism regions last.

In some cases, however, the administrative or political borders match with a tourist region. The state of Florida, the city of Paris or the province of Tuscany are some examples demonstrating a consistency between tourist and administrative areas. The majority of destination attractiveness studies address destinations that are defined for purposes other than tourism or vacation. Gearing et al., (1974) used the 65 provinces of Turkey as unit area of measurement while Tang and Rochananond (1990) investigated 32 selected countries as major international tourist areas. Similarly, this study used the 95 counties and 40 independent cities of Virginia as units of measurement.

### **Inventory the Resources of the Region**

From a supply side perspective, measuring tourism attractiveness involves the same procedural elements investigated in the regional resource studies. Specifically,

attractiveness researchers have first selected and listed the resources available in the area under investigation and, then, measured those resources. Brayley (1990), Ferrario (1979) and Lew (1987) identified the items composing the resource base by conducting a content analysis of the available travel/information guides. In other studies (Gearing et al., 1974; Ritchie and Zins, 1978) the areas under investigation were subjectively assumed to have certain resource attributes and no inventory of attractions was performed. The rest of the destination attractiveness literature (Hu and Ritchie, 1993; Liu, 1988; Philipp, 1993; Kozak and Rimmington, 1998; Muller, 1991) included the resource variables based on literature.

Piperoglou (1966), by comparison, used a demand side perspective and surveyed visitors to Greece to identify individual tourist's interests. Based on the results, respondents' interests in Greece were grouped in three broad categories: "Classical Monuments," Picturesque Villages," and "Sunny Beaches." The principal benefit of using a market-based approach is that the researcher is not limited to the available supply data, as would typically occur in the regional resource analysis studies. Additionally, looking at attractions from demand perspective allows for the analysis of the intangible aspects of tourism attractiveness, such as "attitudes toward tourists" and "uniqueness of local people's life" (Philipp, 1993).

In contrast to the prevailing literature on tourism attractiveness, the present study collected measures of all attractions and resources existing in every county and independent city of Virginia. In other words, a census of attractions was conducted on all the resources available in the state by political subdivisions. This methodology avoids all forms of bias that might be inherent in inventories generated by content analysis of tourist guides, visitors' perception, or researchers' expertise.

### **Group the Resources Into Attraction Factors or Categories**

The second step involves the grouping of the single resources or attractions into categories. The supply variable selection and grouping vary based on the region that is investigated. For example, Ferrario (1979) examined the resources of South Africa and used attributes that cannot be found in literature. In the "Special formations" category he included gorges and canyons, caves, and rock formations. Other unique attraction categories that were used in Ferrario's study are "Tribal Bantu life," "Hunting safaris,"

and “Mine visits.” Ritchie and Zins (1978) concentrated exclusively on the cultural component of attractiveness. They included in the “Cultural and social characteristics” the following attributes: work, dress, architecture, handicrafts, history, language, religion, education, traditions, leisure activities, art/music, and gastronomy.

Some scholars have preferred to mix attribute categories. Hu and Ritchie (1993) listed resource dimensions such as cultural attractions and recreational opportunities, with single resources, like festivals, climate and food. Ferrario (1979) listed casinos, Spa resorts, and zoos with “Technology and progress,” “Participation in local life,” and “Scenery and landscape.”

One of the most comprehensive resource inventories was offered by Gearing et al. (1974) in determining the attractiveness of Turkey as a tourist destination. The following is the list of attribute groups that was formulated by Gearing et al. (1974):

- a. *Natural factors*. They include general topography; flora and fauna; proximity to lakes, rivers, sea; islands and islets; hot and mineral water springs; caverns and waterfalls; amount of sunshine; temperature; winds and precipitation; and a discomfort index.
- b. *Social factors*. They include local architectures, mosques, monuments, art museums, music and dance festivals, sport events and competitions, folk music and dances, local cuisine, handicrafts, specialized products, fairs and exhibits, and local congeniality/treatment of tourists.
- c. *Historical factors*. The existence, condition, and accessibility of ancient ruins; the religious importance in terms of present religious observance and practices; the extent to which a site may be well known because of important historical events.
- d. *Recreational and shopping facilities*. The offering of hunting, fishing, swimming, skiing, sailing, golfing, horseback riding facilities. Archaeological and ethnographic museums, zoos, botanical gardens, aquariums. Mineral and hot water spas, hiking trails, and picnic grounds. Gambling casinos, discos, theaters, cinemas. Souvenir and gift shops, handicraft shops, auto service facilities, groceries and necessities.
- e. *Infrastructure, food and shelter*. Highways and roads; water, electricity and gas; safety services; health services; communications; public transportation facilities. Hotels, restaurants, vacation villages, bungalows, motels, camping facilities.

This list and the grouping of attraction has been used in other studies and replicated for different destinations (Hu and Ritchie, 1993; Liu, 1988; Ritchie and Zins, 1978). However, the availability of the single attractiveness components at destination was not measured and their pertinence to one attraction dimension was the result of a logical assessment other than a statistical analysis. This study defines the availability of attraction resources by county, independent city, and tourist regions. In also groups them in dimensions with the help of factor analysis.

### **Evaluate and Weigh the Attractions**

The importance and reliability of comprehensive measures of destination attractiveness have been investigated by literature (Husbands, 1983). The general or specific characteristics of a given area can be measured objectively and subjectively. A thorough review of the methods used to evaluate the attractions follows. It involves different sources, parameters and methodologies. The most cited studies in tourist attraction evaluation (Piperoglou, 1967; Gearing et al., 1974; Ferrario, 1979) mainly focus on two methodological key points. The first relates to calculations and procedures needed to measure tourism attractiveness and the second explores the subjects evaluating and weighting the attractions. Only a few studies have generated both supply and demand evaluation measures (Ferrario, 1979, Piperoglu, 1967). In fact, most of them have only focused on the demand evaluation of the attractions at destination. The weighting procedure has mostly been performed by experts (Gearing et al., 1974, Liu, 1988). Tourist attractions can be analyzed by the researchers, a team of experts, actual and/or potential tourists, and visitors and experts.

### **Attraction Evaluation and Weighting by the Researcher**

The major weakness of this method (Gunn, 1979) is the lack of objectivity due to the limited and often biased opinion of the researcher about a given destination. Arbitrary and subjective evaluations are likely to result from the application of this method.

### **Attraction Evaluation and Weighting by a Team of Experts**

This is the most common evaluation method (Liu, 1988; Var et al., 1977; Gearing et al., 1974; Ritchie and Zins, 1978). Generally, experts are selected based on: (a) purpose and implications of the study, (b) area distribution of the region, and (c) professional background.

- (a) Attractiveness measurements focusing on more effective marketing and promotional strategies use experts directly or indirectly involved with tourism marketing, such as Convention and Visitors Bureaus' managers, advertising professionals, marketing consultants, opinion leaders, public relations experts, and media executives (Liu, 1988). Pure tourism planning studies, however, are likely to use extension specialists and urban planners as experts.
- (b) Regions including scattered or heterogeneous areas (i.e., Hawaii) are best evaluated by experts that are representative of and indigenous to each clustered area (Liu, 1988).
- (c) The more heterogeneous the group of experts, the more comprehensive and objective the assessment. Hoteliers, tour experts, government professionals, transportation executives, academicians, attraction managers, tourism planners and developers, and cultural/historical experts are often chosen for representative purposes (Gearing et al., 1974; Ferrario, 1979; Var et al., 1977). Because the experts are generally asked to weigh the importance of the single dimensions selected to represent the entire tourism attractiveness, a truly representative group is paramount for the success of the study. If, for example, experts coming from the lodging sector are over-represented it is likely that the lodging dimension will have an attractiveness weight greater than expected. Likewise, a disproportionate number of museum directors and archaeologists can result in the over-rating of the cultural-historical dimension.

#### Attraction Evaluation and Weighting by Actual and/or Potential Tourists.

Ultimately, the travelers evaluate the attractiveness of a site, destination, or region. The studies that measure attractiveness from a demand perspective only (Anderson, 1986; Philipp, 1991; Hu and Ritchie, 1993, Muller, 1991; Tan and Rochananond, 1990) have a high degree of variance in terms of methods and variables used. For example, Muller (1991), investigated United States' residents who planned a visit to Toronto. In exploring value research in marketing, he used an attractiveness scale that was derived from urban planning studies (Boyer and Savageau, 1985), consumer research (Holbrook and Hirshman, 1982), and tourism studies (Gearing et al., 1974). Variables included in the scale ranged from the subjective fear of feeling like a stranger

to the objective evaluation of restaurant availability. Visitors' value, destination attractiveness, and city attributes were used to identify the perceptions of international travel segments. Differences were found between segments in terms of self-respect, information behavior, familiarity, security, entertainment, and self-enrichment.

Tan and Rochananond (1990) used the multi-attribute scale developed by Ritchie and Zins (1978) to determine the destination attractiveness of Thailand as compared to 31 other selected countries. One controversial aspect of the study was the selection of the sample. Thailand hotel customers, outgoing visitors, local tourism professionals, business managers, and expatriates working for multinational corporations participated in this study. It is likely that both the international travelers and the residents overemphasized the attractiveness power of Thailand over the other international destinations. The results reveal that Thailand was ranked first or second by Asian/Australian, European, and American groups. However, in terms of international visitation and tourist receipts, Thailand does not rank among the top 10 countries in the world that have been visited by international travelers (Waters, 1999).

Anderson (1986) asked Minneapolis and St. Paul residents to rate the attractiveness of selected local sites. His study does not define destination attractiveness nor does it use a scale. It focuses exclusively on the relationship between specific attractions' familiarity and attractiveness. Philipp's (1993) study is neither site or region dependent and was aimed instead at determining racial differences based on selected promotional material depicting different natural, cultural, and entertainment attractions. The author claims that a pictorial analysis has the advantage of presenting each respondent with the same visual stimuli, however, the limitations of using photographs are numerous ranging from the quality to the scope of the image. As a consequence, although such a study can be effective to determine differences between two groups of individuals it is hardly applicable in determining the attractiveness power of a given destination.

Without a consistent, methodologically sound, and validated analysis, the measurement of attractiveness from a demand standpoint has a relatively modest impact upon the existing body of knowledge. Overall, a subjective measurement of destination attractiveness is best performed by using a contextual approach. Hu and Ritchie (1993)

used this approach in a western Canadian urban area. Their study was limited to the investigation of two situations. The first was a recreational vacation and involved activities that would lead to mental and physical stimulation. The second was an educational vacation and included socio-cultural learning activities. The attractiveness scale used was derived from Gearing et al. (1974) and Ritchie and Zins' (1978) studies. The destinations were Australia, China, France, Greece, and Hawaii. The results show that the difference in travelers' perceptions of different countries to provide satisfaction from a recreational and an educational vacation experience was statistically significant. Finally, the impact of a previous visitation experience on the perceived attractiveness of the five countries demonstrated that, normally, respondents have a positive image of a country that has already been visited.

#### Attraction Evaluation and Weighting by Tourists and Experts

Some authors claim that studies including both experts' evaluations and visitors' surveys have the highest degree of accuracy (Nyberg, 1995). The only case available from literature that included both criteria is Ferrario's study (1979). He inventoried the South African resources using tourist guides, then asked visitors about their preference and interest in each attraction. He also employed experts to determine the degree of availability and utilization of tourist attractions. Specifically, the experts were asked to investigate the accessibility of specific attractions in terms of seasonality, conservation, and popularity. Interestingly enough, in Ferrario's (1979) study the task assigned to the experts was different from that presented in other destination attractiveness studies (Gearing et al., 1974; Liu, 1988; Var et al., 1977). In fact, the common task of expert teams involved with destination attractiveness analyses is to accurately weigh the magnitude of different attraction dimensions. By contrast, Ferrario (1979) accomplished this task by measuring the frequency with which every attraction was mentioned in the South African guidebooks. Those attractions that resulted being mentioned more often received the greatest weight.

#### Visitors' Perception Vs. Experts' Opinions

Researchers who emphasize the demand side of tourism attractiveness claim that without a direct investigation of visitors' perceptions an accurate measure of attractiveness is impossible (Pearce, 1981). The basic assumption of this school of

thought is that supply elements are meaningful from a tourism perspective only when are perceived and valued by demand (Uysal, 2000).

One of the reasons offered to support the demand approach is that visitors can easily discriminate between well established and unfamiliar attractions or regions (Nyberg, 1995). However, as stated earlier in this section, visitor opinions are heavily dependent on contextual situations such as familiarity and vacation experiences. In addition, visitors' attractiveness assessment is mostly based on the promotional and overall marketing efforts of the destination. The travel experts not only know visitors' perceptions and preferences of tourist destinations but also influence them with their promotional campaign and travel advice.

In comparing the two methods, Liu (1988) claims that the use of experts to measure destination attractiveness has several advantages over the investigation of visitors' opinion. First, expert opinions are based on years of observations and a consistent interaction with visitors and are therefore more reliable. Second, they are more efficient than investigating visitors' opinion since experts can be surveyed in a relatively brief period of time whereas a large-scale sample is needed to conduct opinion surveys. Ferrario (1979), for example, in order to avoid skewed results caused by seasonal variations of inflow travelers, took one year to collect 5,053 responses.

Finally, the temporary visitation of tourists offers a limited knowledge of the attractions existing in a region. As a consequence, alternative or unfamiliar attractions are likely to be excluded from visitors' attractiveness evaluations. In contrast, because of their professional involvement and permanent presence at destination, experts have a solid knowledge of the entire portfolio of existing attractions. For these reasons, the present study makes use of tourism experts to determine the demand side of attractiveness weights and attraction evaluations. In addition, it presents with supply evaluation and weighting measures.

### **Presentation of Results in a Geographical Fashion**

The final step is to transfer the results of the investigation onto a map. When the spatial variation of resources and attractions is resolved by assigning a measurement for purposes of comparative evaluation, it is necessary to describe their distribution with visual aids. Mapping the geographical distribution of the measured resources enables the

visualization of overall attractiveness of the region. It also assists in evaluating the physical distribution of the resource base. This method is more familiar in tourism regional resources studies than in attractiveness studies. In fact, only the early destination attractiveness studies by Ferrario (1979), Georgulas (1970), Gunn (1979), and Piperoglou (1967) mapped the results within the investigated areas. The Geographic Information System (GIS) is used in this study to map the findings at the regional level.

### **BENEFITS OF MERGING REGIONAL RESOURCE ANALYSIS AND ATTRACTION RESEARCH**

The benefits of conducting tourist attraction research based on a regional resource analysis approach relate to tourism policy, planning, development, marketing, and resource allocation. It is paramount that tourism planners consider regional resource and attractiveness analyses when recommending to policy makers where and how to implement tourism development plans. Tourism policy decisions should assume that tourism development and its growth rate are dependent on tourism supply (Backman, Uysal, and Backman, 1991; Uysal and Potts, 1990). Cha and Uysal (1994) for example found that only two specific areas had a significant development of tourism resources in Korea. This discovery has significant implications in terms of tourism policy and resource allocation. Areas rich in cultural and natural resources may be in need of more infrastructure or tourism service facilities, such as hotels and tour companies. Conversely, areas with relatively modest attractions and rich in infrastructure and supporting services should consider the possibility of transforming hotels into residential buildings.

A geographical analysis of resources is critical in defining the best promotional strategies. For example, some regional areas that have been previously defined as tourist areas may include destinations that have different resource characteristics and, therefore, cannot be promoted together. The results of a regional destination attractiveness analysis however, are likely to identify a cluster of destinations that have similar characteristics and need to be promoted together. A final marketing consideration is that the identity of a region should match the perceived image of it. In fact, only when the image component is consistent with the identity component of a destination will beneficial marketing results be generated (Spotts, 1997). He argues (p.3):

“it is also very important for marketers to understand the identities of their areas so that they can determine what these images realistically *can be* and *should be*. Likewise, it is important for marketers to understand the extent to which potential tourists are aware of tourism regions and think in terms of such regions when choosing trip destinations. But it is more important for marketers to actually create this awareness and consideration of their regions by more effectively defining, developing, and promoting them.”

## **FOUNDATION OF THE STUDY**

The theoretical and practical elements in this chapter are used as a foundation for the formulation and development of the model in Figure 2. To develop a more specific understanding of the present study, a summary of the research that is used as a knowledge base follows. It includes: (a) the selection of the attraction variables, (b) the creation of factored attractions, (c) the assignment of weights, (d) the assignment of attraction evaluation scores, and (e) the measurement and comparison of relative and overall attractiveness of tourist regions.

The selection of the attraction variables is based upon Lew's (1986) work. He performed a content analysis of guidebooks to define the resources that were considered as tourist attractions in the area under investigation. The most cited destination attractiveness studies (Ferrario, 1979; Gearing et al., 1974; Ritchie and Zins, 1978) are also considered to ensure that all critical variables are included and justified.

The studies in regional analysis of tourism resources (Backman, Uysal, and Backman, 1991; Cha and Uysal, 1994; Smith, 1987; Spotts, 1997; Uysal and Potts, 1990) are instrumental in the development of the research methodology. Particularly, these previous works provide the base for: the factor analysis of the attraction variables, the definition of the attraction constructs, the identification of tourist regions based on attraction patterns in space, and the examination of the relationships between the attraction constructs and the economic benefits. The literature on regional analysis of tourism resources provides an established methodology for the investigation of

destination attractiveness. However, the implementation of that methodology is new to destination attractiveness studies.

The notions of centrality and evaluation are adopted from Brayley's (1990) work. There are two distinct weighting procedures that are used to operationalize the notion of centrality: subjective and objective. The first (Fishbein, 1963) has been extensively used in destination attractiveness literature (Hu and Ritchie, 1993; Smith, 1995) and utilizes tourism experts to measure the importance of the attraction constructs. The objective weighting procedure that is applied in this study has never been used in destination attractiveness research and results from the sum of squared loadings of each attraction factor.

The notion of attraction evaluation is applied from a supply and a demand perspective. Supply is achieved by adding the standardized attraction construct scores of the counties composing the tourist regions. This technique has been successfully applied by previous works on regional analysis of tourism resources (Backman, Uysal, and Backman, 1991; Cha and Uysal, 1994; Smith, 1987; Spotts, 1997; Uysal and Potts, 1990). The demand side of evaluation is measured by tourism experts. This is a common methodology and it is based on a number of destination attractiveness studies (Gearing et al., 1974; Liu, 1988; Var et al., 1977). Finally, the measure of attractiveness resulting from the sum of weighted supply and demand evaluations is typical of most destination attractiveness studies (Lew, 1987; Nyberg, 1995) and is mostly based on the seminal work of Gearing et al. (1974).

The present study proposes a tourist destination attractiveness model that builds on previous investigations by using new theoretical and analytical models. The innovation presented in this study stems from its integrative approach in bringing together tourism resources and destination attractiveness research. This process includes the use of established analytical tools to identify tourism attraction dimensions, determine tourism regions, and simultaneously measure and compare attractiveness from both a demand and supply perspective. Such an approach allows the researcher to achieve a high degree of objectivity and precision in measuring destination attractiveness. In addition, this study develops a new weighting scheme and an original model for the comparative evaluation of supply and demand indicators.

## CONCLUSIONS

The present literature review presented a thorough analysis of the most representative studies in tourist attractions assessment and regional resources. These two schools of thought are critical in the identification and measurement of destination attractiveness. In the first section the concepts of tourism system and tourism planning were presented. The following section was dedicated to regional resources studies in the tourism field. The third section investigated the magnitude and nature of resources and attractions. The fourth section analyzed the relationship between destination attractions and travel segments. The assessment of destination attractiveness represented the final section of this chapter.

It should be noted that, despite the differences between the regional resources and tourism attractiveness studies, they share some important analytical aspects, such as the identification of the region and the variables that constitute the resource base. The studies that comprise the body of knowledge in destination attractiveness were mostly published in the 1960s and 1970s (Ferrario, 1979; Gearing et al., 1974; and Piperoglou, 1966; Var et al., 1977). Table 2 illustrates the major methodological aspects of their analyses. Recent attractiveness studies offered a modest contribution to the development of theoretical and practical foundations in the field. They replicated the methodology used in the past (Liu, 1988, Philipp, 1993), focused on a single aspect of tourism attractiveness (Butler, 1991), or presented some methodological flows or limitations (Anderson, 1986; Tan and Rochananond, 1990). Therefore, there is only a small and relatively old body of literature addressing this important aspect of tourism, with the most recent literature playing a relatively minimal role in the understanding of the process, method, and variables that should be applied.

The regional resource literature is deeply rooted in the field of geography. Gunn (1965) is the first researcher who was able to bridge the geography methodologies of regional resources in the studies of tourism. However, in presenting the regional resource studies, Smith's (1987) work emerges as the most comprehensive. His method was acknowledged as methodologically robust and was replicated in different areas of North America and in South Korea (Lovingood and Mitchell, 1989, Uysal and Potts, 1990).

Table 2. Characteristics of Studies Published by Major Contributors to Tourist Attractiveness Literature.

Author	Piperoglou	Gearing, Swart, & Var	Var, Beck, Loftus	Ferrario
	1966	1974	1977	1979
<i>Supply</i>				
Place	Greece	Turkey	British Columbia	S. Africa
Administrative Regions	N/S	65	17	NS
<i>Procedure</i>	<ol style="list-style-type: none"> <li>1. Tourist survey</li> <li>2. Identify attractions</li> <li>3. Define regions based on attractions</li> <li>4. Capacity of regions to absorb visitors</li> <li>5. Mapping</li> </ol>	<ol style="list-style-type: none"> <li>1. Selection of resource items and factors</li> <li>2. Weighting factors by experts</li> <li>3. Attractiveness measurement</li> </ol>	<ol style="list-style-type: none"> <li>1. Selection of resource items and factors</li> <li>2. Weighting factors by experts</li> <li>3. Attractiveness measurement</li> </ol>	<ol style="list-style-type: none"> <li>1. Inventory of resources from tourist guides</li> <li>2. Tourist survey to weight attractions</li> <li>3. Experts measuring resources availability</li> </ol>
<i>Resource Inventory</i>				
Items	N/A	16	17	2,300
Factors	3 Classical Monuments Picturesque Villages Sunny Beaches	5 Natural, Social, Historical, Recreational & Shopping, Infrastructure & Food & Shelter	5 Natural, Social, Historical, Recreational & Shopping, Infrastructure & Food & Shelter	21 *
T. Regions	N/S	4	8	20
<i>Expert Panel</i>	N/A	26	94	704
Hotel Ind.		4	NS	
Transp. In		4	NS	
Tour Ind.		10	NS	41
Govern		4	NS	378
Academia		4	NS	
No-profit org. & clubs				232
MKTG Media CVB				53
<i>Weighting</i>	Tourists	Experts	Experts	Tourists
<i>Ranking</i>	N	Y	Y	Y
<i>Demand</i>				
Sample	737			5,053
Area	International			International

\* scenery, wildlife, vegetation, tribal Bantu life, town visits and shopping, participation in local life, sun and beaches, historical monuments, zoos and animal farms, mine visits, other ethnic groups, sport amenities, sea sports, nightlife entertainment, rock-art and archaeology, open air activities, technology and progress, hunting safaris, casinos, spectator sports, spa resorts.

Tourist attractiveness poses the challenge of matching tourism resources with tourist preferences (Piperoglou, 1966). The body of literature on regional analysis of tourist resources offers a scientific assessment of quantitative regional variations of tourist attractions. However, visitors' decisions to travel are not only affected by quantitative considerations but also by qualitative considerations (Leiper, 1990). To fill this methodological gap, Spotts (1997) suggests:

“One approach may be to conduct a quantitative analysis and then adjust the results, to the extent possible, by incorporating qualitative information provided by the representatives of the target market” (p. 14).

The theoretical underpinning of this research is the tourism system approach. Simply stated, the tourism system revolves around two essential elements: an origin (demand) and a destination (supply). Research has shown that destination attractiveness is a function of the resource base—*attraction*—and of demand—those who are *attracted*. Some scholars claim that without attractions tourism is impossible (Gunn, 1994) while others believe that it is demand that propels tourism (Dale, 1990). The reality lies in the reciprocal relationship between these two key elements, which is essential to the very existence of tourism. In order to advance the current knowledge of tourist regional and destination attractiveness, the present study makes use of the regional resource models (destination or supply) in conjunction with demand (origin) preferences. The results are shown in numerical values and in regional maps.

Based on the reviewed literature, the following assumptions guide the theoretical and methodological analyses of this study (Uysal, 2000):

- Demand and supply factors collectively and simultaneously influence the production and development of tourism goods and services.
- In combination, the components of demand and supply generate the tourist experience.
- It is necessary to measure destination attractiveness by performing a composite analysis of multiple factors at the same time.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **INTRODUCTION**

An overview of this study was presented in Chapter One. It identified the background, context, and need for such investigation. For the convenience of the reader, the research questions are repeated as follows:

1. Is there an association between supply and demand importance of attractions dimensions?
2. Is there a correlation between the regional availability of attraction dimensions and the perceived availability of the same dimensions?
3. Do traveler segments place a different importance on selected attraction dimensions?
4. Is there a direct relationship between the supply and demand attractiveness of a region and its tourism economic benefits?

Chapter Two illustrated the theoretical bases, structure, and justification for the present study. The literature reviewed and discussed in the previous chapter related to regional analysis of tourism resources, the definition and measurement of tourism attractions, and the concept of destination attractiveness. Specifically, it suggested that a tourism systems approach should be considered in the discussion of attractiveness measurement and hypothesis testing. This approach includes the two critical elements of tourism, namely supply and demand. In order to measure the overall attractiveness of an area and/or the relative attractiveness of a region in relation to another region it was recommended that objective destination indicators need to be applied in conjunction with subjective demand indicators.

The goal of this chapter is to explain the research methodology and design applied in this study. Mainly, the present research develops and tests a theoretical model comprising the necessary elements contributing to the attraction force of a region or destination. In the first section of this chapter, a conceptual model illustrating the measurement and testing of destination attractiveness is presented. Research hypotheses, based on that conceptual model, are presented in the second section. The third section of

this chapter sets forth the research design and includes the methodology used in the current study to achieve the formulated objectives. Because the purpose of this research is to present methodology for measuring destination attractiveness and to test the relationships between its supply and demand components, the valuation methods used in the study are presented in detail. The last section considers validity and reliability issues as they relate to the methodological and theoretical bases of this study.

## **CONCEPTUAL MODEL**

The purpose of this study is to expand upon the previous research efforts regarding destination attractiveness and to recommend a method of measurement. Bagozzi (1980) proposes that in order to develop a “theoretical construct,” such as that of attractiveness, it is necessary to determine the “defined concepts” which are the constructs defined operationally (Bagozzi, 1980: 64-65). The defined concepts are then manifested through “empirical concepts” or operational definitions, which are commonly called variables (Figure 3).

The model, which provides the conceptual foundation of this study, integrates the concepts and procedures of regional resource assessment with the tourism attraction literature. The theoretical model is illustrated in Figure 3 and identifies the theoretical and operational definitions of constructs and variables from a procedural perspective. When the model in Figure 3 is tested from top to bottom, it applies a deductive process and derives predictions from theory. Conversely, when the direction is from bottom to top, an inductive procedure is tested. As shown in Figure 1, this study uses an inductive procedure, which begins with an inventory of the resources available at destination—empirical concepts—and concludes with the assessment of destination attractiveness—theoretical construct.

The first step involves gathering information about “empirical concepts,” or operational definitions, which are represented by the attractions or tourist resources. The second step is to identify the “defined concepts,” or constructs defined operationally, which are the resource dimensions, such as natural, cultural, and historical resources. The last step presents the “theoretical construct” or construct defined constitutively, which is destination attractiveness.

