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ACTIVITY-BASED MARKET SEGMENTATION IN A RURAL TOURISM DESTINATION: A CASE STUDY OF WEST-CENTRAL MICHIGAN

By

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ABSTRACT

ACTIVITY-BASED MARKET SEGMENTATION IN A RURAL TOURISM DESTINATION: A CASE STUDY OF WEST-CENTRAL MICHIGAN

By

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The primary purpose of this study is to fill the gap between rural tourism and activity-based segmentation by applying activity-based segmentation to profile rural tourists in the west-central Michigan region. Both *a priori* (the type and number of segments are decided before data collection) and *post hoc* (segments are divided in terms of a set of defined characteristics after the data are collected) approaches are applied in the study. Three samples were drawn from transient, overnight and potential visitors.

The results of this study lend support to previous studies in the following two ways. First, the findings prove that activity is a valuable segmentation base from either the *a priori* or the *post hoc* approach. In the *a priori* approach, significant activities such as boating, festival/events, hiking/walking, shopping, and visiting a federal/state park were found among all three populations sampled. In the *post hoc* approach, latent class analysis identified three to four classes (segments) among the samples with light activity (including both outdoor and general) participants, no preference activity participants, and cultural tourists making up the largest segments. Second, the socio-demographic, trip related, travel expenditures, lodging choices, motivations, perceptions of destination attributes, and knowledge of attractions variables were found to be helpful for profiling segments in both the *a priori* and *post hoc* approaches. Tourists' knowledge of attractions is an especially useful variable for profiling segments since activity participation relates to the type of resources at attractions such as the Pere Marquette River and others. For

example, the study area is known for abundant water resources for boating activities. Surprisingly, there were still many respondents who said they enjoyed boating but did not know about or were aware of but had not visited these attractions. Therefore, understanding the relationship between attractions and activity participation can directly assist tourism planners to improve efforts to promote their areas.

The *post hoc* approach involved advanced statistical analysis (latent class analysis), which has not yet been commonly used in tourism research. But, the approach proved useful for identifying activities from a broad range that a planner might promote that would most appeal to the target segment. For example, outdoor tourists tend to participate in a range of outdoor activities such as boating and camping. Compared with the *post hoc* approach, the *a priori* might be an easier approach for tourism planners to use to find interesting segments and then profile them. But, the *a priori* approach alone might lead a planner to promote only boating and miss tourists with other outdoor interests. Because *a priori* and *post hoc* analysis could be applied to the same survey derived data set with only a marginal increase in the cost, employing both is generally advisable. Adding the *post hoc* approach could help the planner focus promotions to draw the attention of tourists who would most enjoy the attractions available. This study demonstrated that combining the two approaches yields the best information for promoting an area. In this study area specifically, light general activity participants were the largest segment, so the advertising for the area should address the variety of activities offered but also highlight specific activities such as boating and hiking/walking that were identified as significant in the *a priori* findings.

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CHAPTER 1 INTRODUCTION

Statement of the Problem

Michigan is well known as a rural tourism destination with an abundance of resources including a variety of agricultural, nature-based, and cultural amenities. In general, the whole state of Michigan is perceived as a rural tourism destination and a peaceful and relaxing place to visit (Adkins, 2009). The new "Pure Michigan" campaign successfully promotes the state with activities and attractions in both rural and urban areas. Although there is a full list of things to do and destinations related to various activities in the "Pure Michigan" website, it does not help to create local destination images to draw tourists' attention to different regions.

Lane (1994b) indicated that rural tourism is multifaceted. Thus, the perception of rural tourists as a homogenous group may not offer useful information for tourism planners when promoting rural destinations. For tourism planners in Michigan to ensure suitable services and recreational opportunities that can meet tourists' interests in rural destinations, it is important to understand the tourists' needs. Moreover, to develop marketing plans that will attract the tourists who enjoy the variety of cultural and natural activities that Michigan can offer, it is crucial for tourism planners to obtain more information related to rural tourists' needs.

Frochot (2005) stated that rural tourism is an extremely diverse market with a wide variety of visitor needs and expectations. Molera and Albaladejo (2007) also addressed the need to discover different segments in the rural tourist market. Following from these statements, it is reasonable to assume that segmentation techniques could be particularly appropriate for understanding this diverse market. Sharpley (1996) also

pointed out that market segmentation could be used as an important tool for understanding and promoting rural tourism.

Market segmentation studies in rural tourism are still limited. Kastenholz, Davis, and Paul (1999) studied tourism in rural communities in North and Central Portugal and identified four different tourist groups based on benefit segmentation: want-it-all, independent, traditional, and environmental. Molera and Albaladejo (2007) segmented tourists in rural areas of south-eastern Spain by benefit segmentation. The five segments identified in their study included family rural, relax rural, active rural, rural life, and rural accommodation. Park and Yoon (2009) adopted motivation as a base to segment rural tourists in Korea. Four clusters were found in their study: family togetherness, passive tourists, want-it-all, and learning and excitement. All of these researchers used the *post hoc* approach to segment the rural destinations, which means that subgroups of tourists are obtained by data-driven segmentation on a multivariate basis after data are collected and analyzed.

Keyser (2002) once mentioned that destinations included many elements that are the "reasons" why the tourism industry exists. All the elements such as attractions (for example, natural resources), tourist facilities and services (for example, accommodations and restaurants), infrastructure (for example, roads and water supply), transportation (for example, boats and coaches) and hospitality (for example, services) must be provided for a destination to function effectively. Of those elements, attractions at destinations are the most powerful elements and usually form the foundation of the destination image. Tourism planners could use these destination images to create market awareness of an area.

Goeldner and Ritchie (2003) also addressed the importance of attractions in the tourism system. Attractions are one of the most important motivators for travel. Without attractions, there would be little need to build other tourism services such as transportation systems, lodging facilities, etc. Mainly, attractions can be classified into cultural, natural, events, recreation, and entertainment attractions. Across those categories, the major component of tourism is the recreation activity engagement in a destination. Thus, considerable thought and effort should be devoted to the type of activities in which visitors tend to participate. In order to attract people and also guide advertising sectors to promote the area efficiently, it is useful to discover which activities are more popular in an area.

According to Towner (1996) and Roberts and Hall (2001), activities have long been recognized as strongly associated with rural areas. Additionally, the literature has shown that identifying tourists' activity preferences could be an efficient approach to segment markets (Jang, Morrison, & O'Leary, 2004; McKercher, Ho, du Cros, & So-Ming, 2002). However, there is no reference in the literature to activity-based segmentation being used in segmenting rural tourists.

Since it has been suggested that the main attraction of rural areas comes from offering a variety of activities, it is important to investigate the benefit of applying activity-based market segmentation in rural tourism markets. Also, market segmentation studies have been applied in Asia and Europe but not yet in the United States (US). Considering cultural and geographical differences, those results may not be generalized to the North American continent. Market segmentation research by activity-based

segmentation in US rural destinations can help to understand rural tourists in the US cultural context.

Theoretical Framework

Since Smith (1956) introduced the concept of market segmentation, it has become a central theme in marketing. The most popular definition of market segmentation was suggested by Kotler (1978) as follows:

> Market segmentation is the subdivision of a market into distinct subsets of customers, where any subset may conceivably be selected as a target market to be reached with a distinct marketing mix (p. 249).

Early in the twentieth century, the Fordist industrial development led to a focus on mass marketing. Since marketing and production processes have become more efficient, marketing strategies have changed from being product-oriented to consumer-oriented, and from a mass market to a target market focus. When marketing started to focus on diverse customers, market segmentation divided customers into different groups based on certain criteria while also identifying the characteristics that differed between groups (Dickson & Ginter, 1987).

Kotler (2000) stated that the advantage of market segmentation is that companies usually cannot attract all buyers because the buyers are too varied in their needs. Also, for companies with limited skills and resources, it is not efficient to design different products to satisfy all customers. In this regard, market segmentation is the best strategy for looking into the market in depth, and it can lead to promoting products efficiently. In the context of tourism, segmentation would help to understand target markets so that marketers can more efficiently promote their destination. Kotler, Bowen, and Makens

(2005) addressed the procedure for market segmentation, which includes the following elements:

1. Requirement for effective segmentation: There are many ways to segment a market, and not all are equally efficient. Therefore, in order to constructively segment a market, market segments should share some common characteristics: (a) Measurability: The segment's size and total demand are measurable; (b) Accessibility: The segments can be accessed so services can reach them; (c) Substantiality: The segments are large enough to create a profitable and long-lasting business; and (d) Actionability: Successful plans can be designed for serving target segments.
2. Evaluating market segments: There are three factors that need to be evaluated in different segments: (a) Segment size and growth; (b) Segment attractiveness (potential members, competitors, substitutes, suppliers); and (c) Company goals and resources.

Market Segmentation Approaches

Market segmentation can be categorized as *a priori* (commonsense) and *post hoc* (data-driven) (Bassi, 2007; Dolnicar, 2004; McKercher, 2008; Wind, 1978). *A priori* (commonsense segmentation with prior knowledge) has long been studied in tourism research. Under this approach, the grouping criteria are identified in advance. Dolnicar (2004) found that at least 53% of the segmentation studies published in the *Journal of Travel Research* between 1989 and 2004 divided tourists by commonsense information and portrayed the result as *a priori* segments. In the *post hoc* approach, subgroups of tourists can be determined by data-driven segmentation on a multivariate basis.

Based on Kotler (1978), the definition of market segmentation included two procedures: (a) The choice of market segmentation bases, and (b) Development of

profiles of resulting segments. The theoretical framework for this study is discussed in the following two main themes.

Market Segmentation Bases

In market segmentation research, the selection of a set of variables or characteristics to partition customers is a crucial step because market segmentation requires researchers to choose a battery of variables that can be used as a "differentiable" base that defines the segments. The choice of market segmentation bases has been broadly discussed in the tourism literature. Lowyck, Van Langenhove, and Bollaert (1990) reviewed the earliest publications for tourist segmentation and identified three major segmentation bases: demographic, socioeconomic, and psychographic. Andereck and Caldwell (1994) reviewed and addressed tourist segmentation bases as socio-demographics, geographic, personality, participation patterns, seasonality, and motivations. Tsiotsou (2006) further reviewed the most recent market segmentation studies where segmentation bases included trip characteristics, leisure activities, life-style, destination choice, loyalty, and satisfaction. In addition, many tourism studies have employed market segmentation to examine specific themes such as benefits bases (Canever, van Trijp, & van der Lans, 2007; Frochot, 2005; Kelley, Strother, Blouin, & Crouch, 1986; Loker & Perdue, 1992; Rong & Emine, 2007; Shim & Bickle, 1994), and motivation bases (Andreu, Kozak, Avci, & Cifter, 2005; Bieger & Laesser, 2002; Mehmetoglu, 2005; Sangpikul, 2008).

Development of Profiles of Resulting Segments

Andereck and Caldwell (1994) stated that profiling the characteristics of the segments may help to design and promote products more efficiently. With respect to

tourists' characteristics, the most commonly used factor for segment profiling is socio-economic (Bargeman, Joh, Timmermans, & Van der Waerden, 1999). Mazanec (1992) addressed the value of using additional characteristics such as geographic, demographic, behavioral, and life-style. He also stated that a marketing strategy would tend to fail if the segments were not described using those characteristics.

Purpose of the Study

The purpose of this study is to assess the effectiveness of activity-based segmentation of the rural tourism market. Assessment of the effectiveness of market segmentation depends on whether the segments can be identified by activity participation and statistical differences can also be found between segments while profiling the resulting segments. Five counties (Lake, Manistee, Mason, Newaygo, and Oceana) located in the west-central portion of Michigan (hereafter abbreviated as the WCMI region) serve as the study area.

Most previous studies have only considered one of the two approaches, but Dolnicar (2004) suggested using *a priori* and *post hoc* approaches in combination to more creatively segment tourist markets. The segments developed from different approaches can offer tourism planners more information to use in deciding which are the most suitable subgroups of tourists to target. Therefore, the framework of this study is completed with two approaches: the *a priori* and the *post hoc* approach.

The *a priori* approach is used to find segments corresponding to the criterion that is set for the different samples. The *post hoc* approach indentifies segments with bundles of activities that are determined by the data after they have been collected and analyzed. The number of segments is unknown until the data are analyzed.

After deciding the segments in each approach, the study examines the segments based on the attributes that could be used to profile the segments. These attributes, which include socio-demographic, trip characteristics, travel motivations, and travel expenditures, have been identified in the literature and found helpful in explaining the segments. The study also includes attributes of the study area such as attraction attributes and destination attributes. These factors could help to understand the tourists not only from the demand side but also from the supply side. Finally, marketing strategies for each segment are suggested. The study then also evaluates these two approaches by comparing the effectiveness of dividing and profiling segments.

Research Questions and Hypotheses

The study framework and the hypotheses examined are presented in two sections: a *priori* and *post hoc* approaches. The design of the questionnaire on activity participation in each sample is slightly different. Transient visitors were asked about their activity participation on their current trip to the WCMI region. Overnight visitors were asked about their activity participation in general on their trips to the WCMI region. Potential visitors were asked abou their activity participation on their pleasure trips in other areas.

A Priori Approach--Individual Activity

Choice of Market Segmentation Bases

A priori approach is known for setting the criteria before segmenting. The criteria set in this study differ in each sample. The transient visitors sample is divided into two groups, those whose primary destination on this current trip was the WCMI region and those whose primary destination on this current trip was not the WCMI region. The overnight visitors sample is divided into two groups, those who spent two nights or less

on their most recent overnight visit to the WCMI region and those who spent at least three nights on their most recent overnight visit to the WCMI region. The potential visitors sample is divided into two groups, those who have never visited the WCMI region and those who have visited the WCMI region.

Research Question 1.1: Is there any significant difference between the two groups in each sample with respect to their participation in each activity?

H1.1: There is a significant difference between the two groups in each sample with respect to their participation in each activity. (Forty-five individual activities are compared between the groups.)

Development of Profiles of Resulting Segments

After finding out if there are significant differences between the groups with respect to activity preferences, those activities that showed higher participation and significantly differentiated the two groups are chosen to examine their relationship with other variables. The criterion set for distinguishing the two groups in each sample acted as the controlling variable in every logistic regression model.

Research Question 1.2: Can socio-demographic characteristics be used to predict respondents' activity participation while controlling the variable?

H1.2: Socio-demographic characteristics can be used to predict activity participation while controlling the variable.

Research Question 1.3: Can travel motivations be used to predict respondents' activity participation while controlling the variable?

H.1.3: Travel motivations can be used to predict activity participation while controlling the variable.

Research Question 1.4: Can trip characteristics be used to predict respondents' activity participation while controlling the variable?

H.1.4: Trip characteristics can be used to predict activity participation while controlling the variable.

Research Question 1.5: Can travel spending be used to predict respondents' activity participation while controlling the variable?

H.1.5: Travel spending can be used to predict activity participation while controlling the variable.

Research Question 1.6: Can the type of travel information sources utilized be used to predict respondents' activity participation while controlling the variable?

H.1.6: The type of travel information sources utilized can be used to predict activity participation while controlling the variable.

Research Question 1.7: Can the choice of lodging type be used to predict respondents' activity participation while controlling the variable?

H.1.7: The choice of lodging type can be used to predict activity participation while controlling the variable.

Research Question 1.8: Can WCMI attraction visits be used to predict respondents' activity preferences while controlling the variable?

H.1.8: WCMI attraction visits can be used to predict activity preferences while controlling the variable.

Research Question 1.9: Can perception of WCMI destination attributes be used to predict respondents' activity preferences while controlling the variable?

H.1.9: Perception of WCMI destination attributes can be used to predict activity preferences while controlling the variable.

Post Hoc Approach--Bundle of Activities

Choice of Market Segmentation Bases

The first step of market segmentation is to identify bases for segmenting the market. The questions and hypotheses to be examined are listed below:

Research Question 2.1: Are there any classes that can be identified using an activity-based approach?

H2.1: There are classes that can be identified using an activity-based approach.

Development of Profiles of Resulting Segments

The second step of market segmentation is to develop profiles of resulting segments. The main goal in this step is to find variables that can be used to further characterize these segments. The research questions and hypotheses are tested under five dimensions:

Research Question 2.2: Are there significant differences between classes with respect to respondents' socio-demographic characteristics?

H2.2: There are significant differences between classes with respect to respondents' socio-demographic characteristics.

Research Question 2.3: Are there significant differences between classes with respect to respondents' trip-related characteristics?

H2.3: There are significant differences between classes with respect to respondents' trip-related characteristics.

Research Question 2.4: Are there significant differences between classes with respect to respondents' travel expenditures?

H2.4: There are significant differences between classes with respect to respondents' travel expenditures.

Research Question 2.5: Are there significant differences between classes with respect to respondents' travel motivations?

H2.5: There are significant differences between classes with respect to respondents' travel motivations.

Research Question 2.6: Are there significant differences between classes with respect to respondents' knowledge of WCMI attractions?

H2.6: There are significant differences between classes with respect to respondents' knowledge of WCMI attractions.

Research Question 2.7: Are there significant differences between classes with respect to respondents' perceptions of WCMI destination attributes?

H2.7: There are significant differences between classes with respect to respondents' perceptions of WCMI destination attributes.

Significance

The significance of this study is discussed from a theoretical and a practical perspective.

Theoretical Significance

This study is the first to use activity-based market segmentation to better understand market segments in rural tourism. The study includes *a priori* and *post hoc* approaches. Most studies apply only one of these approaches. The comparison of two

approaches can explain which approach is more applicable to market segmentation when applied to a regional rural destination.

Also, latent class analysis is applied in the *post hoc* approach. It is not commonly used in tourism study. This approach could be more broadly applied to market segmentation of categorical variables in future studies.

The study includes more sets of factors than previously used in tourism market segmentation. For example, the attributes include socio-demographic, travel motivations, trip related characteristics, travel expenditures, attractions, and destination attributes. The study consider not only demand-side but also supply-side factors.

Practical Significance

The study provides marketing suggestions combining and evaluating the results from the two approaches. The implications of this study can also assist tourism managers to provide more in-depth knowledge of target markets that will facilitate more accurate target marketing resulting in enhanced visitor satisfaction and revenue for area businesses.

Delimitations

This study is delimited to a quantitative research design and data collection techniques. Visitors' activity preferences were assessed based on a dichotomous response indicating whether the study participant likes to participate in each activity during their leisure time or not. The intensity of preferences or actual participation in each listed activity was not assessed and was beyond the scope of this study. In future studies, it might be worth investigating activity preferences from a qualitative perspective. The study is delimited to market segmentation analysis in a rural area of the United States of

America, specifically, Lake, Manistee, Mason, Oceana, and Newaygo Counties in Michigan.

Limitations

The proposed study is limited by the following factors: (a) Mail survey response rates were low; (b) Potential visitor surveys were not drawn proportionally from the six designated marketing areas (DMAs) selected for analysis; (c) The transient visitor survey was scheduled on both weekdays and weekends, but only conducted during summer months.

To improve study quality, the study compared results from three data sets and examined whether consistent trends could be found across similar groups. Non-response bias and the non-proportional drawing sample issue are discussed in chapter 3. For potential visitors, if respondents were found to not be representative of the population, then adjustments were processed and evaluated.

In the potential visitor survey, general activity preferences were elicited. Therefore, the market segmentation result from the potential visitor survey can be applied generally to other rural destinations similar to the study area in Michigan. However, the overnight and transient surveys asked about activity preferences in the study area, thus, the results from those data may not be applied to other destinations due to the uniqueness of the characteristics of the resources in the study area.

Study Organization

This study is organized into five chapters. Chapter 1 presents the general context of the study and the theoretical framework discussed in more detail later. Chapter 2 provides an overview of rural tourism destinations and the study's theoretical foundation

in market segmentation. Activity-based segmentation research in the tourism industry is also introduced.

Chapter 3 discusses the research methodology used to obtain and analyze information for this study. First, the study area, sample, and population are described. Second, data collection techniques and research instruments are introduced. Third, non-response bias and survey sampling issues are discussed. Finally, the statistical tests adopted for data analyses are explained.

Chapter 4 reports the results of data analyses. First, the representativeness of the sample and non-respondent study are described. Second, there is a description of the three samples with respect to activity preferences and socio-demographic characteristics. Finally, the results of hypothesis testing using chi-square, latent class analysis, logistic regression, and one-way ANOVA are presented.

Chapter 5 provides a summary and discussion of the results. Implications for tourism managers and theory are presented. Finally, limitations of the study and recommendations for future research are discussed.

CHAPTER 2 LITERATURE REVIEW

Introduction

The purpose of this chapter is to review definitions and studies of rural tourism and to provide an overview of practical studies and theoretical frameworks that support the importance of the usefulness of market segmentation in efficiently targeting markets. The literature review is presented under the following topics: (a) Tourism development in rural areas; (b) Theoretical framework of market segmentation.

Tourism Development in Rural Areas

In this section, the definition of rural tourism is examined, the development of rural tourism in the United States is briefly introduced, and recent studies in rural tourism are examined. The final element of this section discusses one of the most important components of rural tourism – activities – and how this component (activities) can be critically adapted in market segmentation.

Definition of Rural Tourism

It is difficult to clearly define rural tourism (George, Mair, & Donald, 2009; Molera & Albaladejo, 2007). The concept of rural tourism has been confused with other concepts such as farm, green, ecotourism, and nature tourism (Frochot, 2005). In general, rural tourism can be defined as tourism that takes place in the countryside. However, Lane (1994b) emphasized the importance of the continuum concept for rural tourism which allows tourism planners to adjust the definition to fit alternate research scenarios. Definitions from policy and research perspectives are discussed below.

According to the United Nations (2006), the definition of rural areas in the United States is "Agglomerations of 2,500 or less inhabitants, generally having population

densities of less than 1,000 persons per square mile or more." This definition is not a world-wide standard. For example, Canada's criterion of rural is "the population living *outside* places of 1,000 people or more or *outside* places with densities of 400 or more people per square kilometer." (du Plessis, Beshiri, & Bollman, 2002).

According to the US Census Bureau:

> "rural" consists of all territory, population, and housing units located outside of urbanized areas and urban clusters. The rural component contains both place and non place territory. Geographic entities, such as census tracts, counties, metropolitan areas, and the territory outside metropolitan areas, often are "split" between urban and rural territory, and the population and housing units they contain often are partly classified as urban and partly classified as rural. (US Census Bureau, 2000)

Based on the United Nations World Tourism Organization (UNWTO, 2002), the term "rural tourism" is defined as tourism in which the rural culture is a key component of the recreational product. Tourism planners focus on creating opportunities for visitors to experience the atmosphere and products of the countryside. In practice, rural tourism mainly focuses on small-scale forms of recreation and stays in small-scale accommodations such as family-owned hotels, country estates, campgrounds, or individual second homes (United Nations World Tourism Organization, 2002). This concept excludes some forms of tourism, such as winter sports, found in intensively visited areas, which are not considered part of rural tourism.

Lane (1994b) has indicated that rural tourism is multifaceted, which makes defining rural tourism even more challenging. However, his definition of "pure" rural

tourism is that: (a) It has to be situated in rural areas; (b) It has the special characteristics of the rural environment (open space, heritage, etc.); (c) It is small-scaled in terms of facilities and services; (d) The tourism business is mainly controlled by locals, and development is concerned with long-term development instead of short-term economic returns; and (e) It considers not only the location but also the area's environment, economy, and history.