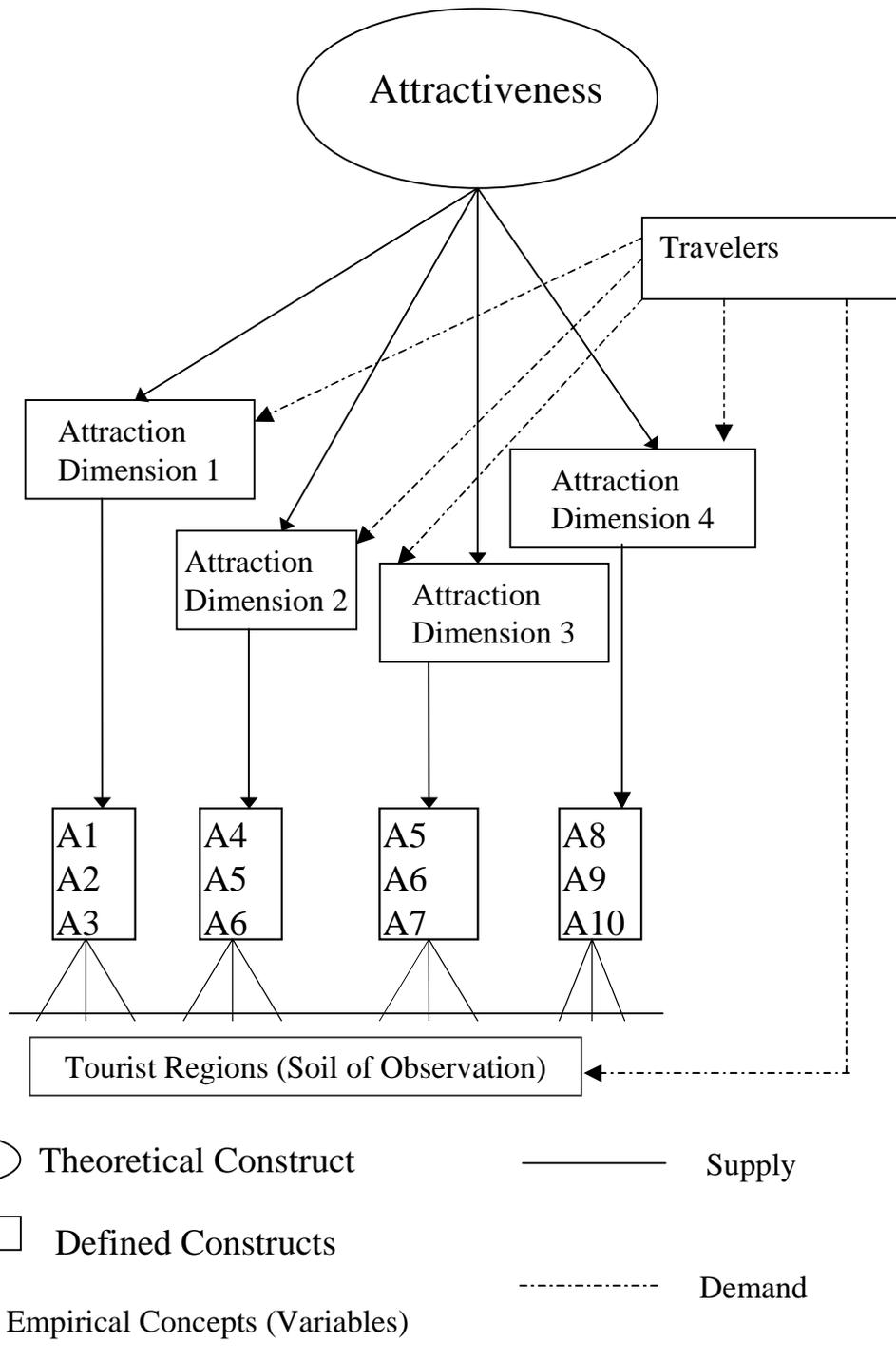
The model presented in Figure 2 shows the procedure involved in the analysis of destination attractiveness. It includes the study constructs and variables, together with the notions of centrality and evaluation to determine the overall attractiveness of a destination. An accurate description and analysis of the components of the model follows.

### **Attraction Variables**

The identification and definition of the attractions represent the base of the entire model. These resources are the driving force of the entire tourism system (Gunn, 1994). The study assumes that the available attractions at destination represent the key elements in determining and measuring destination attractiveness. Brayley (1990) states that each destination is made of many valued resources and attractions. The complex array of resources and attractions is considered critical by potential and actual visitors.

Literature has shown that various sources have been used to determine the appropriate variables operationalizing the defined concepts. Most of the studies investigating regional resources identified the variables that were considered part of the resource base of the area. Smith (1987) clearly stated that the inclusion of “cottaging” in his study was based on the personal assumption that cottages depend exclusively on the tourism industry. However, he argued: “the National Task Force on Tourism Data raised the question of whether cottaging should be considered as a part of the travel and tourism industry for the purpose of an industrial definition” (Smith, 1987, p. 71).

Tourist attractiveness studies used a different approach to determine the attraction variables and/or constructs. They all share one characteristic: a lack of a systematic and comprehensive method to collect data. The predominant school of thought of destination attractiveness originated from a study by Gearing et al. (1974). In this study the resource variables and their constructs were arbitrarily selected by the researchers and there was no supply data collection at the national, regional or local level was performed. Despite these considerations, most of the following literature did not question their appropriateness and proposed, again, the same variables and constructs (Ritchie and Zins, 1978; Liu, 1988; Tan and Rochannanod, 1990). A different school of thought identified the resource variables by conducting a content analysis of the available tourist guides (Brayley, 1990; Faulkner, Oppermann, and Fredline, 1999; Ferrario, 1979; Lew, 1986).



Adapted from Richard Bagozzi, (1980) *Causal Models in Marketing*. NY: John Wiley & Sons.

Figure 3. Theoretical Framework

The resulting variables were successively grouped based on the logical reasoning of the researcher or by using a cluster analysis. A final group of studies (Muller, 1991; Philipp, 1993) ignored the resources at destination and used variables that relate to visitors' perceptions of experiences at destination.

It is notable that the resource variables and construct selections depended heavily on the academic background of the researcher. As a landscape architect, Gunn (1979) used more physical variables—such as soil, topography, geology and vegetative cover—than other researchers. By contrast, the attractiveness scales developed by marketers included distribution, promotion, image, price and other marketing mix variables (Faulkner, Oppermann, and Fredline, 1999; Foodness, 1990; Muller, 1991).

### **Regional Economic Indicators of Tourist Attractiveness**

Regional economic indicators of tourist attractiveness are critical elements in determining the role that different attraction dimensions and regions play in the local economy (Smith, 1987). There are different indicators that can measure the economic benefits of destination attractiveness. Lovingood and Mitchell (1989) used number of visitors, visitor expenditures, and state and local taxes to determine the economic outcomes of tourist visitation. All the variables were accurate in explaining above 97% of the variance in destination resources. Similar results were obtained by Cha and Uysal (1994) by using sales volume of restaurant, hotels, recreational, cultural and service establishments as economic indicators. This study uses four economic indicators as dependent variables to determine the predictive power of different attraction dimensions at a regional level. They are: tourism expenditures, employment generated by tourism, and taxes collected as a result of travelers' visitation.

### **Attraction Dimensions**

Each resource variable representing the tourist resource base is a correlate to another resource variable. Likewise, the various characteristics of a destination are jointly considered as attraction dimensions (Scott, Shewe, and Frederic, 1979). The numerous characteristics of a destination make the evaluation of the tourist resource base extremely complex. From a supply perspective it is paramount to identify those resources that, when grouped, delineate many underlying tourism characteristics of a region. By grouping the various attractions to different dimensions it is possible to identify the major resource

groups to describe the area under investigation. From a demand perspective, travelers tend to integrate the complex inventory of attractions at destination into a relatively simple list of attribute groups (Schreyer and Beaulieu, 1986). The goal of visitors is to receive a higher quantity of information by using the minimum amount of cognitive energy. Hence, travelers tend to economize the information they have received by prioritizing a few resource dimensions in relation to a given destination while ignoring the others.

The resource dimensions are analyzed in a geographical context. The tourist regions that are identified represent the geographical context of this study. As discussed earlier in Chapter Two, there are three different methods used to identify tourist regions: a-priori, homogeneous, and functional. This study utilizes the a-priori and the homogeneous methods. Unlike the a-priori method, which considers the seven tourist regions already identified by the Virginia Tourism Corporation, the homogeneous method groups different areas into regions according to the prevalent resource patterns in those areas. Clusters of cultural attractions such as museums, festivals, and historical reenactments, are likely to distinguish a region as having considerable attraction power from a cultural perspective. Likewise, a consistent blend of natural resources evenly distributed in space may mark a unique tourist region as a potential attraction for outdoor visitors.

The procedures used in the homogeneous method are based on grouping geographical areas according to similarities and differences among the existing resource bases. An observation of similar patterns of tourism resources results in the simple identification of regions with unique and consistent characteristics (Gunn, 1997). Therefore, the attractiveness of a destination depends upon its unique resource patterns as compared to those of other destinations (Spotts, 1997).

#### Appraisal of Attraction Dimensions

Bagozzi (1980: 64-65) explains that, to be operational, the defined concepts must specify procedures for measuring what is observed. Destination resources can be appraised in two different but equally important ways: weights, associated with the notion of “centrality,” and scores, which define the notion of “evaluation” (Brayley, 1990). The notion of centrality is based on the perceived value of the entire vacation

experience. The purpose of the centrality notion is to assign a certain worth to an attraction defined concept in relation to the other defined concepts. Literature has shown that visitors do not evaluate the various attraction dimensions equally and therefore the notion of centrality is a critical aspect in selecting a destination (McDonaugh, 1982). For the purpose of this study and, generally in destination attractiveness research, the notion of centrality relates to and is dependent upon the selected destination. For example, the defined concept of natural resources is likely to receive a greater weight in the Amazon region than in a crowded country, such as Japan. However, the cultural defined concept will probably obtain a greater weight in Japan than in the Amazon area, other aspects being equal.

The scores represent the notion of “evaluation,” which relates to the quantitative and qualitative characteristics of the single attraction (empirical concept) or attraction dimensions (defined concepts). Not surprisingly, the attraction generated by a region depends on the quantity and quality of attractions or resources that it offers. Quantity can be measured by producing an inventory of resources at the destination. Quality can only be determined by asking a representative sample of visitors. In order to discriminate among regions, the attraction factors should be consistently measured in every area of the selected region.

The notions of centrality and evaluation have been extensively used in attraction research (Gearing et al., 1974; Liu, 1988; Tang and Rochananond, 1990). The models used by these researchers suggest a measure of destination attractiveness by combining the notions of centrality and evaluation of the attraction dimensions. The measurements required to operationalize centrality and evaluation are explained in detail in the research design section of this chapter.

A team of tourism experts has two critical demand functions. The first is to weigh the tourism dimensions that result from the factor analysis of supply resources. It is expected that the resource factors have a different importance based on the perceived value that is assigned by the experts. The second function relates to assigning scores to the delineated Virginia regions based on the resource factors.

The need for a comprehensive organization of destination attractiveness is a critical aspect of tourism studies. There is no such a thing as identical regions. It can be

argued that attractiveness measurements should mirror specific differences. However, a theoretical model that takes into account the different aspects of the attractiveness power of a region is possible and achievable. The very fact that the review of literature has shown a marked consistency in the categorization and analysis of tourist attractions demonstrates that a fundamental body of knowledge on destination attractiveness already exists and needs to be taken to the next level.

### **Tourist Regions**

Destination attractiveness cannot be analyzed without the identification of one or more regions. Regional analysis is the most effective method to determining spatial differences in infrastructure, service, and overall attractions. The recognition and analysis of the nature and composition of the regional tourism resources is key to revealing a region's identity. The significant advantage of identifying and determining the characteristics of a tourism region is that it offers the opportunity to compare the variations with other regions. This simultaneous comparison among regions has major benefits. For marketing purposes, regions that have similar identities are best promoted as one destination. Regions with different identities, however, should not be marketed together, regardless of their contiguity (Nyberg, 1995). In addition, defining and delineating prevalent characteristics of tourism regions help to determine possible discrepancies in the perceptions that prospective and/or actual travelers have of those characteristics. Among the geographers that have contributed the most in the field of tourism planning and regionalization Gunn (1965) has proposed and advocated the regional approach for most appropriate tourism planning and development.

In order to operationalize the regional concept, this study attempts to identify regions based on the homogeneous criterion, which delineates areas based on distribution patterns of similar attractions. Groups of regions could emerge from the cluster analysis that is performed on every county and independent city based on the delineated attraction dimensions. However, if the analysis results identify clusters of minor regions that are not contiguous and scattered over the state, the regions identified with the homogeneous criterion are not used for further analysis. The lack of contiguity among counties and cities with similar characteristics makes the demand evaluation of the same regions very difficult, if not impossible. In this case, the regions that are considered for further

analysis have been established a-priori by the Virginia Tourism Corporation. They are the following: “Northern Virginia,” “Tidewater and Hampton Roads,” “Chesapeake Bay,” “Eastern Shore,” “Central Virginia,” “Shenandoah Valley,” and “Southwest Blue Ridge Highlands.”

The Geographic Information System (GIS) is used to identify patterns of attraction dimensions in different regions. This geography software allows: (a) identification of significant regional variations that ultimately affect the region’s capability of attracting visitors, and (b) interpretation of how one region relates to and influences other regions. Tourist regions represent an important research concept in this study, which facilitates the understanding and interpretation of form and function of destination attractions in a spatial manner. Also, it allows the same attraction dimensions to be appraised by demand.

### **Travel Segments**

Market segmentation has been extensively studied by tourism scholars (Gitelson and Kerstetter, 1990; Mardigal and Kahle, 1994; McQueen and Miller, 1985). The growing literature in travel segmentation offers opportunities for a better understanding of the reasons why individuals travel and the motivations that drive their leisure behaviors. Most tourism segmentation studies explore visitors’ motivations for travel, which are based on the push and pull theory. This theory explains that tourists are pushed to go on vacation because of intrinsic socio-psychological factors (push) and because of the attractions that are available at destination (pull), as they are perceived by travelers.

Goodrich (1978) was among the first scholars to investigate the relationships between push and pull factors in the choice of tourism destinations. In his study, he asked respondents to rate the relative importance of ten attractiveness attributes of different vacation destinations. The results of his study indicate that there are three different segments of travelers who emphasize different attractions. Specifically, group one (labeled passive entertainment) was more interested in rest and relaxation and valued a “passive” visitor experience, thus valuing most sightseeing, shopping and dining. The second group (labeled “active sports”) was more engaged and interested in sport activities. The third group was particularly interested in the cultural-historical resources of tourist destinations and was labeled “outdoor.”

NFO Research (1993) performed a travel image and positioning study in Virginia. Travelers' motivations were used as the criterion to perform a market segmentation analysis. The results of the cluster analysis that was performed on the 1318 eastern U.S. households identified two travel segments: "See and Do" and "Social Escape." The first represented 58.4% of the sampled households. They are active travelers, who are interested in a multitude of attractions and are willing to try new experiences. The major travel objective pertaining to the social escape segment is to be far away from the crowds and enjoy some relaxing time with family and friends. Because the present study uses Virginia to test its model, the "See & Do" and the "Social Escape" segments delineated by the NFO Research are considered for further analysis.

### **Destination Attractiveness**

The review of literature performed in Chapter Two includes many definitions of tourist attractions (Lew, 1987). However, when it comes to destination attractiveness, no definitions of this theoretical construct are offered. Instead, destination attractiveness studies are more concerned with the methodological process used in evaluating attractiveness. This ignores the theoretical analysis of this construct. The Webster's Ninth Edition Collegiate Dictionary defines attractiveness as "arousing interest or pleasure." This definition assumes that a source of attraction actually generates the act of interest or pleasure. Indeed, the same dictionary defines attraction as something that attracts or is intended to attract people by appealing to their desires and tastes.

This study builds on this definition by considering not only what individuals (demand) think about a destination, but also what is that a destination (supply) has to offer. As a result, the attractive force generated by supply and demand interaction determines destination attractiveness. This force is dependent upon the quantity and importance of the tourism resources and the perception and evaluation of that resource base. Accordingly, this study defines destination attractiveness as the result or consequence of a combined objective and subjective analysis of existing attractions at destination.

## RESEARCH OBJECTIVES

The model presented in Figure 2 is based upon the existing body of knowledge and identifies the following objectives:

**Objective One:** to create a quantitative measurement tool by which the overall attractiveness of regions and/or destinations can be determined;

**Objective Two:** to determine associations between supply and demand importance of attraction dimensions;

**Objective Three:** to identify correlations in regional attraction availability from a supply and a demand perspective;

**Objective Four:** to explain variation between market segments in the perceived importance of attractiveness dimensions; and

**Objective Five:** to examine the relationships between regional tourist attractiveness and the economic benefits of tourism.

## HYPOTHESES

In consideration of the review of related literature, the principle guiding this study, and the objectives of the present research, five research hypotheses are formulated. Some of the hypotheses are expressed in general terms, which cannot be further defined until the preliminary analysis is completed. This is accomplished in the attractiveness measurement section of Chapter Four. Research Hypothesis 1 operationalizes the notion of centrality and compares the objective and subjective weights of the attraction dimensions. The need for measuring attractiveness from a demand and supply perspective arises from the fact that the objective importance of attractions is different from the perceived importance of the same attractions. The supply importance of the attractions is measured by the sum of squared loadings of each attraction factor. Demand importance of attraction dimensions originates from the objective weight of those dimensions. The demand importance is measured by the importance ratings resulting from the experts' survey.

Research Hypothesis 2 is related to the notion of evaluation and determines the similarities and differences between supply and demand indicators for selected tourism regions. Attractions are unevenly distributed and the quantity of attractions varies from

region to region. Perceptions of demand are affected by the availability of attractions at destination. Therefore, the available attractions in different regions are expected to be similar to the perceived availability of the same attractions.

Research Hypotheses 3 and 4 analyze the relationship between travel segments and the importance of attraction dimensions. Because of the different interests and motivations of “See and Do” and “Social Escape” travel segments, it is hypothesized that the first travel group is more interested in experiencing physical and intellectual activities whereas the second assigns a higher importance to attraction dimensions that will be conducive to rest, relaxation, and group socialization.

Research Hypothesis 5 analyzes the relationship between supply/demand indicators and tourism economic benefits. The assumption under which Hypothesis 5 is based is that more attractive regions are likely to generate more tourism economic benefits. Therefore, the sum of supply and demand attractiveness indicators can be used to predict economic benefits generated by tourism.

The hypotheses are presented as follows:

**Hypothesis 1:** The supply and demand importance of attraction dimensions is significantly associated.

**Hypothesis 2:** There is a direct correlation between the regional availability of tourism resources and the perceived regional availability of the same resources.

**Hypothesis 3:** The “See & Do” segment places a significantly higher importance than the “Social Escape” segment on natural and cultural attractions.

**Hypothesis 4:** The “Social Escape” segment places a significantly higher importance than the “See & Do” segment on tourism lodging, services, and infrastructure.

**Hypothesis 5:** Regional variance of tourism resources is directly related to regional variance of tourism economic benefits. Thus, the higher the supply and demand attractiveness of the region the more economic benefits it will receive from tourist visitation.

The supply and demand indicators of overall tourism attractiveness result from the weighted attraction evaluations at the county and independent city levels (supply) and at the regional level (demand). The tourism economic indicators are travel spending, tourism employment, tourism state taxes and tourism local taxes. Because there are four

economic variables and two attractiveness variables, there are eight sub-hypotheses. The first set of hypotheses investigates the weighted supply indicators and the second set explores the weighted demand evaluations.

**H5a1:** There is a direct relationship between the weighted supply attractiveness score of a region and travel spending in the same region.

**H5a2:** There is a direct relationship between the weighted supply attractiveness score of a region and travel employment generated by the same region.

**H5a3:** There is a direct relationship between the weighted supply attractiveness score of a region and tourism state taxes generated by the same region.

**H5a4:** There is a direct relationship between the weighted supply attractiveness score of a region and tourism local taxes generated by the same region.

**H5b1:** There is a direct relationship between the weighted demand attractiveness score of a region and travel spending in the same region.

**H5b2:** There is a direct relationship between the weighted demand attractiveness score of a region and travel employment generated by the same region.

**H5b3:** There is a direct relationship between the weighted demand attractiveness score of a region and tourism state taxes generated by the same region.

**H5b4:** There is a direct relationship between the weighted demand attractiveness score of a region and tourism local taxes generated by the same region.

## **RESEARCH DESIGN**

The purpose of this study is to measure relationships between supply and demand measures of destination attractiveness. In order to achieve this, it presents a procedural methodology aimed at determining an empirical measurement of destination attractiveness. This methodology makes possible for the hypothesis testing to be performed.

Objective One is to create a quantitative measurement tool by which the attractiveness of regions and/or destinations can be measured. This objective was determined from an operational perspective to obtain measurable and comparable attractiveness indicators. Because of its measurement nature, this objective cannot be subjected to hypothesis testing. Objectives Two, Three, Four, and Five are tested by

Hypotheses 1, 2, 3, 4, and 5. The research design of this study is therefore focused on two major sections: measurement and hypotheses testing.

### **Composite Score of Overall Tourist Attractiveness**

There are four research objectives for this study. The first is aimed at defining the overall destination attractiveness of a destination by using a framework to measure simultaneously the existing attractions and their perceived value. In order to accomplish this objective the reviewed literature has shown that the objective measurement of attractiveness is place dependent and must be evaluated in relation to a region or site. More importantly, to be successful and to facilitate practical application, the procedure should be simple and straightforward. In investigating the different procedures to measure destination attractiveness, Pearce (1981, p. 39) suggested:

“However, before techniques get too sophisticated or complicated it should be kept in mind that for the purposes of planning and most decision making it is the relative importance of one location rather than absolute values which are initially important. At a subsequent stage, once initial choices have been made, the costing and economic analysis of particular sites, projects or regions will re-enter the process (Gearing and Var, 1977). Given that few private developers and most public authorities will not commit large sums for such exercises at the outset of the development process, techniques that offer a ready yet accurate assessment and which are not over-demanding in terms of data, time or money will prove the most practical.”

Based on these considerations, several methods are used to identify, analyze and measure the empirical concepts (resources and/or attractions), the defined concepts (attraction factors, regions, and travel segments), the notions of centrality and evaluation, and the theoretical construct (destination attractiveness). The present study adopts the following procedure:

1. Content analysis of the tourist guides of Virginia to determine the attraction variables that are associated with the attractiveness construct.

2. Data collection of attraction variables using Virginia's counties and independent cities as units of measurement.
3. Factor analysis of attraction variables to identify tourism attraction dimensions.
4. Cluster analysis of counties and independent cities based on the attraction dimensions. If successful, tourist regions are delineated using the "homogeneous" resource regionalization criterion. If not, on the "a-priori" regionalization criterion applied by the Virginia Tourist Corporation.
5. Addition of the standardized scores of attraction dimensions belonging to each county/independent city part of the region.
6. Determination of the supply weights of the attraction dimensions results from the sum of squared loadings of each attraction factor.
7. Selection of a team of experts to determine the attraction dimension weights of Virginia regions. The same team of experts determines the attraction dimension evaluations from a demand perspective.
8. Tourist regions are ranked in order of importance based on supply and demand evaluations of identified attraction dimensions using a classification algorithm.
9. The scores of attraction dimensions generated from demand and supply are objectively and subjectively weighted and added. The resulting measure indicates the overall attractiveness of Virginia regions as a function of demand and supply interaction.

#### Determine the Resource Variables

In an attempt to determine and inventory the tourist attractions in a comprehensive manner, Virginia guidebooks were analyzed. This process provided information on the nature of attractions and on the current portfolio of tourism resources. The first methodological step was accomplished by using the content analysis methodological technique. As defined by Krippendorff (1980:21) content analysis consists of: "making replicable and valid inferences from data to their context." The inferences made through content analysis are possible via "reflexive analysis of documents" (Altheide, 1987:65). This qualitative process consists of scanning a large amount of information to uncover facts, data, and patterns. The purpose of this step was to detect and classify every word and every picture that, based on literature, represents a

component of tourist attraction. Content analysis of current tourism literature illustrating the existing attractions in a given area is a popular method for determining the attraction base (Brayley, 1990; Ferrario, 1979; Lew, 1986).

In excluding advertisements and geographic maps, there are two ways of detecting attractions in guidebooks: textual reference and photographs. Upon careful investigation, three guidebooks and two state tour guides were selected as the only comprehensive tourist promotional material of Virginia, namely Fodor's Virginia, The Smithsonian Guides to Historic America, Virginia Handbook by Julian Smith, Virginia is for Lovers, and Virginia Group Tour Director. Promotional material that portrayed single destinations and/or regions within Virginia was excluded from further analysis. Likewise, guidebooks illustrating tourist attractions of the United States and/or of clusters of states within the United States (Virginia included) were not considered in this study.

The utilization of pictures in tour operator catalogs and vacation books plays an important role in the selection of a tourist destination (Getz and Sailor, 1993). On many occasions, people searching for a vacation destination might select certain literature because of attractive photos (Hodgson, 1991). The design of this analysis is to review pictures displayed in catalogs and books, and to place them in specific attraction categories, such as: nature-based settings, outdoor recreation and sports activities, hospitality, entertainment, and cultural/historical. Moreover, each of these categories has been broken down into sub-categories for a comprehensive understanding of tourism in Virginia. Each picture was reviewed and entered into the proper category.

Text from the selected Virginia tourism guidebooks was analyzed and broken down into several different categories. Much like the pictorial analysis, variables were created in attempt to measure which attractions/services appear to be the most written about in the textbooks. Each paragraph was analyzed and when a certain tourist attraction was discussed, it was recorded on a spreadsheet.

Upon detection of the critical attraction variables, data was collected from different sources. A major source for infrastructure variables is the Department of Census, whereas most tourism-related variables were provided by the Virginia Tourism Corporation. The Commonwealth of Virginia Department of Transportation and other governmental bodies offered additional information when needed. There are two

assumptions that are made in relation to the selected variables: all relevant variables will be identified and numerically measured (Gearing et al., 1974).

### Geographical Areas of Measurement

Virginia extends from the Appalachian Mountains in the west to the Atlantic Ocean in the east. In between the mountain area and the coastal area exists a flat region called Piedmont. The size of Virginia is 40,767 square miles. The state of Virginia is composed of 95 counties and 40 independent cities. This study is consistent with literature on regional resource analysis in its selection of these political subdivisions as the base unit of measurement.

Two methods to identify geographical regions can be utilized in this study. The first regionalization method, called "homogeneous," identifies the areas of Virginia that have common resource factors. If no contiguous regions result after a cluster analysis, the second method is applied. The second is the "a-priori" regionalization method and it investigates the resource patterns within the tourist regions identified by the Virginia Tourist Corporation. These regions are: "Northern Virginia," "Tidewater and Hampton Roads," "Chesapeake Bay," "Eastern Shore," "Central Virginia," "Shenandoah Valley," and "Southwest Blue Ridge Highlands."

### Factor Analysis of Attraction Variables

The principal scope of factor analysis is to reduce the original data into a smaller number of factors that represent a linear combination of the variables (Harman, 1976). The validity and reliability of factor analysis depend upon compliance with its assumptions. In particular:

- the ratio of observations to items should be no fewer than five (Hair, Anderson, Tatham, and Black, 1995).
- the data matrix should show sufficient correlations to justify the use of factor analysis. Generally most of the correlations should be equal or higher than .30 (Gorsuch, 1983).
- The intercorrelation among items should be minimized (Hair, Anderson, Tatham, and Black, 1995). To determine the amount of intercorrelation among items a Measure of Sample Adequacy is used (MSA).

To determine the minimum number of factors that explain the greatest amount of variance, principal component analysis is the most appropriate factor model (Velicer and Jackson, 1990). The latent-root criterion was the technique used for selecting the factor groupings. The Varimax orthogonal rotation was performed in this study because it generally indicates a better performance than Quartimax and Equimax in terms of stability and factor separation (Wilkinson, 1988). Factor loadings equal or less than 0.4 and eigenvalues smaller than were be excluded from the analysis.

Regional resources studies have consistently used principal component analysis to deal more effectively with resource assessment and evaluation (Roehl, Fesenmaier, and Fesenmaier, 1993). The typical factors that arise in attractiveness and regional resource studies represent natural, cultural, historical, infrastructure, and hospitality resources (Lue, Crompton, and Stewart, 1996).

#### Classification of Counties Based on Attraction Dimensions

Classification of counties constitutes the first step in investigating spatial patterns of tourism resources. It is also the supply measurement of the evaluation dimension because it generates the inventory of the resources at destination. The dimensions that result from the factor analysis is computed and mapped using the Geographic Information Systems (GIS) software. A GIS is a computer-based tool for mapping and analyzing data referenced by spatial or geographic coordinates. GIS technology integrates common database operations such as statistical analysis with the visualization and geographic analysis benefits offered by maps. GIS is a computer system capable of assembling, manipulating, and displaying data identified according to their locations. It stores information about features as a collection of thematic layers that can be linked together by geography (Heikkila, 1998).