Getz and Page (1997) pointed out that rural recreation is particularly connected to the wilderness. The combination of environment, unique experiences, and tourists' expectations thus create rural tourism as a special circumstance. Alexander and McKenna (1998) and Frochot (2005) stated that rural tourism can be related to outdoor activities, natural environments, wilderness, and rustic lifestyles. Therefore, rural tourism cannot be confined to farm tourism or nature-based tourism but should take account of all aspects of tourism in rural areas, including physical, social, and historical dimensions.

From these studies, the most common definition of rural tourism is "tourism that takes place in the countryside." Frochot (2005) even referred to "tourism in rural areas" as rural tourism in order to avoid any confusion. The definitions of rural tourism generally suggest that tourists can enjoy the rural areas in many different ways and that any activities occurring in rural settings should be included in rural tourism.

For this study, Frochot's (2005) definition (i.e., tourism in rural areas) was adopted. Therefore, rural tourism is defined as "tourism that takes place in the countryside." Under this definition, the understanding of countryside as rural areas is based on the US Census Bureau's classification. Activities in rural areas, including

nature-based, agriculture, heritage, and most other kinds of activities, are all considered rural tourism.

Rural Tourism Development and Trends

Interest in the countryside can be traced back to the nineteenth century, when people searched for relief of stress from the rapidly industrializing cities. In Europe, after the Industrial Revolution, urbanization gradually regenerated an interest in rural life; at that time, the rural image was perceived as green fields decorated with hay bales, or spring flowers or animals (e.g., Sue, 2004). Even now, rural tourism is an important segment of European tourism and still plays a very essential role as an economic source (Veer & Tuunter, 2005).

Each country evolves unique rural development patterns, as a result of its cultural and geographical variations. In the United States, rural tourism destinations used to refer to the towns that prospered with the expansion of the railroads. People were encouraged to move from the East Coast to western rural areas in order to work in the mineral industries (Ragatz, 1969). Gradually, as mineral product prices fell, the mineral industries declined; at the same time, agricultural research led to more intensive farming. As rural areas in the United States encountered a decline in traditional industries (e.g., logging, and mining), these changes forced people to move out of rural areas and into increasingly (sub) urbanized areas. Rural towns began to shrink, and rural communities were left struggling and searching for new opportunities to ensure survival (Blaine, Mohammad, & Var, 1993; Oppermann, 1996; Wilson, Fesenmaier, Fesenmaier, & van Es, 2001).

During the late 1970s and early 1980s, the tourism industry was found to be an economic development tool for rural areas (Allen, Hafer, Long, & Perdue, 1993; Long,

Perdue, & Allen, 1990; Perdue, Long, & Allen, 1987). Many rural towns, originally built by timber or mineral industries, became tourist destinations. These towns built in Victorian-style architecture became the main exhibition for their economic salvation. Tourism has been perceived as an incredible catalyst that accelerates economic growth by increasing job opportunities, stabilizing populations, and promoting positive, ecological friendly images (Derek, 2004). Therefore, more and more rural communities expect tourism to be a panacea for their lack of economic growth. In addition, the desire to possess a piece of one's own rural land became a trend among rich people with a stressful urban life. Seasonal home demand, especially in scenic areas (for example, areas with mountains, lakes, and rivers), began to expand rapidly during this period. All these factors have increased the attention on rural tourism development.

Most national tourism administrators and researchers agree that the demand for rural tourism continues to grow (Lane, 1994b). Long and Lane (2000) identified a series of factors that have impacted rural tourism development in recent decades. These factors included interest in heritage and traditional rural life and the health benefits from clean air, simpler life styles, exercising, and relaxation from daily intensive work. Also, people are tending to retire earlier and travel more. These factors have increased preferences for traveling to rural areas. Some researchers also pointed out three directions that rural tourism industries should focus on: recreational activities, the consciousness of conservation, and authentic interest (Cawley, Gaffey, & Gillmor, 2002; Gannon, 1994).

Based on results of a travel poll by the Travel Industry Association of America (TIA, www.tia.org), Miller and Washington (2009b) stated that 62% of all U.S. adults traveled to a small town or village in the U.S. in the past three years. The main reason for

traveling to a small town is to visit friends or relatives (44%). Douglass and Raento (2004) stated that most rural areas are not popular destinations for international tourists International tourists do not often travel outside of urban areas (Gartner & Lime, 2000). For example, in Michigan, the primary tourism market remains domestic and, more specifically, a regional market, in which 70 % of the tourists are Michigan residents (Holecek, 2006). Given these results showing that visiting rural areas in the U.S. is very popular among U.S. travelers, the remaining discussion of tourism in rural settings will be focused on domestic tourists and target travelers who live close to the study area.

Studies of Rural Tourism

Each country and sub-region possesses its own particular characteristics (Fesenmaier, Fesenmaier, & Van Es, 1995; Shaw, 1994). Both natural and cultural resources provide the foundation for tourism operated through local businesses. In addition, rural tourism can be developed with relatively little investment and can have less impact on the environment than other industries, such as manufacturing. Development need not depend on outside companies for investment or infrastructure construction. Many articles discuss the benefits of rural tourism development. Getz and Charlsen (2000) claimed that there is high potential for local business development in rural tourism development. Getz and Charlsen (2005) also found that because family businesses often become the main attractions in rural communities such businesses can shape the image of the tourism industry in those areas. Other studies have suggested that tourism development may prevent rural areas from depopulation and other negative impacts (Alexander & McKenna, 1998; Jenkins, Hall, & Troughton, 1998). Meanwhile, the literature emphasizes some other benefits of rural tourism development, such as the

building of cultural relations in the community (Nilsson, 2002), and shows that rural tourism is increasingly conceived of and applied as a tool of socio-economic development.

In addition, previous rural tourism research has also focused on examinations of ways tourism destinations can be utilized to boost the economy (Aronsson, 1994; Crouch, 1994; David, 1999; Douglass & Raento, 2004; Gannon, 1994; Hall, 2004; Hjalager, 2004; Huang & Stewart, 1996; Kneafsey, 2001; Lane, 1994a; Michael & John, 2001; Sharpley & Roberts, 2004). Other studies have focused on certain activities that occur in rural areas (Carmichael & Smith, 2004). For example, some studies of rural tourism have focused on specific themes such as farm tourism (Oppermann, 1995), nature-based tourism (Weaver & Fennell, 1997), and wine tourism (Hall, Sharples, Cambourne, & Macionis, 2000). Some discussions of rural tourism have mainly emphasized the attractions and activities based on rural resources (Cloke, 1993; Getz & Page, 1997). It has been suggested by Gartner (2004) that the demand for products in rural settings has increased. However, studies of rural tourists to understand tourists' travel behaviors are still limited.

Rural Tourism Activities

It seems more and more people are seeking experiences found only in the countryside (Backman, Backman, Potts, & Uysal, 1992). The literature suggests that the attraction of rural tourism might be the pursuit of natural and man-made resources with a peaceful atmosphere, such as rivers and lakes or tillage and pastoral scenery (Fleischer, 1997; Kieselbach & Long, 1990). Rural areas were found to be associated with providing safe, peaceful, healthy experiences and activities (Roberts & Hall, 2001). Towner (1996)

indicated that rural areas have long been seen as locations for recreation and tourism activity. "Traditional" activities, such as walking, picnicking and bird-watching, have been explained as reflecting the need to escape from the stress of urban living. These activities also represent Lane's (1994b) "pure" rural tourism which involves leisure pursuits in a place and setting where resources and tourists can blend pleasantly.

Hunting and fishing were some of the earliest tourist activities to emerge in rural areas. Over the years, many other activities have developed. Such activities include picnicking, sightseeing, boating, horseback riding, fruit picking, and visiting historical sites. However, Butler (1998), and Robert and Hall (2001) carefully noted that in some cases, the location is far less important than the activity itself. For example, off-road vehicle driving, survival games, and leisure shopping are almost irrelevant to the location. Such activities are different from Lane's "pure" form of rural tourism.

Overall, rural tourism is multifaceted, not just farm-based tourism. In addition to farm-based trips, it encompasses a special interest in nature, focusing on activities such as walking, hiking, climbing, bike and horseback riding, adventure, hunting and fishing, educational travel, heritage tourism, and so forth (Lane, 1994b). Fundamentally, the most successful rural tourism is linked closely to the variety of activities an area can offer, since activities have been seen as the major element of attractions, especially in rural tourism.

Theoretical Framework of Market Segmentation

Market segmentation has been applied in tourism for years. This section introduces the concept of and the approaches to market segmentation. Next, tourism literature relating to market segmentation is reviewed and discussed in terms of two

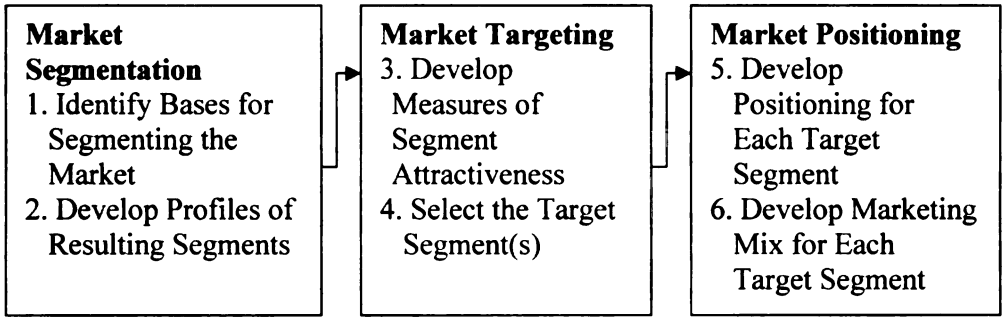
major themes: (a) Identifying bases for market segmentation, with a focus on activity-based applications in tourism research, and (b) Developing profiles of resulting segments, with an examination of the factors that have been used to profile segments and a discussion of the potential factors that can be selected to profile segments in this study.

The Concept of Market Segmentation

Market segmentation is one of the most essential concepts in marketing research (Dibb & Stern, 1995; Wind, 1978), and it is a very well known method of increasing profits (Dolnicar & Leisch, 2003). The concept of market segmentation was developed to reflect the differences existing among customers, showing that their desires were different in terms of their preference for a product (Lessig, 1972). The earliest market segmentation concept was developed as strategic orientation. As marketing employed more complicated quantitative techniques, market segmentation was defined as one type of marketing technique (Plank, 1985). Schiffman and Kanuk (1978) suggested that market segmentation was more than just an analytic technique; it also utilized resources more efficiently, especially in advertising aimed at target groups. Market segmentation was therefore perceived as a method of measurement and analysis, and the results of identified segments were useful for distribution of resources (Wind, 1978). In such a context, market segmentation was commonly perceived as a management strategy rather than a measure of market conditions (Dickson & Ginter, 1987).

A popular and accepted definition of market segmentation was presented by Kotler (1978) and Kotler and Armstrong (2008) and addressed in chapter 1. According to this definition, market segmentation includes the processes of identifying segments, examining the appropriateness of selecting segmentation bases (Bass, Tigert, & Lonsdale,

1968) and applying alternative multivariate techniques for segment identification (Blattberg & Sen, 1976). Market segmentation was considered to be a practical tool used in market research, with results used for targeting marketing. Afterwards, the company could focus on targeting markets to serve, which meant that market segmentation was separated from market targeting. Kotler (1978) stated that market segmentation was the first major step in target marketing (see figure 2-1.).



Source: Kotler, Bowen, and Makens (2005, p. 263)

Figure 2-1: Steps in Segmentation, Targeting, and Positioning

Market segmentation has been increasingly applied by tourism organizations and researchers around the world to develop more effective marketing plans (Yannopoulos & Rotenberg, 1999). It has become one of the main marketing strategies that help identify homogeneous groups of tourists in order to satisfy their needs and increase marketing effectiveness (Andereck & Caldwell, 1994; Tsiotsou, 2006). Nowadays, market segmentation continues to be an essential marketing concept in both academic literature and marketing practice (Grover & Srinivasan, 1987).

One general assumption of market segmentation research in travel and tourism has been that tourists with particular travel behaviors are possibly unlike others engaged in different activities (Jeffrey & Xie, 1995; Middleton & Clarke, 2001; Moscardo, Pearce, Morrison, Green, & O'Leary, 2000). Market segmentation, therefore, is the process of

dividing visitors into subgroups based on common characteristics or behavior patterns (Lawton, 2001; Middleton & Clarke, 2001). Ideally, the resulting segments should contain tourists with similar needs, socio-demographic characteristics and behaviors who can be identified and whose attributes match the characteristics and strengths of the destination (Daerr, 2001). As a result, promotions, products and services can be designed to fit the needs of each target segment (Morrison, Hsieh, & O' Leary, 1994).

Therefore, market segmentation is perceived as a powerful tool in providing tourism managers with a better understanding of individual markets and more precise ideas for forming destination development (Formica & Uysal, 1998; Middleton & Clarke, 2001; Thurau, Carver, Mangun, Basman, & Bauer, 2007). With the use of market segmentation, tourism managers can focus on selected groups of tourists and design and offer services to meet their needs (Kotler, et al., 2005; Morrison, Pearce, Moscardo, Nadkarni, & O' Leary, 1996). It is more efficient to identify specific niche markets with the highest returns rather than wasting unnecessary marketing investment and resources on mass marketing (Sung, Morrison, & O'Leary, 2000). Tsiotsou (2006) emphasized the advantages of a market segmentation strategy, which are to provide the base of target marketing, to help develop more effective marketing mixes, to assist in differentiating products, and to identify market opportunities and threats. McDonald and Dunbar (2004) (as cited in Canever, et al., 2007) stated that the essential idea of marketing is to consider both the customers' needs (the demand side) and the companies' capacity (the supply side); therefore, from developing marketing strategies based on the results of market segmentation, customers can be more satisfied and the company can be more profitable.

Market Segmentation Approaches

Two principal types of segmentation have been discussed in the tourism literature: *a priori* and *post hoc* segmentation (Dolnicar, 2004; Green, 1977; Hanlan, Fuller, & Wilde, 2006; Wedel & Kamakura, 2000; Wind, 1978). The application of both approaches in tourism research is represented in this section.

A priori Approach

If the type and number of segments are decided before data collection, the *a priori* descriptive method is applied. For example, golfers are chosen as the segment tourism managers try to understand. Respondents are classified as golfers or non-golfers. Those two segments are then examined in terms of their socio-demographic or trip-related characteristic differences. Wind (1978) explained that an *a priori* segmentation was designed to help managers to discover consumers' purchasing behaviors based on product choices, loyalty, and so forth. Results could show the demographic, socioeconomic, and other related characteristics of interest to product managers. The *a priori* approach, referred to as profiling, has a long history of being applied in tourism research (e.g., Bonn, Furr, & Susskind, 1999; Brown, 2001; Goldsmith & Litvin, 1999; Lawton, 2001; MacKay, Andereck, & Vogt, 2002; Nicholson & Pearce, 2000; Oh, Parks, & Demicco, 2002; So & Morrison, 2004).

The *a priori* approach can further be classified into two approaches (Chen, 2003a; Wedel & Kamakura, 2000):

***1. A priori* descriptive segmentation**: the descriptor is identified before data collection. For example, managers could be interested in exploring differences in characteristics between people who are married and those who are unmarried. Hudson (2000) used

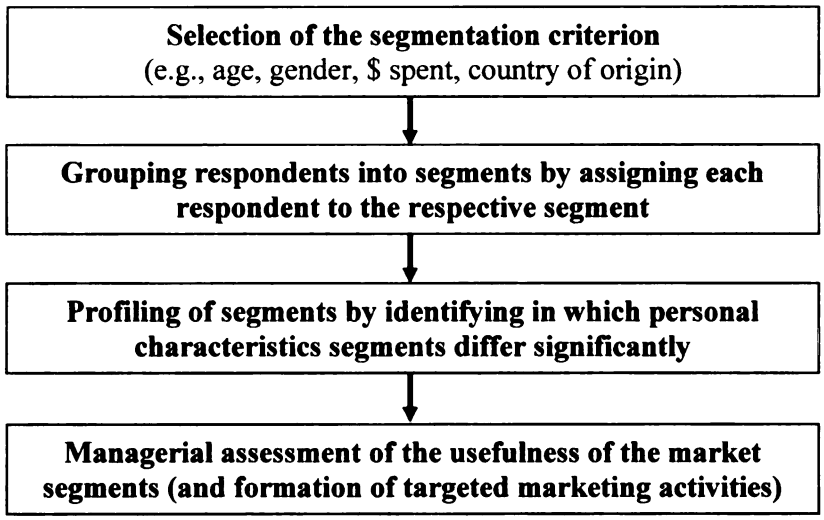
gender as a descriptor, and discussed the similarities and differences in the variables of constraint for skiing.

2. ***A priori* predictive segmentation**: this is a two-stage approach. First, the segments are selected based on descriptors and then the resulting segments are explained by a set of independent variables. For example, gender (men and women) can be treated as the first descriptor to define the segments. A dependent variable (e.g., satisfaction in visiting Michigan) and a set of independent variables (e.g., income, party size, etc.) can be examined using a regression model to compare those two segments. If the two segments yield significantly different regression coefficients, it means that the independent variables that are significantly different can be used to explain satisfaction of visiting Michigan for the two segments.

Chen (2003b) stated that the *a priori* approach provides three distinctive advantages: (a) It is based on the variables that could significantly distinguish among segments in the beginning. Sometimes it is impossible to know if the segments could be significantly different from each other in the *post hoc* segmentation approach; (b) It is easier to identify the segments using the interesting variables to explain the relationship between variable and the segments. For instance, when "intent to travel" is defined as a dependent variable (criterion), researchers can determine which segment has the highest potential to travel and thus choose it as the target segment; (c) It helps marketing managers to understand new cases (customers) from the resulting segments. In summary, the *a priori* segmentation approach can develop specific segments based on the characteristics that managers know and have decided to set as descriptors before analyzing the data and that reflect significant difference in terms of other characteristics

among segments. In particular, the process could help to focus more on interpretation of specific segments in marketing practices.

Dolnicar (2007) identified the *a priori* approach with a four step framework (see figure 2-2). In this approach, the most common statistical analyses include t-tests (e.g., Goldsmith & Litvin, 1999; Lawton, 2001), chi-square tests (e.g., Smith & Carmichael, 2005; You & O' Leary, 2000), and binary logistic regression (e.g., de la Vina & Ford, 2001; Goldsmith & Litvin, 1999; So & Morrison, 2004). The appropriate analysis chosen in Step 3 to differentiate the segments depends primarily on the measurement scale of the data.



Source: Dolnicar (2007)

Figure 2-2: Steps in A Priori Segmentation

Post Hoc Approach

In the *post hoc* method, consumers are divided in terms of a set of defined characteristics after the data are collected. Respondents are clustered according to similarity in some characteristic such as purchasing behavior or attitude. After the segments are determined, they are examined for differences in other characteristics such

as socio-demographic characteristics. The number of groups or clusters and their relative size are not known until the cluster analysis has been completed (Green, 1977).

Compared to the *a priori* approach, *post hoc* studies were a later phenomenon. Haley (1968) introduced the *post hoc* approach, stating that the *a priori* approach is simply descriptive rather than being able to identify the actual cause of difference.

The *post hoc* approach can further be classified into two approaches (Chen, 2003a; Wedel & Kamakura, 2000):

***1. Post hoc* descriptive segmentation**: People are divided by cluster analysis into mutually exclusive clusters. For example, a set of items related to benefits sought by tourists could form the variables used to divide them into several clusters.

In tourism research, the *post hoc* approach has been applied in many studies. Some researchers used factor analysis as an approach to find segments (e.g., Graham & Wall, 1978; Hallab, 2006; Kim, Noh, & Jogaratnam, 2006). Cluster analysis, which identifies groups of residents who respond differently (similarly within groups, differently between groups) to particular items (e.g., Davis, Allen, & Cosenza, 1988), and which also can be seen as looking for heterogeneity among the respondents (Shappard, 1996), is the most popular approach in this type of segmentation (Dolnicar, 2002). The combination of factor and cluster analysis is especially prevalent (e.g., Frochot, 2005; Keng & Cheng, 1999; Loker & Perdue, 1992; Madrigal & Kahle, 1994; Mo, Havitz, & Howard, 1994; Park, Yang, Lee, Jang, & Stokowski, 2002; Saunders, 1980).

Thurau, et al., (2007) explained the common procedures used in the factor-cluster analysis approach: (a) Factor analysis (to determine the main categories based on a list of items); (b) Cluster analysis (to decide market segments); and (c) Chi-square analysis (to

develop profiles for each segment and to determine the statistically significant differences among segments). Hair, Anderson, Tatham, and Black (1998) emphasized that the purpose of factor analysis was to identify the factors of items that obtained correlated responses across respondents. Therefore, these variables can be explained regarding their common dimensions.

However, based on the research of Dolnicar and Grun (2008), it appears that the factor-cluster analysis developed in the early years of *post hoc* segmentation in tourism research has been adopted by many researchers without questioning the procedure. While the goal of factor analysis is to reduce the dimensionality of the questions, it may eliminate the variables that are not well represented by the factor solution but may be important to identify a market segment.

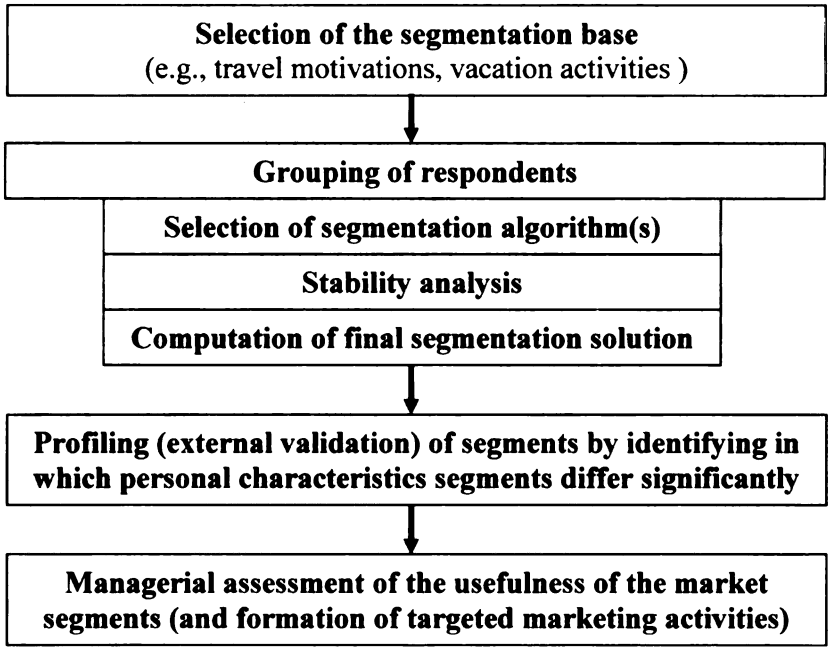
Ketchen and Shook (1996) noticed this problem and discussed the dangers of using factor analysis in the first stage of market segmentation, which included these: (a) The relationships among variables could be changed and results could be different because the data are converted and segments are identified based on the transformed distance instead of original information; (b) Differences between segments could be reduced. When doing factor analysis, more than half of the original information would be discarded due to the typically explained variance of only 50% to 67%. When discarding the variables with an Eigenvalue less than one, the most important pieces of information for identifying the niche segments may be exclude unintentionally; and (c) Segments are identified in a different space than originally located. Therefore, the interpretation of segments may be debatable because the segments have been relocated in the space based on factor score. Dolnicar and Grun (2008) reinforced that the "factor-cluster" analysis

approach performed significantly less well than clustering the raw data and recommended that researchers should use "cluster segmentation" directly from the raw data. That conclusion was supported by other researchers such as Arabie and Hubert (1994), Milligan and Cooper (1996) and Shappard (1996), who agreed that "factor-cluster analysis" should not be used as a standard procedure in *post hoc* segmentation. Shappard (1996) also claimed that cluster analysis on raw item scores may produce more accurate or detailed segments while it preserves more of the original data.

2. ***Post hoc* predictive segmentation**: *Post hoc* predictive methods identify segments through a causal model that consists of a dependent variable and a set of independent variables. Chi-square automatic interaction detection (CHAID) (e.g. Hsu & Kang, 2007) and several other multivariate analyses, such as conjoint analysis, automatic interaction detection (AID) (Assael, 1970), artificial neural network analysis (ANN) (e.g., Kim, Wei, & Ruys, 2003) (Bloom, 2004), and classification and regression tree (CART) (Morwitz & Schmittlein, 1992), have been applied to *post hoc* predictive segmentation. The listed methods are differentiated by their data distribution and assumptions (e.g., parametric and non-parametric) and number of variables in the analysis (e.g., univariate, bivariate, and multivariate). Therefore, for a segmentation research, a classification algorithm (such as classification and regression tree) can be applied depending on the variable's scale (e.g., continuous) and research design.

Dolnicar (2007) proposed a *post hoc* approach procedure (see Figure 2-3), which clearly distinguishes it from the *a priori* approach, mainly in Step 1 and Step 2. In Step 1, a set of items (market segmentation bases) related to the research question are designed and chosen for analysis. At the second step, the appropriate algorithms should be decided.

The most dominant algorithms applied in tourism research are K-means and Ward's clustering, while a broad range of alternative clustering algorithms are also available, such as alternative clustering algorithms (Everitt, Landau, and Leese 2001), neural networks, bagged clustering (e.g., Dolnicar & Leisch, 2003, 2004), latent class analysis (e.g., van der Ark & Richards, 2006) and finite mixture models (Wedel & Kamakura, 2000). The number of clusters that should be chosen still remains unresolved in market research. While using the stability criterion to determine the number of clusters, repeated computations are recommended to make sure that consistency across alternative solutions is found.



Source: Dolnicar (2007)

Figure 2-3: Steps in Post Hoc Segmentation

In tourism research, both *a priori* and *post hoc* approaches are still commonly applied to identify tourists with different perspectives. In some studies, a hybrid of *a priori* and *post hoc* approaches is exercised. For example, customers could first be

grouped according to favorite brand and then a clustering procedure could be used to examine whether different segments have different needs (Green, 1977; Wedel & Kamakura, 2000). The common statistical techniques used for segmentation are listed in Table 2-1.

Table 2-1: Common Classification of Methods Used in Market Segmentation

	A Priori	*Post Hoc*
Descriptive	Contingency tables, Log-linear models	Clustering methods: Non-overlapping, Overlapping, Fuzzy techniques, ANN (artificial neural network), Mixture models
Predictive	Cross-tabulation, Regression, Logit analysis, Discriminant analysis	AID (automatic interaction detection), CART (classification and regression trees), ANN (artificial neural network), Mixture models

Source: Wedel and Kamakura (2000)

Even though market segmentation has a slightly different definition and the method has been divided into two approaches, most researchers agree that choosing a segment base is a crucial step in market segmentation (Daerr, 2001). Based on Kotler's definition of market segmentation (see Figure 2-1), there are two major steps in processing market segmentation. The next section covers the literature under this frame: identifying bases for market segmentation and developing profiles of resulting segments.

Identifying Bases for Market Segmentation

Market Segmentation Bases

Choffray and Lilien (1980) defined a segmentation base as one criterion or a set of criteria used to segment customers and explained a segment descriptor as a variable or characteristic that could be associated with segment members and be used to design marketing strategy as well. Frank, Massy and Wind (1972) introduced the concept of observable and unobservable bases in order to build market segmentation bases. Observable bases were defined as ethnic, geographic, demographic, and socio-economic

variables. Unobservable bases included psychographics, values, personality, and life style. Kotler (1994) stated that the major variables for market segmentation purposes are geographic, demographic (e.g., age, gender, family status, income), psychographic (e.g., life style, personality characteristics, activity level preferences, and personal values), and behavioral (e.g., benefits, frequency of use, loyalty). The general segmentation bases that have been commonly examined in the tourism literature are listed in Table 2-2.

Table 2-2: General Market Segmentation Bases Used in Tourism Research

Broad type of base	Study	Specific examples of characteristics used in each study
Geographic	Etzel & Woodside, 1982	Near-home and distant travelers
Geographic	Reid & Reid, 1997	Five geographic markets (USA, UK, Canada, Germany and Trinidad) to Barbados
Geographic	Obenour, Lengfelder, & Groves, 2005	Tourists from six dominant market areas (Detroit, MI; Columbus, OH; Pittsburgh, PA; Cincinnati, OH, Chicago, IL and Indianapolis, IN) to a nature-based destination (Lake Erie coastal region, OH) on destination image assessment
Demographics	Anderson & Langmeyer, 1982	Under-50 and over-50 travelers on needs and expectations of vacations
Demographics	Fodness, 1992	Family life cycle on decision making
Demographics	Hudson, 2000	Gender on constraint differences
Demographics	(Smith & MacKay, 2001)	Age (younger: 18-25 years old; older: 60-75 years old) on destination visuals
Psychographics	Kau & Lee, 1999	Singapore vacationers were clustered into four groups: culture dissimilarity seekers, destination novelty seekers, novelty seekers, and familiarity seekers.
Psychographics	(Kim, Crompton, & Botha, 2000)	Three constraint clusters and three benefit clusters.
Psychographics	Ekinci & Chen, 2002	British holidaymakers to Turkey were segmented into two groups: agenda achiever and relationship seekers
Behavior	Jurowski, Uysal, & Noe, 1993	Travelers were segmented based on site preferences of visiting the U.S. Virgin Islands National Park and two clusters were found: consumptive/tour type and conservationist type
Behavior	Court & Lupton, 1997	Adopters, inactives and rejecters were identified outside of New Mexico residents
Behavior	May, Bastian, Taylor, & Whipple, 2001	Snowmobilers based on reasons for snowmobiling; five clusters identified: achievement/stimulation, escape personal/social pressure, enjoy nature/learning, being with family and friends and escape physical pressure
Psychographic and behavior	Dolnicar & Leisch, 2003	Winter vacationers in Austria were classified into five groups: fun and snow; relaxation and health; moderate culture tourist; pure culture tourist; and fun, snow, snowboards, and discos

Segmentation bases started from geographic and demographic variables. However, there was general agreement that demographic segmentation did not predict tourist behavior well enough (Johns & Gyimothy, 2002; Prentice, Witt, & Hamer, 1998) and may not be appropriate as a primary base for segmenting (Frochot & Morrison, 2000). Therefore, researchers tried to move beyond demographic segmentation by using additional segmentation bases, such as psychographic bases (Wells, 1975).

Besides those common bases in marketing research, tourism marketing researchers also searched for additional factors such as communication channels (e.g., Hsieh & O'Leary, 1993), resort hospitality elements (e.g., Brey, Klenosky, Lehto, & Morrison, 2008), and activities (e.g., Choi & Tsang, 1999; Hsieh, O'Leary, & Morrison, 1992; Jeffrey & Xie, 1995; Morrison, S., & O' Leary, 1994; Moscardo, Morrison, Pearce, Lang, & O'Leary, 1996; Nicholson & Pearce, 2000) to segment the market efficiently. These segmentation bases sometimes could not be defined in exclusive categories. For example, Sarigöllü and Huang (2005) suggested that benefits were defined as visitors' ratings of desired environments or activities that were covered in Well's psychographic bases: activities, interests, opinions, needs, values, and personality traits (Wells, 1975). Some common and specific segmentation bases applied in tourism studies are shown in Table 2-3.

Table 2-3: Popular Market Segmentation Bases Used in Tourism Research

Broad Type of Base	Study	Specific Examples of Characteristics Used in Each Study
Motivations	Bieger & Laesser, 2002	Swiss pleasure travelers were segmented into four groups: compulsory travel, cultural hedonism, family travel, and me(e/a)t marketing clusters
Motivations	Andreu, et al., 2005	British visitors visiting Turkey were segmented into five groups: fuzzy, recreational, active, escape, and relax
Motivations	Cha, McCleary, & Uysal, 1995	Japanese travelers selecting a destination were classified into three clusters: sports seekers, novelty seekers, and family/relaxation seekers
Motivations	Formica & Uysal, 1998	Spoleto Festival visitors in Italy were clustered into two groups: enthusiasts and moderates
Expenditure	Wilton & norma Polovitz, 2006	Travelers who did not live in Montana but travel to the State were classified based on expenditure. Expenditure by purpose of trip and mode of transportation, and by top nine main attractions to Montana
Expenditure	Mok & Iverson, 2000	Light, medium and heavy spenders among Taiwanese tourists to Guam
Expenditure	Jang, Josef, & Ham, 2002	Light, medium and heavy spenders among Japanese outbound pleasure travelers
Benefits	Jang, Morrison, & O'Leary, 2002	Japanese travelers to USA and Canada were classified into three groups: novelty/nature, escape/relaxation, family/outdoor activities seekers
Benefits	Frochot, 2005	Rural tourists to Scotland were classified into four groups: actives, relaxers, gazers, and rurals
Benefits	Sarigöllü & Huang, 2005	Visitors to Latin America were grouped into four segments: adventurer, multifarious, fun and relaxation seeker, and urbane.
Decision-making factors	Sung, 2004	Adventure travelers were clustered based on their traveler characteristics and consumer and travel behavior in decision making. Six groups were identified: general enthusiasts, budget youngsters, soft moderates, upper high naturalists, family vacationers, active soloists
Involvement	Park, et al., 2002	Casinos in Black Hawk Colorado Low gambling, high centrality gambling, high enjoyment gambling, and high self-expression gambling involvement groups
Demographic, motivations and concerns to travel	Kim, et al., 2003	West Australian senior tourists were segmented into four groups: active learner, relaxed family body, careful participant and elementary vacationer

Activity-based Segmentation

The activity-based segmentation approach was first applied in the early 1960s (de Grazia, 1964) and has been used consistently since to understand tourists' behavior (Moscardo, et al., 1996). McKercher, Ho, du Cros, and So-Ming (2002) explained that activity-based segmentation meant defining tourists by their behavior or visitation patterns. Jang, Cai, Morrison, and O'Leary (2005) explained that travel activity participation can not only be characterized as a form of traveler behavior but also treated as the outcome of traveler preferences, which can be considered a demand attribute.

Canter (1977) (as cited in Moscardo, et al., 1996) developed a concept of place which was made up of three major components: the physical environment or setting, the activities that people engaged in, and their conceptions or perceptions of the place. Moscardo et al. (1996) explained that activities can be used to connect motivations (push factors) to destinations (pull factors), because motivations can be perceived as tourists' expectations of activities, and destinations can be treated as places of the activities. So activities connect the places to tourists' expectations. The activity-based model treated activities as one of the attributes of destinations, which could be perceived as travel motives in the process of decision making when choosing a destination. Gunn and Var (2002) mentioned that attractions are seen as the major resource to visitors and places for tourist activities. These concepts appear to echo Canter's place concept in supporting the important role of activities in understanding destination choice. Therefore, activity-based segmentation played an important role in market segmentation (Romsa, 1973) because the sets of activities were important in themselves and their analysis would provide a better understanding of demand for tourism planners (Choi & Tsang, 1999).

Lang, O'Leary, and Morrison (1993) summarized the advantages of activity-based segmentation: (a) To better understand visitors regarding their travel choices and patterns; (b) To help tourism planners focus on bundled activities instead of every activity and more effectively focus their efforts to target specific segments (Tatham & Dornoff, 1971); (c) To develop marketing strategies in more manageable ways because developing marketing strategies based on each activity is not seen necessarily as manageable; (d) To discover a more stable planning criterion than individual activities; and (e) To save tourism planners time and effort (Burton, 1971).

A variety of studies have developed measures of activity preferences in a variety of tourists such as nature-based tourists (e.g., Mehmetoglu, 2007) and Japanese female overseas travelers (e.g., Lang, et al., 1993). Some researchers have only focused on discussing one activity preference and profiling a certain type of activity. For example, Moscardo (2004) examined only shopping activity. Some researchers have used a set of activities for employing the *post hoc* approach (e.g., Huang & Sarigöllü, 2007; Kim & Jogaratnam, 2003; McKercher, et al., 2002). The activity-based approach has been applied in a wide range of research to better understand tourists in general; however, to the author's knowledge, in the study of rural tourists, it has not been seen in publication (see Table 2-4).

Table 2-4: Activity-based Segmentation Research in Tourism Studies

Study	Target	Approach	Clusters Identified	Profiling
Beritelli & Boksberger, 2005	Swiss travel market	*Post hoc*, 39 sport, and 35 non-sport activities, Cluster analysis, Cross tab analysis	Family/partner holiday, hanging around, active relaxation, destination orientation, and beach holiday	
Choi & Tsang, 1999	Pleasure Travel Market of Hong Kong Private Housing Residents	*Post hoc*, 33 activities, Cluster analysis, Chi-square	Sightseeing, outdoor sports, entertainment and outdoor activities, and friends/relatives visiting	Significantly different in: Socio-demo: gender, age, marital status, occupation, income, Travel related: length of trip, travel arrangements, party size
Graham & Wall, 1978	American visitors to Canada	*Post hoc*, 24 activities, Factor analysis,	Sightseeing, commercial activities, water-oriented activities, and outdoor living	Descriptives in: Married, vacation with children, income
Jang, 2004	French pleasure travelers	*Post hoc*, 23 activities, Factor analysis,	Local life and shopping segment; culture and social segment; sightseeing and nature segment; and passive segment	Demands of the four segments were positively correlated over monthly tourism demand
Jang, et al., 2004)	French outbound travelers	*Post hoc*, 44 activities, Cluster (K-means), ANOVA, Chi-square	Beach and sunshine lovers; city sightseers; cluster and nature enthusiasts; and visiting friends and relatives	Significantly different in: Socio-demo: marital status, occupation Travel related: travel party size, nights away from home, travel companion, season of travel, travel region
Johns & Gyimothy, 2002	Visitors to Bornholm, Denmark	*Post hoc*, 12 amenities, 19 activities, 30 attractions, Factor-cluster analysis, ANOVA, Logistic regression	Active and inactive vacationers	Significantly different in: Socio-demo: age, country of origin Factors in: Planning, autonomy, activity importance, amenity, attraction visits
Kim, et al., 2003	Asian international and domestic students	*A priori*-t tests and *post hoc*, 16 activities, Cluster analysis, Chi-square	1. Asian international, and domestic students 2. Enthusiasts, and moderates	Significantly different in: Socio-demo: gender, age, source of income, length of stay, marital status, and travel group size

Table 2-4 (Cont'd)

Study	Target	Approach	Clusters Identified	Profiling
Lang, et al., 1993	Japanese female overseas travellers	*Post hoc*, 38 activities, Cluster analysis,	Outdoor sports, sightseeing, life-seeing, activity combo, and naturalist	Significantly different in: Socio-demo: age, income, Travel related: travel company, length of trip, trip type, choice of a package vacation and language capability
Law, Cheung, & Lo, 2004	Outbound pleasure travel of Hong Kong residents	*A priori*, 23 activities, groups based on prior studies on American visitors to Canada (Graham & Wall, 1978), Australian citizens on summer holidays (Mazanec, 1984), general American travelers (Shoemaker, 1994), Japanese female travelers (Lang, et al., 1993), private housing travelers (Choi & Tsang, 1999)	Sightseeing, outdoor sports, entertainment and outdoor, and visiting friends/relatives	Visiting friends/relatives -the most important and then sightseeing. Outdoor sports-least important.

Table 2-4 (Cont'd)

Study	Target	Approach	Clusters Identified	Profiling
McKercher, et al., 2002	Hong Kong (HK) cultural tourist market	*Post hoc*, Cross tabulation, Chi-square, ANOVA, t-test	Cultural generalist, icon culturalist, Chinese heritage culturalist, Tsim Sha Tsui nodal culturalist, colonial culturalist, and Sino-colonial culturalist	Significantly different in: Socio-demo: origin of visitors, origin, education, age Trip related: length of stay in HK, total trip duration, HK main destination of the trip, first visit to HK, part of a package tour Culture related: centrality, depth of experience, cultural tourist typology, similarity of home culture to HK, description of HK as a destination, change in knowledge of HK's culture and heritage Motivation: travel for education and cultural reasons or for recreation and fun, visit well known sites first or obscure sites first, visit as many sites as possible or visit a small number intensely, preference for speaking own language, travel as a chance to grow personally or as a chance to relax, learn about another's culture or get close to family and friends
Mehmetoglu, 2007a	Nature-based tourists in Northern Norway	Hybrid, 20 motivations, 17 activities, Factor analysis, Logistic regression	Light, and heavy spenders	Relationships to expenditure: Significant difference in: Socio-demo: income, Motivations: ego/status

Table 2-4 (Cont'd)

Study	Target	Approach	Clusters Identified	Profiling
Mehmetoglu, 2007b	Nature-based tourists in Northern Norway	*Post hoc*, 20 motivations, 17 activities, Factor-cluster analysis, Multiple discriminant analysis MANOVA, ANOVA, Chi-square	Culture and pleasure activity oriented, nature activity oriented and low-activity oriented	*97.5% of the three clusters were correctly classified Significantly different in: Socio-demo: income Travel related: travel mode Motivations: nature, mundane every day, social contact
Moscardo, 2004	International and domestic tourists in the far north Queensland region of Australia	*A priori*, Chi-square	Serious shoppers; non-shoppers; arts-and craft shoppers; and not-so-serious shoppers	Significantly different in: Socio-demo: age, residence, Travel related: number of adults in travel party, travel party, transport to the region, transport in the region, accommodation used on first night, previous visits to the region, expenditure Factors in destination choice: 21 items Travel behavior: approach to planning, Activity participation: 23 items Attractions: 23 items
Sarigöllü & Huang, 2005	Visitors to Latin America	*Post hoc*, 25 activities, Factor-cluster, ANOVA, Discriminant, Chi-square	Adventurer, multifarious, fun and relaxation seeker, and urbane	Significantly different in: Socio-demo: age, income Travel related: frequency of travel, interest in self-organized vacations, interest in all-inclusive vacations, interest in cruises, information source (travel agent, internet, travel book) Decision drivers: 14 items Personality and interests: 6 items

Table 2-4 (Cont'd)

Study	Target	Approach	Clusters Identified	Profiling
Hsieh, et al., 1992	Hong Kong international travel market	*Post hoc*, 47 activities, Cluster analysis, ANOVA, Chi-square	Visit friends/relatives, outdoor sports sightseeing, the full-house activity, and entertainment	Significantly different in: Socio-demo: age, education, occupation, Travel related: party size,
Sung, et al., 2000	Adventure travel providers	Factor analysis	Soft nature, risk equipped, question marks, hard challenge, rugged nature, and winter snow	
Yan, So, Morrison, & Sun, 2007	International heritage tourism market to Taiwan	*Post hoc*, 13 activities, Cluster analysis (K-means and Ward's method), Chi-square	Heritage, shopping, and non-specialists	Significantly different in: Reason for visiting: cuisine, scenery, friendliness of the people, historical sites, Taiwan customs, proximity, price of the goods, good security, night entertainment, festivals, weather, democratic, leisure facilities Socio-demo: age, income, education, occupation, gender

Developing Profiles of Resulting Segments

After developing the segments, researchers then discover the commonalities and dissimilarities of the segments using appropriate statistical analyses. The profiling segments procedure can be considered a classification data analysis technique and is used to provide a better understanding of each segment (Cardoso & Moutinho, 2003).

The function of profiling is to provide the necessity for effective market segmentation (Wedel & Kamakura, 2000), so the segments' characteristics can help marketers design and promote a product more efficiently (Andereck & Caldwell, 1994). Tourism managers are typically interested in the categorization of tourists by socio-economic characteristics, as it helps them to target the potential market better (Bargeman, et al., 1999). But it is also necessary to research additional characteristics such as geographical, demographic, socio-economic, behavioral and life style to profile segments (Mazanec, 1992). Market segmentation strategies tend to fail if the segments are not described using these characteristics.

The purpose of conducting segmentation is to discover the segments in which respondents are likely to possess similar perceptions, personal traits, attitudes, behaviors, and consumption patterns (Chen, 2003a). Thus, it is important to further test for differences between/among the resulting segments to ensure that the resulting segments are somewhat different. Descriptive analyses, such as percentages and means, are used to portray segments' demographic characteristics as well as other distinct traits (e.g., trip characteristics) of interest. Tourism researchers have also utilized chi-square analysis, analysis of variance (ANOVA), linear discriminant analysis, logistic regression, and logit modeling to discover the different characteristics existing among the segments. Among

those methods, the most commonly used statistical analyses for discriminating are linear discriminant analysis and logistic regression (Rao & Wang, 1995). Linear discriminant analysis and logistic regression have also been employed to evaluate the classification rate of the resulting segments. Linear discriminant analysis is most frequently used for profiling. However, the data don not often meet the assumptions of the normal distributions among the descriptors. Logistic regression, therefore, is an alternative approach when the normality assumption violates (Press & Wilson, 1978).

Based on segmentation analyses, researchers are able to provide the related marketing and managerial implications using the results from descriptive and inferential analyses. Many factors have been found to be helpful in explaining segments. Hsieh, et al. (1994) found that gender differentiated between package and non-package travelers. Mehmetoglu (2006) concluded that there was a strong correlation between education and income. Those with higher education are likely to have higher income. Morrison, et al. (1994) found significant differences between individuals' travel arrangements and marital status. Hsieh, O'Leary, Morrison, and Chang (1993) stated that size of the travel party was also related to travel behavior and was worth examination. Some of the research, such as geographic segmentation research (e.g., Moscardo, et al., 2000), psychographic segmentation studies (e.g., Galloway, 2002; Horneman, Carter, Wei, & Ruys, 2002), and behavior segmentation literature (e.g., David & Lawton, 2002; Park, et al., 2002) has found significant demographic differences.

Socio-demographic variables are the basic attributes used to profile segments. Other attributes identified in the tourism research include activity preferences (e.g., Keng & Cheng, 1999; Madrigal & Kahle, 1994; Park, et al., 2002), travel patterns (e.g.,

Baloglu & Uysal, 1996), usage of travel information sources (e.g., Yannopoulos & Rotenberg, 1999), tourist attractions (e.g., Davis, Chappelle, Sternquist, & Pysarchik, 1993), and motivation (e.g., MacKay, et al., 2002). Most researchers have examined at least one set of these attributes in their segmentation research.