The manner in which maps and other data have been stored or filed as layers of information in a GIS makes it possible to perform complex analyses. In fact, GIS plots information with a feature on a map and identifies areas with specific patterns of tourism resources. In order to collect, order, and manipulate tourism resources, standardized scores are determined for each county. The standardized scores have been extensively used in tourism resource research because they permit further calculations of variables

and/or constructs of a different nature. The procedure is best explained by Smith (1987, p. 260). He described it using the following steps:

- a. Multiply the component loading for a particular variable on a particular component by the county's original score for that variable.
- b. Repeat the process for every variable on a component.
- c. Sum the products.
- d. Repeat this procedure for each component of a given county and then extend it to all counties.

Eventually, all the attraction scores are standardized with a mean of 0.0 and a standard deviation of 1.0. The standard scores are mapped to identify the regional distribution of tourist attractions. The sum of the standardized factor scores relative to each attraction construct identifies clusters of regions based on the county and independent city rankings of composite scores (Appendix A).

#### Selection and Utilization of Experts

A group of forty Virginia tourism experts was selected. Because they were chosen to represent tourist needs and perceptions, it was paramount that they be familiar with current and future demand. However, there are many other characteristics that are deemed essential for the selection of those individuals. First, it is recommended that they have a thorough knowledge of the different regions that comprise the state. Second, they have an extensive experience in the tourism field. Third, the experts' experience is not only related to one of the resource factors (i.e., an art director or an ecotourism specialist) but also to other, more general, resources. Fourth, the experts encompass many fields of expertise, particularly marketing and tourism planning/development. Fifth, they work for governmental and private organizations and engage in operational as well as theoretical activities. An appropriate expert panel is composed of tour operators, travel agents, tourism consultants, media tourism advertisers, and academicians.

Representatives of tourism/hospitality associations, Virginia welcome centers, and of the Virginia State Tourism Corporations and Associations were included in the experts' mix. After an initial contact by letter, forty experts completed the questionnaire. Follow-ups were conducted as necessary.

### Weighting Procedure of Attraction Dimensions

In contrast to other studies in destination attractiveness, the notion of centrality was appraised from a supply and a demand perspective. In the past, destination attractiveness research has used experts only to weigh single resources or resource dimensions. One of the methodological innovations presented in this study is the application of an objective weighting procedure. This procedure involves the computation and sum of squared loadings of each attraction factor. Because the squared loadings reveal the amount of variance in a variable that is explained by a factor, their sum indicates the importance of each dimension in explaining destination attractiveness in Virginia.

From a demand perspective, the panel of experts was first asked to assign weights to the resource dimensions set forth earlier in this procedure. Similar to the supply measurement of centrality, the objective of this step is to assign a numerical value to resource factors that mirrors their importance in terms of destination attractiveness. Among the possible weighting methods available, this study used a modified version of the Multiattribute Attitude Model credited to Fishbein (1963), which is the most popular in tourism attractiveness studies (Smith, 1995). This technique offers a consistent, systematic evaluation and allows for a comparison of different tourism resources.

### Demand Evaluation

The literature review has shown that, from a demand perspective, destination attractiveness is dependent on factors such as motivations for travel and portrayed image (Court and Lupton, 1997; Echtner and Ritchie, 1993). Economic benefits generated by tourism cannot be considered as a measure of destination attractiveness because visitors' views and perceptions not always translate into actual visitation (Smith, 1987). Visitor opinions are dependent on contextual situations such as familiarity and vacation experiences (Fridgen, 1987; Gartner, 1989; Walmsley and Jenkins, 1992). Often, visitors' evaluations of the attractiveness of a given area are mostly based on marketing efforts of the destination.

Compared to visitors, tourism experts have a general knowledge of visitors' perceptions and preferences of tourist destinations and often influence them with their promotional campaigns and travel advice. This is because expert opinions are based on

years of observations and a consistent interaction with visitors. Their opinions, therefore, are more reliable than the conclusions that can be drawn from tourists who, by definition, spend a limited amount of time at destination (Liu, 1988). The professional involvement and consistent participation of experts at destination is likely to result in a solid knowledge of the entire portfolio of existing attractions.

After the weighting procedure, the experts evaluated tourist regions based on the delineated resource dimensions. The resulting subjective indicators represent the evaluation dimension of the resource dimensions from a demand perspective.

### Measuring the Overall Attractiveness of Virginia Regions

When the mean ranking of all experts are calculated for each factor in every region, they were multiplied by their weight to find the demand attractiveness measure. This measure explains the demand attractiveness value of a given region in relation to a specific resource dimension. The same procedure is followed from the supply side. The standardized scores that resulted from the Principal Component Factor Analysis were multiplied by the corresponding weight to obtain the supply side attractiveness of the single regions based on the different resource dimensions.

Finally, the sum of the attraction factors in each region from a supply and demand perspective indicated the total index measure of the overall attractiveness of that destination. The resulting index was used to rank the different regions in Virginia and to map them accordingly.

### Hypotheses Testing

There are some important relationships between demand and supply that can be investigated with the objective and subjective measurements of destination attractiveness. They are: associations between supply and demand attractiveness weights; correlations of supply regional attraction indicators and experts' evaluations of regional attractions; differences in attraction importance between two market segments; and direct relationships between the overall supply and demand regional measures of attractiveness and the regional economic benefits generated by tourism.

#### Hypothesis 1

The second objective of this study is to determine associations between the weights of demand and supply attraction dimensions. This objective is directly linked to

Hypothesis 1, which states that the supply and demand importance of attraction dimensions is significantly associated. This hypothesis was tested using Analysis of Variance (ANOVA). The use of this analysis instead of a correlation analysis was applied because the supply attraction weights are represented by the sums of square loadings derived from factor analysis. The demand weights, instead, are the result of the means of forty experts' responses. Therefore, a rank of supply weights of attraction dimensions was conducted by transforming the sums of squared loadings into percentages. Then, ANOVA was performed on the demand attraction dimension weights to determine possible statistical differences. When these differences were established a Tukey post-hoc analysis was used to confirm the variances between means.

### Hypothesis 2

The Third Objective examines the possible similarities between supply scores and demand evaluations of tourist regions. This relates to Hypothesis 2, which contends that there is a direct correlation between the availability of regional tourist attractions and the perceived availability of these attractions.

The empirical indicators of this hypothesis are represented by: (a) the sum of the standardized scores by attraction dimensions of the counties and independent cities included in the regions (supply), and (b) the tourism experts' evaluations of the same regions by attraction dimensions (demand). The present correlation was established using Pearson's Product Moment Correlation Coefficient and the tourist regions represented the units of measurement. The visual inspection of the matrix revealed whether the two measurements of the same resource dimension show similar patterns. The hypothesized correlation was established using Pearson's Product Moment Correlation Coefficient set at the 0.05 probability level.

A geographic examination included a map of the supply distribution of resources, which provided the opportunity to analyze regional differences within the state of Virginia. Then, the demand evaluation illustrated the perceived attractiveness of the same regions. The same variations were likely to be found in the overall attractiveness of the selected regions from a supply and a demand perspective.

### Hypotheses 3 and 4

The fourth objective of this study is to determine possible differences between two travel segments in perceiving the importance of attraction dimensions. Hypotheses 3 and 4 state that the “See and Do” segment is more interested in attractions that involve physical or intellectual work whereas the “Social Escape” segment is more interested in comfort and relaxation while spending time with family and friends. To empirically test Hypotheses 3 and 4 t-tests were performed.

### Hypothesis 5

The final objective of this study is to find links between the overall (weighted) supply and demand attractiveness of a tourist region and the regional tourism economic indicators. Hypothesis 5 suggests that regional variance of tourism resources is directly related to regional variance of tourism economic benefits. Thus, the higher the weighted attractiveness score of the region the more economic benefits it will receive from tourist visitation.

Regression was used to explain variations of tourism expenditures in relation to the overall attractiveness of a given region from a supply and a demand perspective. Two sets of regression analyses were necessary to test this Hypothesis 5 because the number of observations varied widely between supply and demand data. Supply data consisted of 95 counties and 40 independent cities in Virginia. Demand data consisted of the eight Virginia tourist regions.

Among the economic indicators that were used in the factor analysis are travel spending, tourism/hospitality employees, state and local taxes generated by tourism firms. Despite its critical importance, the economic measures of tourism should not be confused with destination attractiveness from a demand perspective. In fact, destination attractiveness may equal to travel spending only when the perceived attractiveness of a destination consistently translates into travel visitation, which in turn generates travel spending. Presently, these assumptions are not supported by literature.

The strength of the models were defined by the coefficient of determination (R<sup>2</sup>)—which measures the proportion of the variance of the dependent variable that is explained by the independent variables—and F values. The direction of the independent

variables helped to improve understanding of their positive or negative contribution to the economic benefits generated by tourism.

## **SUMMARY OF THE CHAPTER**

The present chapter was dedicated to the presentation of the theoretical and methodological structure that is used in this study. A conceptual model assessing the overall destination attractiveness of identified regions and the relationships between its components is presented. After defining the research objectives of the study, research hypotheses are described. The research design, including the methodology used in the current study to achieve the formulated objectives, is discussed. The investigation and evaluation of regional destination attractiveness is a complex issue, where methodologies can be repeatedly explored and increasingly refined. The purpose of this study is to advance the theoretical and methodological body of knowledge in tourism attractiveness.

## **CHAPTER FOUR**

### **ANALYSIS AND RESULTS**

#### **INTRODUCTION**

This chapter presents the analysis and results of the destination attractiveness measurement procedures and the research hypotheses introduced in Chapter Three. The first section of this chapter investigates the supply side of destination attractiveness by discussing the results of the secondary data selection and collection. This includes the results of a content analysis of tourist promotional material, a factor analysis of attraction variables, a cluster analysis of Virginia regions as well as the regions' attractiveness evaluations and weights.

The second section of this chapter examines the demand side of destination attractiveness. It offers destination attractiveness evaluation and weighting measures based on experts' assessments. The third section presents the overall measure of destination attractiveness of Virginia tourism regions and performs hypotheses testing by ANOVA, correlations, t-tests, and regression analyses.

#### **DATA COLLECTION AND CODING**

Secondary and primary data were collected for the purpose of this study. First, a content analysis of secondary data on destination attractiveness was performed during the Summer of 2000. Five Virginia tourist guides were included in the analysis. The results of the content analysis were used to identify the general attractions in the state of Virginia. Destination attractions data was collected on a county and independent city level. The units of measurement were the political subdivisions of the 95 counties and 40 independent cities in Virginia. The secondary data was then coded and tabulated on a spreadsheet.

Primary data was collected in the early Fall of 2000 and represented the demand perception of destination attractiveness. The study participants were tourism experts who reside or have resided in Virginia. Overall, forty tourism experts participated in this study. The following sections set forth in detail the steps that were performed in the data

collection and coding. The sampling frame from which the group of tourism experts was drawn was made of four distinct sources:

1. List of organizations which were a part of the Virginia Travel Association
2. List of Destination Marketing Organizations (DMOs) of Virginia, provided by the Virginia Tourism Corporation
3. List of participants in the 2000 “Virginia Governor’s Conference on Travel & Tourism: Hospitality into the New Millennium”
4. List of faculty members affiliated with universities in Virginia which offer programs in tourism and hospitality management.

To guarantee the highest level of objectivity, experts in specific areas of tourism or hospitality (such as lodging, culture, history and ecology) were excluded from the four lists. Therefore, each expert selected was assumed to be a tourism “generalist” and thus knowledgeable in all the dimensions of destination attractiveness. The final sample consisted of 89 tourism experts in Virginia working for Conference and Visitors Bureaus, Chambers of Commerce, marketing and media organizations, higher education institutions, tour operating and travel agencies, state tourism organizations and associations, and planning/development offices.

An introductory cover letter was sent by e-mail to the sample on August 31<sup>st</sup>, 2000. A second cover letter with the inclusion of the web questionnaire was sent to those experts who expressed an intention to participate in the study. Three experts declined because they believed they were too inexperienced or lacked the knowledge to participate in the study. By the October 3<sup>rd</sup> deadline, a total of 40 usable questionnaires were returned. A copy of the research instrument along with the two cover letters can be found in Appendix B.

## **DATA ANALYSIS**

A number of statistical procedures were used to analyze the data. Qualitative analysis was performed by using content analysis. Quantitative statistical techniques included frequencies, t-tests, Pearson’s correlation analysis, Principal Components Factor Analysis, and Cluster Analysis. All the statistical analyses and procedures were conducted using the Statistical Package for Social Sciences (SPSS). The analyses were

designed to develop a measure of destination attractiveness and to examine the relationship between supply and demand attractiveness indicators.

Data analysis is organized in two parts. The first part relates exclusively to the first objective, which aims to create a quantitative measurement tool to determine the overall attractiveness of regions and/or destinations using supply and demand measures. It involves the use of qualitative, quantitative, and geographical analyses, which allow the testing of the hypotheses. The second part is exclusively performed by quantitative data analyses and examines relationships between supply and demand indicators of destination attractiveness. Figure 4 summarizes the steps involved in the data analysis procedure.

## **CONTENT ANALYSIS**

In order to assess the nature and magnitude of tourist attractions in Virginia, text and pictorial analyses were conducted. The goal of the first methodological step was to determine a group of popular variables generally associated with tourism in Virginia. First, a selection was made of guidebooks and comprehensive promotional material. Only guidebooks dedicated exclusively or primarily to the state of Virginia were considered. Promotional material aimed at a specific interest (outdoor recreation, golf, bicycling, etc.) or a specific segment (individuals with disabilities, elderly travelers, etc.) was excluded from the analysis. Brochures, pamphlets, web-advertisement, and other promotional material limited to one or more Virginia regions were likewise excluded.

An investigation of travel literature in specialized bookstores and an informal survey among Virginia travel experts identified a list of five guidebooks. They are as follows:

- a. "Virginia Is For Lovers – 1999 edition" which is the official Virginia Travel Guide published yearly by the Virginia Tourism Corporation;
- b. "Virginia Group Tour Directory – 1999/2000 edition," edited by the Virginia Tourism Corporation.
- c. "Virginia Handbook – 1999 edition," edited by Julian Smith and published by Moon Travel Handbooks.

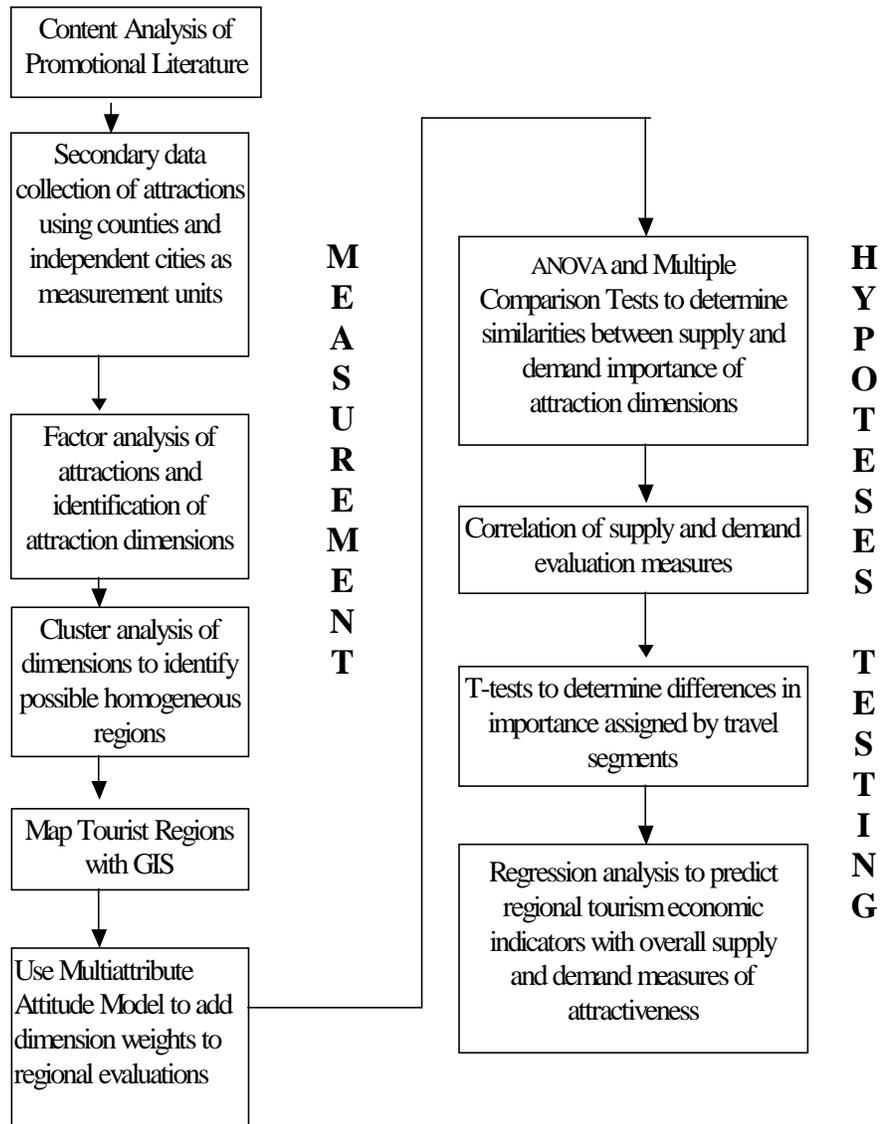


Figure 4. Summary of the Steps Involved in Data Analysis

- d. “Virginia – 1997 edition,” edited by K.M. Kostyal and published by Fodors Travel Publications, Inc.
- e. “Virginia And The Capital Region – 1998 edition,” edited by Stewart, Tabori and Chang and published by Smithsonian Guides to Historical America.

The four attraction sources varied significantly in terms of style and focus; however, they provided comprehensive coverage of tourist attractions throughout the entire state of Virginia. For example, two of the books, *Virginia* and *The Smithsonian Guides to Historic America*, primarily addressed historical attractions. Although *The Virginia Handbook* focused on many historical attractions, it also included valuable information on lodging, dining, shopping, theme parks, outdoor recreation and many other characteristics of Virginia attractions. The *Virginia Tour Group Directory* was more technical in nature because it is the only guide serving travel intermediaries such as travel agencies, tour operators and meeting planners. Advertisements present in the selected literature were excluded from both text and pictorial analyses.

### **Text Analysis**

The entire content of the five Virginia tourism guidebooks was investigated. A set of attraction variables was created to detect the attractions/services that appear to be the most frequently mentioned in the textbooks. When a certain tourist attraction or service was discussed, it was recorded on the spreadsheet under its representative category. It should be noted that the “Introduction” in each of the four books was excluded in the analysis because it was generally too vague as to the availability of attractions, services, and resources.

The results of the text analysis offer a wide range of variables and include most of the attractiveness dimensions that were reported by literature, such as infrastructure, tourism services, lodging, outdoor recreation, nature, culture, history, shopping, and entertainment. Table 3 offers a list of attraction variables that emerged from the text analysis.

### **Pictorial Analysis**

The utilization of pictures in tour operator catalogs and vacation books plays an important role in the selection of a tourist destination. On many occasions, people searching for a vacation destination might select certain literature because of pleasing

Table 3. List of Attraction Variables That Emerged From the Text Analysis

<ul style="list-style-type: none"> <li>• Biking</li> <li>• Hiking</li> <li>• Horseback Riding</li> <li>• Falls</li> <li>• Golf</li> <li>• Boating/Canoeing</li> <li>• Fishing</li> <li>• Camping</li> <li>• Spectator Sports</li> <li>• Skiing/Snow Boarding</li> </ul>	<ul style="list-style-type: none"> <li>• Wine tasting/Vineyards</li> <li>• Hotels/Lodges</li> <li>• Bed and Breakfasts</li> <li>• Dining</li> <li>• Theme Parks</li> <li>• Night Life</li> <li>• Battle sites</li> <li>• Historic Homes/ Buildings/Churches Monuments</li> </ul>	<ul style="list-style-type: none"> <li>• Reenactments</li> <li>• Historic Figures/Parades</li> <li>• Museums</li> <li>• Festivals</li> <li>• Generic Tours</li> <li>• Other Water Activities</li> <li>• Shopping/Antiquing</li> <li>• Wildlife observation</li> <li>• National/State parks</li> </ul>
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images (Goodall, 1990). The design of this analysis is to review pictures displayed in the four catalogs and books, and to place them in specific destination attraction categories. As was the case with the text analysis, each picture was reviewed and entered into the proper attraction category.

Overall, the results of the pictorial analysis emphasized the same variables that were identified in the text analysis. Among the few differences between the two analyses, pictures placed a minor emphasis on the outdoor recreation activities in natural settings while emphasizing amusement park entertainment. In addition, pictures focused more on passive characteristics such as landscapes, hotels and museums. Table 4 presents the results of the text and pictorial analyses.

### **Selection of the Attraction Variables**

From the results of the text analysis some distinctive characteristics emerge. All the guidebooks emphasized the strategic role that Virginia played in the American Civil War. In addition, the eight U.S. presidents native to Virginia contributed to enhancing the historical richness of the state. As a result, the historical descriptors, such as historical buildings, figures, and battlefields, are mentioned extensively throughout the bibliographies.

Equally important are the cultural descriptors, such as museums and festivals, which are inextricably tied to Virginia's historical role in American history. Most of Virginia museums, parades, and festivals display and depict the life and times of major military and political figures as well as the involvement of the state residents during the Civil War Era.

Also, lodging descriptors, such as hotels/motels and campgrounds, are frequently mentioned, especially by the Virginia Tourism Corporation tourist catalog. Most guidebooks attached special importance to shopping, which is an additional component of the tourism experience. Among the principal descriptors are natural parks and the activities that are generally offered there, such as hiking, biking, horseback riding, and canoeing. These variables highlight the richness of Virginia's natural attractions, such as the Appalachian Trail and the Blue Ridge Parkway.

Table 4. Results of the Text and Pictorial Analyses

<i>Attractions/Activities</i>	<i>Text</i>	<i>Pictorial</i>
Biking	72	10
Hiking/Trails	98	4
Horseback Riding	50	3
Skiing	13	4
Spectator Sports	18	5
Golf	22	8
Boating/Canoeing/Kayaking	57	11
Fishing	71	1
Other Water Activities	18	1
Camping	111	5
Hotels/Motels	272	109
B&B/Cottages/Cabins	39	8
Theme/Amusement Parks	15	37
Nightlife	54	
Civil War Sites	97	5
Historical Buildings Mansions Houses/ Churches	382	77
Reenactments	24	19
Historic Figures/Parades	262	43
Museums/Botanical Gardens	244	44
Festivals	130	28
Wine Tasting/Vineyards	9	8
Eating/Restaurants	333	23
Generic Tours	54	9
Shopping/Antiquing	188	16
Wildlife observation	32	6
Nat. & State Parks	130	1
Mountains landscape	-	18
Country landscape	-	43
Urban landscape	-	17
Seashores	5	9
Falls	2	2

### Variables Excluded

In the process of selecting the final variables for this study, some indicators listed in Table 4 were eliminated from further analysis. Particularly the skiing variable, which reported 10 text and 2 pictorial hits, was not introduced in the final list because of the scarce winter facilities available in Virginia. In fact, the four skiing facilities available in the entire state were considered too limited in terms of representing the entire state.

A few tourist features and characteristics were considered irrelevant because they could not be classified as specific tourist attractions. Among these were generic tours and country, urban, seashore, and mountain landscapes. Despite attempts to assess scenic resources for tourism (Kaur, 1981), literature generally excludes them from the list of identifiable and measurable destination attractions (Nyberg, 1995; Pearce, 1981).

Tourism experiences such as fishing, boating, canoeing, other water activities, and nightlife were excluded from the list because they are difficult to measure objectively as supply attractiveness variables. In addition, it was impossible to find a list of wildlife observation sites as well as historic figures and parades, therefore it was removed from the list. It was assumed that variables such as state parks, hiking, horseback riding and biking trails also include wildlife observation sites and festivals, civil war sites, historic districts and buildings represent historic figures and parades.

In conclusion, sixteen attraction variables were identified as measurable and available through secondary sources. All the inventoried attractions have characteristics and features that can be physically recognized and geographically located within Virginia.

### Additional Variables Included

A few other variables were included in the attractiveness analysis based on literature and data availability. Travel agencies were included in the study as a necessary component of tourism destination services and as a substitute for the variable “generic tours,” which was identified a number of times in the content analysis. Souvenir outlets were also included in the list as a significant indicator of tourism activities and interest. Cottages, cabins, and recreational vehicle parks were added to the list to complete the inventory of services exclusively geared towards the needs of overnight visitors. Nightlife activities were represented by a new variable, eating and drinking facilities. Despite being

mentioned only a few times, waterfalls was included in the study and used to represent inland water activities, such as canoeing and fishing. Festival and special events was considered as a representative variable for reenactments, historical figures, and parades.

### Variable Sources

Different sources have been used to collect secondary data on destination attractiveness. About half of the data was provided from the state tourism authority, namely the Virginia Tourism Corporation. This corporation is very active in collecting tourism data and maintains an excellent corporate web site with the most recent information. Among the variables collected through the Virginia tourism Corporation are: lodging rooms; festivals and special events; hiking, biking, and horseback riding sites, as well as all the regional economic variables of attractiveness. Another critical source of information was the U.S. Census. Retail sales, souvenir shops, eating and drinking places, travel agencies and other variables come from this governmental source. The Virginia Department of Historical Resources provided data on historical buildings and districts, and the Virginia Department of Agriculture supplied data concerning the wineries. Table 5 lists the selected variables, the years they refer to, and their source and web address.

## **SUPPLY DATA ANALYSIS**

The statistical analysis of this study consisted of two stages. First, an analysis pertaining to the measurement model was performed. It included factor analysis, cluster analysis, and data refinement. The second stage pertained to the hypothesis tests and included correlations and t-tests.

### **Factor Analysis**

The 22 attraction variables resulting from the content analysis were factor analyzed to determine the overall attraction underlying the dimensions of Virginia. The validity and reliability of factor analysis depended on the respect of its assumptions. In particular:

1. The ratio of observations to items should be not less than five (Hair, Anderson, Tatham, and Black, 1995).

Table 5. Variables Included in the Factor Analysis

<i>Attractiveness Variables</i>	<i>Year</i>	<i>Source</i>
Retail Sales	1996	Census
Travel Agencies	1996	Census
Eating & Drinking	1996	Census
Souvenir Shops	1996	Census
Recreat. Vehicle Parks	1996	Census
Amusement Parks	1996	Census
Museums	1996	Census
Golf Courses	1996	Census
Hotel/Motel Rooms	1999	V.T.C.
B&B Rooms	1999	V.T.C.
Cottages/Cabins Rooms	1999	V.T.C.
Commercial Campgrounds	1999	V.T.C.
State Parks	1999	V.T.C.
Festivals/Special events	1999	V.T.C.
Horsebak riding	1999	V.T.C.
Hiking trails	1999	V.T.C.
Biking trails	1999	V.T.C.
Civil War Sites	1999	Civil War Traveler & AmericanCivilWar.com
Wineries/Vineyards	2000	Virginia Dept. of Agriculture
National Historical Buildings/sites/ infrastructures	2000	Virginia Department of Historical Resources
Historical Districts	2000	Virginia Department of Historical Resources
Falls	2000	GIS Search Engine

2. The data matrix should show sufficient correlations to justify the use of factor analysis. Generally most of the correlations should be equal to or higher than .30 (Gorsuch, 1983).
3. The intercorrelation among items should be minimized (Hair, Anderson, Tatham, and Black, 1995).

To determine the minimum number of factors that explain the greatest amount of variance, principal component analysis was considered as the most appropriate factor model (Velicer and Jackson, 1990). The latent-root criterion was the technique used for selecting the factor groupings. The Varimax orthogonal rotation was performed in this study because it indicated a better performance than Quartimax and Equimax in terms of stability and factor separation. Factor loadings equal or less than .40 and eigenvalues smaller than one were excluded from the analysis.

The results of the initial factor analysis of the 22 attraction variables generated six factors with eigenvalues above 1.0. However, after the Varimax rotation only two variables loaded on factor five and one variable on factor six (at greater than .40). The eigenvalues of both factor five and six were slightly higher than 1.0 and explained a modest percentage of the variance in the data. As a consequence, a four factor model was considered as being the most representative. Using this solution, two variables—state parks and amusement parks—did not load sufficiently on any factor in different factor solutions. Because of this, they were eliminated from further analysis. A new factor analysis was performed with the remaining 20 attraction variables.

Based on the assumptions of factor analysis that were set forth earlier in this section, the following analyses were performed:

*Ratio of observations.* The units of measurement that served secondary data collection purposes were the 135 Virginia counties and independent cities. Considering that twenty attraction variables were selected and used to perform factor analysis, the resulting ratio is almost seven units of measurement for each of the attraction variables, thus ensuring the respect of this assumption.