Pull and push factors are well known factors that influence people to travel and determine choice of destination. This theory states that people are driven by internal and external forces. Push factors refer to socio-psychological factors such as escape from routine schedules and curiosity for adventure. Pull factors are the attractions at the destination that draw tourists to visit. Pull factors can be seen as destination attributes such as natural or cultural attractions, which can be categorized into tangible attributes such as famous landmarks and intangible ones such as destination image (Crompton, 1979; Dann, 1977; Goossens, 2000; Klenosky, 2002; Uysal & Jurowski, 1994; Yuan & McDonald, 1990).

The review of literature indicated that the theory of push and pull motivations is a helpful concept to understand travel motivations (Klenosky, 2002). Studies have emphasized the importance of knowing what motivated people to travel (push factors) as well as the products that a destination could offer (pull factors), because understanding both factors helps managers better understand and satisfy tourists' needs (Cha, et al., 1995) and enhance the appeal of the destinations. With consideration of both factors, a more successful marketing plan for a destination could be designed (Beh & Bruyere, 2007; Jang & Cai, 2002; Jang & Wu, 2006). But most researchers have emphasized push factors and have used them as a segmentation base (e.g., Andreu, et al., 2005; Bieger & Laesser, 2002). Some of the studies have considered both pull and push factors as

segmentation bases (e.g., Baloglu & Uysal, 1996; Hallab, 2006; Kim, et al., 2006; Sangpikul, 2008). But the use of both push and pull factors to profile segments is not very popular in tourism research.

Summary of the Literature Review

Rural destinations are places that furnish multi-faceted atmospheres and environments in which tourists can enjoy a variety of activities. As leisure spending in families has changed with the deep economic recession (Barro, 2009, March 4; Healy, 2009, January 29), rural tourism destinations often offer better value for some families. In order to maintain quality leisure time, travel distance will likely decrease to make pleasure trips more affordable. Therefore, rural tourism will still remain interesting, especially for a destination perceived as a regional destination. Since the relationship between rural settings and activity choices is strong, the development of a rural destination should focus on identifying tourists' needs and designing a marketing plan to attract those who are interested in visiting such destinations.

Market segmentation has been demonstrated as a powerful tool for identifying target markets. Both market segmentation approaches (*a priori* and *post hoc*) and their pros and cons have been addressed. From the literature review, it is clear that activity-based segmentation has become increasingly important and has multiple practical implications for recreation providers or tourism organizations to more effectively advertise their products. However, there is no reference in the literature to activity-based segmentation being used in segmenting rural tourists. Attributes for profiling resulting segments have also been demonstrated in the literature review.

Based on the literature review, this study explores rural tourists using activity-based segmentation. Both *a priori* and *post hoc* approaches are applied to provide tourism planners with more sophisticated suggestions for marketing rural destinations to meet tourists' needs.

This study includes socio-demographics, travel expenditures, and trip patterns, characteristics that showed certain significant differences among segments in different research. Also, both push (motivation attributes) and pull (destination attractions) are examined to profile the resulting segments. At the end this study includes a strategic plan based on the results, rather than only addressing the results of technical analysis.

CHAPTER 3 METHODOLODY

This chapter introduces the methods used for conducting the study. First, the study area is introduced. Next, the sample and population are described. Then, the research instruments and statistical methods employed are explained.

Study Area

The study area includes the following west-central Michigan counties: Manistee, Mason, Oceana, Lake, and Newaygo (abbreviated as WCMI). The five counties are located on or near the west coast of Michigan. According to the definition of urban and rural populations from the US Census Bureau (1995), "places with less than 2,500 people incorporated as cities, villages and towns, which describes most of the areas within this region, are defined as rural". Manistee is 60% rural; Mason, 65%; Newaygo, 83%; and, Lake and Oceana, 100% (see Table 3-1).

Table 3-2 shows that construction and health care are major industries in these areas. The area produces many agricultural crops such as corn and vegetables even though agriculture is not the dominant industry from an employment perspective (see Table 3-1). Accommodations and food services related to the tourism industry provide additional job opportunities, especially for women.

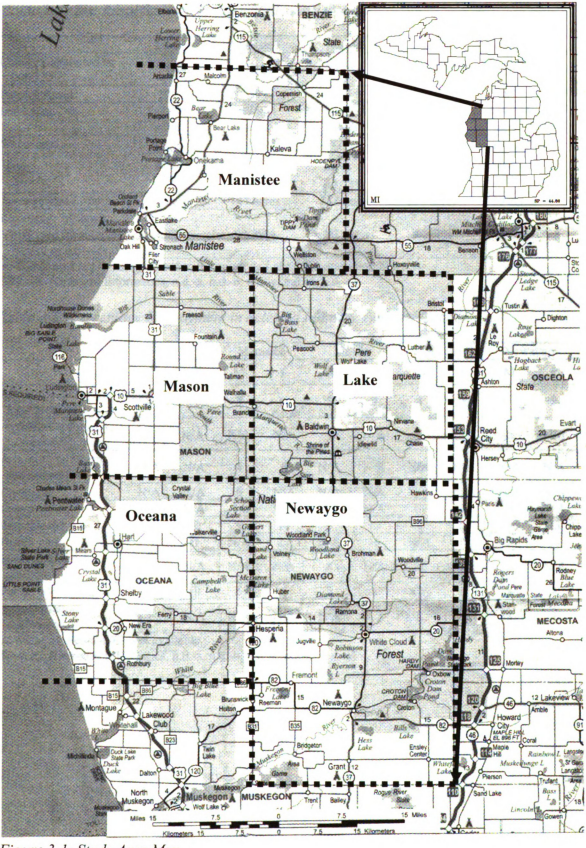


Figure 3-1: Study Area Map

Table 3-1: The Rural Settings in Each Study Area County

	Lake	Manistee	Mason	Oceana	Newaygo
County population in 2005	12,069	25,226	28,986	28,473	50,019
Percent Rural	100	59	65	100	83
Land area	363,136 acres	347,904 acres	316,928 acres	345,920 acres	539,136 acres
Water area	4,608 acres 1.25%	471,808 acres[A] 57.56%	477,888 acres[A] 60.13%	490,432 acres[A] 58.64%	12,160 acres 2.21%
Average size of farms	135 acres	147 acres	167 acres	197 acres	150 acres
Percentage of farms operated by a family or individual	94.22%	94.29%	90.59%	88.12%	93.02%

A: Water area is primarily related to the county's Lake Michigan shoreline.
Sources: (Onboard Informatics, n.d.-a, n.d.-b, n.d.-c, n.d.-d, n.d.-e)

Table 3-2: Percentage Employment in Selected Industry Types by Gender

	Lake		Manistee		Mason		Oceana		Newaygo	
	M[A]	F[B]	M	F	M	F	M	F	M	F
Accommodation and food services	4	11	5	11	5	9	4	8	N/A	8
Agriculture, forestry, fishing and hunting	5	N/A[C]	N/A	N/A	4	N/A	9	N/A	5	N/A
Arts, entertainment, and recreation	N/A	N/A	4	6	N/A	N/A	N/A	N/A	N/A	N/A
Chemical	N/A	N/A	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Construction	16	N/A	14	N/A	14	N/A	14	N/A	15	N/A
Educational	N/A	10	5	10	6	13	4	13	5	13
Health care	N/A	11	N/A	21	N/A	19	N/A	16	5	14
Metal and metal products	7	N/A	N/A	N/A	8	N/A	11	N/A	6	N/A
Public administration	7	10	6	5	5	4	N/A	5	N/A	4
Transportation equipment	7	N/A	N/A	N/A	N/A	N/A	8	5	8	7

A: Male, B: Female, C: Not available
Sources: (Onboard Informatics, n.d.-a, n.d.-b, n.d.-c, n.d.-d, n.d.-e)

Table 3-3: The Attractions in Each County

	Lake
Notable locations	Old Grade Campground, Old Grade Trail Camp, Kellars Corners, Carrieville Recreation Site, Gleasons Landing Recreation Area, Lake Olga Recreation Site, Raymond Corners, Lincoln Bridge Canoe Access, Little Leverentz Lake Recreation Site, Upper Branch Bridge Access, Elm Flats Canoe Access, Bowman Bridge Campground, Branch, Bray Creek Recreation Site, Lukes Corners, Forks Public Access.
Lakes, reservoirs, and swamps	Little Lake Number One, Little Lake Number Two, Little Lake Number Three, Little Leverentz Lake, Ahmikwam Lake, Little Star Lake, Alice Lake, Little Syers Lake.
Rivers and creeks	Baker Creek, Beaver Creek, Blood Creek, Bray Creek, Coe Creek, Cole Creek, Cool Creek, Middle Branch Pere Marquette River, McCarthy Creek.
Park	Driftwood Recreation Area
Historical places	Lake County Informational Designation, Brown Trout Informational Designation, Shrine of the Pines, Idlewild Historic District, Marlborough Historic District.
	Manistee
Notable locations	Low Bridge Canoe Access, Old High Bridge R R Crossing Site, Old Stronach Public Access, Myers School, Hale Corners, Rainbow Bend Public Access, Glenoak School, Inner Light, Manistee National Forest District Ranger Station, Manistee Drop Forge Corporation, Manikiwa Recreation Site, Bear Creek Public Access, Marsh, Red Bridge Public Access, Packaging Corporation of America, Kenny School, Claybank School, Kilborn School, Udell Rollways Recreation Area, Big Four Corners.
Lakes, reservoirs, and swamps	Adamson Lake, Lost Lake, Arcadia Lake, Makinen Pond, Manistee Lake, Ball Pond, Bar Lake, Bear Lake.
Rivers and creeks	Arquilla Creek, Bear Creek, Beaver Creek, Boswell Creek, Bowens Creek, Chamberlain Creek, Chicken Creek, Chief Creek, Claybank Bayou.
Parks	Dorner Lake Recreation Site, Mangoon Creek Park, Manistee River State Game Area, Sand Lake Recreation Area, Orchard Beach State Park, Sundling Park.
Historical places	Great Fire of 1871 Informational Designation; Quimby, Harriet, Childhood Home; Kaleva Informational Designation; Makinen, John J., Bottle House; Babcock, Simeon, House; Camp Tosebo Historic District; Church of the Holy Trinity (Episcopal) and Rectory; Danish Lutheran Church; Douglas; William, House; First Congregational Church; First Scandinavian Lutheran Church; Manistee Central Business District; Manistee City Library; Manistee Fire Hall; Manistee Harbor, South Breakwater; Manistee North Pier; Ramsdell Theatre; Sandenburgh-Rogers Summer Resort Complex; Vincent, William J., House; Harris, Roscoe E., Summer Cottage; Portage Point Inn Complex; Manistee County Courthouse Fountain; Udell Lookout Tower; Hotel Wellston.
Museums	Arcadia Area Historical Museum, Kaleva Art Gallery, Kaleva Bottle House Historic Museum, Manistee Art Institute, Manistee County Historical Museum.
	Mason
Notable locations	Ludington Hydroelectric Plant, Ludington Hills Golf Course, Round Lake School, Lower Branch Bridge Access, Batcheller School, Lincoln Hills Golf Course, Reek School, Big Sable Light, Howell School, Elm Flats School, Kings Corners, Kistlers Corners, Stiles Corners, Star Port Marina, Ford Lake School, Bridges Resort, Ludington Winter Sports Area.
Lakes, reservoirs, and swamps	Allen Lake, Alma Lake, Long Lake, Lost Lake, Augustine Lake, Bailey Lake, McKimzie Lake, Meade Lake.
Rivers and creeks	Big Sable River, Big South Branch Pere Marquette River, Burr Creek, Carr Creek, Cooper Creek, Costello Creek, Ritters Creek, Lichte Creek, Frog Paradise Drain.

Table 3-3 (Cont'd)

	Mason
Parks	Ludington State Park, Buttersville Park, Victory Memorial Park.
Historical places	Big Sable Point Light Station; Ghost Town of Hamlin Informational Site; Marquette's Death Informational Site; Notipekago Commemorative Designation; Reorganized Church of Jesus Christ of Latter Day Saints; Camp Arcadia; Armistice Day Storm Informational Designation; First Mason County Courthouse; Fish House; Goodenough, Daniel W., House; Latimer, Frank N. and Fanny Allen, House; Lessard, Ray, House; Mason County Courthouse; S.S. Badger; S.S. Pere Marquette 18 Informational Site; Scottville Informational Designation.
Museum	Historic White Pine Village.
	Oceana
Notable locations	Bucks Corners, Halls Corners, Smith Corners, Sischo Canoe Landing, Camp Keewana, Camp Manistee, Little Point Sable Lighthouse, Oceana Country Club, Diamond Access Canoe Landing, Pines Point Recreation Site, Podunk Canoe Access, Twin Bridges Corners, Town Corners.
Lakes, reservoirs, and swamps	Acker Lake, Little Pebawma Lake, Little Wildcat Lake, Long Lake, Lost Lake, Lucky Lake, Marshville Pond, McLaren Lake.
Rivers and creeks	Allen Drain, Au Sable Creek, Bear Creek, Bender Creek, Big Springs Creek, Brayton Drain, Burke Creek, Cargill Creek, Cedar Creek.
Parks	Rentwater River State Game Area, Silver Lake State Park, Cedar Point Park, Marshville Roadside Park.
Historical places	Benona Township Hall; Gay, Jared H., House; Little Sable Point Light Station; Mears, Charles, Silver Lake Boardinghouse; Hart Historic Industrial District; Veterans Day Storm Informational Designation.
Museums	Oceana County Historical Park, Claybanks Pottery.
	Newaygo
Notable locations	Camp Echo, Henry Camp, Pine Avenue Public Access, Ottawa Boy Scott Camp, Newaygo Recreation Area, Nichols Lake Recreation Site, White River Roughing Area Campground, Drew Siding, Walkers Corners, Benton Lake Recreation Area, Trumbull Corners, Highbank Lake Recreation Area, Jackson Corners, High Rollway Public Access.
Lakes, reservoirs, and swamps	Abeys Lake, Ackland Lake, Little Lake, Little Lake Placid, Little Martin Lake, Little Mud Lake, Little Robinson Lake, Alley Lake.
Rivers and creeks	Allen Creek, Bear Creek, Beaver Creek, Bigelow Creek, Black Creek, Bowman Drain, Brayden Creek, Butler Creek, Cedar Creek.
Parks	Hardy Dam County Park, Newaygo County Sports Park, Newaygo Experimental Forest, Newaygo State Park, Mena Creek Waterfowl Area, Breezy Knoll Park, Sandy Beach County Park, Loda Lake Recreation Site, Loda Lake Wildflower Sanctuary.
Historical places	Big Prairie Grange No. 935 Hall; Hardy Hydroelectric Plant; Croton Congregational Church; Croton Hydroelectric Plant; Oak Grove District No. 3 Schoolhouse; Ensley Windmill Tower; First Christian Reformed Church; Gerber, Cornelius, Cottage; City of Grant Depot and Water Tower; Weaver, Daniel, House; Penoyer's Sawmill; Saint Mark's Episcopal Church; Woods, John F., Residence; Birch Grove School; White Cloud Village Hall.
Museum	Newaygo County Historical Museum.

Source: (State Historic Preservation Office, Michigan Historical Center, Michigan Department of State, "Lake County, Michigan," n.d.; Manistee County, Michigan," n.d.; Mason County, Michigan," n.d.; Newaygo County, Michigan," n.d.; Oceana County, Michigan ", n.d.)

From a geographic perspective, Manistee, Mason and Oceana counties border Lake Michigan, which attracts people mostly during the summer season. Lake and Newaygo are inland counties with less area covered with water. Even so, natural resources such as creeks and lakes create various outdoor activity opportunities such as fishing, hunting, boating, sightseeing, etc. According to the supply assessment/inventory reports for these five counties prepared by the Michigan State University Travel, Tourism and Recreation Resource Center, visitor services such as lodging and transportation are well developed for tourism (Herbowicz, Bristor, Holecek, & Yang, n.d.). A variety of other historic, cultural and outdoor recreation resources exist (Table 3-3).

Although there are a variety of resources, the study area still faces some limitations with regard to tourism. First, the scale of tourism development is smaller than in neighboring Benzie County, where the Sleeping Bear Dunes National Lakeshore is located. The tourism resources in the study area tend to be ignored because of their being less striking than those of their neighbors. Competition in the tourism industry and threats by other similar tourism resources seem to be unavoidable. However, the five counties still can capitalize on flows of tourists if the area can create an alternative impetus for tourists to stop instead of passing through on their way to another destination.

Second, until recently, the tourism industry had been expanding very rapidly. But as found elsewhere, tourism is also perceived as producing minimum-wage, seasonal jobs rather than high-wage, year-round jobs. Mainly, the problems that challenge tourism development in this area are not only the lack of perceived benefits of rural tourism development, but also the need for the creation of a unique destination image that separates these counties from surrounding areas.

Third, tourism has been one of the WCMI's most important industries, especially in those counties bordered by Lake Michigan. However, economic development and local tourism leaders have noticed that the whole region lacks a regional brand to compete with other areas; the regional marketing organization does not have funding to promote a tourism industry with inland area especially facing the under-promotion issue; and tourists mostly visit the region during summer (Herbowicz, et al., n.d.).

In 2003, representatives from the WCMI region met with personnel from Michigan State University (MSU) Extension and the MSU Travel, Tourism and Recreation Resource Center (TTRRC) to discuss how to strengthen the region's tourism industry. The "Tourism Assistance Project" (TAP) was led by TTRRC as long-term research and outreach to link the many representatives of the region's tourism industry to assist and create a strategic plan. The TAP planning committee included representatives from local chambers of commerce, convention and visitors bureaus, and county economic development offices as well as MSU faculty members and MSU county extension personnel. This TAP serves as the source of primary data for the current study.

Population and Sample

The TAP was conducted in five phases: (a) A supply assessment in Fall 2003 consisting of an inventory of existing cultural, natural, and recreation resources; (b) A demand assessment in Spring-Winter 2004 consisting of an overnight visitor survey, a transient visitor survey, and a potential visitor survey; (c) A needs and preferences assessment in Spring-Summer 2005 consisting of a resident attitude survey and a business/supplier survey; (d) The formation of a regional destination marketing organization in Fall 2005; and (e) The creation of a strategic marketing plan. The results

of the three surveys completed during the course of the TAP were used in this study (i.e., transient visitors, overnight tourists, and potential visitors).

Transient Visitors

The transient visitor survey, an on-site, self-administered survey, caught transient visitors who visited the area but did not live within 50 miles. This surveying was conducted at several locations in the study region along US-131, M-37, and US-31, mostly gas stations where transient visitors were likely to stop on a random basis. Respondents were sampled according to a pre-determined sampling schedule on both weekdays and weekends. To identify respondents, individuals were approached and asked if their primary residence was at least 50 miles away. If so, the person was asked to complete the survey.

Overnight Tourists

The overnight visitor survey was mailed to a sample of visitors who stayed overnight at commercial lodging (hotels, motels, campgrounds) in the study area. The names and addresses of survey recipients were provided by commercial lodging owners and managers. The goal was to survey about 500 recent visitors per county, or 2,500 visitors total. The data were intended to be collected from all lodging owners in the areas; however, not all the lodging owners were willing to provide their lists of visitors. Also, some lists only included visitors from one area. Such lists were discarded because the names obviously were not selected randomly as was requested.

Potential Visitors

This survey was designed to reach potential visitors to the study area. Based on a review of other secondary data sources (e.g., national data from the former U.S. Travel

Data Center), the geographic area that supplied the majority of visitors to the study areas was determined. A list of potential respondents from this area was purchased from Survey Sampling International of Connecticut. It consisted of residents from six Designated Market Areas (DMAs): Chicago, Detroit, Flint, Grand Rapids, Lansing, and South Bend (see Table 3-4). These DMAs were identified as the most likely potential visitor areas for the WCMI region. Five hundred randomly selected households in each DMA, a total of 3,000, were sent surveys by TTRRC. The expected target rate was 20% or 100 completed questionnaires per DMA.

Table 3-4: County Covered and Number of Households in Six DMAs

	Counties in Each Area	Total Households	Sample Size
Chicago	Cook, IL.; DeKalb, IL.; Du Page, IL.; Grundy, IL.; Kane, IL.; Kankakee, IL.; Kendall, IL.; Lake, IL.; La Salle, IL.; McHenry, IL.; Will, IL.; Jasper, IN.; Lake, IN.; LA Porte, IN.; Newton, IN.; Porter, IN.	3,358,363	500
Detroit	Lapeer, MI.; Livingston, MI.; Macomb, MI.; Monroe, MI.; Oakland, MI.; St. Clair, MI.; Sanilac, MI.; Washtenaw, MI.; Wayne, MI.	193,8628	500
Flint	Arenac, MI.; Bay, MI.; Genesee, MI.; Gladwin, MI.; Gratiot, MI.; Huron, MI.; Iosco, MI.; Isabella, MI.; Midland, MI.; Ogemaw, MI.; Saginaw, MI.; Shiawassee, MI; Tuscola, MI.	47,6205	500
Grand Rapids	Allegan, MI.; Barry, MI.; Branch, MI.; Calhoun, MI.; Ionia, MI.; Kalamazoo, MI; Kent, MI.; Montcalm, MI.; Muskegon, MI.; Newaygo, MI.; Oceana, MI.; Ottawa, MI.; St. Joseph, MI.; Van Buren, MI	753,217	500
Lansing	Clinton, MI.; Eaton, MI.; Hillsdale, MI.; Ingham, MI.; Jackson, MI.	271,019	500
South Bend	Elkhart, IN.; Fulton, IN.; Kosciusko, IN.; Lagrange, IN.; Marshall, IN.; Pulaski, IN.; St Joseph, IN.; Starke, IN.; Berrien, MI.; Cass, MI.	327,499	500
Total		7,124,931	3,000

Source: Survey Sampling International of Connecticut

In light of response rates achieved in related prior studies presented in Table 3-5, the targeted 20% response rate for the potential visitor survey was high, and, even if achieved, nonresponse bias would be an issue. Hence, it is important for this study to

examine response bias by comparing early and late responses on the key constructs, as suggested by Coviello, Winklhofer, and Hamilton (2006).

Table 3-5: Low Response Rate Studies in Tourism Research

Study	Response Rate
Baloglu & Shoemaker, 2001	11.8%
Bauer, Law, Tse, & Weber, 2008	0.3%
Chen, 2001	13%
Coviello, et al., 2006	13%
Dopson, 2004	11%
Illum, Ivanov, & Liang, in press	0.5-0.6% through academics , 0.04-0.15% through auto travelers
Oppermann, 2000	9.3%
McGehee, Wattanakamolchai, Perdue, & Calvert, 2009	4.2%
Sigala, Airey, Jones, & Lockwood, 2004	7%
Shoemaker, 2000	11.8%

Survey Instruments

The survey instruments comprised three questionnaires that were developed by TTRRC. The three questionnaires contained some variations. Slightly different wording reflected the nature of the three sample groups (transient, overnight, and potential) (see Tables 3-6, 3-7, 3-8, 3-9).

Activity preferences and some trip-related characteristics were measured using nominal scales. Motivations, awareness of and visits to WCMI attractions, perceptions regarding WCMI destination attributes, and some trip-related characteristics such as intention to re-visit the WCMI and willingness to recommend the WCMI to others were measured using Likert-type scales. The method of measurement associated with each item dictated the analysis methods used later in the study.

Table 3-6: Variables Used for Analysis in the Surveys--Activity

Sample Group	Activity	
Transient Survey:	•Antique shopping	•Jet skiing
Which of the following activities are of interest to you or others in your family?	•Bicycling	•Lighthouse touring
	•Boating	•Live theatre
Overnight Survey:	•Camping	•Movie (at a cinema)
While in the WCMI region, in which of the following activities did you and your immediate travel party participate in on this visit?	•Canoeing/kayaking/tubing	•Museum
	•Casino gaming	•Mushroom collecting
	•Concert	•Nature center
	•Cross-country skiing	•Off-roading
Potential Survey:	•Dining out (excluding fast food)	•Photography
Which of the following activities do you and your immediate travel party participate in most often while on pleasure trips?	•Downhill skiing/snowboarding	•Sailing
	•Farm market/u-pick/winery	•Scuba diving/snorkeling
	•Festival/event	•Shopping
	•Fishing, charter	•Sightseeing (general)
	•Fishing, fly	•Snowmobiling
	•Fishing, ice	•Sports tournament
	•Fishing, other	•Swimming (lake, pond, river)
	•Golfing	•Swimming (pool)
	•Hiking/walking	•Theme/amusement park
	•Historic site	•Visiting a federal/state park
	•Horseback riding	•Visiting friends/relatives
	•Hunting, deer	•Wildlife viewing/bird watching
	•Hunting, small game	•Wind surfing
	•Hunting, turkey	

Table 3-7: Variables Used for Analysis in the Surveys--Trip-related Characteristics

Sample Group	Trip-related Characteristics
Overnight Survey: MOST RECENT OVERNIGHT VISIT WITHIN the WCMI region Which of the following sources of information did you use in planning this visit? ***Potential Survey:*** Which of the following sources of information do you use when planning your pleasure trips?	•AAA •Newspaper •Billboards/outdoor advertising •Radio •Chamber of commerce •State travel office/Travel Michigan •Convention and visitors bureau •Television •Friends or relatives •Travel guide(s)/brochure(s) •Highway welcome center •Word of mouth •Internet/web site(s) •Magazine •Highway tourist information centers* •Local visitor guides*
Transient Survey: What type of lodging are you using on this trip? ***Overnight Survey:*** MOST RECENT OVERNIGHT VISIT WITHIN the WCMI region Which of the following types of lodging did you use in the WCMI region on this trip?	•Friend's or relative's home •Owned second or seasonal home •Hotel, motel or resort •Campground or RV park •Bed & Breakfast •Rented cabin, cottage or condominium
Transient Survey: About how far in advance did you begin to make plans for it? ***Overnight Survey:*** MOST RECENT OVERNIGHT VISIT WITHIN the WCMI region About how far in advance did you begin to plan this trip? ***Potential Survey:*** In general, about how far in advance do you begin to plan your ... ... weekend getaway _____ (# of days)	Number of days
Transient Survey: What is/was the primary destination of your current trip? ***Overnight Survey:*** MOST RECENT OVERNIGHT VISIT WITHIN the WCMI region What was the primary destination of this trip?	City County
Transient Survey: How many nights do you plan to be away from home on this trip? ***Overnight Survey:*** MOST RECENT OVERNIGHT VISIT WITHIN the WCMI region How many nights did you spend within the WCMI region on this trip?	Number of nights

Table 3-7 (Cont'd)

Sample Group	Trip-related Characteristics
Transient Survey: Did you visit the WCMI region any time before this trip? ***Potential Survey:*** Have you ever visited the WCMI region?	*Yes, No*
Overnight Survey: How likely are you to visit the WCMI region within next three years? ***Potential Survey:*** How likely are you to visit the WCMI region within the next three (3) years?	*Definitely will visit, Very likely, Somewhat likely, Somewhat unlikely, Very unlikely, Will not visit the area again*
Overnight Survey: How would you rate your overall experience in the WCMI region on this visit?	*Much better than I expected, Somewhat better than I expected-About what I expected, Somewhat worse than I expected, Much worse than I expected*
Sample Group	**Travel Expenditures**
Overnight Survey: In total, approximately how much did your immediate travel party spend in the each of the following categories within the WCMI region on this visit?	•Activities (equipment rentals, lessons, etc.) •Attractions (tickets, entrance fees, etc.) •Gas/fuel •Groceries •Lodging •Meals at restaurants/fast food •Shopping (clothes, souvenirs, etc.)

*The item is included in the potential visitor survey but not in the overnight visitor survey.

Table 3-8: Variables Used for Analysis in the Surveys--Pull and Push Factors

Sample Group	Travel Motivations-Push Factors
Potential Survey:	•Upscale facilities/services
How important to you are each of the following factors when selecting a pleasure trip destination?	•Travel time/distance •Cost •Family-friendly place and/or opportunities •Safety/security •Variety of shopping opportunities •Interesting scenery •Service quality •Variety of attractions and/or activities •Nightlife activities •Accessibility for disabled persons •Pet accommodations *Not at all important, Not so important, Somewhat important, Important, Very important*
Sample Group	**WCMI Attractions-Pull Factors**
Transient Survey, Overnight Survey:	•Little River Casino
Have you visited, or are you aware of, the following facilities or attractions in this region?	•Recreation on Manistee River •Ludington Car Ferry •Ludington State Park/beaches •Recreation on Pere Marquette River •Irons/Lake County snowmobile trails •Recreation on Muskegon River •Newaygo State Park •Driving/riding on sand dunes at Silver Lake •Hart-Montague (rail) Trail *Have Visited, Aware, but Not Visited, Not Aware of This Place*
Sample Group	**WCMI Destination Attributes-Pull Factors**
Overnight Survey:	•Has good roads
How much do you agree with the following statements about the WCMI region?	•Is a great winter destination •Has great outdoor recreation opportunities •Is a safe place to visit
The WCMI region...	•Has high quality lodging •Is an exciting place to visit •Has many interesting historical sites •Is close enough for a weekend getaway •Is a good place to meet friendly people •Is easily accessible •Is a great family vacation destination •Offers exceptional value for the money •Is a great place to start a business •Offers exciting nightlife and entertainment •Is a great spring destination •Offers great dining opportunities •Is a great summer destination •Offers great shopping opportunities •Is a great fall destination •Offers much scenic appeal *On scale from 1 to 10, where 1 means "do not agree at all" and 10 means "agree completely"*

Table 3-9: Variables Used for Analysis in the Surveys--Socio-demographic Characteristics

Sample Group	Socio-demographic Characteristics
Overnight Survey: Do you have any of the following persons living in your household?	Pre-school child(ren) Senior citizen(s) School-age child(ren) Handicapped person(s)
Transient Survey, Overnight Survey: What is your employment status	*Employed full-time, Self-employed, Employed part-time, Student,, Homemaker, Unemployed, Retired*
Potential Survey: What is the highest level of education you have attained? ***Overnight Survey:*** What is the highest level of education you've completed?	*Elementary school, Some high school, High school, Some college, College graduate/professional, Post-graduate*
Potential Survey: The U.S. median annual household income before taxes is about $43,000. Would you say that your total household income before taxes in 2004 was... ***Overnight Survey, Transient Survey:*** The U.S. median household income before taxes is about US$42,500. Would you say that your total household income before taxes in 2003 was ....?	*Below US $42,500,Between US $42, 500 and US $75,000, Above US $75,000*
Transient Survey, Overnight Survey, Potential Survey: What is your gender?	*Male, Female*
Transient Survey, Overnight Survey, Potential Survey: What is your age?	Age
Transient Survey, Overnight Survey, Potential Survey: What is the zip code of your primary residence?	Zip code

Data Collection

Data were collected by mail questionnaire from potential and overnight visitors. A self-administered survey of transient visitors was administered on site. For the mail questionnaires, several methods were employed to increase response rates. These methods can be categorized into two approaches: technique and timing. The technique component emphasizes the design of the survey to encourage a higher return rate. This

component can include the design of the questionnaire (for example, length, format, and color), personalized wording of the cover letter, survey sponsorship, rewards, and inclusion of return envelopes (Kanuk & Berenson, 1975). In this project, the length of the questionnaire was limited to two pages in the transient survey and six pages in the potential and overnight visitor surveys. Both mail survey questionnaires were sent in a package that included the actual survey, a cover letter describing the purpose of the study as well as addressing confidentiality issues, and a stamped return envelope. In addition, the package included some discount coupons and a cash drawing form to be returned to TTRRC for a chance to win an overnight-stay package donated by local businesses.

The timing approach emphasizes sending surveys or reminders at different sampling stages to encourage participation. This approach can be implemented at the preliminary stage (i.e., pre-notice letter), concurrent stage (for example, sending an extra copy of the survey shortly after the first survey was sent), or the later stage as follow-up (i.e., delivering a reminder or an extra copy of the survey to non-respondents when the deadline is approaching). The data used in this study were collected through a mailed self-administered questionnaire following the modified Dillman approach (1978), which suggested the use of the follow-up method. Given budget constraints, only one follow-up questionnaire was sent to the sampled household residents one month after the first run of the surveys was sent. The response rate increased marginally after the follow-up reminder was sent.

Transient Visitor Survey Response Rates

The transient survey was conducted between mid-July and the beginning of September 2004. A total of 1274 people were approached; 483 did not qualify since they

lived within 50 miles of the sampling site, another 103 refused to participate (see Table 3-10). A total of 688 responded to the survey. However, 156 of these responses were invalid.

Table 3-10: Transient Visitor Survey Response Counts

	Lake	Manistee	Mason	Newaygo	Oceana	Mail	Total
Rejected	0	28	27	25	23	-	103
Not qualified	65	185	180	88	121	-	639
Valid	93	156	148	15	103	17	532
Total	158	369	355	128	247	17	1274

Overnight Visitor Survey Response Rates

A total of 1,642 questionnaires were mailed out to overnight visitors to the study area. The final return from the five county visitors was: 94 from Lake County, 50 from Manistee County, 43 from Mason County, 42 from Newaygo and 38 from Oceana County. The final return rate was 18.2% (see Table 3-11). The response rate was higher in Lake County where there are many cottages and cabins. Those who stayed in the private cottages might have had more time and been more willing to answer surveys, or felt a greater sense of attachment or interest in the destination.

Table 3-11: Overnight Visitor Survey Response Rates

	Lake	Manistee	Mason	Newaygo	Oceana	Total
Sent out	429	314	244	255	400	1642
Non-deliverable	26	20	14	25	91	176
Returned	94	50	43	42	38	267
Effective response rate (%)	23.3	17.0	18.7	18.3	12.3	18.2

Potential Visitor Survey Response Rates

The potential visitor survey was mailed to 3,000 people, 500 in each of the six DMAs identified. After sending out surveys in two waves, a total of 312 questionnaires

were returned. Of the 2,688 nonresponses, 347 were due to incorrect addresses. Thus, the overall response rate was 11.8%. Chicago had the lowest response rate (see Table 3-12), probably because people there are less familiar with the study area and thus have less interest in completing the survey.

Table 3-12: Potential Visitor Survey Response Rates

	Chicago	Detroit	Flint	Grand Rapids	Lansing	South Bend
Sent out	500	500	500	500	500	500
Returned	21	49	61	64	72	34
Effective response rate (%)	N/A [a]	N/A	N/A	N/A	N/A	N/A

a: The effective response rate in each MDA is not available due to the undeliverable cases being unidentifiable.

Nonresponse Study

The mail surveys conducted in this study followed various techniques proposed by Dillman (1978) such as financial incentives, material incentives (e.g., coupons), follow-up reminders, inclusion of a cover letter, identification of the source of survey sponsorship, a statement regarding the anonymity of responses, and limited questionnaire length in order to maximize the response rate. However, the study still experienced a low response rate, an occurrence noted as a limitation in many tourism research studies.

Several adjustment procedures were employed to handle the suspected biases in the survey. One commonly used procedure of handling this issue is to find substitute survey participants while the survey is still in process (Platek, Singh, & Tremblay, 1977). Due to limited time and funding, neither participant substitution nor the conduct of nonresponse research was carried out during the survey period.

Nonresponse bias is assessed according to the theory developed by Armstrong and Overton (1977) and Fodness and Murray (1999), which considers late respondents as nonrespondents and assesses whether their responses substantially differ from those who

returned their surveys earlier. This approach was used here to evaluate the overnight and potential surveys. First wave and second wave respondents were compared in each item to examine differences. If differences did not appear in most of the items, then the data did not need further adjustment.

Weighting is often used to correct selection bias (Whitehead, Groothuis, Hoban, & Clifford, 1994). Weights can be used in calculating estimates for various sampling schemes and can also be employed to adjust for nonresponse (Lohr, 1999). When small groups are discreetly oversampled because of their importance to the evaluation, weighting is used to correct the problem of the sample being distributed disproportionally with respect to the target population of interest (Bamberger, Rugh, & Mabry, 2006; Pfeffermann, 1993).

Imputation for Survey Sampling

Baloglu and Assante (1999) examined 1,073 articles published in five primary hospitality management journals from 1990 to 1996 in order to understand the research directions and boundaries of hospitality research. They found that the majority of the articles used non-probability sampling (64.0% of the articles in *Cornell Hotel and Restaurant Administration Quarterly*, 65.0% in *International Journal of Hospitality Management*, 66.7% in *Hospitality Research Journal,* 84.8 % in *FIU Hospitality Review* and 87.7% of the articles in *International Journal of Contemporary Hospitality Management*), that most of the researchers were unable to generalize their findings beyond the studied population, and that almost no articles tested for nonresponse bias.

De Vaus (1986) stated that probability sampling techniques are often either impractical or unnecessary. According to De Vaus, non-probability sampling techniques

are appropriate when sampling frames are unavailable or the population is not clustered in a way that would make cluster sampling rational. Some researchers are not interested in sampling proportionally and would rather explore people's thoughts and ideas.

The potential visitor survey in this study defined six Designated Marketing Areas (DMAs) as the potential market based on their geographical location relative to the study area. The sample was drawn randomly but disproportionately from those six DMAs with 500 survey addresses from each area. The TAP project simply tried to get a range of people in the sample, with less concern for whether each DMA was represented in its correct proportion. However, the sample was examined carefully for its representativeness of the population prior to any conclusions being drawn in the study.

Weighting is a common tool to adjust the proportion of certain groups in the sample in accordance with their proper proportion in the total population. Nevertheless, all adjustment techniques require assumptions. In practice, the assumptions behind the adjustment process are normally untestable. Sometimes, the adjustments might even produce problems (Groves, 2006). Therefore, weighting are processed only if the data are found not to represent the population. The weight are calculated by the percentage of respondents in each area divided by the percentage of households in each area (Lohr, 1999), as utilized by Latkova (2008) in her study of factors predicting residents' support for tourism development in Emmet, Saginaw, and Tuscola counties in Michigan.

Data Analysis

Data analyses were based on the two study approaches (*a priori* and *post hoc* approaches) and analysis methods were based on major frameworks in two steps:

identification of bases for segmenting the market and development of profiles of resulting segments.

A Priori Approach

Step 1:

A series of chi-square analyses were performed to identify differences in activity preferences between visitors and non-visitors in the potential survey. For the transient and overnight surveys, chi-square analyses were performed to compare differences in activity preferences between those who definitely will revisit and those who will not revisit the study area.

Step 2:

Logistic regression has been one of the most extensively used statistical methods in social sciences research (Hamilton, 1992), and it is the appropriate technique for this research to predict the probability of activities participation based on a variety of factors, since the research questions yield dichotomous responses of either "yes" or "no."

A series of logistic regression models were constructed after choosing differentiable activity between the two groups from the previous step. Activities that were found to be significantly more popular among visitors (repeat travelers) than among non-visitors (non-repeat travelers) from the first step analyses were included in each model as the dependent variables in order to examine their relationship with demographic characteristics and other attributes. Activities found significantly less popular in the first step were not considered when examining the relationship with other attributes in the next step.

In the logistic regression models, criteria for variable selection involve several steps as follows: (a) Start with a univariable analysis of each variable; (b) Any variable in the univariable test with a p-value lower than 0.25 is a candidate for the multivariable model along with all variables known for research importance; and (c) Verify model fit: (i) Examine the Wald statistic for each variable; (ii) Compare each estimated coefficient with the coefficient from the model including only that variable. The final model will contain all of the important variables (p-value < 0.05) and exclude those that are clinically and statistically unimportant (Hosmer & Lemeshow, 2000).

Also, in the logistic regression model, classical methods for variable selection include forward selection, backward elimination, and stepwise regression (Chen & Dey, 2003). In this study, a backward stepwise technique was adopted in light of Peng, So, and Stage's (2002) and Connor's (2002) suggestion that the stepwise logistic regression technique is a powerful exploratory tool for the identification of plausible models. In the first step, the variables were entered into the model together and were tested by removing them one by one. Model building stops when no more variables meet the removal criteria or when the current model is the same as a previous model (SPSS, 2006). The backward method is a preferable model to the forward method because the suppressor effect occurs when a predictor has a significant effect but only when another variable is held constant (Field, 2005).

Exploratory factor analysis was performed for certain attributes (such as travel information searching sources) in order to examine whether underlying dimensions exist among the items and to decrease the number of independent variables. The principal component factor procedure with varimax rotation has been widely practiced in the

literature (Andriotis, Agiomirgianakis, & Mihiotis, 2008; Cha, et al., 1995; Kibicho, 2006; Sangpikul, 2008)and was employed for this task.

Post Hoc Approach

Step 1:

Cluster analysis groups objects (for example, respondents, products) so each object shares some homogeneity within the cluster with respect to some predetermined criterion and higher heterogeneity between clusters (Hair, et al., 1998). Cluster analysis has often been used as a data-driven market segmentation approach in many disciplines, including tourism studies (Andriotis, et al., 2008; Inbakaran & Jackson, 2005, 2006) and market research (Dibb & Stern, 1995; Everitt, Landau, & Leese, 2001). However, Aldenderfer and Blashfield (1984) noted four cautions about cluster analysis: (a) Most cluster analysis methods are relatively simple with important mathematical properties that do not sustain complicated data structure; (b) Not all the data are equally useful to building a classification. It is necessary to consider which type of data can be useful. (c) Different methods may produce different clusters from the same data set; and (d) Cluster analysis is an exploratory process, not a model-based procedure; therefore, the strategy of this method is structure-seeking and the process is more like structure-imposing.

One of the biggest disadvantages related to cluster analysis is the decision as to the number of clusters (Thorndike, 1953), which is arbitrary and subject to change when different datasets are analyzed. Also, given the nature of outcome variables being a binary factor, latent class analysis (LCA) was employed using Mplus in this step. As Bassi stated (2007), LCA can be regarded as a probabilistic variant of k-means clustering. But unlike cluster analysis (CA), LCA is a model-based clustering technique. Because of

this, statistical indices such as Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC), and sample-size adjusted BIC were employed to help evaluate model fit and decide how many clusters might be retained.

Step 2:

The validity of each segment was tested statistically using the t-test, ANOVA or chi-square tests in order to examine how different activity clusters might consist of people with different social-demographic backgrounds or with different trip characteristics.

Analysis of variance (ANOVA) and t-tests were used to test for significant differences between means in groups; t-tests were used to test two groups and ANOVA to examine more than two groups. Chi-square was used to compare the counts of categorical responses between two (or more) independent groups.

CHAPTER 4 RESULTS

This chapter, the results of data analysis, includes: (a) Examination of the representativeness of the potential visitor sample; (b) Details regarding nonresponse; (c) A description of the sample focusing on socio-demographics and other variables related to the study questions and hypotheses; (d) *A priori* individual activity analyses using chi-square to examine differences between groups with respect to activity preference in the three samples (H1.1.1), and logistic regression to predict activity participation with respect to different sets of variables (H1.2 to H.1.9); and (e) *Post hoc* bundle activities analyses using latent class analysis to identify the segments in three samples (H2.1) and profile the segments with respect to a series of factors (for example, age, income) (H2.2-2.7).

Examination of the Representativeness of the Potential Visitor Sample

In the potential visitor survey, the sample was drawn randomly but not with equal proportions from the six DMA areas. The data were examined for representativeness of the population in three ways:

First, the activities in the study were related to rural tourism destinations. The activities reported by the Travel Industry Association of America (TIA) were a useful resource to compare with the data from the potential visitor survey. The activities identified as popular among potential visitors in this study were consistent with those activities listed in the TIA 2001 Rural Tourism Travel Poll (Table 4-1). These activities are: dining, visiting historical sites, shopping, and festivals and events.

The Michigan Travel Market Survey, also called the Household Survey (HHS), was a second resource for comparison. The HHS was conducted from January 1996 to

June 2003 and it collected over 37,000 completed surveys. These were daily phone surveys of randomly selected households in Michigan, Illinois, Indiana, Ohio, Wisconsin, and the province of Ontario (Canada). Table 4-2 is based on over 2,300 surveys of respondents who had taken a trip to Michigan within the past 12 months; these data were collected between January 2001 and June 2003. Based on the visitor profile in the primary destination region of the Michigan Travel Market Survey, the average household size and number of days of trip planning showed similar results to the potential visitors in the potential visitor survey.

Table 4-1: Activities that Rural Tourists Like to Participate in

Activity	Rural Tourism Travel Poll (%)	Potential Visitors to the WCMI(%)
Dining	70	73.6
Shopping	58	55.4
Visit historical sites	41	56.4
Attend festival/fair	29	47.0
Camping	21	37.2
Visit winery/visit farm/orchard	15	31.3
Gambling/gaming	12	29.1

Source: TIA, 2001

Table 4-2: Comparison of Potential Visitor Sample and Michigan Travel Market Sample

Trip Characteristics	Potential Visitor Survey	Michigan Travel Market Survey
Average household size, Mean	2.6	2.9
Primary Destination in the Region/State, %		
Michigan	70	57
Illinois	8	8
Indiana	6	10
Ohio	4	10
Other	12	15
Trip planning period, %		
0-30 days	61	68
31-60 days	12	11
Over 60 days	27	21

Source: Bristor, Herbowicz, Holecek, and Yang (2005)

The third data resource used to examine the representativeness of the potential visitor sample was the transient and overnight visitor surveys. The sample distributions from both surveys showed that the visitors mainly came from Michigan. The potential visitor survey returns were similar to the sample distributions of overnight and transient visitors (Table 4-3).

Table 4-3: Comparison of Place of Residence of Potential Visitors, Overnight Visitors, and Transient Visitors

Residence	Transient Visitor Survey (%)	Overnight Visitor Survey (%)	Potential Visitor Survey (%)
MI	79.1	72.6	86.7
IN	3.2	6.1	7.0
OH	1.1	5.7	A
IL	5.1	4.9	6.3
WI	0.9	1.5	A
Other State	10.6	9.2	A

A: Not in sample area

Based on these results, the potential visitor survey seemed not to capture the Chicago market, as compared to other areas; however, the sampling reflected similar profiles of overnight visitors, transient visitors, and households. Weighting based on the population proportion in each area and ignoring where tourists come from might create more bias. Also, the study did not intend to investigate the different travel and socio-demographic characteristics in each area, and this is an exploratory study aiming for general popular activity preferences in the potential market. Therefore, the study did not consider any weighting in the data analyses.