*High correlations in the data matrix.* The factor matrix in the present analysis identified more than 70% of correlations at .30 level or higher.

*Low intercorrelation among items.* To determine the amount of intercorrelation among items a measure of sample adequacy was used (MSA) and the result (.74) indicated a very modest intercorrelation among the motive items.

Four factors explaining 66.1% of the overall variance were identified as attraction dimensions (Table 6). The identified dimensions were labeled as: (1) Tourism Services & Facilities; (2) Cultural/Historical; (3) Rural Lodging; (4) Outdoor Recreation. Each dimension was labeled based upon the characteristics of the attraction variables that are part of the different factors. In fact, the first dimension identified was entitled “Tourism Services & Facilities” because it consisted of six variables that stress the importance of necessary tourism components, such as travel agencies, retail facilities, hotels, eating and drinking places. The first dimension explained 27.58% of the total variance with an eigenvalue of 6.46 and a reliability alpha of 0.956.

The second dimension was entitled “Cultural/Historical” and is comprised of six items, such as museums, civil war sites, historical buildings and districts, festivals and special events, and wineries. The eigenvalue of the second dimension (2.56) was able to explain 15.7% of the total variance, with a reliability alpha of 0.757.

The third dimension, named “Rural Lodging,” included four items, such as camping sites, cottages/cabins rooms, and Bed & Breakfasts rooms. The eigenvalue resulted 2.32 and explained 7.3% of the total variance. The Reliability Alpha of this dimension was 0.73.

The “Outdoor Recreation” dimension obtained an eigenvalue of 1.88, which explained 10.61% of the total variance. This fourth dimension is composed by four items, among which hiking trails, horseback riding establishments, and biking trails. The Reliability Alpha of this dimension was 0.73.

Factor analysis generated the importance weights of the four tourist attraction dimensions (Skaggs, 2000). Specifically, the importance or weights assigned to each dimensions were captured by the rotation sums of squared loadings. All the loadings pertaining to each dimension were added. The squared factor loadings determine and measure the variance in a factor that is explained by each variable. Therefore, the sum of the squared loadings indicate the entire variance in tourist attractions that is explained by that attraction dimension. The four dimensions resulting from the factor analysis

Table 6. Factor Analysis of Tourist Attractions.

	Loadings	Eigenvalues	Variance Explained	Reliability Alpha
<b><i>Tourism Services</i></b>		6.46	27.58	.956
Eating & Drinking Places	.934			
Retail Sales	.931			
Souvenir Firms	.918			
Travel Agencies	.898			
Hotel & Motel Rooms	.871			
Golf Courses	.654			
<b><i>Cultural/ Historical</i></b>		2.56	15.70	.757
Historical Buildings	.830			
Museums	.745			
Historical Districts	.736			
Civil War Sites	.573			
Festivals	.456			
Wineries	.427			
<b><i>Rural Lodging</i></b>		2.32	12.21	.730
Campsites	.938			
Cottages/Cabins	.906			
B&B	.604			
Recreational Vehicle Parks	.457			
<b><i>Outdoor Recreation</i></b>		1.88	10.61	.678
Horseback Riding	.776			
Falls	.747			
Hiking	.650			
Biking	.470			
TOTAL VARIANCE EXPLAINED			66.10	

explained 66.10% of the variance in supply attractions. However, for the purpose of this study, the attraction dimensions were assumed to capture the entire attractiveness variance within the context of selected variables.

As shown in table 7 the first factor—Tourism Services and Facilities—obtained the highest weight and Outdoor Recreation the lowest, with Cultural/Historical and Rural Lodging falling in between.

To verify the validity of the sum of squared loadings used as a method to determine the importance of attraction dimensions, four multiple regression analyses were performed. Virginia's counties and independent cities' economic indicators of tourism—tourism receipts, tourism employment generated, tourism state taxes, and tourism local taxes—were used as dependent variables and the four attraction dimensions represented the independent variables. Regression analysis was used to shed light on the relationship between the regional availability of attractions and the economic benefits generated by tourism in the same regions. The purpose of this analysis is to detect the magnitude of each attraction dimension to explain county or regional variations in travel spending (Spotts, 1997).

All four regression analyses were significant at the .000 level and the adjusted R-squares varied from .550 to .944 (Appendix C). Overall, the findings of the multiple regression analyses are related to the weights generated by the sums of squared loadings (Table 7). The Beta coefficients were consistent in terms of individual contributions of the single attraction dimensions to the economic benefits of tourism. The highest beta weight was achieved by the tourism services and facilities dimension, followed by the cultural/historical dimension. The last two dimensions, rural lodging and outdoor recreation received the lowest beta weights and generally were insignificant at the .05 level.

### **Cluster Analysis**

In order to identify tourist regions in Virginia based on location of attractions, Cluster analysis was used to classify Virginia's counties and independent cities into mutually exclusive tourist regions. Using the SPSS Hierarchical and Quick Cluster

Table 7. Supply Importance of Attraction Dimensions.

Factor	Attraction Dimension	Sum of Squared Loadings	Percentage of Variance
1	Tourism Service and Facilities	5.516	41.75
2	Cultural/Historical	3.140	23.75
3	Rural Lodging	2.443	18.46
4	Outdoor Recreation	2.122	16.04
	<b>TOTAL VARIANCE</b>	<b>13.221</b>	<b>100.00</b>

techniques, it was expected that clusters of contiguous counties with similar attraction dimensions would be found. Unfortunately, the outcomes of the cluster analyses that were performed with the 20 variables and repeated with the four factor scores were not satisfactory.

In both cases, the analysis offered by the hierarchical clustering agglomeration schedule showed that the largest increase of within-cluster sum of squares is from one to two clusters. As a consequence, the quick cluster analysis resulted in one cluster representing over 95% of the counties and independent cities and other geographically scattered clusters made of one or few political subdivisions. More cluster solutions were analyzed without adequate results; the clusters were poorly distributed in terms of numbers of counties and no geographic contiguity was noted among political subdivisions belonging to the same cluster.

Because of the lack of contiguity among clustered counties and cities and of the imbalance between clustered regions, the homogeneous method had to be discarded. Therefore, the analysis continues using a modified version of the tourist regions defined by the Virginia Tourism Corporation. They are Northern Virginia, Shenandoah Valley, Chesapeake Bay, Eastern Shore, Tidewater and Hampton Roads, North Central, South Central, and Blue Ridge Highlands. The regional modification consisted of dividing Central Virginia in two distinct regions, South Central and North Central. This change resulted from a visual analysis of the standardized scores of tourist attraction dimensions. These scores revealed substantial differences between the southern and northern counties and independent cities. This most likely occurred because of the large size of the central region, which is composed of 33 counties and 11 independent cities. From a research standpoint, it is vital to identify major attraction differences within a region when comparing that region to others. A high degree of attraction heterogeneity within the same region may indicate a poorly defined region. As a result, tourists might be unable to evaluate and compare the attractiveness of a region made of substantially diverse sub-areas.

### **Evaluation of Supply Attractiveness of Tourist Regions**

Factor scores resulting from the factor analysis were computed for each unit of measurement—counties and independent cities—and assigned to the appropriate tourist

region. The standardized scores that were assigned to each political subdivision are the indicators measuring each county and independent city's ability to provide the four attraction dimensions. Therefore, the supply evaluation of attractiveness in each one of the eight tourist regions of Virginia is measured by the sum of the standardized scores of each county and independent city. In Appendix A eight tables illustrate the evaluation procedure for each tourist region.

From a visual analysis of the tables, the independent cities are richer in tourism services and facilities than counties. Likewise, counties offer more outdoor recreation attractions as well as rural lodging accommodations than independent cities. Cultural and historical attractions are more easily found in urban rather than rural settings. Regions characterized by densely populated areas, such as Northern Virginia and Tidewater and Hampton Roads, scored very high in terms of tourism services and facilities whereas all the other regions received negative scores. Only the North Central region obtained a neutral score (-0.09) because it benefited from its contiguity to the Northern area. Also, the presence of the capital city in this region helped to balance the lack of tourism services and facilities in the rural areas of north central Virginia.

The cultural/historical dimension is very much available in the northern part of the state of Virginia, particularly in North Central and Northern Virginia. The leading position of North Central Virginia is mostly related to the richness of museums and historic sites in Richmond and its surrounding areas. Many Civil War battles occurred in this region and it is also rich in wineries and vineyards. Northern Virginia received a high score because of its many historical districts, monuments, and museums. The Tidewater region obtained a relatively high score mostly because of the presence of historic Williamsburg. The Shenandoah Valley region is popular for its festivals and cultural events and scored above average. All the other regions fell below average.

The rural lodging dimension seems to be influenced by the presence of water or mountains. In fact, it is in those areas that one is more likely to find campgrounds, cottages and cabins as well as bed & breakfasts. Eastern Shore, Tidewater, and Cheasepeake Bay are the coastline regions of Virginia and were identified as possessing the most abundant rural lodging products and services. Shenandoah Valley received a positive standardized score because it represents the mountain region of the state, along

with the Appalachian and Blue Ridge Mountains. The regions included in the Piedmont area of Virginia have neither mountains nor the sea and were found lacking rural accommodations.

A different regional scenario is portrayed by the last attraction dimension, which is outdoor recreation. The Blue Ridge Highlands region appears as the richest of all regions in terms of availability of outdoor facilities. The unique landscape offered by this southwestern area generated the highest score among all the dimensions. Similar to this mountainous region is the Shenandoah Valley, which ranked second. The North Central region benefited from the presence of hills and unique historical treasures and ranked third. Despite its relatively flat landscape, Northern Virginia scored above average most likely because of the high number of biking trails and horse riding facilities. Little outdoor entertainment is available in the remaining regions. Table 8 shows the supply evaluation measures of tourist attractiveness in eight Virginia regions.

#### **Total Supply Attractiveness**

The final supply attractiveness score is obtained by multiplying the evaluation scores of each region by the importance scores of each dimension. As illustrated in table 7 the importance scores of the four attraction dimensions are the sums of squared loadings resulted from the factor analysis performed earlier in this study. Table 9 illustrates the evaluation and importance scores by tourist regions and the total supply attractiveness scores of the eight tourism regions. The sums of squared loadings that indicate the importance of the delineated dimensions have been translated into percentages.

The weighting procedure has caused some shifts in the ranks of the eight Virginia regions. Northern Virginia increased its distance from North Central Virginia because it had very high scores in the first two attraction dimensions, which bear the highest weights. The Shenandoah Valley was the most penalized by the weighting procedure and shifted from third to fifth rank. Its negative score on tourism services and facilities was the cause of such negative change. Tidewater benefited from the weights because it had relatively high scores in the first three dimensions and a below average score in the dimension that resulted having the lightest weight. Eastern Shore advanced one position and the remaining regions did not modify their earlier rankings.

Table 8. Summary of Supply Evaluation Measures of Destination Attractiveness.

	Tourist Services and Facilities	Cultural/ Historical	Rural Lodging	Outdoor Recreation	Total	Rank
Northern Virginia	9.37	10.74	-3.93	0.53	16.71	1 <sup>st</sup>
Tidewater and Hampton Roads	7.39	2.80	4.61	-9.19	5.61	4 <sup>th</sup>
Cheasepeake Bay	-3.35	-2.81	1.10	-6.10	-11.16	7 <sup>th</sup>
Eastern Shore	-0.96	-0.56	10.82	-1.25	8.05	5 <sup>th</sup>
North Central Virginia	-0.09	13.86	-3.02	4.75	15.5	2 <sup>nd</sup>
South Central Virginia	-5.66	-12.27	-6.67	-13.81	-37.78	8 <sup>th</sup>
Shenandoah Valley	-4.58	1.26	1.42	8.13	6.23	3 <sup>rd</sup>
Blue Ridge Highlands	-2.13	-13.02	-4.33	16.94	-2.54	6 <sup>th</sup>

Note: For a detailed illustration of attraction dimension standardized scores by counties and independent cities, please see Appendix A.

Table 9. Overall Supply Measure of Attractiveness

	TSF	Evaluation $\chi$ weight (41.75%)	C/H	Evaluation $\chi$ weight (23.75%)	RL	Evaluation $\chi$ weight (18.46%)	OR	Evaluation $\chi$ weight (16.04%)	Total	Rank
NVA	9.37	3.91	10.74	2.55	-3.93	-0.72	0.53	0.08	5.82	1
THR	7.39	3.08	2.80	0.66	4.61	0.85	-9.19	-1.47	3.12	3
CB	-3.35	-1.40	-2.81	-0.67	1.10	0.20	-6.10	-0.98	-2.85	7
ES	-0.96	-0.40	-0.56	-0.13	10.82	1.99	-1.25	-0.20	1.26	4
NCV	-0.09	-0.04	13.86	3.29	-3.02	-0.56	4.75	0.76	3.45	2
SCV	-5.66	-2.36	-12.27	-2.91	-6.67	-1.23	-13.81	-2.21	-8.71	8
SV	-4.58	-1.91	1.26	0.30	1.42	.26	8.13	1.30	-0.05	5
BRH	-2.13	-0.88	-13.02	-3.09	-4.33	-0.79	16.94	2.72	-2.04	6

NVA: Northern Virginia  
 THR: Tidewater & Hampton Roads  
 CB: Chesapeake Bay  
 ES: Eastern Shore  
 NCV: North Central Virginia  
 SCV: South Central Virginia  
 SV: Shenandoah Valley  
 BRH: Blue Ridge Highlands

TSF: Tourism Services & Facilities  
 C/H: Cultural/Historical  
 RL: Rural Lodging  
 OR: Outdoor Recreation

## **PRIMARY DATA ANALYSIS**

For the purpose of this study, primary data was collected to determine the demand side of destination attractiveness. Forty Virginia's tourism experts were used as a representative of tourist demand. Table 10 identifies the regions for which the experts operate. All tourist regions of Virginia are represented by one or more experts, with the exception of Eastern Shore. This absence may be due to the fact that Eastern Shore is the smallest region composed of only two counties and no independent cities. The two experts residing there did not participate in this study. However, half of respondents are associated with organizations such as state tourism organizations, associations and state universities, which operate outside regional or local areas and ensure a statewide expertise.

The professional affiliation of the sample is illustrated in Table 11. The largest group of experts includes academicians, Conference and Visitors Bureaus and Chamber of Commerce executives. Representatives of marketing/media, state tourism organizations and associations, and planning/development offices have four representatives each.

Two important characteristics of the experts were considered: number of years spent in Virginia and length of time dedicated to the tourism industry. Tables 12 and 13 suggest that only a minority of experts resided in Virginia and worked in the tourism field for fewer than five years. Specifically, 50% of experts have spent more than twenty years in Virginia and 30% more than 10 years. Forty-five percent of the experts have worked in the tourism sector for more than ten years while 25% have been active in the field for 6-10 years. It is therefore assumed that their knowledge of the state and of the subject matter was substantial.

The questionnaire was comprised of two core sections. The first related to the notion of centrality and was created to define the importance of Virginia attractiveness attributes. The second investigated the notion of evaluation and explored the availability of attractions at a regional level. The questionnaire design was repetitive in that it would ask to analyze the same attraction dimension and region from different perspectives. Specifically, the tourism experts who participated in this study had to consider three different points of view. The first is a perspective of all travelers to Virginia and the other

Table 10. Regional Competence of Tourism Experts.

<i>Areas</i>	<i>Number of Experts</i>
Northern Virginia	2
Tidewater & Hampton Roads	4
Cheasepeake Bay	1
North Central Virginia	4
South Central Virginia	2
Shenandoah Valley	4
Blue Ridge Highlands	3
Entire Virginia	20
TOTAL	40

Table 11. Affiliation of Experts.

<i>Organization/Company</i>	<i>Number of Experts</i>
University	11
CVB	9
Chambers of Commerce	8
Marketing/Media	4
State Tourism Organizations/Associations	4
Planning/Development	4

Table 12. Number of Years Spent in Virginia by Tourism Experts.

<i>Number of Experts</i>	<i>Years Resided in Virginia</i>
8 (20%)	2 to 5
5 (12.5%)	6 to 10
7 (17.5%)	11 to 20
20 (50%)	20 and above

Table 13. Number of Years of Work Experience of Tourism Experts.

<i>Number of Experts</i>	<i>Years Worked in Tourism</i>
12 (30%)	Less than 5
10 (25%)	6 to 10
10 (25%)	11 to 20
8 (20%)	20 and above

two are perspectives of two travel segments that were identified in Virginia: the “See and Do” and the “Social Escape” segments. The questionnaire described the first segment as more active and interested in visiting and experiencing different places. By comparison, the social escape segment seeks rest and relaxation while being with friends or family members. The repetitive theme of tourist regions by attraction dimensions was also designed to encourage respondents to reflect carefully before indicating importance and evaluation measurements (Ritchie and Zins, 1978).

In the first section of the questionnaire, the experts were asked to indicate the tourism attractiveness importance by assigning percentages to the four attraction dimensions that resulted from the factor analysis—tourism services and facilities, cultural/historical, rural lodging, and outdoor recreation. In considering 100% the total attractiveness variation generated by the four attraction dimensions, experts were asked to distribute this variation by percentage for each dimension. The first set of questions was evaluated from the perspective of the average visitor to Virginia. The second set of questions required the assignment of percentages to the same attraction dimensions, keeping in mind the needs and wants of the see and do travel segment. The third and last set of questions investigated the importance of the four attraction dimensions from the perspective of the social escape segment.

### **Demand Importance of Attraction Dimensions**

Destination attractiveness studies are dependent on two measurement tools: importance and evaluation. Measuring how important the natural dimension is in relation to the cultural dimension in a given destination is critical. However it does not answer the question of how many natural and cultural resources are available. Likewise, being acquainted with the tourist attractions in a given area is not sufficient if there is no awareness about their importance. Therefore, both notions of importance and evaluation are necessary elements for measuring attractiveness.

Respondents indicated the percentage of variance of tourist attractions, which were represented by tourism services, culture and history, rural lodging and outdoor recreation attractions. A visual analysis of table 14 shows that the cultural/historical attraction dimension is the most valued and captures 38.74% of Virginia’s attractiveness importance. The tourism services and facilities dimension is second in order of

Table 14. T-test of Experts' Importance Ratings by Years of Residency in Virginia

Attraction Dimension	Mean Experts Residents in VA for less than 10 years	Mean Experts Residents in VA for more than 10 years	t-test value	Sig.
Tourism Service and Facilities	26	30	-1.28	0.206
Cultural/Historical	35	40	-1.54	0.133
Rural Lodging	15	11	2.21	0.033
Outdoor Recreation	22	17	1.93	0.061

importance with 28.74%, whereas outdoor recreation and rural lodging are third and fourth with respectively 19.70% and 12.82%.

A t-test was performed to determine whether significant statistical differences existed between the attractiveness importance ratings of those experts who have spent fewer and those who have spent more than ten years in Virginia. As shown in table 15 there was no statistical difference between the two groups with the exception of “Rural Lodging,” which revealed a significant difference at the .05 level. The “Outdoor Recreation” dimension was significant at the .06 level. In both cases, the experts who have resided in Virginia for a lesser duration of time have a higher appreciation of the outdoor environment. This may suggest that length of residence decreases the perception of attractiveness of a place in terms of rural and outdoor facilities. A possible explanation for this is that newer residents tend to explore the surrounding environment more often than long standing residents. The test was repeated to identify possible differences between the most experienced and the least experienced experts. The t-tests indicated that there are no differences between those who have worked in the tourism industry for fewer than ten years and those who have worked for more than that time. Both t-tests demonstrate that, overall, there are no differences between experts based on the years spent in Virginia and years worked in the tourism industry. This analysis suggests that despite differences in length of residence and experience in the tourism field the group of experts was consistent overall in evaluating the importance of the four attraction dimensions.

Experts’ responses as “See & Do” and “Social Escape” travel segments differed from each other and in relation to those of all travelers (Table 16). Particularly, the “See & Do” segment valued the most the “Culture/History” (35.25%) and the “Outdoor Recreation” (26.35%) dimensions and were less interested in “Tourism Services and Facilities” (20.65%) and “Rural Lodging” (17.75%). The “Social Escape” segment, instead, emphasized first the “Tourism Services and Facilities” component of destination attractiveness (34.78%) and, second, the cultural-historical aspect of it (24.66%). “rural Lodging” and “Outdoor Recreation” are the least important dimensions in the “Social Escape” segment’s mind with 20.68% and 19.88% respectively.

Table 15. T-test of Experts' Importance Ratings by Years of Experience in the Tourism Industry.

Attraction Dimension	Mean Experts Industry experience for less than 10 years	Mean Experts Industry experience for more than 10 years	t-test value	Sig.
Tourism Service and Facilities	28	29	-.053	0.958
Cultural/Historical	37	40	-.868	0.391
Rural Lodging	13	11	.880	0.385
Outdoor Recreation	20	19	.632	0.532

Table 16. Demand Weights of Attraction Dimensions by Travel Segment.

	Tourism Services	Culture/History	Rural Lodging	Outdoor Recreation
All Travelers	28.74% (2 <sup>nd</sup> )	38.74% (1 <sup>st</sup> )	12.82% (4 <sup>th</sup> )	19.70% (3 <sup>rd</sup> )
See & Do Segment	20.65% (3 <sup>rd</sup> )	35.25% (1 <sup>st</sup> )	17.75% (4 <sup>th</sup> )	26.35% (2 <sup>nd</sup> )
Social Escape Segment	34.78% (1 <sup>st</sup> )	24.66% (2 <sup>nd</sup> )	20.68% (3 <sup>rd</sup> )	19.88% (4 <sup>th</sup> )

### **Demand Evaluation of Tourist Regions**

In the second section of the questionnaire, respondents were asked to rate the availability of attraction dimensions in the eight tourist regions of Virginia. They were provided with a map which identified counties and independent cities in relation to the tourist regions.

The results reveal that the region perceived as having the greatest availability of tourist attractions is Shenandoah Valley. The scores of this region, which fluctuate in between 4.55 and 5.85, show the highest consistency in terms of homogeneity of attraction dimensions availability. As the second region, Tidewater scored high in terms of services and facilities as well as cultural and historical dimensions. Rural lodging was the only dimension that scored below average. Despite obtaining the two highest scores in services and facilities and culture and history, the northernmost Virginia region ranked third. It was penalized by the perceived scarce availability of rural lodging and outdoor recreation facilities. North Central Virginia ranked fourth and reportedly offered a consistent variety of tourist attractions. The Blue Ridge region was perceived as very attractive from a nature perspective but fell short in terms of services/facilities and culture/history. Similar ratings were assigned to the Cheasepeake Bay and the Eastern Shore regions. South Central Virginia scored below average in all four attraction dimensions and was last in the regional ranking. Table 17 illustrates the demand evaluation means of the four attraction dimensions by tourist region.

In order to relate the demand attractiveness evaluations to the corresponding supply attractiveness evaluations, the mean scores resulting from the responses of the forty experts were translated into standardized scores. Table 18 illustrates the changes in regional scores based on attraction dimensions.

### **Total Demand Attractiveness**

In comparison of the changes which occurred from the supply evaluation scores to the supply weighted evaluation scores, the effect of the weights on the demand evaluations had a relatively modest impact on the regional scores and no impact on the final rankings. Table 19 reports the weighted demand measures of attractiveness by tourist regions and their relative ranking.

Table 17. Demand Evaluation Means of Attraction Dimensions by Region.

<i>Region/Attraction Dimension</i>	<i>Tourist Services and Facilities</i>	<i>Cultural/ Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>	<i>Total</i>	<i>Rank</i>
Northern Virginia	6.40	5.75	2.83	3.20	18.18	3 <sup>rd</sup>
Tidewater and Hampton Rods	5.80	5.15	3.75	4.53	19.23	2 <sup>nd</sup>
Chesapeake Bay	4.13	3.78	4.08	4.70	16.69	6 <sup>th</sup>
Eastern Shore	3.60	3.30	4.35	4.90	16.15	7 <sup>th</sup>
North Central Virginia	4.30	5.00	4.05	4.05	17.40	4 <sup>th</sup>
South Central Virginia	3.38	3.75	3.80	3.78	14.71	8 <sup>th</sup>
Shenandoah Valley	4.55	5.20	5.10	5.85	20.70	1 <sup>st</sup>
Blue Ridge Highlands	3.20	3.58	4.63	5.68	17.09	5 <sup>th</sup>

Table 18. Demand Evaluation Mean Transformation of Attraction Dimensions by Region.

	Tourist Services and Facilities	z scores of TSF	Cultural/ Historical	z scores of C/H	Rural Lodging	z scores of RL	Outdoor Recreation	z scores of OR
NVA	6.40	1.73	5.75	1.41	2.83	-1.85	3.20	-1.53
THR	5.80	1.20	5.15	0.76	3.75	-0.48	4.53	-0.06
CP	4.13	-0.25	3.78	-0.71	4.08	0.01	4.70	0.12
ES	3.60	-0.72	3.30	-1.22	4.35	0.41	4.90	0.34
NCV	4.30	-0.10	5.00	0.60	4.05	-0.03	4.05	-0.59
SCV	3.38	-0.91	3.75	-0.74	3.80	-0.41	3.78	-0.89
SV	4.55	0.11	5.20	0.82	5.10	1.53	5.85	1.39
BRH	3.20	-1.06	3.58	-0.92	4.63	0.83	5.68	1.20

NVA: Northern Virginia  
 THR: Tidewater & Hampton Roads  
 CB: Chesapeake Bay  
 ES: Eastern Shore  
 NCV: North Central Virginia  
 SCV: South Central Virginia  
 SV: Shenandoah Valley  
 BRH: Blue Ridge Highlands

TSF: Tourism Services & Facilities  
 C/H: Cultural/Historical  
 RL: Rural Lodging  
 OR: Outdoor Recreation

Table 19. Overall Demand Measure of Attractiveness

	<i>TSF</i>	<i>Evaluation</i> <i>χ weight</i> (28.74%)	<i>C/H</i>	<i>Evaluation</i> <i>χ weight</i> (38.74%)	<i>RL</i>	<i>Evaluation</i> <i>χ weight</i> (12.82%)	<i>OR</i>	<i>Evaluation</i> <i>χ weight</i> (19.70%)	<i>Total</i>	<i>Rank</i>
NVA	1.73	1.41	1.41	0.55	-1.85	-1.53	-1.53	-0.30	0.51	3 <sup>rd</sup>
THR	1.20	0.76	0.76	0.29	-0.48	-0.06	-0.06	-0.01	0.56	2 <sup>nd</sup>
CB	-0.25	-0.07	-0.71	-0.27	0.01	0.00	0.12	0.02	-0.32	6 <sup>th</sup>
ES	-0.72	-0.21	-1.22	-0.47	0.41	0.05	0.34	0.07	-0.55	7 <sup>th</sup>
NCV	-0.10	-0.03	0.60	0.23	-0.03	-0.00	-0.59	-0.12	0.08	4 <sup>th</sup>
SCV	-0.91	-0.26	-0.74	-0.29	-0.41	-0.05	-0.89	-0.17	-0.77	8 <sup>th</sup>
SV	0.11	0.03	0.82	0.32	1.53	0.20	1.39	0.27	0.82	1 <sup>st</sup>
BRH	-1.06	-0.30	-0.92	-0.36	0.83	0.11	1.20	0.24	-0.31	5 <sup>th</sup>

NVA: Northern Virginia  
 THR: Tidewater & Hampton Roads  
 CB: Chesapeake Bay  
 ES: Eastern Shore  
 NCV: North Central Virginia  
 SCV: South Central Virginia  
 SV: Shenandoah Valley  
 BRH: Blue Ridge Highlands

TSF: Tourism Services & Facilities  
 C/H: Cultural/Historical  
 RL: Rural Lodging  
 OR: Outdoor Recreation

## **OVERALL MEASURE OF DESTINATION ATTRACTIVENESS**

The last step in measuring tourist attractiveness involves the sum of supply and demand measurements. Table 20 shows the overall supply and demand scores of attractiveness by Virginia tourist regions. A visual analysis of the table reveals that the range of supply scores is significantly broader than that of demand scores. In fact, the lowest supply score is  $-8.71$  and the highest is  $5.82$ . By contrast, the lowest demand score is  $-0.77$  and the highest is  $0.82$ . This difference was generated by the regional variations in availability of tourist attractions. For example, the differences were very large in retail sales or hotel rooms from some northern Virginia counties and independent cities and other south central political subdivisions. Again by comparison, the demand standardized scores were contained because the regional availability was measured on a Likert type scale ranging from 1 to 7.