Nonrespondent Bias Study

When comparing the first and second waves of overnight visitor respondents, one test for nonresponse bias, the activity and socio-demographic items, a total of 52 variables, did not show any significant differences between the two waves of survey

groups (see Table 4-4). In the potential visitor survey, 4 out of 50 (8%) variables showed significant differences between the two waves of survey groups (see Table 4-5). Therefore, even though the survey response rates were low in the study, nonresponse bias was not found using statistical tests comparing the first and second wave respondents.

Table 4-4: Comparison of First and Second Wave Respondents in the Overnight Visitor Survey

Overnight Visitor Survey	First Wave (n=211)	Second Wave (n=57)	Test Statistics
Activities in which you participated on your most recent visit to the WCMI, %			
Antique shopping	16.1	10.5	χ^2=1.103, df=1
Bicycling	8.1	10.5	χ^2=0.349, df=1
Boating	21.8	24.6	χ^2=0.364, df=1
Camping	22.1	12.3	χ^2=2.546, df=1
Canoeing/kayaking/tubing	11.4	8.8	χ^2=0.315, df=1
Casino gaming	21.8	14.0	χ^2=1.682, df=1
Concert	4.3	5.3	χ^2=0.104, df=1
Cross-country skiing	2.4	1.8	χ^2=0.078, df=1
Dining out (excluding fast food)	62.6	64.9	χ^2=0.107, df=1
Downhill skiing/snowboarding	0.9	0.0	χ^2=0.544, df=1
Farm market/u-pick/winery	16.1	15.8	χ^2=0.004, df=1
Festival/event	12.8	14.0	χ^2=0.061, df=1
Fishing, charter	5.7	5.3	χ^2=0.015, df=1
Fishing, fly	8.5	1.8	χ^2=3.129, df=1
Fishing, ice	0.9	0.0	χ^2=0.544, df=1
Fishing, other	20.9	22.8	χ^2=0.102, df=1
Golfing	12.3	15.8	χ^2=0.475, df=1
Hiking/walking	39.8	33.3	χ^2=0.796, df=1
Historic site	17.1	19.3	χ^2=0.155, df=1
Horseback riding	1.4	3.5	χ^2=1.068, df=1
Hunting, deer	7.1	5.3	χ^2=0.244, df=1
Hunting, small game	5.2	3.5	χ^2=0.282, df=1
Hunting, turkey	0.9	1.8	χ^2=0.264, df=1
Jet skiing	3.8	7.0	χ^2=1.092, df=1
Live theatre	0.0	1.8	χ^2=3.716, df=1
Movie (at a cinema)	8.1	1.8	χ^2=2.845, df=1

Table 4-4 (Cont'd)

Overnight Visitor Survey	First Wave (n=211)	Second Wave (n=57)	Test Statistics
Museum	6.3	7.0	χ^2=0.044, df=1
Mushroom collecting	4.3	3.5	χ^2=0.065, df=1
Nature center	7.1	7.0	χ^2=0.001, df=1
Off-roading	9.0	8.8	χ^2=0.003, df=1
Photography	20.9	26.3	χ^2=0.780, df=1
Sailing	1.9	1.8	χ^2=0.005, df=1
Scuba diving/snorkeling	0.0	1.8	χ^2=3.716, df=1
Shopping	38.4	43.9	χ^2=0.562, df=1
Sightseeing (general)	41.7	42.1	χ^2=0.003, df=1
Snowmobiling	3.3	3.5	χ^2=0.005, df=1
Sports tournament	2.4	0.0	χ^2=1.376, df=1
Swimming (lake, pond, river)	27.5	29.8	χ^2=0.122, df=1
Swimming (pool)	27.5	29.8	χ^2=0.122, df=1
Theme/amusement park	2.8	5.3	χ^2=0.810, df=1
Visiting a federal/state park	24.6	24.6	χ^2=0.000, df=1
Visiting friends/relatives	23.7	22.8	χ^2=0.020, df=1
Wildlife viewing/bird watching	20.9	19.3	χ^2=0.067, df=1
Wind surfing	0.5	0.0	χ^2=0.271, df=1
Socio-demographic characteristics			
Gender (female), %	37.9	34.0	χ^2=0.284, df=1
Age, *Mean (SD)*	50.9 (12.3)	51.1 (10.9)	F=0.155, df=250
Living with children under 18 years old, %	37.0	33.3	χ^2=0.257, df=1
Income, %			χ^2=4.157, df=2
Below $42,500	24.4	13.2	
Between $42,500 and $75,000	37.8	50.9	
Above $75,000	37.8	35.8	
Employment, %			χ^2=2.326, df=2
Employed	73.4	74.1	
Unemployed	3.9	0.0	
Retired	22.7	25.9	
Education, %			χ^2=2.243, df=2
High school, some high school	18.0	16.1	
Some college, college graduate/professional	59.5	69.6	
Post-graduate	22.4	14.3	

*$p<.05$, **$p<.01$

Table 4-5: Comparison of First and Second Wave Respondents in the Potential Visitor Survey

Potential Visitor Survey	First Wave (n=249)	Second Wave (n=53)	Test Statistics
Activities you and your immediate travel party most often participated in while on pleasure trips, %			
Antique shopping	17.5	24.2	χ^2=1.783, df=1
Bicycling	19.9	20.9	χ^2=0.037, df=1
Boating	27.5	19.8	χ^2=2.006, df=1
Camping	38.9	31.9	χ^2=1.338, df=1
Canoeing/kayaking/tubing	20.9	16.5	χ^2=0.772, df=1
Casino gaming	29.4	29.7	χ^2=0.003, df=1
Concert	21.8	20.9	χ^2=0.032, df=1
Cross-country skiing	6.2	12.1	χ^2=3.053, df=1
Dining out (excluding fast food)	72.0	76.9	χ^2=0.779, df=1
Downhill skiing/snowboarding	9.5	9.9	χ^2=0 .012, df=1
Farm market/u-pick/winery	27.5	39.6	χ^2=4.322*, df=1
Festival/event	45.5	49.5	χ^2=0.399, df=1
Fishing, charter	11.4	9.9	χ^2=0.144, df=1
Fishing, fly	3.8	7.7	χ^2=2.050, df=1
Fishing, ice	6.6	6.6	χ^2=0 .000, df=1
Fishing, other	23.7	20.9	χ^2=0 .286, df=1
Golfing	26.1	25.3	χ^2=0 .021, df=1
Hiking/walking	46.0	48.4	χ^2=0 .145, df=1
Historic site	51.2	67.0	χ^2=6.480*, df=1
Horseback riding	8.1	9.9	χ^2=0 .272, df=1
Hunting, deer	15.6	14.3	χ^2=0.090, df=1
Hunting, small game	5.2	7.7	χ^2=0 .697, df=1
Hunting, turkey	3.6	2.0	χ^2=0 .228, df=1
Jet skiing	3.8	3.3	χ^2=0 .044, df=1
Lighthouse touring	16.9	10.6	χ^2=3.856*, df=1
Live theatre	17.1	26.4	χ^2=3.463, df=1
Movie (at a cinema)	23.7	27.5	χ^2=0 .486, df=1
Museum	36.5	48.4	χ^2=3.723, df=1
Mushroom collecting	5.7	8.8	χ^2=0.991, df=1
Nature center	32.2	29.7	χ^2=0.193, df=1
Off-roading	5.7	17.6	χ^2=10.695*, df=1
Photography	37.0	37.4	χ^2=0.004, df=1

Table 4-5 (Cont'd)

Potential Visitor Survey	First Wave (n=249)	Second Wave (n=53)	Test Statistics
Sailing	2.8	4.4	χ^2=0.478, df=1
Scuba diving/snorkeling	4.3	8.8	χ^2=2.451, df=1
Shopping	53.6	59.3	χ^2=0.861, df=1
Sightseeing (general)	72.0	76.9	χ^2=0.779, df=1
Sports tournament	10.9	11.0	χ^2=0.001, df=1
Snowmobiling	3.3	3.3	χ^2=0.000, df=1
Swimming (lake, pond, river)	36.0	37.4	χ^2=0.050, df=1
Swimming (pool)	32.7	31.9	χ^2=0.020, df=1
Theme/amusement park	23.7	26.4	χ^2=0.246, df=1
Visiting a federal/state park	59.7	62.2	χ^2=0.166, df=1
Visiting friends/relatives	49.8	45.1	χ^2=0.564, df=1
Wildlife viewing/bird watching	21.8	31.9	χ^2=3.452, df=1
Wind surfing	0.5	2.2	χ^2=1.921, df=1
Socio-demographic characteristics			
Age, *Mean (SD)*	52.9(14.3)	54.1(13.0)	F=2.567, df=288
Gender (female), %	43.3	44.9	χ^2=0.071, df=1
Living with children under 18 years old, %	32.1	28.3	χ^2=0.297, df=1
Income, %			χ^2=5.393, df=2
Below $43,000	30.0	13.3	
Between $43,000 and $75,000	35.7	46.7	
Above $75,000	34.3	40.0	
Education, %			χ^2=0.170, df=2
High school, some high school	16.2	14.6	
Some college, college graduate/professional	63.2	62.5	
Post-graduate	20.6	22.9	

*$p<.05$, **$p<.01$

Description of the Sample

Transient Visitors

The transient visitor survey was designed to catch those who stopped by the WCMI on their trip. In this case, the WCMI might not be their primary destination. The investigation of differences within the transient visitor group focused on those whose primary destination was the WCMI (group 1) and those whose primary destination was

not the WCMI for their current trip (group 2). Therefore, respondents were grouped into these two groups. Less than half (41.6%) of the respondents were female while 58.4% of the respondents were male (Table 4-6). Only 6.5% of the respondents answered that they were unemployed with the majority of the respondents employed (77.5%) and the remainder retired. A total of 46.3% of the respondents indicated their household income ranged between $42,500 and $75,000. Around 30% of the respondents answered that they lived with children under 18 years old. On average, respondents were 45 years old. Differences between the two groups of interest within the transient visitor sample were not statistically significant in terms of demographic characteristics.

Table 4-6: Transient Visitors' Socio-demographic Profile

Socio-demographic Characteristics	Primary destination-WCMI (n = 351)	Primary destination-not WCMI (n = 181)	Total (n = 532)	Test Statistics
Age, *Mean (SD)*	44.1(13.2)	45.5(14.2)	44.6(13.5)	t = -1.147, df = 512
Gender (female) , %	42.9	38.9	41.6	χ^2 = 0.801, df = 1
Living with children under 18 years old , %	31.6	27.6	30.3	χ^2 = 0.905, df = 1
Income, %				χ^2 = 1.363, df = 2
Below $42,500	18.4	22.8	20.0	
Between $42,500 and $75,000	47.6	43.8	46.3	
Above $75,000	34.0	33.3	33.8	
Employment, %				χ^2 = 3.142, df = 2
Employed	78.7	75.2	77.5	
Unemployed	5.1	9.3	6.5	
Retired	16.2	15.5	16.0	

*p<.05, **p<.01

Table 4-7 presents the factors that are related to the current trip for transient visitors. In general, respondents planned this trip 82 days beforehand and planned to spend four nights on this trip. The most popular accommodation respondents chose was campground (RV park) (26.9%). The difference between the two groups was statistically

significant in terms of choosing a hotel, motel or resort, bed and breakfast, or second or seasonal home. Those whose primary destination was the WCMI were more likely to own a second or seasonal home and less likely to choose a hotel, motel or resort, or bed and breakfast. There was no statistically significant difference between the groups in terms of staying with friends and relatives, in a rented cabin, cottage or condominium, or at a campground or RV park.

Table 4-7: Transient Visitors' Trip-related Characteristics

Trip-related Characteristics	Primary destination- WCMI (n = 351)	Primary destination- not WCMI (n = 181)	Total (n = 532)	Test Statistics
Days in advance to plan this trip, *Mean (SD)*	78.0(135.9)	88.6(180.4)	81.8(153.3)	t = -0.712, df = 457
Nights planned to be away from home, *Mean (SD)*	4.2(10.0)	4.7(7.0)	4.4(9.1)	t = -0.600, df = 504
Types of lodging used in the WCMI, %				
Friend's or relative's home	20.8	25.4	22.4	χ^2 = 1.466, df = 1
Hotel, motel or resort	8.3	28.7	15.2	χ^2 = 38.757**, df = 1
Bed & breakfast	0.3	2.2	0.9	χ^2 = 4.753*, df = 1
Rented cabin, cottage or condominium	5.4	5.0	5.3	χ^2 = 0.047, df = 1
Owned second or seasonal home	17.9	3.3	13.0	χ^2 = 22.656**, df = 1
Campground or RV park	27.4	26.0	26.9	χ^2 = 0.116, df = 1

*p<.05, **p<.01

The most visited attractions among transient visitors were the Ludington State Park/beaches (visited by 59.4% of the sample), Silver Lake Sand Dunes (48.8%), and Manistee River (44.0%). The attractions of which respondents were least aware included the Hart-Montague (rail) Trail (35.2% not aware), Irons/Lake County snowmobile trails (34.4%) and Newaygo State Park (31.2%). The two groups showed a significant difference in terms of the Ludington State Park, a significant WCMI attraction (Table 4-8).

Table 4-8: Transient Visitors' Knowledge of Attractions

WCMI Attractions	Primary destination-WCMI (%)	Primary destination-not WCMI (%)	Total (%)	Test Statistics
Little River Casino	(n = 309)	(n = 156)	(n = 465)	χ^2 = 2.256, df = 2
Have Visited	36.6	40.4	37.8	
Aware, but Not Visited	46.3	39.1	43.9	
Not Aware of This Place	17.2	20.5	18.3	
Manistee River	(n = 309)	(n = 148)	(n = 457)	χ^2 = 4.672, df = 2
Have Visited	47.2	37.2	44.0	
Aware, but Not Visited	34.0	43.2	37.0	
Not Aware of This Place	18.8	19.6	19.0	
Ludington Car Ferry	(n = 296)	(n = 152)	(n = 448)	χ^2 = 2.532, df = 2
Have Visited	32.8	31.6	32.4	
Aware, but Not Visited	56.1	52.0	54.7	
Not Aware of This Place	11.1	16.4	12.9	
Ludington State Park/beaches	(n = 307)	(n = 151)	(n = 458)	χ^2 = 7.577*, df = 2
Have Visited	62.5	53.0	59.4	
Aware, but Not Visited	29.0	30.5	29.5	
Not Aware of This Place	8.5	16.6	11.1	
Pere Marquette River	(n = 295)	(n = 147)	(n = 442)	χ^2 = 2.660, df = 2
Have Visited	38.3	32.7	36.4	
Aware, but Not Visited	40.3	39.5	40.0	
Not Aware of This Place	21.4	27.9	23.5	
Irons/Lake County snowmobile trails	(n = 283)	(n = 141)	(n = 424)	χ^2 = 0.334, df = 2
Have Visited	22.3	19.9	21.5	
Aware, but Not Visited	43.8	44.7	44.1	
Not Aware of This Place	33.9	35.5	34.4	
Muskegon River	(n = 298)	(n = 146)	(n = 444)	χ^2 = 2.370, df = 2
Have Visited	31.2	35.6	32.7	
Aware, but Not Visited	44.0	36.3	41.4	
Not Aware of This Place	24.8	28.1	25.9	
Newaygo State Park	(n = 293)	(n = 140)	(n = 433)	χ^2 = 1.049, df = 2
Have Visited	18.8	22.1	19.9	
Aware, but Not Visited	50.5	45.7	49.0	
Not Aware of This Place	30.7	32.1	31.2	
Sand Dunes at Silver Lake	(n = 302)	(n = 145)	(n = 447)	χ^2 = 4.040, df = 2
Have Visited	50.0	46.2	48.8	
Aware, but Not Visited	40.1	37.2	39.1	
Not Aware of This Place	9.9	16.6	12.1	
Hart-Montague (rail) Trail	(n = 292)	(n = 143)	(n = 435)	χ^2 = 0.013, df = 2
Have Visited	22.6	23.1	22.8	
Aware, but Not Visited	42.1	42.0	42.1	
Not Aware of This Place	35.3	35.0	35.2	

*$p<.05$, **$p<.01$

Overnight Visitors

Overnight visitors were sampled from those who had stayed overnight in the WCMI. The investigation of differences targeted length of stay. Therefore, respondents were classified into two groups: those who spent two nights or less in their most recent trip to the WCMI (group 1) and those who spent at least three nights at the destination (group 2). In the potential visitor questionnaire, a weekend getaway was defined as a trip of two nights or less, and vacation was defined as at least a three-night trip. The cut-off point for separating those two groups among overnight visitors was set at two nights to explore the differences between getaway and vacation visitors. A profile of overnight survey respondents as well as analysis of group demographic differences is shown in Table 4-9. The mean age of the respondents was 51 years. Most of the respondents were male (63.5% male and 36.5% female), and possessed at least some college education (82.2%). Even though the majority of the respondents earned incomes of more than $43,000, there were more respondents who earned incomes above $75,000 in group 2 than in group 1. Those who spent more nights in the WCMI tended to live without children under 18 years old (65.6%), while 40.9% of those who spent fewer nights lived with children under 18 years old. However, among these socio-demographic characteristics, statistically significant difference between the two groups was only found in terms of respondents' age.

Table 4-9: Overnight Visitors' Socio-demographic Profile

Socio-demographic Characteristics	<=2 nights visitors (n = 132)	> 2 nights visitors (n = 122)	Total (n = 254)	Test Statistics
Age, *Mean (SD)*	50.3(11.7)	51.9(12.3)	50.9(12.0)	t = -1.076*, df = 246
Gender (female), %	39.2	33.6	36.5	χ^2 = 0.859, df = 1
Living with children under 18 years old, %	40.9	34.4	37.8	χ^2 = 1.133, df = 1
Income, %				χ^2 = 2.359, df = 2
Below $43,000	22.5	20.2	21.4	
Between $43,000 and $75,000	43.3	36.0	39.7	
Above $75,000	34.2	43.8	38.9	
Employment, %				χ^2 = 1.120, df = 2
Employed	76.6	70.7	73.7	
Unemployed	3.1	3.4	3.3	
Retired	20.3	25.9	23.0	
Education, %				χ^2 = 5.760, df = 2
High school, some high school	13.2	22.9	17.8	
Some college, college graduate/professional	68.2	54.2	61.6	
Post-graduate	18.6	22.9	20.6	

*p<.05, **p<.01

In general, overnight travelers relied most on information from friends or relatives to plan their most recent trip to the WCMI (37.8%) (Table 4-10). The Internet/web sites were also important sources of information for travelers (36.2%). Most respondents indicated that they stayed in a hotel, motel or resort (57.1%), and planned the trip about 86 days in advance. Based on a five point Likert scale, respondents were very likely to revisit the WCMI within the next three years (mean = 1.4) and the overall experience was just about what they expected (mean = 2.5).

Table 4-10: Overnight Visitors' Trip-related Characteristics

Trip-related Characteristics	<=2 nights visitors (n = 132)	> 2 nights visitors (n = 122)	Total (n = 254)	Test Statistics
Days in advance to plan this trip, *Mean (SD)*	53.3(78.0)	123.5(126.9)	86.3(109.2)	t = -5.063*, df = 236
Travel party size, *Mean (SD)*	3.0(1.9)	4.1(2.9)	3.5(2.5)	t = -3.780*, df = 251
Overall experience in the WCMI [A], *Mean (SD)*	2.6(0.8)	2.4(0.9)	2.5(0.9)	t = 1.775, df = 240
Likely to visit the WCMI within next three years [B], *Mean (SD)*	1.4(0.8)	1.4(0.9)	1.4(0.9)	t = -0.243, df = 248
Sources of information used in planning this visit, %				
AAA	17.4	11.5	14.6	χ^2 = 1.803, df = 1
Billboards/outdoor advertising	4.5	1.6	3.1	χ^2 = 1.755, df = 1
Chamber of commerce	10.6	19.7	15.0	χ^2 = 4.096*, df = 1
Convention and visitors bureau	8.3	13.9	11.0	χ^2 = 2.028, df = 1
Friends or relatives	36.4	39.3	37.8	χ^2 = 0.240, df = 1
Highway welcome centers	3.8	4.1	3.9	χ^2 = 0.016, df = 1
Internet/web site(s)	37.1	35.2	36.2	χ^2 = 0.097, df = 1
Magazine	8.3	5.7	7.1	χ^2 = 0.649, df = 1
Newspaper	0.8	2.5	1.6	χ^2 = 1.184, df = 1
Radio	0.8	0.8	0.8	χ^2 = 0.003, df = 1
State travel office/Travel Michigan	5.3	11.5	8.3	χ^2 = 3.185, df = 1
Television	1.5	0.8	1.2	χ^2 = 0.263, df = 1
Travel guide(s)/brochure(s)	12.9	23.8	18.1	χ^2 = 5.072*, df = 1
Word of mouth	22.7	27.9	25.2	χ^2 = 0.889, df = 1
Types of lodging used in the WCMI, %				
Friend's or relative's home	10.6	8.2	9.4	χ^2 = 0.430, df = 1
Hotel, motel or resort	66.7	46.7	57.1	χ^2 = 10.296**, df = 1
Bed & breakfast	6.8	4.9	5.9	χ^2 = 0.412, df = 1
Rented cabin, cottage or condominium	3.0	28.7	15.4	χ^2 = 32.116**, df = 1
Owned second or seasonal home	11.4	13.1	12.2	χ^2 = 0.181, df = 1
Campground or RV park	12.1	13.9	12.1	χ^2 = 0.184, df = 1

*p<.05, **p<.01

A: 1: Much better than I expected, 2: Somewhat better than I expected, 3: About what I expected, 4: Somewhat worse than I expected, 5:Much worse than I expected

B: 1: Definitely will visit, 2: Very likely, 3: Somewhat likely, 4: Somewhat unlikely, 5: Very unlikely, 6: Will not visit the area again

Important differences emerged in the two groups' advance planning and party size. Group 1 respondents (two nights or less) were more likely to plan the trip less than two months in advance and the travel party size was three on average, while group 2 respondents (at least three nights) tended to plan the trip at least four months ahead and their party size was about four people. Group 2 respondents used sources such as the chamber of commerce and travel guide brochures to find travel information significantly more often than group 1 respondents. In terms of accommodation, group 1 respondents were more likely to stay in a hotel, motel or resort while group 2 respondents were more likely to stay in a rented cabin, cottage or condominium.

Regarding knowledge of WCMI attractions, the Ludington State Park/beaches (74.5%), Silver Lake Sand Dunes (46.1%) and Pere Marquette River (44.2%) were ranked as the top three attractions visited (Table 4-11). Respondents were aware of but had not visited the Ludington Car Ferry (54.8%), Manistee River (42.2%) and Newaygo State Park (40.6%). The Irons/Lake County snowmobile trails, Hart-Montague (rail) Trail, and Newaygo State Park were the least well-known attractions. When comparing the awareness of these attractions between groups 1 and 2, no statistically significant differences were found.

Table 4-11: Overnight Visitors' Knowledge of Attractions

WCMI Attractions	<=2 nights visitors (%)	> 2 nights visitors (%)	Total (%)	Test Statistics
Little River Casino	(n = 120)	(n = 109)	(n = 229)	χ^2 = 0 .044, df = 2
Have Visited	35.8	35.8	35.8	
Aware, but Not Visited	38.4	39.4	38.9	
Not Aware of This Place	25.8	24.8	25.3	
Manistee River	(n = 117)	(n = 106)	(n = 223)	χ^2 = 4.672, df = 2
Have Visited	41.0	34.9	38.1	
Aware, but Not Visited	39.3	45.3	42.2	
Not Aware of This Place	19.7	19.8	19.7	
Ludington Car Ferry	(n = 119)	(n = 111)	(n = 230)	χ^2 = 0 .371, df = 2
Have Visited	40.3	36.9	38.7	
Aware, but Not Visited	53.8	55.9	54.8	
Not Aware of This Place	5.9	7.2	6.5	
Ludington State Park/beaches	(n = 119)	(n = 109)	(n = 228)	χ^2 = 1.376, df = 2
Have Visited	73.9	75.2	74.5	
Aware, but Not Visited	20.2	22.0	21.1	
Not Aware of This Place	5.9	2.8	4.4	
Pere Marquette River	(n = 114)	(n = 110)	(n = 224)	χ^2 = 0.988, df = 2
Have Visited	47.4	41.0	44.2	
Aware, but Not Visited	29.8	34.5	32.1	
Not Aware of This Place	22.8	24.5	23.7	
Irons/Lake County snowmobile trails	(n = 111)	(n = 100)	(n = 211)	χ^2 = 0.334, df = 2
Have Visited	18.9	14.0	16.6	
Aware, but Not Visited	38.7	36.0	37.4	
Not Aware of This Place	42.3	50.0	46.0	
Muskegon River	(n = 112)	(n = 104)	(n = 216)	χ^2 = 0.214, df = 2
Have Visited	33.0	30.8	31.9	
Aware, but Not Visited	38.4	41.3	39.9	
Not Aware of This Place	28.6	27.9	28.2	
Newaygo State Park	(n = 112)	(n = 104)	(n = 214)	χ^2 = 4.581, df = 2
Have Visited	23.2	32.4	27.6	
Aware, but Not Visited	47.3	33.3	40.6	
Not Aware of This Place	29.5	34.3	31.8	
Sand Dunes at Silver Lake	(n = 117)	(n = 104)	(n = 221)	χ^2 = 2.802, df = 2
Have Visited	50.5	41.3	46.1	
Aware, but Not Visited	33.3	44.3	38.5	
Not Aware of This Place	16.2	14.4	15.4	
Hart-Montague (rail) Trail	(n = 107)	(n = 99)	(n = 206)	χ^2 = 3.729, df = 2
Have Visited	14.0	23.2	18.4	
Aware, but Not Visited	41.1	31.3	36.4	
	44.9	45.5	45.2	

*p<.05, **p<.01

An independent samples *t*-test was conducted for WCMI destination attributes to determine whether significant differences existed between group 1 (two nights or less) and group 2 (at least three nights). Based on a ten point Likert scale (where ten indicates complete agreement), the top rated attributes for respondents were "Offers much scenic appeal" (9.1), "Has great outdoor recreation opportunities" (9.1), "Is a great summer destination" (9.0), "Is a safe place to visit" (8.8), "Is a great family vacation destination" (8.7), and "Is a great fall destination" (8.7). Table 4-12 shows that significant differences were found in perceptions of the attributes "Is a great family vacation destination," "Is a good place to meet friendly people," and "Is an exciting place to visit" with group 2 respondents indicating significantly higher levels of agreement with these attributes than group 1 respondents. Also group 1 respondents agreed more that the WCMI "Is close enough for a weekend getaway."

Table 4-12: Overnight Visitors' Perceptions of Destination Attributes

WCMI Destination Attributes [A]	<=2 nights visitors (n = 132) Mean (SD)	> 2 nights visitors (n = 122) Mean (SD)	Total (n = 254) Mean (SD)	Test Statistics
Has good roads	7.7(2.1)	7.8(2.1)	7.7(2.1)	t = -0.177, df = 229
Has great outdoor recreation opportunities	9.1(1.5)	9.2(1.4)	9.1(1.4)	t = -0.790, df = 225
Has high quality lodging	7.3(2.2)	7.6(1.8)	7.5(2.0)	t = -0.967, df = 228
Has interesting historical sites	7.3(2.2)	7.6(1.8)	7.4(2.0)	t = -0.974, df = 208
Is a good place to meet friendly people	7.7(2.0)	8.4(1.7)	8.0(1.9)	t = -2.598*, df = 223
Is a great family vacation destination	8.3(1.9)	9.0(1.3)	8.7(1.7)	t = -2.987**, df = 228
Is a great place to start a business	4.9(2.4)	5.2(2.2)	5.1(2.3)	t = -0.831, df = 177
Is a great spring destination	7.0(2.4)	7.2(2.3)	7.1(2.3)	t = -0.774, df = 212
Is a great summer destination	8.8(1.7)	9.2(1.3)	9.0(1.5)	t = -1.554, df = 228
Is a great fall destination	8.6(1.8)	8.8(1.5)	8.7(1.7)	t = -0.793, df = 225
Is a great winter destination	7.2(2.6)	7.3(2.6)	7.2(2.6)	t = -0.173, df = 200
Is a safe place to visit	8.6(1.6)	8.9(1.3)	8.8(1.5)	t = -1.509, df = 230
Is an exciting place to visit	7.0(2.3)	7.7(1.9)	7.3(2.2)	t = -2.541*, df = 218
Is close enough for a weekend getaway	8.2(2.5)	7.0(3.4)	7.7(3.0)	t = 3.039,** df = 226
Is easily accessible	8.3(2.2)	8.1(2.3)	8.2(2.2)	t = 0.671, df = 223
Offers exceptional value for the money	7.4(1.9)	7.5(1.9)	7.5(1.9)	t = -0.340, df = 216
Offers exciting nightlife and entertainment	5.1(2.4)	5.3(2.3)	5.2(2.4)	t = -0.533, df = 192
Offers great dining opportunities	6.4(2.3)	6.7(2.2)	6.5(2.3)	t = -0.755, df = 213
Offers great shopping opportunities	6.2(2.2)	6.6(2.0)	6.4(2.1)	t = -1.240, df = 206
Offers much scenic appeal	9.1(1.5)	9.2(1.3)	9.1(1.4)	t = -0.984, df = 227

*p<.05, **p<.01

A: On a scale from 1 to 10, where 1 means "do not agree at all" and 10 means "agree completely"

An independent samples t-test was conducted for travel expenditures to determine whether significant differences existed between group 1 (two nights or less) and group 2 (at least three nights) (Table 4-13). Results show that spending on gas, groceries, lodging and meals is significantly different between the two groups. However, only grocery spending in group 2 significantly exceeded group 1; in the other three cases, group 1 spending exceeded that of group 2.

Table 4-13: Overnight Visitors' Travel Expenditures

Expenditure[A]	<=2 nights visitors (n = 132) Mean (SD)	> 2 nights visitors (n = 122) Mean (SD)	Total (n = 254) Mean (SD)	Test Statistics
Activities (equipment rentals, lessons, etc.),	3.8(11.9)	2.3(5.6)	3.0(9.4)	t = 1.255, df = 218
Attractions (tickets, entrance fees, etc.)	4.8(14.8)	1.9(6.1)	3.4(11.5)	t = 1.890, df = 218
Gas/fuel	11.1(11.5)	6.2(7.4)	8.7(10.0)	t = 3.839**, df = 218
Groceries	3.3(5.5)	5.1(4.3)	4.1(5.0)	t = -2.728**, df = 218
Lodging	31.1(34.3)	20.0(20.8)	25.5(29.0)	t = 2.864**, df = 219
Meals at restaurants/fast food	19.2(18.3)	8.4(10.4)	14.0(15.9)	t = 5.457**, df = 218
Shopping (clothes, souvenirs, etc.)	10.7(38.6)	5.0(7.6)	7.9(28.3)	t = 1.525, df = 218

*p<.05, **p<.01
A: Per person per day expenditures

Potential Visitors

Potential visitors were sampled from six potential market areas. In this case, the investigation of differences was focused on visitation to the WCMI. Therefore, respondents were clustered into two groups: those who have never visited the WCMI (non-visitors, group 1) and those who have visited the WCMI (visitors, group 2). Fifty-six percent of the respondents were male (Table 4-14). The mean age was 53 years. There was a significant difference between visitors and non-visitors in terms of age, with the average age of visitors being higher than that of non-visitors. Thirty-two percent of the respondents lived with children under 18 years old. Some college education (63.0%) was the dominant educational level of the respondents. Many respondents (37.6%) had an annual income ranging from $43,000 to $75,000. The percentages of visitors with post-graduate level education or an income above $43,000 were slightly higher than the percentages of non-visitors; however, there were no significant differences among these factors.

Table 4-14: Potential Visitors' Socio-demographic Profile

Socio-demographic Characteristics	Never Visited (n = 63)	Have Visited (n = 233)	Total (n = 296)	Test Statistics
Age, *Mean (SD)*	48.9(15.3)	54.0(13.6)	53.1(14.1)	t = -2.507*, df = 284
Gender (female), %	51.6	41.6	43.7	χ^2 = 2.009, df = 1
Living with children under 18 years old, %	36.5	30.5	31.5	χ^2 = 0.834, df = 1
Income, %				χ^2 = 2.198, df = 2
Below $43,000	33.9	24.5	26.6	
Between $43,000 and $75,000	35.6	38.2	37.6	
Above $75,000	30.5	37.3	35.8	
Education, %				χ^2 = 2.938, df = 2
High school, some high school	18.3	15.0	15.8	
Some college, college graduate/professional	68.3	61.5	63.0	
Post-graduate	13.3	23.5	21.2	

*p<.05, **p<.01

In Table 4-15, chi-square and t-test procedures reveal the similarities and differences in trip characteristics between visitors and non-visitors. It appears that for planning pleasure trips, use of travel sources such as billboards/outdoor advertising, magazine, and newspaper significantly differed between visitors and non-visitors while use of other sources such as AAA, chamber of commerce and so forth was similar between the two groups. Visitors more frequently used billboards/outdoor advertising, magazine and newspaper as sources to plan a pleasure trip than non-visitors. The advance planning time for pleasure trips did not differ significantly between the two groups.

Table 4-15: Potential Visitors' Trip-related Characteristics

Trip-related Characteristics	Never Visited (n = 63)	Have Visited (n = 233)	Total (n = 296)	Test Statistics
Days in advance to plan your pleasure trip, *Mean (SD)*	22.0(23.0)	25.1(36.8)	24.9(34.3)	t = -0.675, df = 261
Sources of information used in planning pleasure trip, %				
AAA	27.0	33.5	32.1	χ^2 = 0.959, df = 1
Billboards/outdoor advertising	3.2	12.9	10.8	χ^2 = 4.840*, df = 1
Chamber of commerce	14.3	20.6	19.3	χ^2 = 1.272, df = 1
Convention and visitors bureau	25.4	20.2	21.3	χ^2 = 0.808, df = 1
Friends or relatives	73.0	74.2	74.0	χ^2 = 0.039, df = 1
Highway tourist information centers	27.0	28.3	28.0	χ^2 = 0.044, df = 1
Highway welcome centers	22.2	30.9	29.1	χ^2 = 1.812, df = 1
Internet/web site(s)	60.3	67.4	65.9	χ^2 = 1.101, df = 1
Local visitor guides	28.6	34.3	33.1	χ^2 = 0.744, df = 1
Magazine	25.4	42.1	38.5	χ^2 = 5.815*, df = 1
Newspaper	19.0	36.9	33.1	χ^2 = 7.144**, df = 1
Radio	7.9	10.7	10.1	χ^2 = 0.425, df = 1
State travel office	9.5	12.0	11.5	χ^2 = 0.303, df = 1
Television	19.0	21.9	21.3	χ^2 = 0.239, df = 1
Travel guide(s)/brochure(s)	54.0	52.8	53.0	χ^2 = 0.028, df = 1
Word of mouth	66.7	67.0	66.9	χ^2 = 0.002, df = 1

*p<.05, **p<.01

As to travel motivations, of the twelve attributes, safety/security, interesting scenery, service quality, cost, a variety of attractions and/or activities, and family-friendly place and/or opportunities were rated as important (mean > =3.5). The results imply that respondents were less concerned about pet accommodations, accessibility for disabled persons, and nightlife activities. When comparing visitors and non-visitors, significant differences were found in cost, interesting scenery, and nightlife activities. Visitors rated

cost and nightlife activities as less important and considered interesting scenery more important than non-visitors (Table 4-16).

Table 4-16: Potential Visitors' Travel Motivations

Motivation [A]	Never Visited (n = 63) Mean (SD)	Have Visited (n = 233) Mean (SD)	Total (n = 296) Mean (SD)	Test Statistics
Upscale facilities/services	3.2(1.2)	3.0(1. 1)	3.0(1.1)	t = 1.418, df = 288
Travel time/distance	3.4(1.0)	3.2(1.0)	3.3(1.0)	t = 1.461, df = 293
Cost	4.1(0.8)	3.8(0.9)	3.9(0.9)	t = 2.128*, df = 286
Family-friendly place and/or opportunities	3.6(1.2)	3.5(1.2)	3.5(1.2)	t = 0.631, df = 289
Safety/security	4.1(0.9)	4.3(0.9)	4.2(0.9)	t = -1.224, df = 291
Variety of shopping opportunities	3.1(1.1)	2.9(1.1)	2.9(1.1)	t = 1.307, df = 291
Interesting scenery	3.9(0.9)	4.2(0.7)	4.1(0.8)	t = -2.061*, df = 292
Service quality	4.0(0.9)	4.0(0.7)	4.0(0.7)	t = -0.563, df = 289
Variety of attractions and/or activities	3.8(1.0)	3.6(0.9)	3.7(0.9)	t = 1.049, df = 292
Nightlife activities	2.7(1.2)	2.3(1.1)	2.4(1.1)	t = 2.402*, df = 289
Accessibility for disabled persons	2.2(1.4)	2.0(1.1)	2.0(1.2)	t = 0.916, df = 291
Pet accommodations	1.9(1.1)	1.9(1.3)	1.9(1.3)	t = -0.326, df = 287

*p<.05, **p<.01

A: Ranking the importance of each factor when selecting a pleasure trip destination, 1: Not at all important, 2: Not so important, 3: Somewhat important, 4: Important, 5: Very important.

Testing of the Study Hypotheses

A Priori Approach--Individual Activity

Choice of Market Segmentation Bases

H1.1: There is a significant difference between the two groups in each sample with respect to their participation in each activity.

In order to identify the popular activities among the assigned groups in each survey sample, chi-square tests were employed to investigate differences across groups of visitors. The results are discussed in the following sections.

Transient Visitors

Table 4-17 represents the profiling of each group by the activities that were interesting to respondents or others in their family on this current trip. The most popular activity among all transient visitors was camping (60.7%), followed by boating (52.6%), canoeing/kayaking/tubing (47.2%), sightseeing (44.5%), dining out (43.4%), swimming (lake, pond, river) (41.7%), fishing (41.5%), and bicycling (41.4%). Significant differences between the two groups were found for boating, festival/event, fly fishing, deer hunting, off-roading and sports tournament. Group 1 respondents (whose primary destination was the WCMI) showed consistently higher interest than group 2 respondents in these activities. The ten most popular activities with a participation rate above 35% were compared between the two groups. Statically significant differences were found for boating and festival/event.

Table 4-17: Types of Activities that Interested Transient Visitors on Their Current Trip

Activity	Primary destination -WCMI (n = 351) (%)	Primary destination- not WCMI (n = 181) (%)	Total (n = 532) (%)	Chi-square value
Antique shopping	21.4	14.4	19.0	3.808, df = 1
Bicycling	40.7	42.5	41.4	0.160, df = 1
Boating	56.7	44.8	52.6	6.833**, df = 1
Camping	63.2	55.8	60.7	2.776, df = 1
Canoeing/kayaking/tubing	50.1	41.4	47.2	3.632, df = 1
Casino gaming	29.3	22.1	26.9	3.189, df = 1
Concert	25.4	22.1	24.2	0.690, df = 1
Cross-country skiing	15.7	18.2	16.5	0.568, df = 1
Dining out (excluding fast food)	42.7	44.8	43.4	0.124, df = 1
Downhill skiing/snowboarding	18.2	13.3	16.5	2.140, df = 1
Farm market/u-pick/winery	25.9	24.3	25.4	0.165, df = 1
Festival/event	42.7	33.1	39.5	4.593*, df = 1
Fishing, charter	23.1	23.8	23.3	0.031, df = 1
Fishing, fly	23.1	13.3	19.7	7.265**, df = 1
Fishing, ice	19.4	14.9	17.9	1.617, df = 1
Fishing, other	43.9	37.0	41.5	2.313, df = 1
Golfing	32.5	30.9	32.0	0.130, df = 1
Hiking/walking	41.0	37.6	39.8	0.595, df = 1
Historic site	28.5	23.8	26.9	1.361, df = 1
Horseback riding	18.5	14.9	17.3	1.083, df = 1
Hunting, deer	35.9	26.5	32.7	4.772*, df = 1
Hunting, small game	24.5	17.1	22.0	3.785, df = 1
Hunting, turkey	16.0	10.5	14.1	2.937, df = 1
Jet skiing	16.2	15.5	16.0	0.053, df = 1
Lighthouse touring	32.5	28.7	31.2	0.782, df = 1
Live theatre	15.4	14.9	15.2	0.020, df = 1
Movie (at a cinema)	27.1	24.3	26.1	0.470, df = 1
Museum	21.4	21.5	21.4	0.002, df = 1
Mushroom collecting	16.2	15.5	16.0	0.053, df = 1
Nature center	19.1	21.5	19.9	0.452, df = 1
Off-roading	24.2	14.4	20.9	7.020**, df = 1
Photography	23.1	22.1	22.7	0.065, df = 1
Sailing	12.5	9.9	11.7	0.779, df = 1
Scuba diving/snorkeling	8.8	9.9	9.2	0.177, df = 1
Shopping	38.2	33.7	36.7	1.030, df = 1
Sightseeing (general)	45.6	42.5	44.5	0.448, df = 1
Snowmobiling	24.8	18.8	22.7	2.448, df = 1
Sports tournament	12.8	4.4	10.0	9.395**, df = 1
Swimming (lake, pond, river)	44.7	35.9	41.7	3.819, df = 1
Swimming (pool)	25.6	23.8	25.0	0.226, df = 1
Theme/amusement park	23.4	18.8	21.8	1.467, df = 1

Table 4-17 (Cont'd)

Activity	Primary destination -WCMI (n = 351) (%)	Primary destination- not WCMI (n = 181) (%)	Total (n = 532) (%)	Chi-square value
Visiting a federal/state park	34.8	33.7	34.4	0.059, df = 1
Visiting friends/relatives	37.9	38.1	38.0	0.003, df = 1
Wildlife viewing/bird watching	29.1	24.3	27.4	1.353, df = 1
Wind surfing	2.6	3.9	3.0	0.695, df = 1

*$p<.05$, **$p<.01$

Overnight Visitors

Among the activities that overnight visitors or others in their family participated in while visiting the WCMI, dining out (excluding fast food) (65.4%), sightseeing (42.9%) and shopping (40.6%) were the most popular activities. When compared across groups, significant differences were found for antique shopping, boating, canoeing/kayaking/tubing, concert, farm market/u-pick/winery, fishing, hiking/walking, shopping, and swimming (lake, pond, river); these activities were more favored by group 2 respondents who spent at least three nights on the most recent overnight visit to the WCMI than group 1 respondents who spent two nights or less on the most recent overnight visit to the WCMI (Table 4-18). Only shopping and hiking/walking exhibited participation rates above 30%.

Table 4-18: Types of Activities Overnight Visitors and Family Participated in during their Trips to West-central Michigan

Activity	<=2 nights visitors (n = 132) (%)	> 2 nights visitors (n = 122) (%)	Total (n = 254) (%)	Chi-square value
Antique shopping	10.6	21.3	15.7	5.476*, df = 1
Bicycling	6.1	11.5	8.7	2.350, df = 1
Boating	12.9	32.0	22.0	13.442**, df = 1
Camping	16.7	23.0	19.7	1.584, df = 1
Canoeing/kayaking/tubing	4.5	18.9	11.4	12.832**, df = 1
Casino gaming	21.2	19.7	20.5	0.092, df = 1
Concert	1.5	8.2	4.7	6.288*, df = 1
Cross-country skiing	2.3[A]	2.5[A]	2.4	0.010, df = 1
Dining out (excluding fast food)	65.9	64.8	65.4	0.037, df = 1
Downhill skiing/snowboarding	0.8[A]	0.8[A]	0.8	0.003, df = 1
Farm market/u-pick/winery	11.4	22.1	16.5	5.326*, df = 1
Festival/event	12.1	13.9	13.0	0.184, df = 1
Fishing, charter	5.3	5.7	5.5	0.023, df = 1
Fishing, fly	5.3	9.8	7.5	1.882, df = 1
Fishing, ice	0.0[A]	1.6[A]	0.8	2.181, df = 1
Fishing, other	11.4	32.8	21.7	17.152**, df = 1
Golfing	11.4	16.4	13.8	1.350, df = 1
Hiking/walking	29.5	50.8	39.8	11.980**, df = 1
Historic site	15.9	19.7	17.7	0.616, df = 1
Horseback riding	0.0[A]	4.1[A]	2.0	5.518*, df = 1
Hunting, deer	6.1	7.4	6.7	0.176, df = 1
Hunting, small game	3.8	5.7	4.7	0.536, df = 1
Hunting, turkey	0.8[A]	1.6[A]	1.2	0.422, df = 1
Jet skiing	3.8	4.9	4.3	0.195, df = 1
Lighthouse touring	15.9	19.7	17.7	0.616, df = 1
Live theatre	0.8[A]	0.0[A]	0.4	0.928, df = 1
Movie (at a cinema)	5.3	9.0	7.1	1.328, df = 1
Museum	5.3	7.4	6.3	0.462, df = 1
Mushroom collecting	4.5	4.1	4.3	0.031, df = 1
Nature center	5.3	9.8	7.5	1.882, df = 1
Off-roading	9.1	9.8	9.4	0.041, df = 1
Photography	23.5	22.1	22.8	0.066, df = 1
Sailing	2.3[A]	1.6[A]	2.0	0.132, df = 1
Scuba diving/snorkeling	0.0[A]	0.8[A]	0.4	1.086, df = 1
Shopping	32.6	49.2	40.6	7.251**, df = 1

Table 4-18 (Cont'd)

Activity	<=2 nights visitors (n = 132) (%)	> 2 nights visitors (n = 122) (%)	Total (n = 254) (%)	Chi-square value
Sightseeing (general)	39.4	46.7	42.9	1.390, df = 1
Snowmobiling	3.0 A	4.1 A	3.5	0.212, df = 1
Sports tournament	2.3 A	1.6 A	2.0	0.132, df = 1
Swimming (lake, pond, river)	14.4	44.3	28.7	27.618**, df = 1
Swimming (pool)	9.1	16.4	12.6	3.071, df = 1
Theme/amusement park	3.0 A	4.1 A	3.5	0.212, df = 1
Visiting a federal/state park	23.5	27.9	25.6	0.640, df = 1
Visiting friends/relatives	22.7	25.4	24.0	0.250, df = 1
Wildlife viewing/bird watching	19.7	23.8	21.7	0.620, df = 1
Wind surfing	0.8 A	0.0 A	0.4	0.928, df = 1

*$p<.05$, **$p<.01$
A:The cell has expected count less than 5.