Despite those discrepancies, which will be adjusted later in this section, it is important to compare and analyze the differences in direction of regional evaluations of supply and demand. A rank order correlation test was performed to identify whether a significant direct association between the overall demand and supply measure of tourist attractiveness exists. The Spearman rank order correlation coefficient was  $.64$  and it was significant at the  $.08$  level. This finding denotes a relatively strong association between the demand and supply measures of destination attractiveness. Therefore, the greater the availability of attractions, the higher the attractiveness perception of demand.

The scores of Northern Virginia, Tidewater and North Central Virginia were positive from both perspectives. However, while the first two regions received strong positive scores from both perspectives, the last received a sound supply score and a slightly above average demand score. This difference suggests that the North Central region has more to offer than what is actually perceived by demand. This region, therefore, has potential for further development.

Concordant negative scores were found in relation to the following regions: Chesapeake Bay, South Central, and Blue Ridge Highlands. Both supply data and demand evaluations were consistent in considering those regions less attractive overall compared to the average. These findings do not imply that the aforementioned regions are not attractive, instead they suggest that the attraction offer may be limited to one or two

attraction dimensions. Blue Ridge Highlands, for example, obtained very high outdoor recreation evaluations and the Cheapeake Bay obtained above average outdoor recreation and rural lodging scores.

Two regions had scores with different directions, Shenandoah Valley and Eastern Shore. The change in direction of the first region was mostly caused by the negative supply score of tourism services and facilities. Demand evaluation of the same dimension was neutral whereas all the other dimensions received similar scores by demand and supply. One of the possible reasons for such a difference is the presence of interstate U.S. 81, which allows the traveler to notice a concentration of available services and facilities just outside the highway. The Shenandoah Valley is also made of other regions that are more isolated and less equipped with tourism services and facilities.

By the same token, perhaps the most isolated region of the state, the Eastern Shore, has obtained the opposite results with a positive supply score and a negative demand evaluation. This region is made up of only two counties and is home to approximately 50,000 residents. Because of the very limited area covered by this peninsular region and because of its unique flora and fauna, it is particularly rich in rural lodging facilities, especially campgrounds. The availability of campgrounds, B&Bs, cottages and cabins in the Eastern Shore region has compensated for the deficiency of other attractions, resulting in a positive supply score. Demand is probably unaware of that availability and assigned slightly above average evaluations to outdoor recreation and rural lodging. This did not compensate for the negative evaluations of the other two dimensions.

The measurement of the overall attractiveness implies adding the supply and demand scores. However, adding the two scores as they are presented in table 20 would result in assigning an excessive weight to the supply measures and a negligible weight to the demand measures. Evidently, the measurement required further refinement because the two groups of scores were not fully comparable. Therefore, the demand scores would have had little impact in the overall measurement of attractiveness. In order to solve this measurement problem, two score transformations were performed. The first involved the transformation of the lowest supply and demand scores into a zero value, thus making it a reference point. All the other scores were adjusted accordingly. For example, assigning a

Table 20. Overall Supply and Demand Measures of Attractiveness

	Supply	Deman
Northern Virginia	5.82	0.51
Tidewater and Hampton Roads	3.12	0.56
Chesapeake Bay	-2.85	-0.32
Eastern Shore	1.26	-0.55
North Central Virginia	3.45	0.08
South Central Virginia	-8.71	-0.77
Shenandoah Valley	-0.05	0.82
Blue Ridge Highlands	-2.04	-0.31

value of 0 to  $-0.77$  would transform the next lowest score of  $-0.55$  into  $0.22$  ( $0.77 - 0.55 = 0.22$ ). The second step was to transform the new scale into a percentage scale. As a consequence, the highest numbers in the new scales ( $14.53$  for supply and  $1.33$  for demand) were assigned  $100$  and the lowest numbers maintained a  $0$  score. Table 21 shows the two step procedure used to balance the score magnitude of supply and demand scores.

The final measure of destination attractiveness as a result of the supply and demand attraction measures is shown in table 22. Northern Virginia ranked first because of its high scores in the two most important dimensions, which are tourism services and facilities and cultural/historical. Tidewater performed well above average in the first two dimensions and had a positive supply evaluation of the rural lodging dimension. This region appears to be one of the most complete in terms of tourist attractions. It offers the history of Williamsburg, well developed shores, and the services and facilities of the most densely populated independent cities of the entire state. The Shenandoah region, which ranked third, possesses most of the attractions, especially outdoor recreation, cultural/historical and rural lodging. The regions that ranked from fourth to the seventh share one characteristic: they have more available attractions than what is perceived by demand. The fourth most attractive region was North Central Virginia, which is the richest in terms of cultural/historical attractions. Eastern Shore and Blue Ridge Highlands ranked fifth and sixth respectively, despite their above-average availability of rural lodging and outdoor recreation attractions. Chesapeake Bay obtained positive rural lodging scores and because of the poor availability of other attractions ranked seventh. South Central Virginia concluded last. A summary of the supply, demand, and overall attractiveness scores and rankings is presented in Appendix D, together with the maps of the eight tourist regions of Virginia.

As a final clarification, the final scores illustrated in table 22 were calculated to compare and add the supply and demand dimensions of attractiveness. Therefore,  $100$  and  $0$  should not be interpreted as representing destinations having all the possible attractions or no attractions at all. Instead they are the maximum and minimum relative scores assigned for evaluation purposes only.

Table 21. Score Transformations to Compare the Overall Measures of Attractiveness

	Supply			Demand		
	Standardized Scores	Lowest score = 0 Transformation	%	Standardized Score	Lowest score = 0 Transformation	%
Northern Virginia	5.82	14.53	100	0.51	1.28	80.50
Tidewater and Hampton Roads	3.12	11.83	81.41	0.56	1.33	83.64
Chesapeake Bay	-2.85	5.86	40.33	-0.32	0.45	28.30
Eastern Shore	1.26	9.97	68.62	-0.55	0.22	13.84
North Central Virginia	3.45	12.16	83.69	0.08	0.85	53.46
South Central Virginia	-8.71	0	0	-0.77	0	0
Shenandoah Valley	-0.05	8.66	59.60	0.82	1.59	100
Blue Ridge Highlands	-2.04	6.67	45.90	-0.31	0.46	28.93

Table 22. Overall Measure of Destination Attractiveness

	Supply	Demand	Total Attractiveness	Final Rank
Northern Virginia	100	80.50	180.50	1 <sup>st</sup>
Tidewater and Hampton Roads	81.41	83.64	164.81	2 <sup>nd</sup>
Chesapeake Bay	40.33	28.30	68.63	7 <sup>th</sup>
Eastern Shore	68.62	13.84	81.97	5 <sup>th</sup>
North Central Virginia	83.69	53.46	137.15	4 <sup>th</sup>
South Central Virginia	0	0	0	8 <sup>th</sup>
Shenandoah Valley	59.60	100	159.60	3 <sup>rd</sup>
Blue Ridge Highlands	45.90	28.93	74.83	6 <sup>th</sup>

## **HYPOTHESES TESTING**

The earlier sections of this chapter were dedicated to the measurement of attractiveness from a supply and demand standpoint. The measurement of destination attractiveness was needed in order to generate and operationalize all the variables that were necessary for hypotheses testing. The principal purpose of this study was to develop a measurement model for destination attractiveness and test the contributing elements to determine attractiveness from a tourism perspective. In particular, the analysis explored the relationships between: supply and demand evaluations of tourist attractions in eight Virginia regions, and attraction evaluations based on the perceptions of two market segments.

Chapter One introduced the theoretical and analytical models of the study. Five research hypotheses were formulated in Chapter Three, based on this study's purpose and literature review. Each research hypothesis is presented again in this section together with the relative results of the statistical analyses.

### **Analysis of Hypothesis 1**

The need for measuring attractiveness from a demand and supply perspective stems from the fact that the objective importance of attractions is different from the perceived importance of the same attractions. However, tourists' perceptions of attractions importance are based on the attractions found at destination. Therefore, a direct relationship between the supply and demand importance is assumed (Figure 5).

**Hypothesis 1:** The supply and demand importance of attraction dimensions is significantly associated.

Hypothesis 1 is made of the following sub-hypotheses:

**H1a:** The supply and demand importance of the tourism services and facilities dimension is significantly associated.

**H1b:** The supply and demand importance of the cultural/historical dimension is significantly associated.

**H1c:** The supply and demand importance of the rural lodging dimension is significantly associated.

**H1d:** The supply and demand importance of the outdoor recreation dimension is significantly associated.

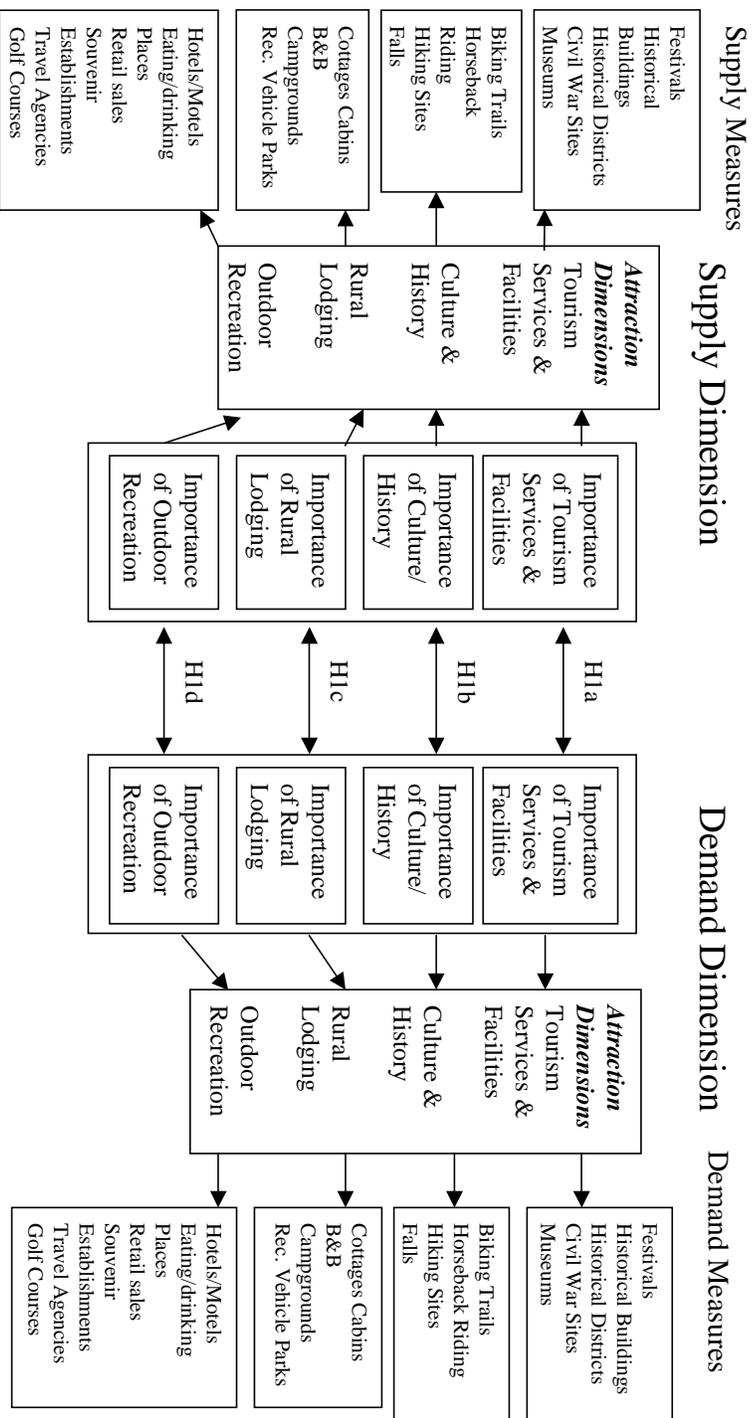


Figure 5. Hypothesis 1.

The supply importance of tourist attractions is measured by the sum of squared loadings of each attraction factor. It considers the loadings of all variables in each dimension and assumes that the variance explained by the four factors equals 100%. The demand importance is measured by the weights assigned by tourism experts to attraction dimensions. Therefore, from a supply perspective only one observation was generated whereas from a demand perspective forty evaluations by tourism experts were available. To test this hypothesis the importance level of supply was first determined. As shown in table 7, from a supply side the most important attraction dimension was “Tourism Services and Facilities” with a percentage of variance of 41.75. The second most important attraction dimension was “Cultural/Historical” with 23.75% of the overall importance. “Rural Lodging” was the third most important attraction dimension and accounted for 18.46% of the variance. Finally, “Outdoor Recreation” resulted the fourth and last most important dimension explaining 16.04% of the overall variance.

In order to determine an association between supply and demand importance of destination attractiveness, a One-way ANOVA was performed on the demand weights assigned by each expert to the four dimensions. The findings show that the ANOVA obtained an F-value of 78.36 and it is significant at the .000 level. Based on the means of respondents’ ratings of the four attraction dimensions the “Cultural/Historical” attraction dimension is considered to be the most important and captures 38.74% of Virginia’s attractiveness variance. The “Tourism Services and Facilities” dimension is the second most important with 28.74% of the variance. “Outdoor Recreation” resulted as the third most important dimension and explained 19.70% of the variance. The fourth and least important attraction dimension was “Rural Lodging,” which obtained 12.82% of the overall attraction variance. From a visual analysis it appeared that the importance ratings of demand are not correlated with those of supply (Table 23).

To statistically test Hypothesis 1, a “Tukey honestly significant difference test” was performed. It produced pairwise comparisons between attraction dimensions. As shown in Table 24 the importance scores assigned to the four attraction dimensions are significantly different from each other. The “Cultural/Historical” dimension was significantly more important than all the other dimensions. The “Tourism Services and Facilities” dimension was noticeably less important than “Cultural/Historical but

Table 23. Differences in Percentages and Rankings Between Supply and Demand of Attraction Dimensions Weights.

	<i>Tourism Services</i>	<i>Culture/History</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Supply	41.75% (1 <sup>st</sup> )	23.75% (2 <sup>nd</sup> )	18.46 (3 <sup>rd</sup> )	16.04% (4 <sup>th</sup> )
Demand	28.74% (2 <sup>nd</sup> )	38.74% (1 <sup>st</sup> )	12.82% (4 <sup>th</sup> )	19.70% (3 <sup>rd</sup> )

Table 24. Results of the Tukey Test on Demand Importance Ratings of the Four Attraction Dimensions.

<b>Attraction Dimensions</b>	<i>Mean Difference</i>	<i>Significance</i>
TSF and C/H	-10.00	.000
TSF and RL	15.90	.000
TSF and OR	9.07	.000
C/H and TSF	10.00	.000
C/H and RL	25.90	.000
C/H and OR	19.08	.000
RL and TSF	-15.90	.000
RL and C/H	-25.90	.000
RL and TSF	-6.82	.001
OR and TSP	-9.07	.000
OR and C/H	-19.08	.000
OR and RL	6.62	.001

TSF: Tourism Services and Facilities  
 C/H: Cultura/Historica  
 RL: Rural Lodging  
 OR: Outdoor Recreation

significantly more important than the other two dimensions. The “Rural Lodging” dimension was much less important than all the other dimensions whereas “Outdoor Recreation” was considerably more important than “Rural Lodging” and significantly less important than “Cultural/Historical” and “Tourism Services and Facilities.” All means differences were appreciably different at the .001 or better. This test confirms that the supply and demand importance of the four attraction dimensions is considerably different than the rest of the attraction dimensions (Table 24). Based on those findings, Hypothesis 1 was not supported.

### **Analysis of Hypothesis 2**

Hypothesis 2 is based on the assumption that attractions are unevenly distributed in space. In other words, the availability of attractions varies from region to region. Visitors are aware of the uneven distribution of attraction at a regional level and tend to visit areas that are perceived as offering many attractions while ignoring those with no or few attractions. Therefore, a direct correlation between the supply and demand importance of attractions at destination is assumed (Figure 6).

**Hypothesis 2:** There is a direct correlation between the regional availability of tourism resources and the perceived regional availability of the same resources.

Hypothesis 2 is made of the following sub-hypotheses:

**H2a:** The supply and demand evaluation of the eight tourist regions in terms of tourism services and facilities is significantly associated.

**H2b:** The supply and demand evaluation of the eight tourist regions in terms of tourism culture and history is significantly associated.

**H2c:** The supply and demand evaluation of the eight tourist regions in terms of rural lodging is significantly associated.

**H2d:** The supply and demand evaluation of the eight tourist regions in terms of outdoor recreation is significantly associated.

In order to determine correlations between supply and demand evaluations of destination attractiveness, Pearson product moment correlation analysis was performed. Table 25 presents the results of the correlation analysis, which partially supports hypothesis 2. There were significant correlations between supply and demand evaluations of the eight Virginia regions found in relation to the tourism services and facilities

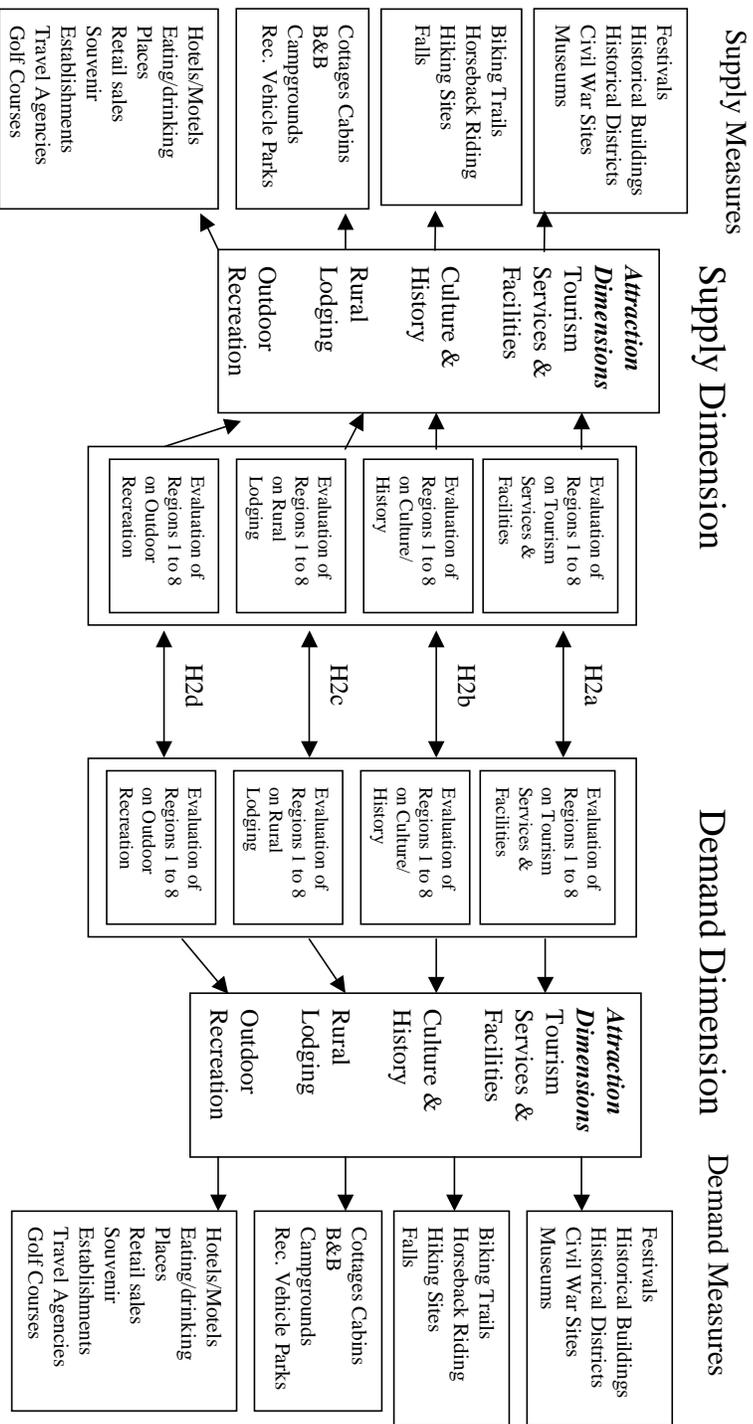


Figure 6. Hypothesis 2.

Table 25. Correlations of Supply and Demand Evaluation Scores.

Dimensions	TSF <i>Dem</i>	CH <i>Dem</i>	RL <i>Dem</i>	OR <i>Dem</i>	TSF <i>Sup</i>	CH <i>Sup</i>	RL <i>Sup</i>	OR <i>Sup</i>
Tourism Services & Facilities – <i>Demand</i>	1.00							
Cultural/Historical – <i>Demand</i>	.871*	1.00						
Rural Lodging – <i>Demand</i>	-.630	-.288	1.00					
Outdoor Recreation – <i>Demand</i>	-.464	-.340	-.929*	1.00				
Tourism Services & Facilities – <i>Supply</i>	.870*	.642	-.720*	-.503	1.00			
Cultural/Historical – <i>Supply</i>	.696*	.750*	-.384	-.422	.599	1.00		
Rural Lodging – <i>Supply</i>	.143	-.087	.280	.383	.152	.195	1.00	
Outdoor Recreation – <i>Supply</i>	-.184	.053	.500	.572	-.096	.034	-.133	1.00

\*. Significant at 0.05 or better probability level.

- NVA: Northern Virginia
- THR: Tidewater & Hampton Roads
- CB: Chesapeake Bay
- ES: Eastern Shore
- NCV: North Central Virginia
- SCV: South Central Virginia
- SV: Shenandoah Valley
- BRH: Blue Ridge Highlands

dimension. Significant correlations were also found between demand and supply evaluation of the regions with regard to the cultural/historical dimension. No significant correlations were found between supply and demand regional evaluations of the rural lodging and outdoor recreation attraction dimensions. Both correlations were positive but were not significant at the 0.05 probability level. Sub-hypotheses 2a and 2b were supported whereas sub-hypotheses 2c and 2d were not supported.

### **Analysis of Hypothesis 3**

This hypothesis explains that the “See and Do” and the “Social Escape” market segments have different perceptions in relation to attraction dimensions (Figure 7). A T-test was performed to identify differences between market segments in perceiving and evaluating the four delineated attraction dimensions. Sub-hypothesis H3a is as follows:

**H3a:** The “See & Do” segment place a significantly higher importance than the “Social Escape” segment on the outdoor recreation.

As shown in table 26 outdoor recreation was significantly more valued by the see and do segment than by the social escape segment. The T-test value was 3.17 and the differences between the two segments were significant at the  $p < 0.002$  level. Based on those findings, sub-hypothesis 3a was supported.

**H3b:** The “See & Do” segment place a significantly higher importance than the “Social Escape” segment on the cultural/historical attraction dimensions.

The mean of the percentage of importance assigned by the see and do segment (35.25) emerged as significantly higher than that of the social escape segment (24.63). The t-test value was of 4.10 and the significance level was of  $p < 0.000$ . These findings support sub-hypothesis 3b.

### **Analysis of Hypothesis 4**

The “Social Escape” segment seeks rest and relaxation and is more interested in social interaction within his/her family members and friends. Generally, this segment seeks the same comfort that he/she has at home and emphasizes the availability of tourism services and lodging that are likely to ensure a relaxing and safe vacation. It presents two sub-hypotheses as follows (Figure 7):

**H4a:** The “Social Escape” segment places a significantly higher importance than the “See & Do” segment on the tourism services & facilities.

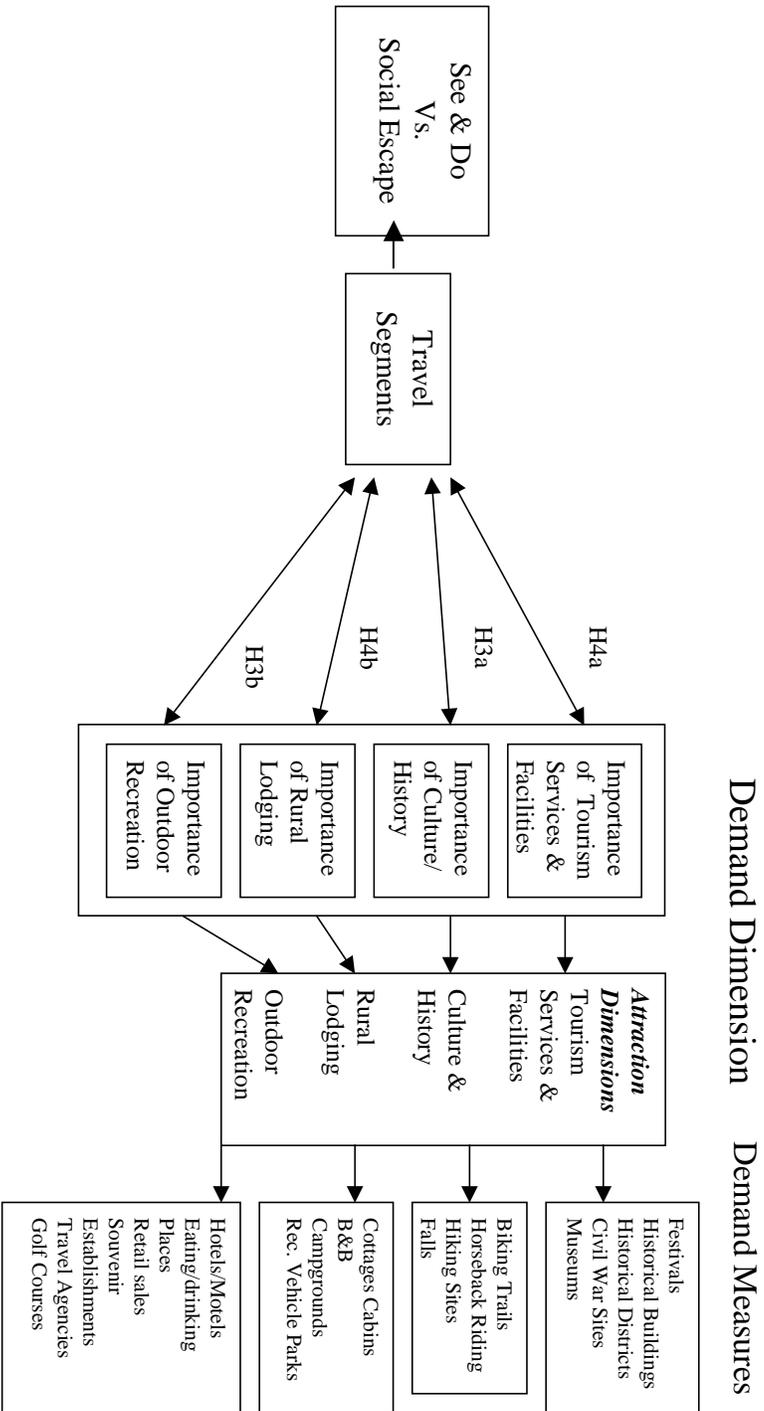


Figure 7. Hypotheses 3 and 4.

Table 26. T-test of Segments' Weights of Attraction Dimensions.

Attraction Dimensions	Mean "See & Do"	Mean "Social Escape"	t-test value	Sig.
Tourism Services and Facilities	20.65	34.58	-5.11	0.000
Cultural/Historical	35.25	24.63	4.10	0.000
Rural Lodging	17.25	20.68	-1.64	0.105
Outdoor Recreation	26.35	19.88	3.17	0.002

As shown in table 26 major differences emerged. The social escape segment emphasized significantly more than the see and do segment the first dimension, which is tourism services and facilities. The mean differences obtained a t-test value of  $-5.11$  and the significance level was of  $p < 0.000$ . These results support sub-hypothesis 4a.

**H4b:** The “Social Escape” segment place a significantly higher importance than the “See & Do” segment on rural lodging attraction dimensions.

Despite a substantial difference in mean scores, rural lodging did not result as statistically significant between the two segments. The mean of percentages attributed to the rural lodging dimensions by the social escape segment was 3.43 higher than that of the see and do. However, the difference obtained a T-test value of  $-1.64$  and a significance at  $p < 0.105$ . This sub-hypothesis, therefore, was not supported.

### **Analysis of Hypothesis 5**

Hypothesis 5 is based on the assumption that the more attractive a region, the higher the benefits of tourism. Therefore, the supply and demand weighted attractiveness scores were expected to be related to the economic tourism measures in the area. Four economic measures were considered in this study: overall tourism receipts, employment, state taxes, and local taxes (Figure 8).

**Hypothesis 5:** Regional variance of tourism resources is directly related to regional variance in distribution of tourism economic benefits. Thus, the higher the supply and demand attractiveness of the region the more economic benefits it will receive from tourist visitation. It presents two sets of four sub-hypotheses.

**H5a1:** There is a direct relationship between the weighted supply attractiveness score of a region and travel spending in the same region.

**H5a2:** There is a direct relationship between the weighted supply attractiveness score of a region and travel employment generated by the same region.

**H5a3:** There is a direct relationship between the weighted supply attractiveness score of a region and tourism state taxes generated by the same region.

**H5a4:** There is a direct relationship between the weighted supply attractiveness score of a region and tourism local taxes generated by the same region.

Supply Measures      Supply Dimension

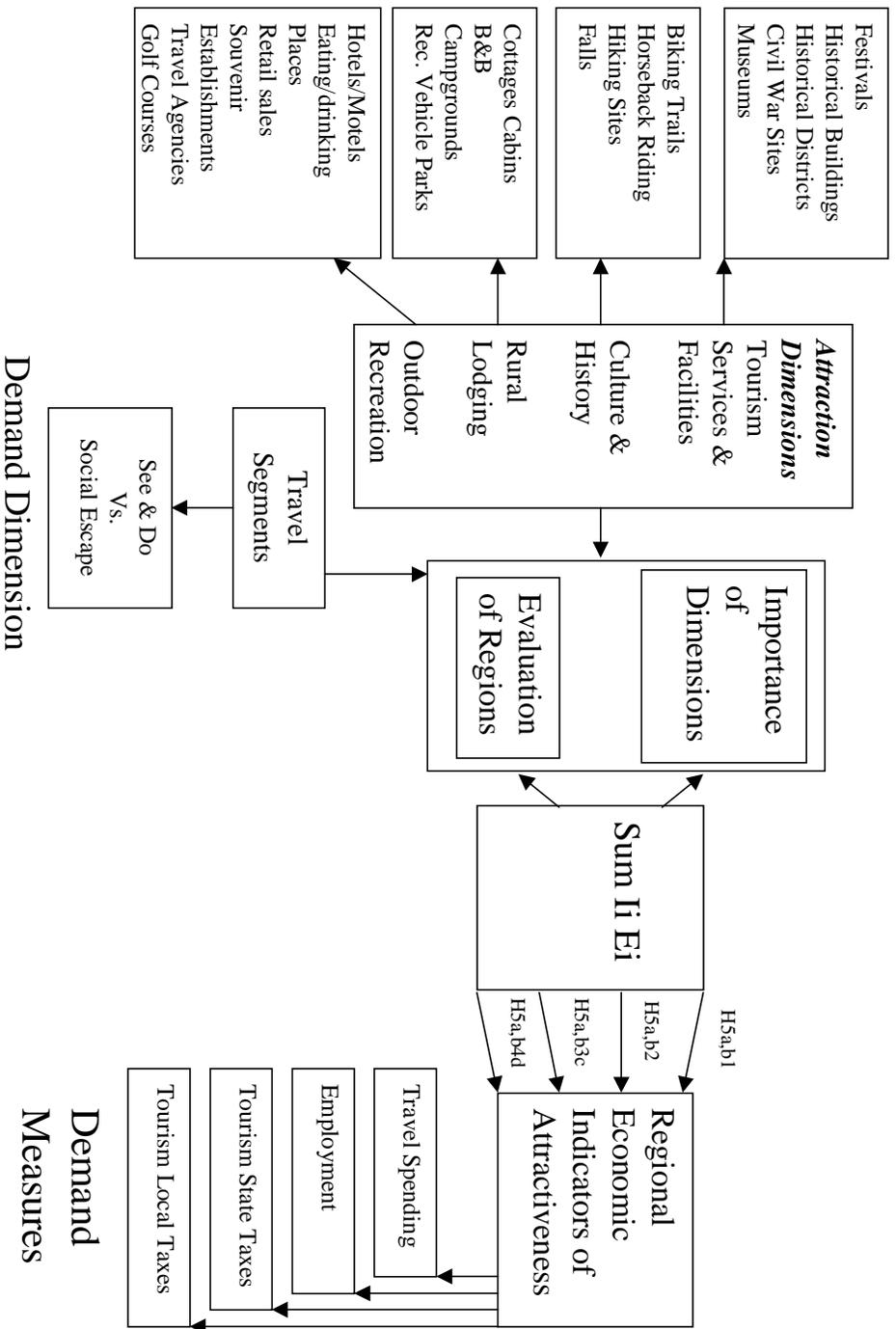


Figure 8. Hypothesis 5.

This set of sub-hypotheses was tested using simple regression. As shown in table 27 all the H5a hypotheses were supported. The four regression analyses were significant at the .000 level. Regression of the overall weighted supply measure of attractiveness against “tourism receipts” explained 55% of the variance in that variable. The second regression involved the weighted supply measure of attractiveness against “tourism employment” and explained 71.5% of the variance. The third regression analyzed the relationship between the weighted supply measure of attractiveness and “State taxes” and accounted for 69.1% of the variance. The last regression used the weighted supply measures of attractiveness (independent variable) against “Local taxes” (dependent variable) and explained 49.9% of the variance.

The second set of sub-hypotheses is as follows:

**H5b1:** There is a direct relationship between the weighted demand attractiveness score of a region and travel spending in the same region.

**H5b2:** There is a direct relationship between the weighted demand attractiveness score of a region and travel employment generated by the same region.

**H5b3:** There is a direct relationship between the weighted demand attractiveness score of a region and tourism state taxes generated by the same region.

**H5b4:** There is a direct relationship between the weighted demand attractiveness score of a region and tourism local taxes generated by the same region.

Similarly to the statistical analyses used for the H5a sub-hypotheses, four simple regression analyses were performed to test the H5b sub-hypotheses. The economic indicators of tourism attractiveness were used as dependent variables and the weighted demand evaluations of the eight Virginia tourist regions represented the independent variables. Based on a .05 significance test, all regressions with the exception of one were statistically significant. Regression of the overall weighted demand measure of attractiveness against “tourism receipts” explained 48.7% of the variance in that variable. Its significance is .054 and the t-test is 2.385, which is higher than the significance threshold, generally established at 1.96. The second regression analyzed the weighted demand measure of attractiveness against “tourism employment” and explained 56.1% of the variance at  $p < .032$ . The third regression analyzed the relationship between

Table 27. Regression Analysis of Supply Weighted Scores Against Tourism Economic Indicators

Dependent Variable	R-square	F-Value	Sig.
Tourism Receipts	.550	161.068	.000
Tourism Employment	.715	330.748	.000
State Taxes	.691	294.726	.000
Local Taxes	.499	131.636	.000

the weighted demand measure of attractiveness and “state taxes” and accounted for 54.6% of the variance with a significance of .032. The last regression was performed with the weighted demand measures of attractiveness as independent variable against “local taxes” as dependent variable. It explained 58.6% of the variance with a significance level of .027 (Table 28).

## **CHAPTER SUMMARY**

This chapter presented the analysis and results of this study. The measurement model was made operational and each of the five research hypotheses was tested. Hypothesis 1 was not supported, hypothesis 2 was supported only in part, hypothesis 3 was fully supported, hypothesis 4 was partially supported, and hypothesis 5 was supported.

The chapter began with the analysis of destination attractiveness from a supply perspective. First, attractiveness variables were selected using the content analysis method. Then, the selected attraction variables were factor analyzed and four attraction dimensions were found. In the next step, eight Virginia regions were appraised based on the four attraction dimensions and supply. The demand analysis began with a description of the sample. It included a description of the level of expertise of the sample in terms of knowledge of the field and time spent in Virginia. A demand measurement of importance of attraction dimensions and evaluation of tourism regions was determined. The final measurement analysis involved merging the supply and demand appraisal of Virginia regions into an overall measurement of destination attractiveness. The model testing data analysis followed, using ANOVA, correlations, t-tests, and regression analysis.

The results of the investigation are analyzed and discussed in terms of support for the five hypotheses. The findings identified no significant associations between the supply and the demand importance of the four delineated attraction dimensions. By contrast, the findings supported the correlation between the supply and demand evaluation of Virginia regions based on tourism services and facilities. Similarly, significant correlations were found between demand and supply evaluations of Virginia regions in terms of availability of cultural/historical attractions. Rural lodging and

Table 28. Regression Analysis of Demand Weighted Scores Against Tourism Economic Indicators

Dependent Variable	R-square	F-Value	Sig.
Tourism Receipts	.487	5.689	0.54
Tourism Employment	.561	7.675	0.32
State Taxes	.546	7.205	0.36
Local Taxes	.586	8.502	0.27

outdoor recreation reported no significant correlations based on demand and supply evaluations (see Table 25).

It was also found that the two delineated market segments attached a different level of importance to the four attraction dimensions. As expected, the see and do segments emphasized most the active dimensions, namely outdoor recreation and cultural/historical. Likewise, the social escape segment attributed more importance than the see and do segment on tourism services and facilities and rural lodging. However, the differences found in relation to the last attraction dimension were not significant at the  $p < 0.05$  level. Finally, supply and demand weighted evaluations of the eight tourist Virginia regions predicted all the tourism economic indicators. The discussion and the implications of these findings are discussed in Chapter Five.

## **CHAPTER FIVE**

### **DISCUSSION, IMPLICATIONS, AND CONCLUSION**

#### **INTRODUCTION**

The final chapter of this dissertation summarizes the significance of the research findings and presents conclusions based on the analysis of the data. Chapter Five also describes the contribution made by this study to the body of knowledge in destination attractiveness. The most significant contributions are represented by the measurement design and by the results of the hypothesis testing.

In the first section the summary and discussion of the destination attractiveness measurement framework are presented. Next, the hypotheses tests with ANOVAs, correlations, t-tests, and regression analyses are discussed. Theoretical and practical marketing and planning implications are also set forth. Based on the interpretation of the research and its findings, an assessment of the limitations of this empirical study is offered. The last section of this chapter is dedicated to proposed recommendations for destination attraction research advancement.

#### **SUMMARY OF THE FINDINGS**

This study developed a framework to measure destination attractiveness and empirically tested the relationships among its components. It was proposed that supply and demand weights of attraction dimensions and evaluation measures of regional attractiveness have significant correlations. It was also proposed that different market segments assign a different value to delineated attraction dimensions. Finally, it was suggested that supply and demand weighted evaluations of tourist regions are likely to predict economic benefits of tourism. The research objectives of this study were to: (1) create a quantitative measurement tool by which the overall attractiveness of regions and/or destinations can be determined; (2) identify associations between supply and demand weights of delineated attraction dimensions; (3) identify regional variations in the availability of attractions among regions from a supply and a demand perspective; (4) explain variation between market segments in the perceived importance of attractiveness

dimensions; and (5) explain possible relationships between the overall weighted supply and demand measures of attractiveness and economic benefits generated by tourism.

The attraction supply data used in this study was selected from a variety of sources, including the Virginia Tourism Corporation and the Census. The demand sample population consisted in a group of 40 tourism experts in Virginia. The measure of overall attractiveness from both demand and supply perspectives was calculated using a modified expectancy-value model (Fishbein, 1963). The measurement procedure was developed based on literature on tourist attractiveness (Gearing et al., 1974) and tourism regional analysis (Smith, 1987). Tourism attractiveness was measured from two different perspectives: centrality and evaluation (Brayley, 1990). Centrality represents the importance or magnitude attached to different attraction dimensions and it is expressed in weights. Evaluation refers to the availability of that dimension in a given region.

Eight Virginia regions were selected for the purpose of this study. The regions were determined a-priori based on their classification by the Virginia Tourism Corporation. However, not seven—as determined by the Virginia Tourism Corporation—but eight regions were used in this study. An additional region was created for the purpose of this study based on major attraction availability differences between counties and independent cities included in the Central Virginia area, which was split into South Central and North Central Virginia.

Five major hypotheses were tested using ANOVA, correlations, t-tests, and regression analyses. A discussion of the method used to measure destination attractiveness and of the results of the five hypotheses tests follows.

## **DISCUSSION**

The measurement design formulated and developed in this study contributes to the advancement of destination attractiveness measurement in many ways. First, it allows for an objective comparison of supply and demand measures of attractiveness. The possibility of obtaining scores from two different perspectives offers an opportunity to investigate the interplay between demand and supply in determining the overall tourist attractiveness of multiple regions. The results reveal that each region is unique in terms of attraction availability and distribution.

### **Contribution of Supply and Demand Measures to Destination Attractiveness**

The availability of supply and demand measures of attractiveness and the possibility of analyzing them simultaneously have many potential applications. For example, in exploring only the supply or demand evaluations of destination attractiveness, Northern Virginia performed well in terms of tourism services and facilities but was weak when outdoor recreation and rural lodging were evaluated. By comparison, the Blue Ridge Highlands region received a poor evaluation in terms of tourism services and facilities, cultural/historical, and rural lodging but earned a high outdoor recreation score. Not all regions suffered an imbalance of their attraction mix. For example, Shenandoah Valley obtained positive demand scores in all four attraction dimensions and South Central Virginia scored below average in regard to the entire attraction portfolio.

When the relationship between supply and demand is analyzed in the context of destination attractiveness, interesting results surface. The differences in evaluations and weights that emerged between demand and supply suggest that gaps exist between the objective and subjective measurement of attractiveness. Shenandoah Valley, for example, ranked first in overall demand scores and fifth in overall supply scores. Among the possible explanations for this is Interstate U.S. 81, which runs throughout the entire state of Virginia but is mostly located in the Shenandoah area. The more exposed and accessible the destination, the more likely that demand will be attracted by it (Nyberg, 1995). In addition, the Shenandoah area extends from Roanoke to Winchester and thus may be perceived as offering a wider variety of activities and attractions than smaller regions.

North Central Virginia shifted from second rank in the supply analysis to fourth in the demand analysis. This region obtained the highest cultural/historical supply score because of the availability of museums in Richmond, the concentration of Civil War sites, the richness of wineries and vineyards, and the many historical districts and buildings that characterize the capitol area. The outdoor dimension was also substantially above average in this region. The experts assigned a mildly positive value to this region in terms of cultural/historical availability. This occurred because most of those attractions are concentrated in Richmond, which is perceived as being a political center more than a tourist destination. "Outdoor Recreation" demand evaluations were below average in

North Central Virginia which is consistent with the negative evaluation assigned by demand to the entire piedmont area of the state.

Because the assessment of the availability of tourist attractions from a supply perspective was obtained by counting each variable (number of museums, civil war sites, hiking trails, wineries, ect.) it is possible that less popular attractions might outnumber more famous attractions. For example, North Central Virginia obtained the highest score in the supply availability of cultural/historical attractions whereas Tidewater and Hampton Roads obtained the third highest score in this attraction dimension (Table 8). As explained earlier in this section, the richness of museums and historical districts in the Richmond area considerably increased the supply availability of cultural/historical attractions in the North Central region. Comparatively, demand evaluations of the cultural/historical dimension revealed Northern Virginia as the region with the highest availability and Tidewater and Hampton Roads as the second highest, with North Central Virginia as the third highest. Most likely, demand availability evaluations were affected by the presence of mega attractions such as Historical Williamsburg in the Tidewater and Hampton Roads region and Manassas and other famous Civil War battlegrounds in the Northern Virginia region.

The supply scores of the Eastern Shore region were all positive whereas the demand scores devalued the region because of insufficient tourism services/facilities and cultural/historical resources. As a consequence this region shifted from the fourth rank in the supply list to the seventh rank in the demand list. These findings may be attributable to the area in which Eastern Shore is located in that it is isolated from the rest of the state. As mentioned in Chapter Four, no experts from this small region participated in this study and this might have negatively affected the evaluations of Eastern Shore. What enhanced the attractiveness performance of this region in the overall supply ranking was the rural lodging dimension, in particular the presence of large campgrounds. These received the highest loading score in the factor analysis (Table 8).

## **Discussion of the Hypotheses**

### **Hypothesis 1**

It was hypothesized that the supply and demand weights of attraction dimensions are significantly associated. This hypothesis was not supported. The ANOVA that was

performed on the demand measures revealed significant differences in the distribution of attraction dimension weights. The post-hoc multiple comparison Tukey test identified the significant variations and ranks of the delineated dimensions. However the weight rankings did not correspond with those of defined by supply.

The supply weights were defined by the sum of square loadings of the principal component factor analysis and identified “Tourism Services and Facilities” as the most important dimension and “Cultural/Historical” as the second most important. Demand, instead, emphasized first the “Cultural/Historical” dimension and second “Tourism Services and Facilities.” A possible explanation for this may be found in the interpretation of the word “attraction.” Tourism experts might have interpreted “attraction” as the major reason for traveling to Virginia and have considered “Tourism Services and Facilities” as a consequential and secondary reason (even if necessary for tourism to occur) for visiting the destination (Gunn, 1994). In contrast, factor analysis determined the variance of attractiveness and weighted the factors independent of any personal interpretation. The supply weights are good predictors of tourism economic measures (Appendix C) and demand weights appear consistent with the findings of the content analysis performed on five Virginia tourist guides.

The weights assigned to the third and last most important attraction dimensions seem to follow the same pattern identified for the first and second most important attraction dimensions. Supply emphasized the service aspect of the attraction more, rating third the “Rural Lodging” and fourth the “Outdoor Recreation” dimension. Demand assigned a higher weight to “Outdoor Recreation” than to “Rural Lodging.” Despite the differences between supply and demand weightings, it is evident that both approaches identified two distinct clusters of dimensions based on their importance. They both emphasize the importance of “Tourism Services and Facilities” and “Cultural/Historical” and separate these two dimensions from “Rural Lodging” and fourth the “Outdoor Recreation”, considered relatively unimportant.

## Hypothesis 2

The second hypothesis proposed that there is a direct correlation between the regional availability of tourism resources and the perceived regional availability of the same resources. This hypothesis was partially supported by correlation analysis. The first

two dimensions, namely “Tourism Services and Facilities” and “Cultural/Historical” were correlated. In contrast, “Rural Lodging” and “Outdoor Recreation” did not show a statistically significant correlation. These findings lend themselves to different interpretations. For example, significant correlations were found between the dimensions that received the highest supply and demand weights, which are “Tourism Services and Facilities” and “Cultural/Historical.” Interestingly, these two dimensions were the most popular ones based on the results of the text and pictorial content analysis of the five tourist guidebooks. Because of the high importance placed on the “Tourism Services and Facilities” and “Cultural/Historical” dimensions and the low importance placed on the “Rural Lodging” and “Outdoor Recreation” dimensions, the experts, as demand representatives, had a better knowledge of the availability of the first two most important dimensions other than of the last two. In fact, the more important the dimension the more correlated the supply and demand measurements.

The Outdoor Recreation dimension showed the third highest correlation, with a correlation coefficient of .572, significant at the .10 level. Because the correlations were performed with a very limited number of observations—the eight Virginia regions—they would have been more significant had there been a higher number of observations (Gall, Borg, and Gall, 1996). This suggests that in the presence of a higher number of tourist regions, outdoor recreation was likely to report more statistically significant correlations. Supply and demand evaluations of rural lodging were positively correlated but the correlation coefficient was modest (.280) to allow the drawing of any inferences.

### Hypothesis 3

The third hypothesis tested in this study proposed that different market segments attribute a different importance to different attraction dimensions. In particular, it proposed that the importance perceptions of the “See and Do” segment are higher than the “Social Escape” segment in relation to the “Cultural/Historical” and the Outdoor Recreation” attraction dimensions. The t-test findings showed that the means of the weights assigned to those two dimensions were significantly higher for the “See and Do” segment than for the “Social Escape” segment. Accordingly, this hypothesis was supported.

The findings of this hypothesis testing suggest that the importance assigned by different market segments to attractions at destination varies. This is consistent with the tourism segmentation literature as it relates to destination attributes. The emphasis that the “See and Do” segment places on cultural/historical attraction is confirmed by Peterson (1990). Peterson explains when visiting historical sites the tourist necessarily enters different dimensions of time and place, thereby enjoying a new mental experience. Hall and Zeppel (1990) refer to the travelers mostly interested in the cultural/historical attractions as participating in “experiential tourism.” Research has identified connections between active travelers (See and Do) and destinations rich in outdoor recreation facilities (Dybka, 1988; Jurowski, Uysal, and Noe, 1993).

#### Hypothesis 4

It was hypothesized that the “Social Escape” segment places a higher importance on the tourism services/facilities and the cultural/historical dimensions than the “See and Do” segment. This hypothesis was partially supported by t-test analysis. Particularly, the differences in means in relation to the “Tourism Services and Facilities” dimension between the two segments were significantly in favor of the “Social Escape.” The “Rural Lodging” dimension was evaluated differently by the two segments and, again, the “Social Escape” weights were higher than the “See and Do” weights. However the statistical significance of .05 was not obtained.

Despite the lack of literature comparing psychographic segments to destination attractiveness dimensions, the findings of Hypotheses 3 and 4 are consistent with those of other studies exploring preferences, perceptions, and motivations in relation to destination attributes (Zafar, 1996). Specifically, the differences reported by the findings of Hypotheses 2 and 3 of this study were consistent with those of Baloglu and Uysal’s (1996) study. They found that the “Novelty Seekers” (having similar characteristics of the “See and Do”) segment was more interested in the cultural and natural aspects of a destination when deciding about future vacations. Likewise, the “Urban-life Seekers,” which are similar to the “Social Escape” group, were interested in comfort and security and emphasized tourism services and facilities.

#### Hypothesis 5

The last hypothesis proposed that regional variance of tourism resources is directly related to regional variance in distribution of tourism economic benefits. In other words, the higher the supply and demand attractiveness of the region the more economic benefits it will receive from tourist visitation. Four economic tourism measures were used as dependent variables to test this hypothesis: tourism receipts, tourism employment, state tourism taxes, and local tourism taxes. The supply independent variable was represented by the weighted standardized scores of Virginia counties and independent cities. The demand independent variable was represented by the weighted evaluations of tourism Virginia regions by tourism experts. This hypothesis was supported by regression analysis. However, the supply measures showed stronger relationships between dependent and independent variables than demand measures. This may be attributed to the fact that the supply analysis was performed using the 135 single counties and independent cities as units of measurement while the demand used the 8 regions. Normally, as the sample increases in number there is a greater chance to detect statistically significant correlations between dependent and independent variables (Gall et al., 1996). It is possible that demand evaluations of the 135 Virginia political subdivisions would have resulted in stronger associations between dependent and independent variables. Practically speaking, however, it would have been impossible for the tourism experts to confidently evaluate so many areas.

## **IMPLICATIONS**

The advantage of comparing supply and demand measures has critical implications from theoretical, methodological, and practical standpoints.

### **Theoretical and Methodological Implications**

From a theoretical perspective this study developed and tested a conceptual model for the measurement of destination attractiveness. It added to the current body of knowledge by providing empirical evidence of meaningful correlations between supply and demand measures. Additionally, it proved that market segments perceive attraction dimensions differently. Prior research studies have used a number of measurements for assessing the overall attractiveness of a place or destination (Ferrario, 1979; Gearing et

al., 1974; Hu and Ritchie, 1978), but no attempt has been made to empirically evaluate the interplay between demand and supply attractiveness measures.

Another fundamental implication of this study is that supply and demand measurements of attractiveness are not the same. This conclusion is supported by the different values between supply and demand in terms of attraction dimensions weights. Likewise, no significant correlations were found in the supply and demand evaluations of the eight Virginia regions in terms of “Rural Lodging” and “Outdoor Recreation” attractions. The differences between the final supply and demand attractiveness measures suggest that only the simultaneous analysis of the supply and demand measures of attractiveness will permit a better understanding of the overall attractiveness of a destination.

From a methodological perspective, the use of multivariate statistical techniques to define the attraction dimensions and the creation of a supply indicator of attraction dimension importance are new powerful tools that have been added to the current attractiveness literature. Prior research studies have used several methods to assess supply availability, but no attempt has been made to systematically and universally include attraction variables existing at destination by collecting a comprehensive resource inventory. Indeed, most previous research treated destination attractiveness using a single dimensional approach, either from a supply or a demand perspective, therefore no comparison of the two was possible in one study (Dale, 1990; Muller, 1991; Philipp, 1993; Polacek and Aroch, 1984).

The use of correlation, regression and ANOVA analyses is novel to the current body of knowledge in the field. It provides an opportunity to test the associations between demand evaluations and supply indicators of attractiveness. Hypothesis 1 emphasized the need to consider supply and demand when measuring attractiveness. In fact, the differences in attraction dimension weights between the two perspectives suggest that they are both necessary to determine the attractiveness of a destination. Hypothesis 2 helped increase understanding of the interplay between supply and demand attractiveness measures and clearly indicated that the correlations are stronger with dimensions that have received the highest weights. Hypotheses 3 and 4 were consistent with travel segmentation literature (Baloglu and Uysal, 1996; Oh, Uysal, and Weaver, 1995; Uysal

and Oh, 1995) in documenting differences in attraction appeal between travel groups. Hypothesis 5 allowed, for the first time, a comparison of the overall measures of attractiveness with the economic measures of tourism demand. The support of this hypothesis represents the first empirical evidence of overall attractiveness measures as predictors of tourism economic indicators.

The use of scales for the comparison of supply and demand measures of destination attractiveness at different stages of the measurement procedure is also new to this field of inquiry and makes a methodological contribution to the research. This was the first empirical testing of the conceptual model proposed in this study. Some of the hypotheses have received strong empirical support, while others should be reconsidered through additional research.

### **Practical Implications of the Measurement Model**

There are substantial managerial implications of this study. Destination marketers and tourism planners need a better understanding of how destination attractiveness can be measured and what the implications are in the interplay between supply and demand. Tourism planners often base their projects on supply and destination marketers develop their promotional strategies based on incoming tourism flows. These two approaches are likely to be counterproductive if used separately. To better understand the value and importance of the interplay of supply and demand the Shenandoah Valley region is a good case in point. This region ranked first based on demand attractiveness measured and fifth based on supply measures. Neither one of the two approaches, considered separately, would be usable for tourism planning or marketing purposes.

The major difference between supply and demand focuses on the tourism services and facilities dimension. Demand representatives thought that the region had an average availability of tourism services and facilities whereas supply measures were notably below average. The other three dimensions obtained positive scores from both supply and demand perspectives, however, the demand scores were higher than those of supply. It appears that Shenandoah Valley was seen as a leading tourism region in Virginia but it may not deliver what it promises. Therefore, the task of planners should be geared towards the creation and/or improvement of all four dimensions to ensure that demand perceptions are matched by supply.

Tourism services and facilities as well as rural lodging sites are relatively flexible components of attractiveness and can be changed according to demand needs and wants. The “Outdoor Recreation” dimension can also be changed if the landscape is appropriate and supports additional outdoor services and facilities. The cultural/historical dimension is hardly changeable; in fact it is difficult to bring history and culture in regions that do not possess them. However, it is possible to emphasize minor historical and cultural features through festivals and special events. Shenandoah destination marketers have a competitive advantage because demand is significantly influenced by what the region has to offer. However, because the region is perceived as having more attractions than what the supply analysis indicate, the region might be unable to provide what is expected. In the long term, the higher importance of demand over supply is likely to lower visitors’ satisfaction. Destination marketers would need to be more cautious in promoting such a region and very selective in identifying and targeting the most profitable travel segments.

By contrast, all the counties that received higher supply scores than demand scores, such as North Central Virginia, Eastern Shore, Blue Ridge Highlands, and Cheasepeake Bay, have untapped potential. This is particularly true for those regions that received high availability of attractions included in dimensions that are deemed as the most important, such as “Cultural/Historical” and “Tourism Services and Facilities.” For example, North Central Virginia is abundant in cultural/historical attractions but demand does not perceive this. In this case, the role of destination marketers is critical in creating awareness of those attractions to the potential travelers, especially the “See and Do” segment. Likewise, Blue Ridge Highlands led the “Outdoor Recreation” dimension but was not identified as such by demand. This dimension is considered as important by the “See and Do” segment and needs to be emphasized by destination marketers of that region. In this case, however, marketers need to consult with planners to create opportunities for overnight stays as well as strengthen the “Tourism Services and Facilities” dimension and the “Rural Lodging” dimension.

Eastern Shore offers a unique view of a supply-demand attractiveness discrepancy. Demand scores revealed that the rural lodging and the outdoor recreation dimensions were slightly above average. Supply has only one positive dimension, rural lodging, but its weight positively influenced the overall attractiveness score of this

region. On one hand, Eastern Shore is in a precarious position because it has much availability of rural lodging facilities, which are not being perceived by demand representatives as very important. This might result in low occupancy rates of those facilities and eventually to their divestment. On the other hand, this region can build upon the positive perception of outdoor recreation resources to attract more “See and Do” travelers and fill the rural lodging facilities. Once again, this can be accomplished by the joint effort of tourism planners and destination marketers. Planners could encourage the development of more outdoor recreation facilities and expand or enhance the current ones. Destination marketers could engage in a more aggressive promotional campaign featuring the extraordinary availability of rural lodging facilities and the newly developed outdoor recreation facilities. It is unfortunate to note that, in reality, destination marketers and tourism planners work for different organizations and are rarely involved in joint projects.

Determining the interplay between demand and supply attractiveness measures has also resource allocation implications. Regions that are strong in one or more attractions but are not perceived as such by demand need financial and human resources to promote their destinations. By contrast, regions that are perceived as offering more than they actually have should allocate resources to develop, improve, and enhance their attraction portfolio. The current resource allocation methods are based on criteria that have little to do with supply-demand interaction. They are often based on internal organizational needs and on what has been done historically. For example, The World Tourism Organization (1995) reports that regional funding within countries is often determined by the size of the regions or the number of residents living there. In addition, because marketing funds generally represent a minimal percentage of the funds required to pay administrative personnel, little is allocated for promotional initiatives. The result is that destination marketing organizations have the necessary funds to survive but not to function.

### **Practical Implications of the Hypotheses Testing**

The hypotheses testing findings provide other practical implications. For instance, this study found that the regional evaluation of the “Rural Lodging” and the “Outdoor Recreation” dimensions varies between demand and supply. Among the causes of this

disparity may be a lack of marketing activities aimed at creating awareness about these two dimensions. Another explanation may be a past promotional campaign that failed to conform to reality. There are two potential tourism marketing implications. First, an emphasis could be placed upon “Outdoor Recreation”, especially in those regions (e.g., Blue Ridge Highlands) that have more to offer than what is perceived by demand representatives. Second, the promotional campaigns should always be based on the actual availability of attractions at destination. It is likely that the disproportionate attention that has been given to the cultural/historical attractions of Virginia by tourist guides may have led to a diminished awareness of other attraction dimensions. Focusing more awareness on the “Outdoor Recreation” and “Rural Lodging” dimensions would likely increase their attractiveness importance and result in increased visitation of areas that still have potential for tourism development, such as North Central Virginia, Eastern Shore, Blue Ridge Highlands, and Cheasepeake Bay.

The differences in attraction importance assigned by market segments have strategic marketing implications. Specific and different strategies should be pursued by regional tourism marketing organizations to influence these two segments with effective promotional devices. Both the “See and Do” and the “Social Escape” segments are important to the eight tourist regions because they comprise the entire travel market of the state. The goal should be to focus on the degree of differences between regional attractions and levels of importance of attraction dimensions to develop successful marketing strategies targeting both segments.

The findings of Hypothesis 5 are relevant to tourism decision makers, investors, and marketers. There are various applications related to the use of supply and demand measures of attractiveness in predicting travel spending and other tourism benefits. For example, investors could use the framework proposed in this study to translate attractiveness measures into tourist revenues, and direct their investments accordingly. Marketers could plan their future resource allocation strategies based on the indicators of regional attractiveness. Planners could justify long term plans which would ensure the continued survival of available attractions as a means for future economic prosperity.

### **Summary of Implications**

Based on this discussion, it is apparent that Virginia, as a tourist destination, is comprised of eight diverse regions that possess a unique blend of attractions. It was noted that even the regions that have a lower level of general attractiveness are rich in one or more attraction dimensions. State tourism organizations need to identify the unique attractiveness components of each region and refrain from considering all of the regions as a single product. It is also necessary to calculate the degree of appeal of attraction dimensions among different market segments. Finally, tourism marketing efforts should be directed towards each segment by emphasizing the most appealing attraction dimension(s).

In conclusion, the research findings enable tourist regions to design and develop more effective planning, development and marketing programs by using an integrative or systems approach. By applying this approach, tourism regions will be able to maximize the potential of their attractions and optimize the effectiveness of their resource allocation.

### **LIMITATIONS OF THE STUDY**

This study furthers the body of knowledge on destination attractiveness measurement; however, it is not without its limitations. There are several caveats to this study that are mentioned and discussed. The first limitation is the use of the 20 attraction variables. They have been recognized by literature as important attractiveness indicators, but they might not be comprehensive. A few respondents indicted that other variables can be used to capture some of the variance of attractiveness, such as visiting family and friends, beaches, theme parks and businesses (for business travelers). The limitation represented by the relatively small number of variables was also commanded by the respect of the ratio between observations and variables. Because the observations were the counties and independent cities in Virginia, they could not be increased to accommodate more attraction variables. It is acknowledged that the four attraction dimensions explained a little over 66% of the attraction variance. Although this percentage of variance explained is considered more than acceptable in the social sciences, the other 34% remains unexplained.

Second, the geographic representation of judges was not evenly distributed among tourist regions. Some regions were represented by one respondent and others by four. The Eastern Shore region had no representatives. However, half of the sample worked for state organizations and had a professional interest in all areas of Virginia. Also, the respondents were asked to perform the ratings as objectively as possible. It is possible that the uneven geographical distribution of respondents might have influenced the demand findings.

Third, the use of actual tourist regions requires a thorough knowledge of every single one of those regions. Although tourism experts are generally more knowledgeable of actual or potential visitors, some of them might have had some difficulty in articulating the perceived differences and similarities among regions. To avoid this problem, Brayley (1990) used destination types instead of actual regions. In this study, the use of destination types would have defeated the purpose and objectives of the investigation.

Fourth, the supply measurement of the attractions was performed simply by counting them. No evaluation of the dimension or importance of the tourist attractions was performed. Previous attempts to define attractions objectively required the subjective evaluation of intangible components of a particular attraction. These qualitative judgments made by the researchers naturally led to biased results. The limitation of the method adopted in this study is that mega attractions are likely to be underestimated.

Fifth, the substantial differences that emerged among regions based on the delineated attraction dimensions can be affected by the exceptional availability of one or more attraction types. For example, the presence of an extremely high number of campsites in the Eastern Shore region has significantly increased its "Rural Lodging" availability score. Therefore, the ample presence of major campgrounds in that region has resulted in a better overall attractiveness score. While outliers cannot be eliminated from destination attractiveness studies, a sensitivity analysis might help to capture, evaluate, and explain unusual cases and circumstances.

Sixth, the sums of squared loadings were first used as an objective weighting method to measure destination attractiveness. Despite the positive results offered by

validation analysis reported in Appendix C, the applicability of this experimental method has yet to be proven.

Seventh, the measurement model presented in this study might suggest marketing, planning, and resource allocation strategies that are inconsistent with the political agenda in the investigated region. Possible discrepancies between the political priorities in tourism development and the results and implications of destination attractiveness studies may result in opposition to the formulation, implementation, and diffusion of scientific research in the field.

In summary, despite the above limitations, the results of this study expand the current knowledge on destination attractiveness measurement and supply demand interaction. The research design based on the conceptualization seemed to be carried out without significant limitations. Most importantly, this research was conducted with the belief that there is no such thing as a perfect research design. If carefully designed, however, research can accomplish stated objectives successfully if weaknesses are recognized and identified early.

## **SUGGESTIONS FOR FUTURE RESEARCH**

This study is experimental in nature and additional research is needed to measure destination attractiveness to assess the interrelationship between demand and supply measures. Future research should test the attractiveness model presented here in other destinations, states, and/or countries. A different setting will require different attraction variables and it is likely that additional dimensions will be identified. However, the connection between demand and supply indicators can be always tested using the model offered in this study, regardless of the setting.

There were no significant correlations between the weights assigned by experts to the attraction dimensions and those indicated by the variance of factor analysis. Future research may expand the model by developing an alternative supply weighting procedure which will be able to generate multiple weighting observations. Such a procedure would allow the researcher to compare equal sets of supply and demand observations through correlation analysis.

Significant correlations were found in the evaluation of tourist regions based on “Tourism Services and Facilities” and “Cultural/Historical” dimensions. More research is needed to shed light on the associations between supply and demand of those two important dimensions and perhaps validate their interrelationship. Earlier in this chapter it was suggested that the stronger supply-demand evaluation correlations occurred in association with the dimensions that obtained the highest weights. A future study should extend and test the present model and explore the relationships between weights and evaluations. For example, it may be hypothesized that the importance assigned to a given attraction dimension positively affects the correlations between supply and demand evaluations based on such dimension. Thus, the more important the dimension the more correlated the evaluations of tourist regions based on the same dimension.

The number of variables representing destination attractiveness that were included in this study was limited. Other variables should be considered in future destination attractiveness studies, among which are theme and natural parks, rivers and lakes, beaches, and weather variables. It is likely that the increased number of variables will generate additional attraction dimensions which, in turn, will explain a greater amount of attractiveness variance.

Future research should also investigate the possible limitations of the demand sample. Additional studies are needed to determine how appropriate and accurate it is to use the opinions of tourism experts as substitutes for tourists. Past studies have found no statistical differences between tourists’ and experts’ evaluations (Liu, 1988). These studies date back to the 1970s, however, and need to be updated and validated. It is recommended that a comparison be made of experts’ regional evaluations and dimension weights to those of actual and/or potential visitors to verify their degree of accuracy and representation.

## **CONCLUSION**

The final chapter of this dissertation presented conclusions of this exploratory research and discussed them in terms of major findings, significance of the research, limitations of the research, and future research directions. The results of this study provided guidance in the measurement of destination attractiveness and exploration of the

interplay of its components. The analysis shed light on the relationships existing between supply and demand measures of destination attractiveness by building on previous research pertaining to regional analysis of tourism resources, tourism planning, and tourism resources. This study established the theoretical and empirical bases for exploring not only the interactive nature of supply and demand, but also the association between the overall attractiveness of a region and the economic benefits generated by tourism. Directions for future research in the destination attractiveness paradigm were presented.

The measurement framework and the findings of this study offer important implications for improving destination marketing and development strategies. The implementation of the study can be beneficial in determining the potential for regional tourism development; assessing the resources that best contribute to the identification of the destination image; developing marketing, promotional and segmentation plans; determining supply and demand attraction strengths and weaknesses of competing destinations; and formulating effective allocation resource strategies based on the attractiveness profile of the area.

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## Appendix A

### Standardized Scores of Northern Virginia's Counties and Independent Cities Based on Four Attraction Dimensions.

<i>NORTHERN VIRGINIA</i>	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Arlington County	2.60803	1.16111	-1.10243	0.4895
Caroline County	-0.3082	-0.11688	-0.14362	-0.2403
Culpeper County	-0.25455	0.07861	-0.33403	-0.53262
Fairfax County	8.38164	0.17085	-0.60273	2.3123
Fauquier County	-1.03948	1.88489	0.39077	0.72553
Loudoun County	-0.48138	2.79555	0.03899	1.27957
Prince William County	1.25788	-0.2377	-0.24916	0.16672
Rappahannock County	-1.04921	0.69062	0.03932	0.60635
Spotsylvania County	0.02135	0.10569	0.12244	-0.24804
Stafford County	-0.35435	0.95573	-0.37549	-0.22986
<i>TOT COUNTIES</i>	<i>8.78173</i>	<i>7.48847</i>	<i>-2.21594</i>	<i>4.32915</i>
Alexandria City	0.82344	2.48123	0.09416	-1.07064
Fredericksburg City	-0.18186	1.76158	0.02048	-1.07636
Fairfax City	0.20287	-0.112	-0.45289	-0.44821
Manassas City	0.25756	-0.24649	-0.37269	0.02235
Manassas Park City	-0.39038	-0.14673	-0.52719	-0.62447
Falls Church City	-0.12597	-0.48901	-0.47893	-0.6053
<i>TOT CITIES</i>	<i>0.58566</i>	<i>3.24858</i>	<i>-1.71706</i>	<i>-3.80263</i>
<u><i>TOT</i></u>	<u><i>9.36739</i></u>	<u><i>10.73705</i></u>	<u><i>-3.933</i></u>	<u><i>0.52652</i></u>

Standardized Scores of Shenandoah Valley's Counties and Independent Cities Based on Four Attraction Dimensions.

<i>SHENANDOAH VALLEY</i>	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Alleghany County	-0.19829	-0.64604	-0.29457	1.31707
Augusta County	0.21413	-0.44424	0.86038	0.50224
Bath County	-0.68159	0.29381	1.16964	0.83031
Botetourt County	-0.15905	-0.55154	0.13511	0.23388
Clarke County	-0.46594	0.0308	-0.08359	-0.48828
Craig County	-0.36615	-0.58643	-0.40565	0.23365
Frederick County	0.1345	0.24567	-0.1401	-0.20782
Highland County	-0.26614	-0.37553	-0.3843	0.37245
Page County	-0.69191	0.23402	0.51952	3.84792
Roanoke County	0.29436	-0.59268	-0.52832	0.19662
Rockbridge County	-0.35335	0.74402	1.40659	3.49396
Rockingham County	-0.22035	0.3199	0.48114	1.35203
Shenandoah County	-0.62306	1.0047	0.71031	0.958
Warren County	0.08836	0.25914	0.24454	0.37045
<i>TOTAL COUNTIES</i>	<i>-3.29448</i>	<i>-0.0644</i>	<i>3.6907</i>	<i>13.01248</i>
Winchester City	-0.12428	0.64688	-0.57868	-0.60219
Waynesboro City	-0.28265	-0.30874	-0.31046	-0.42598
Staunton City	-0.43056	0.35818	0.02933	-0.41513
Lexington City	-0.74047	1.80498	-0.06047	0.84133
Roanoke City	0.9879	1.20645	0.38622	-1.65819
Salem City	0.0344	-0.39855	-0.337	-0.73446
Harrisonburg City	0.07568	-0.27483	-0.27032	-0.48453
Covington City	-0.27763	-0.55298	-0.42308	-0.6047
Clifton Forge City	-0.29111	-0.54185	-0.29461	-0.59864
Buena Vista City	-0.23266	-0.61726	-0.41275	-0.19596
<i>TOTAL CITIES</i>	<i>-1.28138</i>	<i>1.32228</i>	<i>-2.27182</i>	<i>-4.87845</i>
<i>TOT</i>	<i><u>-4.57586</u></i>	<i><u>1.25788</u></i>	<i><u>1.41888</u></i>	<i><u>8.13403</u></i>

Standardized Scores of Blue Ridge Highlands' Counties and Independent Cities Based on Four Attraction Dimensions.

BLUE RIDGE HIGHLANDS	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Bland county	-0.09828	-0.61286	-0.48321	0.09838
Buchanan County	-0.31629	-0.4894	-0.37905	-0.38325
Carroll County	0.26461	-0.92024	0.18369	0.46904
Dickenson County	-0.1373	-0.73674	-0.2403	0.34897
Floyd County	-0.55128	-0.18346	-0.22284	0.24542
Franklin County	-0.2547	-0.50849	-0.12103	1.14999
Giles County	-0.18114	-0.74112	-0.59348	2.75382
Grayson County	0.03534	-0.73919	0.77702	3.22188
Lee County	-0.19795	-0.58766	-0.25281	-0.69379
Montgomery County	0.19153	-0.42851	-0.16041	0.85407
Patrick County	-0.50176	-0.05428	0.38338	1.4819
Pulaski County	0.34038	-0.80926	0.05138	0.31393
Russell County	-0.38287	-0.44376	-0.59661	1.19541
Scott County	-0.05078	-0.58033	-0.32255	0.43946
Smyth County	-0.12076	-0.59103	-0.5114	2.33893
Tazewell County	-0.01099	-0.28387	-0.32887	-0.37476
Washington County	-0.12421	-0.0971	0.51027	0.69807
Wise County	0.60478	-1.21844	-0.53554	2.08512
Wythe County	0.33427	-0.9476	0.16652	2.23748
<i>TOTAL COUNTIES</i>	<i>-1.1574</i>	<i>-10.97334</i>	<i>-2.67584</i>	<i>18.48007</i>
Radford City	-0.24324	-0.55216	-0.42936	-0.60546
Norton City	-0.253	-0.56675	-0.41609	-0.474
Bristol City	-0.12319	-0.49006	-0.38669	-0.61274
Galax City	-0.35702	-0.43648	-0.41813	0.15509
<i>TOTAL CITIES</i>	<i>-0.97645</i>	<i>-2.04545</i>	<i>-1.65027</i>	<i>-1.53711</i>
<u><i>TOT</i></u>	<u><i>-2.13385</i></u>	<u><i>-13.01879</i></u>	<u><i>-4.32611</i></u>	<u><i>16.94296</i></u>

Standardized Scores of South Central Virginia's Counties and Independent Cities Based on Four Attraction Dimensions.

SOUTH CENTRAL VIRGINIA	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Amelia County	-0.29918	-0.42813	-0.30043	-0.45694
Appomattox	-0.35072	-0.33057	0.00299	-0.30723
Bedford County	0.18605	-0.50635	0.87279	0.64465
Brunswick County	-0.22295	-0.61724	-0.20617	-0.66287
Buckingham County	-0.36842	-0.48352	-0.33232	-0.5615
Campbell County	0.01407	-0.4868	-0.30419	-0.77597
Charlotte County	-0.40175	-0.30637	-0.28435	-0.56065
Cumberland County	-0.32349	-0.59191	-0.42029	-0.24826
Dinwiddie County	-0.25295	-0.55094	0.24485	-0.60679
Greensville County	-0.28721	-0.5877	-0.23669	-0.58982
Halifax County	-0.24768	-0.24716	-0.14298	0.05354
Henry County	-0.14247	-0.54583	-0.44048	-0.61537
Lunenburg County	-0.31998	-0.5541	-0.41784	-0.60095
Mecklenburg County	-0.08163	-0.3732	0.38074	-0.59113
Nottoway County	-0.29379	-0.49713	-0.22817	-0.53479
Pittsylvania County	-0.20836	-0.25251	-0.13237	-0.15807
Powhatan County	-0.14041	-0.70047	-0.25867	-0.49587
Prince Edward County	-0.22978	-0.24771	-0.35105	0.04218
Prince George County	-0.10056	-0.12777	-0.38844	-0.69353
Southampton County	-0.29886	-0.3104	-0.18551	-0.65983
Sussex County	-0.31048	-0.4199	-0.42169	-0.62689
<i>TOTAL COUNTIES</i>	<i>-4.68055</i>	<i>-9.16571</i>	<i>-3.55027</i>	<i>-9.00609</i>
Bedford City	-0.30761	-0.40382	-0.43047	-0.40431
Colonial Heights City	-0.11834	-0.53313	-0.42766	-0.63249
Danville City	0.01728	-0.35254	-0.4208	-0.67068
Emporia City	-0.22533	-0.54571	-0.42456	-0.61181
Franklin City	-0.26463	-0.55694	-0.43365	-0.59651
Hopewell City	-0.30259	-0.12173	-0.52598	-0.64645
Lynchburg City	0.31504	0.0488	-0.03987	-0.58227
Martinsville City	-0.08675	-0.63542	-0.41534	-0.66444
<i>TOTAL CITIES</i>	<i>-0.97293</i>	<i>-3.10049</i>	<i>-3.11833</i>	<i>-4.80896</i>
<u><i>TOT.</i></u>	<u><i>-5.65348</i></u>	<u><i>-12.2662</i></u>	<u><i>-6.6686</i></u>	<u><i>-13.8151</i></u>

Standardized Scores of North Central Virginia's Counties and Independent Cities Based on Four Attraction Dimensions.

NORTH CENTRAL VIRGINIA	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Albemarle County	-0.89528	1.61663	0.5384	1.98903
Amherst County	-0.49669	-0.18038	-0.30493	1.12087
Chesterfield County	1.98363	-0.35852	-0.02808	-0.73809
Fluvanna County	-0.36841	0.05945	-0.36962	-0.48638
Goochland County	-0.21949	0.18203	-0.34501	-0.48116
Greene County	-0.33091	-0.50019	-0.44696	1.0928
Hanover County	-0.00249	0.98549	-0.17709	-0.55935
Henrico County	2.38344	-0.05125	-0.72406	-0.75874
Louisa County	-0.42703	0.11848	0.12889	-0.38186
Madison County	-0.62524	0.35759	-0.58377	2.85769
Nelson County	-0.96752	0.7929	0.21187	1.92104
Orange County	-0.8613	1.8192	-0.04398	0.17459
<i>TOTAL COUNTIES</i>	<i>-0.82729</i>	<i>4.84143</i>	<i>-2.14434</i>	<i>5.75044</i>
Charlottesville City	0.0554	1.28571	0.24178	-0.22247
Petersburg City	0.05696	0.42788	-0.05946	0.07383
Richmond City	0.62782	7.30567	-1.06169	-0.84718
<i>TOTAL CITIES</i>	<i>0.74018</i>	<i>9.01926</i>	<i>-0.87937</i>	<i>-0.99582</i>
<u><i>TOT.</i></u>	<u><i>-0.08711</i></u>	<u><i>13.86069</i></u>	<u><i>-3.02371</i></u>	<u><i>4.75462</i></u>

Standardized Scores of Tidewater & Hampton Roads' Counties and Independent Cities  
Based on Four Attraction Dimensions.

TIDEWATER & HAMPTON ROADS	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Charles City County	-0.55757	0.72085	-0.36022	-0.68578
Isle of Wight County	-0.18874	-0.1225	0.09895	-0.0403
James City County	0.50321	-0.71894	1.23669	-0.67196
New Kent County	-0.25472	-0.67265	0.35739	-0.75443
Surry County	-0.32798	-0.38561	-0.3132	-0.42662
York County	0.1439	-0.18444	0.24068	-0.64462
TOT. COUNTIES	-0.6819	-1.36329	1.26029	-3.22371
Williamsburg City	-0.61106	3.62858	0.63452	-0.11483
Hampton City	0.54106	1.51155	0.03104	-0.77929
Norfolk City	1.72863	0.47567	-0.10513	-1.07267
Virginia Beach City	4.7293	-0.59266	3.00341	-1.02219
Chesapeake City	0.88018	-0.25387	-0.01179	-0.76608
Portsmouth City	0.23076	0.31392	0.68121	-0.3553
Suffolk City	0.04236	-0.42054	-0.17906	-0.70324
Poquoson City	-0.28651	-0.5549	-0.42332	-0.60179
Newport News City	0.81582	0.05482	-0.28316	-0.54829
TOT. CITIES	8.07054	4.16257	3.34772	-5.96368
<u>TOT</u>	<u>7.38864</u>	<u>2.79928</u>	<u>4.60801</u>	<u>-9.18739</u>

Standardized Scores of Eastern Shore's Counties Based on Four Attraction Dimensions.

EASTERN SHORE	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Accomack County	-0.44803	-0.32298	9.8605	-0.94306
Northampton County	-0.50769	-0.23807	0.96038	-0.3106
<u>TOT</u>	<u>-0.95572</u>	<u>-0.56105</u>	<u>10.82088</u>	<u>-1.25366</u>

Standardized Scores of Cheasepeake Bay's Counties Based on Four Attraction Dimensions.

CHEASEPEAKE BAY	<i>Tourism Services and Facilities</i>	<i>Cultural/Historical</i>	<i>Rural Lodging</i>	<i>Outdoor Recreation</i>
Essex County	-0.10203	-0.64215	-0.22788	-0.685
Gloucester County	-0.14994	-0.3955	0.3257	-0.50578
King and Queen County	-0.31096	-0.59545	-0.19453	-0.59449
King George County	-0.23841	-0.60582	-0.40035	-0.3298
King William County	-0.34689	-0.36301	-0.43688	-0.62128
Lancaster County	-0.21939	-0.03324	0.03799	-0.00059
Mathews County	-0.36683	-0.48171	-0.12619	-0.57915
Middlesex County	-0.41128	-0.45811	1.14666	-0.58201
Northumberland County	-0.21827	-0.33807	0.11985	-0.75165
Richmond County	-0.3927	0.08369	-0.12652	-0.56005
Westmoreland County	-0.59336	1.02048	0.98581	-0.89223
<u>TOT</u>	<u>-3.35006</u>	<u>-2.80889</u>	<u>1.10366</u>	<u>-6.10203</u>

## Appendix B

### FIRST COVER LETTER

Re: A measure of tourist attractiveness for Virginia's tourism regions

Dear (last and first name):

My name is Sandro Formica and I am a Ph.D. candidate and study coordinator at Virginia Polytechnic Institute and State University, Department of Hospitality and Tourism Management. We are currently conducting a study to measure tourist attractiveness in Virginia, the results of which will provide valuable insights to tourist experts and professionals like you.

This study examines the features which attract tourists from a supply (existing resources) and a demand perspective (the perception of different market segments of such resources) and identifies the regions with the highest overall tourism potential. This analysis will attempt to identify discrepancies between attractions (supply) and tourists' perceptions of those attractions (demand). The results will enable state and local tourism organizations to recognize areas with tourism potential and thus increase their competitiveness. Specifically, decision makers in the field may use this study as a base to allocate resources, conduct feasibility studies and initiate new marketing/promotional/ advertising plans.

Because of your expertise and overall knowledge of tourism in Virginia and its visitors we would like to invite you to share your opinions and participate in the "Virginia Tourist Attractiveness Study." Your participation will consist of completing a short questionnaire in which you will value the importance of various tourist attractions and rate the tourist attractiveness of Virginia's regions.

Because of the limited number of tourism experts in Virginia, your participation will greatly influence the outcome of this important study. Individual responses will be kept confidential and the information you provide will be analyzed for academic research only. Upon acknowledgment of your willingness to participate, a web-page address will be sent to you via e-mail where an on-line questionnaire has been prepared for your convenience.

We would like to thank you in advance for your cooperation. A complimentary copy of the study (and its results) will be mailed to you as soon as it is completed.

Sincerely,

Sandro Formica, Study Coordinator  
Virginia Polytechnic Institute & State University  
Hospitality and Tourism Department  
362 Wallace Hall  
Blacksburg, VA 24061-0429  
Phone: (540) 392-1013  
Fax: (309) 273-4882  
E-mail: [sformica@vt.edu](mailto:sformica@vt.edu)

## SECOND COVER LETTER

Dear (first name):

Thank you for agreeing to participate in this study related to tourist attractiveness in Virginia. As I explained earlier, you are part of a selected group of experts and professionals in the field that will determine the importance of five tourism dimensions and the evaluation of tourist attractiveness of the regions identified by the Virginia Tourism Corporation.

The questionnaire that you will find at <http://gis.lib.vt.edu/database/tourist/> will take from 10 to 15 minutes to complete and is made of three sections. The first section focuses on the *importance of four major tourism dimensions in Virginia*:

- (a) *Tourism Services and Facilities*, which includes shopping, eating and drinking, hotels and motels, travel and tour agencies, souvenir outlets, and golf courses.
- (b) *Culture and History*, which includes historical buildings, sites and districts; museums; civil war sites and attractions; festivals and special events; and wineries/vineyards.
- (c) *Rural Lodging*, including campsites, cottages and cabins, Bed & Breakfasts, and recreational vehicle parks.
- (d) *Outdoor Recreation*, comprising horseback riding facilities, walking/hiking trails, biking trails, and waterfalls.

The second section will provide valuable insights regarding the *evaluation of Virginia tourism regions* based on the dimensions that are listed above. An additional dimension is also provided to capture the influence(s) of resources adjacent to Virginia in determining the attractiveness of the identified state tourist regions.

The importance and the evaluation ratings will also be assigned with two distinct traveler typologies in mind. These two traveler types are defined as a result of a Travel Survey conducted in Virginia. The first is labeled “See and Do” and values variety, exploration, and physical activities. “Social Escape” is the second traveler type and seeks rest and relaxation while spending time with family and friends.

We appreciate your help in this research project. The questionnaire can be found at <http://gis.lib.vt.edu/database/tourist/>. Please, do not hesitate to contact me if you have any questions about the survey.

Sandro Formica, Study Coordinator  
Virginia Polytechnic Institute & State University  
Hospitality and Tourism Department  
362 Wallace Hall  
Blacksburg, VA 24061-0429  
Phone: (540) 392-1013  
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E-mail: [sformica@vt.edu](mailto:sformica@vt.edu)

# VIRGINIA TOURIST ATTRACTIVENESS STUDY

## I. IMPORTANCE OF ATTRACTION DIMENSIONS

*Tourist destinations within our large and diversified state have many unique characteristics that attract different market segments. This survey aims to measure the specific tourist attraction dimensions of Virginia from three perspectives. The first is that of all travelers to Virginia, which is best represented by your objective evaluation. The last two perspectives are based on two different market segments: “See and Do” and “Social Escape.”*

These two traveler types are the result of a National Family Opinion survey conducted in Virginia. The first is labeled “See and Do” and values variety, exploration, and physical activities. “Social Escape” is the second traveler type because her/his primary vacation purpose is to rest and relax while spending time with family and friends.

Please, think about the entire state of Virginia and assign a value to each attraction dimension listed below. You have 100 points that need to be distributed among the four attraction dimensions.

<b>Attraction Dimensions</b>	<b>All Travelers to Virginia</b> (100 points)	<b>“See and Do”</b> travel segment (100 points) <i>Values variety, exploration, and physical activities</i>	<b>“Social Escape”</b> travel segment (100 points) <i>Values rest and relaxation while being with family and friends.</i>
<b>Tourism Services &amp; Facilities</b> (shopping; eating and drinking; hotels and motels; travel and tour agencies; souvenir outlets and golf courses)			
<b>Culture &amp; History</b> (historical buildings, sites and districts; museums; civil war sites and attractions; festivals and special events; wineries/vineyards)			
<b>Rural Lodging</b> (campsites; cottages and cabins; Bed & Breakfasts; recreational vehicle parks)			
<b>Outdoor Recreation</b> (horseback riding facilities; walking/hiking trails; biking trails and waterfalls)			
<b>Other Attraction Dimension</b> <i>(please explain)</i>			
<b>Other Attraction Dimension</b> <i>(please explain)</i>			
<b>Total Points</b>	100	100	100

## II. EVALUATION OF VIRGINIA REGIONS BASED ON ATTRACTION DIMENSIONS



In this part of the survey eight vacation regions are identified. The regional division recommended by the Virginia Tourism Corporation is partially modified to accommodate the areas of North and South Central Virginia. You are asked to rate each region based on your opinion of how well it offers the characteristics that are specified in each attraction dimension. *In completing this part, please, think about the needs and wants of all travelers visiting Virginia and their perceptions of what the following regions have to offer.*

*1 = no ability to provide the attraction dimension, 3 = average ability to provide the attraction dimension, and 7 = extremely high ability to provide the attraction dimension.*

*Please note: A fifth dimension "Bordering Attractions" has been added to identify and measure the magnitude of bordering tourist attractions located outside Virginia but next to one of the listed regions (i.e., Washington D.C. and the Northern VA region).*

<b>Tourist Regions</b>	Tourism Services & Facilities (shopping, eating and drinking, hotels and motels, travel and tour agencies, souvenir outlets, and golf courses)	Culture & History (historic buildings, sites and districts; museums; civil war sites and attractions; festivals and special events; and wineries/vineyards)	Rural Lodging (campsites, cottages and cabins, Bed & Breakfasts, and recreational vehicle parks)	Outdoor Recreation (horseback riding facilities, walking/hiking trails, biking trails, and waterfalls)	Bordering Attractions Evaluate the importance of attractions located outside the state that attract visitors to the region
<b>Northern VA</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>Tidewater &amp; Hampton Roads</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>Chesapeake Bay</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>Eastern Shore</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>North Central VA</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>South Central VA</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>Shenandoah Valley</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>
<b>Blue Ridge Highlands</b>	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>	<i>Type Number</i>

In completing this part, please, think about the needs and wants of the “See and Do” travelers to Virginia and their perceptions of what the following regions have to offer.

*1 = no ability to provide the attraction dimension, 3 = average ability to provide the attraction dimension, and 7 = extremely high ability to provide the attraction dimension.*

<b>Tourist Regions</b>	Tourism Services & Facilities (shopping, eating and drinking, hotels and motels, travel and tour agencies, souvenir outlets, and golf courses)	Culture & History (historic buildings, sites and districts; museums; civil war sites and attractions; festivals and special events; and wineries/vineyards)	Rural Lodging (campsites, cottages and cabins, Bed & Breakfasts, and recreational vehicle parks)	Outdoor Recreation (horseback riding facilities, walking/hiking trails, biking trails, and waterfalls)	Bordering Attractions Evaluate the importance of attractions located outside the state that attract visitors to the region
<b>Northern VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Tidewater &amp; Hampton Roads</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Chesapeake Bay</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Eastern Shore</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>North Central VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>South Central VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Shenandoah Valley</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Blue Ridge Highlands</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>

In completing this part, please, think about the needs and wants of the “**Social Escape**” travelers to Virginia and their perceptions of what the following regions have to offer.

*1 = no ability to provide the attraction dimension, 3 = average ability to provide the attraction dimension, and 7 = extremely high ability to provide the attraction dimension.*

<b>Tourist Regions</b>	Tourism Services & Facilities (shopping, eating and drinking, hotels and motels, travel and tour agencies, souvenir outlets, and golf courses)	Culture & History (historic buildings, sites and districts; museums; civil war sites and attractions; festivals and special events; and wineries/vineyards)	Rural Lodging (campsites, cottages and cabins, Bed & Breakfasts, and recreational vehicle parks)	Outdoor Recreation (horseback riding facilities, walking/hiking trails, biking trails, and waterfalls)	Bordering Attractions Evaluate the importance of attractions located outside the state that attract visitors to the region
<b>Northern VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Tidewater &amp; Hampton Roads</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Chesapeake Bay</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Eastern Shore</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>North Central VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>South Central VA</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Shenandoah Valley</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>
<b>Blue Ridge Highlands</b>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>	1-2-3-4-5-6-7 <i>Type Number</i>

**III. PERSONAL CONSIDERATIONS ON DESTINATION ATTRACTIVENESS AND PROFESSIONAL EXPERIENCE**

Please, indicate the extent to which you agree with the following statements. Destination attractiveness depends on:

*1 = not dependent at all, 2 = slightly dependent, 3 = neutral, 4 = somewhat dependent, 5 = highly dependent.*

The tourist attractions at destination	1-2-3-4-5
Travelers' perception of those attractions	1-2-3-4-5
The marketing activities generated by the destination	1-2-3-4-5
Cost of living at destination	1-2-3-4-5
Distance from origin to destination	1-2-3-4-5
Other (specify) .....	1-2-3-4-5
Other (specify) .....	1-2-3-4-5

How would you define destination attractiveness?

How many years have you lived in Virginia? (If lived less than a year please indicate number of months in parenthesis) \_\_\_\_\_

For how long (in years) have you been working in the tourism industry in/for Virginia? (If worked less than a year please indicate number of months in parenthesis) \_\_\_\_\_

*Thank you for participating in this study!*

## Appendix C

### Results of Multiple Regression Analysis of Attraction Dimensions Against Travel Spending

Attraction Dimension	Beta Coefficient	t-value	Significance level
Tourism Services and Facilities	.733	14.74	.000
Cultural/Historical	.324	6.230	.000
Rural Lodging	.007	.136	.892
Outdoor Recreation	.098	1.887	.061

$R^2 = .651$ ;  $F = 60.04$ ; Significance  $F = .000$

### Results of Multiple Regression Analysis of Attraction Dimensions Against Travel Employees

Attraction Dimension	Beta Coefficient	t-value	Significance level
Tourism Services and Facilities	.939	45.698	.000
Cultural/Historical	.253	12.298	.000
Rural Lodging	.014	.688	.492
Outdoor Recreation	.007	.338	.736

$R^2 = .946$ ;  $F = 559.71$ ; Significance  $F = .000$

### Results of Multiple Regression Analysis of Attraction Dimensions Against State Travel Taxes

Attraction Dimension	Beta Coefficient	t-value	Significance level
Tourism Services and Facilities	.832	21.587	.000
Cultural/Historical	.324	8.410	.000
Rural Lodging	.043	1.112	.268
Outdoor Recreation	.099	2.572	.011

$R^2 = .808$ ;  $F = 135.98$ ; Significance  $F = .000$

### Results of Multiple Regression Analysis of Attraction Dimensions Against Local Travel Taxes

Attraction Dimension	Beta Coefficient	t-value	Significance level
Tourism Services and Facilities	.657	11.291	.000
Cultural/Historical	.350	6.008	.000
Rural Lodging	.091	1.556	.122
Outdoor Recreation	.044	.765	.446

$R^2 = .563$ ;  $F = 41.59$ ; Significance  $F = .000$

## Appendix D

### Overall Supply Measure of Attractiveness by Region

	Total Standardized Scores	Rank
Northern Virginia	5.82	1 <sup>st</sup>
Tidewater and Hampton Roads	3.12	3 <sup>rd</sup>
Cheapeake Bay	- 2.85	7 <sup>th</sup>
Eastern Shore	1.26	4 <sup>th</sup>
North Central Virginia	3.45	2 <sup>nd</sup>
South Central Virginia	-8.71	8 <sup>th</sup>
Shenandoah Valley	-0.05	5 <sup>th</sup>
Blue Ridge Highlands	-2.04	6 <sup>th</sup>



### Overall Demand Measure of Attractiveness by Region

	Total Standardized Scores	Rank
Northern Virginia	0.51	3 <sup>rd</sup>
Tidewater and Hampton Roads	0.56	2 <sup>nd</sup>
Chesapeake Bay	-0.32	6 <sup>th</sup>
Eastern Shore	-0.55	7 <sup>th</sup>
North Central Virginia	0.08	4 <sup>th</sup>
South Central Virginia	-0.77	8 <sup>th</sup>
Shenandoah Valley	0.82	1 <sup>st</sup>
Blue Ridge Highlands	-0.31	5 <sup>th</sup>



Overall Measure of Regional Attractiveness

	Total Transformed Standardized Scores	Rank
Northern Virginia	180.50	1 <sup>st</sup>
Tidewater and Hampton Roads	164.81	2 <sup>nd</sup>
Chesapeake Bay	68.63	7 <sup>th</sup>
Eastern Shore	81.97	5 <sup>th</sup>
North Central Virginia	137.15	4 <sup>th</sup>
South Central Virginia	0	8 <sup>th</sup>
Shenandoah Valley	159.60	3 <sup>rd</sup>
Blue Ridge Highlands	74.83	6 <sup>th</sup>



Comparison Between Supply, Demand, and Overall Attractiveness.

	Supply Rank	Demand Rank	Overall Rank
Northern Virginia	1 <sup>st</sup>	3 <sup>rd</sup>	1 <sup>st</sup>
Tidewater and Hampton Roads	3 <sup>rd</sup>	2 <sup>nd</sup>	2 <sup>nd</sup>
Cheasepeake Bay	7 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>
Eastern Shore	4 <sup>th</sup>	7 <sup>th</sup>	5 <sup>th</sup>
North Central Virginia	2 <sup>nd</sup>	4 <sup>th</sup>	4 <sup>th</sup>
South Central Virginia	8 <sup>th</sup>	8 <sup>th</sup>	8 <sup>th</sup>
Shenandoah Valley	5 <sup>th</sup>	1 <sup>st</sup>	3 <sup>rd</sup>
Blue Ridge Highlands	6 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>



# CURRICULUM VITAE

**Sandro FORMICA**

## Education

- Ph.D.** Hospitality and Tourism Management. Virginia Polytechnic Institute & State University, Blacksburg, VA, (USA). Expected date of graduation: December 2000.
- MS** Master of Science. Hospitality and Tourism Management. Virginia Polytechnic
- BS** Bachelor of Law. University of Perugia, Perugia (Italy), School of Law. Thesis: "Norms and Regulations Between Travel Agents and Hotel Keepers", the first thesis to address this topic in Italy. July 1993.

## Industry Experience

- 2000 *Position: Consultant/Project Director*  
Formulation and development of a tourism study to measure destination attractiveness in the state of Wyoming.
- 2000 *Position: Consultant/Project Director*  
Formulation of a National Plan for Tourism Development in Mongolia
- 1998-9 *Position: European Community Tourism Expert*  
Italian Coordinator of a transnational project for "Women Entrepreneurs in Sustainable Tourism."
- 1998 *Position: Consultant/Project Director*  
Development of a Feasibility Study for the creation of a Conference Center in Waynesboro, Virginia.
- 1997 *Position: Consultant/Project Director*  
Development of a Feasibility Study for the creation of a historical lodging, restaurant, and banqueting facility in Lynchburg, Virginia, US. The study is framed in four sections: bar, banqueting, restaurant, and lodging potential.

Oct. 1996 - Jan. 1997      *Position: **Project Director***  
Development of a Market Assessment study for the construction of a Hampton Inn in central Virginia, U.S.

May -Aug. 1996      *Position: **Consultant***                      *Organization: Hotel HR*  
Development of a comprehensive Strategic Marketing Plan for a four star hotel in Bari, ITALY.

Other Duties:

- managing owner extensive training
- developed and tested operational procedures for the following departments:
- front office, housekeeping, F&B (restaurant, banqueting, and bar).
- developed long and short term budgets for the hotel and the restaurant
- staff training program
- selected the GM

June-Aug. 1995      *Position: **Consultant***                      *Organization: Relais il Canalicchio*  
Full time Consultant for a luxury boutique hotel comprising a whole medieval village, consisting of a restaurant, meeting rooms, health center, swimming pool, and grass tennis courts. Canalicchio, ITALY.

Other Duties:

- developed a marketing plan
- selected an automated inventory system for F&B items
- selected and recruited lodging and F&B personnel, as well as the GM
- extensive staff training program
- developed operating manuals for the single departments

1995                      *Position: **Project Coordinator*** for the development of a marketing plan for a town in Virginia “Elkton - The Gateway to Virginia History”

Sept 1992 - Sept 1993      *Position: **Consultant***      *Organization: Relais il Canalicchio*  
Full time consultant for the pre-opening of the Hotel. Canalicchio, Italy.

Duties:

- led a feasibility study
- created name and brochure
- provided technical and practical knowledge for environmental planning, construction methods, interior design
- purchased technical equipment and furniture
- signed contracts with national and international tour operators
- participated to the main European tourist fairs/workshops

July-Nov. 1992 *Position: Consultant* *Organization: Locanda della Posta*  
Full time hotel consultant, Perugia, Italy.

Duties:

- directed the image restoration of Locanda della Posta (completely renewed in 1991), the oldest (1784) and most prestigious hotel in the region.
- developed a market assessment
- revamped the organization of staff and employee duties
- trained staff in conjunction with the new image
- created a promotional plan
- strengthened the new image through advertising and contacts with public administrators and business managers
- signed contracts with national and international tour operators

1991-92 *Position: General Manager* *Organization: Sporting Hotel*  
General Manager and Opening Director of the Sporting Hotel (4 star, 52 rooms, restaurant, conference rooms), Gubbio, ITALY.

Duties:

- authored a feasibility study and a marketing plan
- created hotel name and promotional brochure
- selected and trained staff for all departments
- created long and short term budgeting and financial accounting operations
- conducted cost-volume-profit analysis
- promoted hotel sales
- participated in the following travel fairs and workshops: BIT Milan (It.), ITB Berlin (Ger.), RDA Kohln (Ger.), TTW Montreux (Switz.), BTC Florence (It.), WTM London (Eng.).

1989-91 *Position: Executive Director* *Organization: Hotel & Motel Association*  
Perugia, Italy.

Duties:

- public relations administrator and tourist image promoter for local and national tourist exhibitions, fairs and workshops
- liaison between public tourist authorities and private tourist entrepreneurs
- promoted and elaborated hotel and motel law bills requiring specific services and facilities according to the hotel categories (from one to five L star) as well as laws concerning qualifications of hotel managers and hospitality development
- analyzed average cost/profit margin in order to identify proper tariffs for hotel categories

1989-90 *Position: Consultant* *Organization: Promhotel Umbria consortium*  
Consultant for the creation and launching of the "Promhotel Umbria"  
consortium, Perugia, Italy.

Duties:

- coordinated the first consortium that gathers the best hotels in Umbria
- created regulatory statute, catalogue and coordinated strategies, public relations and sales activities for international tourist fairs in Italy

1987-88 *Position: Director* *Organization: Confcommercio - Perugia*  
Responsible for regional tourism promotion and development (Association of  
hotel owners, travel agents, camping owners, restaurant owners), Perugia, Italy.

Duties:

- solved management problems involving tourism activities
- organized professional development courses for hospitality industry entrepreneurs
- promoted the creation of new regional tourism laws and regulations

### Teaching and Academic Experience

2000 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the graduate course THM 0544 (Strategic Marketing in  
Tourism/Hospitality).

2000 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the undergraduate course THM 0324 (Marketing & Sales in  
Tourism/Hospitality).

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the undergraduate course THM 0364 (International Tourism).

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the graduate course THM 0546 (International Tourism).

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the graduate course THM 0549 (Tourism Planning and Policy  
Making).

1999 **Lecturer/Consultant.** 200-hour teaching/consulting position for the EU project:  
"Women Entrepreneurs in Sustainable Tourism." Spoleto, Italy.

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management.  
Teaching position for the undergraduate course THM 0324 (Marketing & Sales in  
Tourism/Hospitality).

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management. Teaching position for the undergraduate course THM 0362 (Tourism Planning & Development).

1999 **Instructor.** Temple University. School of Tourism & Hospitality Management. Teaching position for the undergraduate course THM 0252 (Careers in Tourism/Hospitality).

1998 **Instructor.** Dept. of Hospitality & Tourism Management at Virginia Tech. Teaching position for the undergraduate course HTM 2514 (Catering Management).

1998 **Ad-Hoc reviewer** for the academic, peer reviewed, international journal "Tourism Analysis"

1998 **Research Associate.** A study of the socio-economic impacts of festivals and special events in rural Virginia

1997 **Instructor.** Dept. of Hospitality & Tourism Management at Virginia Tech. Teaching position for the undergraduate course HTM 2464 (Introduction to Hospitality Service Management/Human Resources).

March/June 1997 and 1998 **Lecturer.** Two full time weeks (150 hours) teaching assignment which addressed to Hospitality and Tourism Graduate Trainers concerning "Strategies and Trends in the Hospitality/Tourism Industry" and "How to Develop and Implement a Marketing Plan." CST - Italian Center for Higher Studies in Tourism, Italy.

July 1997 **Lecturer.** A full week (40 hours) teaching activity addressed to graduate students on "How to Develop and Implement a Feasibility Study in Hospitality and Tourism." University of Perugia, Italy.

March 1997 **Chair**

Seminar on "The Role of Research for a Better Industry Performance " offered at CST - Italian Center for Higher Studies in Tourism, Assisi, Italy.

Spring 1994 **Lecturer.** European Community higher education project in tourism. Teaching position, Graduate course leading to the "Tourism Consultant" degree, Castiglione del Lago, Italy. Member of the examination committee.

February 1992 **Lecturer**

European Community sponsored training activity. Teaching position, post high school course on "Tourist Service Assistant", Gubbio, Italy. One week full time lodging class addressed "Front Office Procedures" and "Sales and Public Relations in the Hospitality Industry" issues.

## Publications

### *Publications in Refereed Journals*

Formica, S. and Littlefield, J. (2000). "National Tourism Organizations: A Promotional Plans Framework," *Journal of Hospitality & Leisure Marketing*, 7(1): 103-119.

Formica, S. and McCleary, K. (2000). "Professional Development Needs in Italy," *Cornell Hotel and Restaurant Administration Quarterly*, 41(2): 72-79.

Formica, S. and Murrmann, S. (1999). "The Effects of Social Group And Motivation On Attendance: An International Festival Case", *Tourism Analysis* 3(3/4): 197-208.

Formica, S. (1998). "The Development Of Festivals And Special Events Studies", *Festival Management & Event Tourism*, 5(3): 131-138.

Formica, S. and Olsen, M.D. (1998). "Trends In The Amusement Park Industry", *International Journal Of Contemporary Hospitality Management*, 10(7): 297-308.

Formica, S. and Sun, C. (1998). "Taiwan And The Tourist Life Cycle", *The Tourist Review*, 1/1998: 10-22.

Formica, S. and Uysal, M. (1998). "A Market Segmentation Of An International Cultural-Historical Event In Italy", *Journal of Travel Research*, 36 (Spring): 16-24.

Formica, S. (1997). "The Development Of Hospitality And Tourism Education In Italy", *Journal of Hospitality & Tourism Education*, 9(3): 48-54.

Formica, S. and Uysal, M. (1996). "A Market Segmentation Of Festival Visitors: Umbria Jazz Festival In Italy", *Festival Management & Event Tourism*, 3(4): 175-182.

Formica, S. (1996). "The European Hospitality and Tourism Education: Differences With The American Model And Future Trends", *International Journal of Hospitality Management*, 15(4): 317-323.

Formica, S. (1996). "Political Risk Analysis in Relation to Foreign Direct Investment", *The Tourist Review*, 4/96.

Formica, S. and Uysal, M. (1996). "The Revitalization Of Italy As A Tourist Destination", *Tourism Management*, 17(5): 323-331.

*Publications in Refereed Proceedings*

Formica, S. (2000). "Tourism Planning." 2000 Travel & Tourism Research Association (TTRA) Annual Conference, Burbank, California, June 15-19.

Formica, S. and Littlefield, J. (2000). "A Promotional Strategy Model For National Tourism Organizations." 2000 American Marketing Association International Conference in Buenos Aires, Argentina, June 28-July 2.

Formica, S. and McCleary, K. (2000). "Developing A Conference Center In A Small Town: Attitudes Of Three Sectors." 2000 CHRIE Conference, New Orleans, Louisiana, July 18-22.

Formica, S. and Uysal, M. (1998). "The role of distance in segmenting festival visitors" The 5<sup>th</sup> International Conference on Recent Advances in Retailing and Services Science, Baveno, ITALY, August 25-28.

Formica, S. (1997). "The Use Of Qualitative Research In Hospitality And Tourism Marketing Studies", 1997 Annual CHRIE Conference - Tides of Change, August 6-9, Rhode Island Convention Center, pp. 79-87.

*Published Articles in Italy*

Formica, S. (1999). "La Strategia di Marketing ed il Piano d'Azione - Parte I", Hotel Domani

Formica, S. (1999). "La Strategia di Marketing ed il Piano d'Azione - Parte II", Hotel Domani

Formica, S. (1998). "Budgeting e proiezioni di conto economico", Hotel Domani

Formica, S. and Sfodera, F. (1998). "I Costi E Ricavi Del Reparto Housekeeping", Hotel Business & Management, 8(4): 36-38.

Formica, S. and Sfodera, F. (1998). "Costi e Ricavi del Food & Beverage", Hotel Business & Management, 8(3): 40-43.

Formica, S. and Sfodera, F. (1998). "I Costi E Ricavi Della Room Division", Hotel Business & Management, 8(2): 40-43.

Formica, S. and Sfodera F. (1998). "Il Controllo Dei Costi Primo Strumento Di Gestione", Hotel Business & Management, 8(1): 40-42.

Formica, S. (1997). "Il Piano di Marketing Strategico - Misurare e valutare i risultati", Hotel Domani

Formica, S. (1997). "Come sviluppare un piano di marketing strategico: Obiettivi aziendali", Hotel Domani, Aprile.

Formica, S. (1997). "Come sviluppare un piano di marketing strategico: Analisi S.W.O.T. e Strategie di Posizionamento delle Strutture Ricettive", Hotel Domani, Marzo.

Formica, S. (1996). "Come sviluppare un piano di marketing strategico: La situazione del mercato attuale", Hotel Domani, 23(9).

Formica, S. (1996). "Destinazioni Turistiche: Pianificazione e Segmentazione", Direttori Albergo, 21(5/6/7): 60-63 (2).

- Formica, S. (1996). "I Fattori Push and Pull Determinano la Destinazione dei Viaggiatori", *Direttori Albergo*, 21(1/2): 45-46.
- Formica, S. (1996). "I Giovani Albergatori e la Formazione." *Turismo d'Italia*, Dicembre, pp. 8-11.
- Formica, S. (1996). "Il Piano di Marketing Strategico: A Che Cosa Serve?" *Hotel Domani*, 23(8): 28-31.
- Formica, S. (1996). "I Dieci Anni Che Hanno Sconvolto Il Mondo Visti Dalla Parte Degli Alberghi", *Hotel Domani*, 23(3): 36-43.
- Formica, S. (1996). "Environmental Scanning. Uno Strumento Strategico Per La Promozione Dell'Albergo", *Hotel Domani*, 23(4): 26-31.
- Formica, S. (1996). "Le Cinque Forze Che Stanno Cambiando Il Futuro Dell'Industria Alberghiera", *Hotel Domani*, 23(5): 34-38.
- Formica, S. (1996). "Destinazioni Turistiche: Pianificazione e Segmentazione", *Direttori Albergo*, 21(5/6/7): 60-63 (2).
- Formica, S. (1995). "All'Universita' Americana", *Turismo D'Italia Hotel Restaurant*, No 10, Dicembre, pp. 30-32.
- Formica, S. (1995). "La Formazione Alberghiera. Il Grande Passo: Un Giovane Albergatore A Scuola In America", *Hotel Domani*, 22(9): 24-27.
- Formica, S. (1990). "Festa del turismo seconda edizione", *Turismo D'Italia Hotel Restaurant*, 1/2(3):51-52.
- Formica, S. (1989). "Promhotel, gli imprenditori a consorzio", *Turismo D'Italia Hotel Restaurant*, 2(5):32.
- Formica, S. (1989). "Dalla tutela della categoria alla progettualita' sul territorio", *Turismo D'Italia Hotels Restaurant*, 2(5):35.
- Formica, S. (1989). "Pubblico e privato al passo con i tempi", *Turismo D'Italia Hotel Restaurant*, 1/2 (2): 38-39.
- Formica, S. (1988). "Nuovo Presidente per gli albergatori di Perugia", *Turismo D'Italia Hotel Restaurant*, 2/3 (1), 53.

### **Book**

- Formica, S (1994), "I Rapporti Contrattuali tra Albergatori ed Agenti di Viaggio", Edizioni A.D.A., Roma, Italy.

### **Hypertext**

- Formica, S. (1999). "Tourism Marketing" It is the only hypertext in this field currently in the market. It is offered in six languages. My authorship relates to three chapters (Segmentation, Positioning, Strategic Marketing & Planning) and one in-depth section (Marketing of Festivals & Special Events).

### **Other Published Material**

- "Radisson Hotels Worldwide", Case Study #4 (1996). Published by Virginia Tech, Department of Hospitality and Tourism Management.

### **Refereed Presentations**

Formica, S (1996). "Politics' effect on festivals: a European case study", presented at the Conference on Graduate Education and Graduate Students Research in Hospitality and Tourism, University of Houston, January 11-13.

Formica, S. and Uysal, M. (1996). "A Market Segmentation Of An International Cultural-Historical Event In Italy", presented at the International Festivals & Event Association 41<sup>st</sup> Annual Convention Festival Research Symposium, Orlando, FL, September 18-22.

Formica, S. (1995). "The downfall of an international festival: the Umbria Fiction case study" presented at the Second International Festivals Association Research Symposium, Edinburgh, Scotland, August 16-20, 1995.

### **Presentations**

Formica, S. (1996). "Motivations Of Festival Attendees As A Marketing Tool", presented at the Festival & Event Manager's Workshop, Roanoke, VA, April 24-26.

### **Diplomas and certificates**

1993      Cornell University Certificate for "Strategic Planning in the Hospitality Industry", Ithaca, U.S.

1993      Diploma of Sommelier (Certified Wine Expert)

1992      Member of the Association of Italian Hotel General Managers

1990      Certified Hotel General Manager

1989      Certified Director of Travel Agency

### **Awards**

1996      Recipient of the Hospitality & Tourism Management Research Award, conferred by Virginia Polytechnic & State University.

### **Sponsored Research Projects and Grants**

- 1998 A Study Of The Socio Economic Impacts Of Festivals And Special Events In Virginia. Contributed to the development of the research instrument, methodology and analysis of results.
- 1997 Employees with Disabilities and the Hospitality Industry. Led a research to determine job opportunities offered by hospitality employers to employees with physical impairments. The outcomes of the research will be used as a guide to implement specific educational guidelines to be applied in high school hospitality courses in Virginia.
- 1995/96 Water Conservation Project. All medium and large size lodging facilities located in Virginia Beach, VA, were inspected for water consumption. Written suggestions for water efficiency management were developed for each lodging facility.

### **Service**

- 1999 Member of the Marketing Team/Strategic Positioning Committee, Fox School of Business & Management, Temple University, Philadelphia.

### **Recent International Experiences**

2000. Bruxelles, Belgium. Presented a transnational project for the development of a Decision Support System CD-Rom on Tourism Destination Attractiveness.
- 1999 E.U. Now Project. Meeting with the European partners (Belgium, Italy, Germany, and Italy) for the formulation and coordination of a transnational EU project, Normandy, France.
- 1998 E.U. Now Project. Meeting with the European partners (Belgium, Italy, Germany, and Italy) for the creation and the implementation of a module to be developed and distributed within the European Community territories in sustainable tourism entrepreneurship, Berlin and Liepzig, Germany.

### **Membership**

AMA American Marketing Association  
CHRIE Council on Hospitality, Restaurant & Institutional Education  
TTRA Travel & Tourism Research Association