Potential Visitors

Among the activities that potential visitors or others in their family participated in most often while on pleasure trips, dining out (excluding fast food) (73.6%), sightseeing (73.6%), and visiting friends/relatives (60.7%) were the most popular (see Table 4-18). Statistically significant differences between the two groups were found for antique shopping, fishing, golfing, deer hunting, lighthouse touring, shopping and visiting a federal/state park. Antique shopping, fishing, golfing, deer hunting, turkey hunting, lighthouse touring, and visiting a federal/state park showed a higher frequency among the visitor group while shopping appeared to have a higher participation rate among the non-visitor group (see Table 4-19).

Table 4-19: Types of Activities Potential Visitors Participated in Most Often during Pleasure Trips

Activity	Never Visited (n = 63) (%)	Have Visited (n = 233) (%)	Total (n = 296) (%)	Chi-square value
Antique shopping	9.5	22.3	19.6	5.15*, df = 1
Bicycling	14.3	22.3	20.6	1.96, df = 1
Boating	20.6	27.0	25.7	1.07, df = 1
Camping	28.6	39.5	37.2	2.53, df = 1
Canoeing/kayaking/tubing	15.9	21.0	19.9	0.83, df = 1
Casino gaming	30.2	28.8	29.1	0.05, df = 1
Concert	28.6	20.2	22.0	2.04, df = 1
Cross-country skiing	4.8	9.0	8.1	1.20, df = 1
Dining out (excluding fast food)	77.8	72.5	73.6	0.70, df = 1
Downhill skiing/snowboarding	7.9	10.3	9.8	0.31, df = 1
Farm market/u-pick/winery	23.8	33.0	31.3	1.98, df = 1
Festival/event	54.0	45.1	47.0	1.58, df = 1
Fishing, charter	6.3	12.4	11.1	1.86, df = 1
Fishing, fly	3.2 [A]	5.6	5.1	0.60, df = 1
Fishing, ice	3.2 [A]	7.7	6.8	1.63, df = 1
Fishing, other	9.5	27.0	23.3	8.51**, df = 1
Golfing	14.3	29.2	26.0	5.72*, df = 1
Hiking/walking	38.1	49.8	47.3	2.72, df = 1
Historic site	58.7	55.8	56.4	0.17, df = 1
Horseback riding	14.3	7.3	8.8	3.02, df = 1
Hunting, deer	3.2	18.9	15.5	9.32**, df = 1
Hunting, small game	1.6 [A]	7.3	6.1	2.83, df = 1
Hunting, turkey	0.0 [A]	7.3	5.7	4.88*, df = 1
Jet skiing	7.9 [A]	2.6	3.7	3.98, df = 1
Lighthouse touring	15.9	30.9	27.7	5.59*, df = 1
Live theatre	19.0	20.2	19.9	0.04, df = 1
Movie (at a cinema)	28.6	24.0	25.0	0.54, df = 1
Museum	46.0	39.1	40.5	1.00, df = 1
Mushroom collecting	3.2	7.3	6.4	1.40, df = 1
Nature center	28.6	33.0	32.1	0.46, df = 1
Off-roading	7.9	9.4	9.1	0.14, df = 1
Photography	30.2	38.6	36.8	1.53, df = 1
Sailing	3.2 [A]	3.4	3.4	0.01, df = 1
Scuba diving/snorkeling	6.3 [A]	5.6	5.7	0.05, df = 1
Shopping	66.7	52.4	55.4	4.11*, df = 1
Sightseeing (general)	69.8	74.7	73.6	0.60, df = 1
Snowmobiling	1.6	3.9	3.4	0.79, df = 1
Sports tournament	12.7	10.7	11.1	0.19, df = 1

Table 4-19 (Cont'd)

Activity	Never Visited (n = 63)	Have Visited (n = 233)	Total (n = 296)	Chi-square value
Swimming (lake, pond, river)	36.5	36.9	36.8	0.00, df = 1
Swimming (pool)	38.1	31.3	32.8	1.03, df = 1
Theme/amusement park	33.3	22.3	24.7	3.24, df = 1
Visiting a federal/state park	33.3	53.2	49.0	7.85**, df = 1
Visiting friends/relatives	66.7	59.1	60.7	1.20, df = 1
Wildlife viewing/bird watching	19.0	27.0	25.3	1.67, df = 1
Wind surfing	1.6 A	0.9 A	1.0	0.26, df = 1

*$p<.05$, **$p<.01$
A:The cell has expected count less than 5.

Development of Profiles of Resulting Segments

After finding out the significant differences between the defined groups and among each sample with respect to activity preference, those activities were examined for their relationships with other variables. However, most of the activities that showed statistically significant differences between groups experienced low participation rates (below 30%). This study only profiled the most popular and significant activities for marketing suggestions. As a result, boating and festival/event for transient visitors, shopping and hiking for overnight visitors, and visiting a federal/state park for potential visitors were chosen to further develop the profile. The descriptive statistics reports are listed in Appendix A.

The aim of this inquiry was to ascertain the factors (socio-demographic characteristics, trip-related characteristics and so forth) that increase the likelihood that a visitor will participate in each activity. The analysis began with a careful univariate analysis of each variable. Any variable with a univariate test p-value lower than 0.25 was a candidate for the multivariable model. Backward stepwise elimination, which starts with a comprehensive model that includes all the testable variables, was applied in this

model selection process. In selecting the final model, variables are removed one by one until the equation included only those significant variables that ensure that the final model still sufficiently fits the data (Hosmer & Lemeshow, 2000; Menard, 2002).

A series of binomial logistic regression analyses was performed. To better understand the visitors, variables such as (a) Consumption differences between those whose primary destination was the WCMI and those whose primary destination was not the WCMI among transient visitors, (b) Consumption differences between those who had stayed three or more nights and those who had stayed two nights or less among overnight visitors, and (c) Consumption differences between those who have visited the WCMI and those who have not visited the WCMI among potential visitors were kept in the logistic regression model as the control variable in each data set.

Using prediction of participation in boating among transient visitors as an example, with socio-demographic characteristics, the activity served as the dependent variable in the logistic regression model to examine its relationship with other factors such as socio-demographic characteristics, along with visitors whose primary destination was the WCMI. In logistic regression analysis the predicted y-value is treated as probabilities, $P(Y = 1) = \pi$ and $P(Y = 0) = 1 - \pi$, whereas a regression coefficient (β) is interpreted as the effect of an independent variable (x) on the probability of $Y = 1$ (in this case the probability that a visitor participated in boating). A probability function for a visitor participating in the activity could be modeled linearly as follows:

$$\ln (\pi / (1-\pi)) = \beta_0 + \beta_1 \cdot x_1 + \beta_2 \cdot x_2 + \ldots + \beta_k \cdot x_k$$

Socio-demographic characteristics included age, gender, employment, income, and living with children under 18 years old. However, only age and living with children

under 18 years old had a *p*-value lower than 0.25 when running the univariate analysis of each variable to predict participation in boating activity. Backward stepwise logistic regression analysis then started with all the independent variables (age, primary destination, and living with children under 18 years old) in the model, and at each step the variable that had the highest p-value was eliminated. In the first step, three variables were examined. At the last stage, age ($p < 0$ .05), and primary destination ($p < 0$ .05) remained significant. The results are discussed below.

H1.2: Socio-demographic characteristics can be used to predict activity participation while controlling the variable.

Transient Visitors--Boating

The final model is represented as follows:

$\text{Ln}(\pi/1-\pi) = 0.902 - 0.432(\text{Destination}) - 0.015(\text{Age})$

The Ln $(\pi/1-\pi)$ term in the formula represents the log of the odds of participation in boating where Ln means the natural logarithm and the value is the probability of participating in boating. For example, the coefficient of age (-0.015) shows the change in the log of the odds for a one-year increase in a respondent's age controlling for other independent variables in the model (see Table 4-20). Similarly, the coefficient of destination (−0.432) shows the change in the log of the odds for not choosing the WCMI as the primary destination. Since the coefficients for age and destination are negative, the probability of participating in boating decreases as a respondent's age increases. Also, the results suggest that visitors whose primary destination was the WCMI were more likely to participate in boating than those whose primary destination was not the WCMI.

In logistic regression analysis, R-squared measures have been developed by a number of researchers, and Cox and Snell's R^2 is one of them (Menard, 2002). However, it is not actual percent of variance explained as R^2 in a linear regression model. This statistic is not perceived as a goodness of fit test index, but rather as an index of measuring the strength of relationship between dependent variables and independent variables (Garson, 2009a; UCLA: Academic Technology Services Statistical Consulting Group).The Hosmer and Lemeshow omnibus test was not significant, $\chi^2(8) = 4.078, p = 0.85$. That is, it failed to reject the null hypothesis, implying that the model's estimates fit the data at an acceptable level. The coefficients were able to successfully classify 55% of the respondents based on their likelihood to engage in boating.

Table 4-20: Logistic Regression Model Results--Boating by Socio-demographic Characteristics for Transient Visitors

Dependent Variable				Boating			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.432	0.187	5.321	1	0.021	0.649
Age		-0.015	0.007	4.804	1	0.028	0.986
Constant		0.902	0.315	8.209	1	0.004	2.465
Variables Not in the Equation					Score	df	Sig.
HvChild(1)					2.110	1	0.146
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	700.545	0.021		4.078	8	0.850	

Transient Visitors--Festival/event

The estimated coefficient for gender is 0.84 as shown in Table 4-21. The exp (*B*) is 2.316, indicating that female visitors were 2.316 times more likely to participate in a festival/event than males while controlling the factor of primary destination.

Table 4-21: Logistic Regression Model Results--Festival/event by Socio-demographic Characteristics for Transient Visitors

Dependent Variable				Festival/event			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.432	0.205	4.439	1	0.035	0.649
Gender		0.840	0.193	18.984	1	0.000	2.316
Constant		-1.395	0.300	21.563	1	0.000	0.248
Variables Not in the Equation					Score	df	Sig.
Emplmnt					0.310	2	0.856
Emplmnt(1)					0.118	1	0.731
Emplmnt(2)					0.154	1	0.694
HvChild(1)					2.120	1	0.145
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square		df	Sig.
	618.371	0.050		4.850		2	0.088

Overnight Visitors--Hiking/walking

As shown in Table 4-22, income does not seem to be a significant factor. Gender was significant at the 0.029 level with the positive coefficient indicating that females were more likely to participate in hiking/walking while on a pleasure trip than males.

Table 4-22: Logistic Regression Model Results--Hiking/walking by Socio-demographic Characteristics for Overnight Visitors

Dependent Variable				Hiking/walking			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.981	0.288	11.572	1	0.001	2.667
Gender(1)		0.656	0.300	4.787	1	0.029	1.926
Income				5.828	2	0.054	
Income(1)		-0.178	0.386	0.214	1	0.644	0.837
Income(2)		0.578	0.378	2.334	1	0.127	1.783
Constant		-1.342	0.372	12.990	1	0.000	0.261
Variables Not in the Equation					Score	df	Sig.
Edctn					2.018	2	0.365
Edctn(1)					0.092	1	0.762
Edctn(2)					1.433	1	0.231
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square		df	Sig.
	283.838	0.092		6.404		8	0.602

Overnight Visitors--Shopping

While examining the relationship of socio-demographic characteristics and participation in shopping, only gender showed a difference at a significant level. In general, females were more likely to participate in shopping (see Table 4-23).

Table 4-23: Logistic Regression Model Results--Shopping by Socio-demographic Characteristics for Overnight Visitors

Dependent Variable				Shopping			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.701	0.271	6.692	1	0.010	2.016
Gender(1)		0.697	0.280	6.182	1	0.013	2.007
Constant		-0.977	0.226	18.595	1	0.000	0.377
Variables Not in the Equation					Score	df	Sig.
Age					2.325	1	0.127
Edctn					1.283	2	0.527
Edctn(1)					1.259	1	0.262
Edctn(2)					0.687	1	0.407
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square		df	Sig.
	313.501	0.049		1.721		2	0.423

Potential Visitors--Visiting a Federal/state Park

As shown in Table 4-24, education (Edctn) was the only socio-demographic factor that was associated with visiting a federal/state park. Among the three categories of education level, the estimated coefficient for education at the post graduate level was 0.847. As shown in Table 4-24, the exp (*B*) is 2.334, indicating that visitors with a post graduate degree were 2.334 times more likely to visit a federal/state park than those who have a high school degree.

Table 4-24: Logistic Regression Model Results--Visiting a Federal/state Park by Socio-demographic Characteristics for Potential Visitors

Dependent Variable			Visiting a Federal/state Park				
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
VisWCM(1)		0.761	0.309	6.048	1	0.014	2.140
Edctn				4.739	2	0.094	
Edctn(1)		0.279	0.352	0.631	1	0.427	1.322
Edctn(2)		0.847	0.418	4.114	1	0.043	2.334
Constant		-1.005	0.398	6.372	1	0.012	0.366
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	366.019	0.044		1.570	4	0.814	

H.1.3: Travel motivations can be used to predict activity participation while controlling the variable.

Potential Visitors--Visiting a Federal/state Park

For twelve motivation attributes, respondents were asked "How important to you is each of the following factors when selecting a pleasure trip destination?" Cost (MCost) and the variety of attractions and/or activities (MAttr) had significant estimated coefficients, and this result suggests that visitors who considered cost and attractions more were about 1.5 times more likely to visit a federal/state park. In contrast, the negative coefficient of nightlife activities (MNlife) indicated that visitors who were concerned more about nightlife activities were less likely to visit a federal/state park. Interesting scenery (MScen) had a marginally significant level (0.057); this suggests that the concern of interesting scenery did not strongly predict visiting a federal/state park (see Table 4-25).

Table 4-25: Logistic Regression Model Results--Visiting a Federal/State Park by Travel Motivations for Potential Visitors

Dependent Variable			Visiting a Federal/State Park			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
VisWCM(1)	1.035	0.329	9.890	1	0.002	2.814
MCost	0.409	0.154	7.052	1	0.008	1.505
MScen	0.324	0.170	3.630	1	0.057	1.383
MAttr	0.426	0.162	6.893	1	0.009	1.531
MNlife	-0.295	0.133	4.950	1	0.026	0.745
Constant	-4.628	1.101	17.658	1	0.000	0.010
Variables Not in the Equation				Score	df	Sig.
MTime				0.087	1	0.768
MShop				1.444	1	0.230

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	355.153	0.111		2.755	8	0.949

H.1.4: Trip characteristics can be used to predict activity participation while controlling the variable.

Transient Visitors--Boating

The variables related to trip characteristics included "How many nights do you plan to be away from home on this trip?" (Nights), "About how far in advance did you begin to make plans for it?" (PlanDay), "Did you visit the west-central Michigan region any time before this trip?" (Pastvst), and travel party size (PartySz). While conducting univariate analysis in the first step, only PlanDay and PartySz were qualified ($P<0.25$) to be entered in the logistic regression model. The results showed that only party size is related to participation in boating. However, it did not strongly predict participation in boating (see Appendix B, Table B-1).

Transient Visitors--Festival/event

The candidate independent variables for running the logistic regression model included PlanDay and PartySz. However, the analysis did not produce any significant

results. Trip-related characteristics did not successfully predict festival/event participation while controlling the primary destination variable (Appendix B, Table B-2).

Overnight Visitors--Hiking/walking

While conducting univariate analysis in the first step, only PlanDay and Exprnce were qualified to enter the logistic regression model. Experience (Exprnce) has a marginally overall significance level (0.075) only if the threshold of statistical significant is relaxed to 0.10 (Appendix B, Table B-3).

Overnight Visitors--Shopping

The variables related to trip characteristics in the overnight visitor survey included PlanDay, PartySz, "About how many times have you stayed overnight in the WCMI during the past three (3) years" (NoVisit), "How would you rate your overall experience in the WCMI region on this visit?" (Exprnce) and "How likely are you to visit the WCMI region within next three years?" (Visit). Of the trip-related characteristics, days planning in advance and likeliness to visit the WCMI within the next three years explained significant participation in shopping activity while controlling the stay-overnight variable (1 for staying two nights or less in the WCMI, and 2 for staying at least three nights in the WCMI). Visitors who tended to visit the WCMI were more likely to participate in shopping, while those who planned the current trip more in advance were more likely to participate in shopping (Table 4-26).

Table 4-26: Logistic Regression Model Results--Shopping by Trip-related Characteristics for Overnight Visitors

Dependent Variable				Shopping			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.477	0.299	2.548	1	0.110	1.611
PlanDay		0.004	0.002	7.385	1	0.007	1.004
Visit		-0.439	0.188	5.459	1	0.019	0.645
Constant		-0.313	0.320	0.955	1	0.328	0.731
Variables Not in the Equation					Score	df	Sig.
PartySz					0.106	1	0.744
Exprnce					1.106	1	0.293
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square		df	Sig.
	283.258	0.086		9.122		8	0.332

Potential Visitors--Visiting a Federal/state Park

Potential visitors were only asked two questions related to trip characteristics: "How likely are you to visit the WCMI within the next three (3) years?" and "In general, about how far in advance do you begin to plan a weekend getaway?" However, no trip-related characteristics were found to be associated with participation in visiting a federal/state park while controlling the factor of visitation to the WCMI (Appendix B, Table B-4).

H.1.5: Travel spending can be used to predict activity participation while controlling the variable.

Overnight Visitors--Hiking/walking

As shown in Table 4-27, expenditure has been recalculated per person per day. It would be expected that the odds ratios and the negative sign of expenditure on gas (EGas) indicated that visitors who spent less on gas were more likely to participate in hiking/walking. Expenditure on groceries (EGrcry) was significant (at 0.000, with a

positive estimated coefficient), indicating that those who spent more money on groceries were more predisposed to go hiking.

Table 4-27: Logistic Regression Model Results--Hiking/walking by Travel Expenditures for Overnight Visitors

Dependent Variable				Hiking/walking			
Variables in the Equation			B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)			0.352	0.325	1.172	1	0.279	1.422
EActivity			0.028	0.016	3.222	1	0.073	1.029
EGas			-0.098	0.026	14.009	1	0.000	0.907
EGrcry			0.223	0.045	24.484	1	0.000	1.250
Constant			-0.879	0.292	9.077	1	0.003	0.415
Variables Not in the Equation						Score	df	Sig.
ELdgng						0.135	1	0.713
EMeals						0.023	1	0.880
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test			Chi-square	df	Sig.
	247.357	0.199				5.192	8	0.737

Overnight Visitors--Shopping

It would be expected that the positive estimated coefficient of expenditure on shopping (Eshppng) indicated that visitors who spent more on shopping were more likely to participate in shopping (see Table 4-28).

Table 4-28: Logistic Regression Model Results--Shopping by Travel Expenditures for Overnight Visitors

Dependent Variable				Shopping			
Variables in the Equation			B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)			0.992	0.318	9.727	1	0.002	2.697
Eshppng			0.119	0.022	28.538	1	0.000	1.126
Constant			-1.555	0.274	32.153	1	0.000	0.211
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test			Chi-square	df	Sig.
	246.157	0.211				19.805	5	0.001

H.1.6: The type of travel information sources utilized can be used to predict activity participation while controlling the variable.

Overnight Visitors--Hiking/walking

When examining the relationship between types of travel information sources and participation in hiking/walking for overnight visitors, only the use of convention and visitors bureaus was significant (at 0.037 with a positive estimated coefficient), indicating that overnight visitors who used convention and visitors bureaus as travel information sources were 2.404 times more likely to participate in hiking/walking activity (Table 4-29).

Table 4-29: Logistic Regression Model Results--Hiking/walking by Travel Sources Used by Overnight Visitors

Dependent Variable			Hiking/walking			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.868	0.266	10.673	1	0.001	2.381
ICVB(1)		0.877	0.420	4.361	1	0.037	2.404
Constant		-0.952	0.197	23.361	1	0.000	0.386
Variables Not in the Equation					Score	df	Sig.
IChmbr(1)					0.992	1	0.319
ITrvlffc(1)					0.546	1	0.460
IGuide(1)					1.032	1	0.310
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	324.862	0.063		0.133	1	0.715

Overnight Visitors--Shopping

The variables related to the type of information sources used for travel planning included AAA (IAAA), newspapers (Inwsppr), billboards/outdoor advertising (IBillbrd), radio (IRadio), chamber of commerce (IChmbr), state travel office/Travel Michigan (ITrvlffc), convention and visitors bureau (ICVB), television (ITV), friends or relatives (IFrids), travel guides/brochures (IGuide), highway welcome center (IWlcmCtr), word of

mouth (IWord), Internet/web site (IIntrnt), and magazine (IMgzne). The estimated coefficient for friends or relatives was 0.623 (see Table 4-30). The exp (*B*) was 1.865, indicating that visitors who used friends or relatives for travel information were 1.865 times more likely to participate in shopping.

Table 4-30: Logistic Regression Model Results--Shopping by Travel Sources Used by Overnight Visitors

Dependent Variable			Shopping			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)	0.691	0.262	6.944	1	0.008	1.996
IFrids(1)	0.623	0.268	5.427	1	0.020	1.865
Constant	-0.969	0.217	19.869	1	0.000	0.379
Variables Not in the Equation				Score	df	Sig.
IChmbr(1)				0.600	1	0.439
ICVB(1)				1.914	1	0.167
ITrvlffc(1)				1.623	1	0.203
IGuide(1)				1.158	1	0.282

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	330.257	0.049		1.271	2	0.530

Potential Visitors--Visiting a Federal/state Park

Among sources of information used when planning a pleasure trip, Internet (IIntrnt), local visitor guides (IGuide), and radio (IRadio) were associated with visiting a federal/state park. Those who preferred to use these sources tended to visit a federal/state park more than those who did not prefer to use this information. Ibroch was significant at the 0.057 level indicating that visitors who chose travel guides/brochures were slightly more likely to visit a federal/state park. The AAA source of information had a significant level (0.091) only if the threshold of statistical significance is relaxed to 0.1 as shown in Table 4-31. Therefore, the AAA source might not be considered a significant source.

Table 4-31: Logistic Regression Model Results--Visiting a Federal/state Park by Travel Sources Used by Potential Visitors

Dependent Variable	Visiting a Federal/state Park					
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
VisWCM(1)	0.768	0.312	6.037	1	0.014	2.154
IAAA(1)	0.450	0.266	2.851	1	0.091	1.568
IIntrnt(1)	0.639	0.270	5.627	1	0.018	1.895
IGuide(1)	0.696	0.269	6.722	1	0.010	2.006
IRadio(1)	1.114	0.444	6.282	1	0.012	3.046
Ibroch(1)	0.486	0.256	3.610	1	0.057	1.625
Constant	-1.814	0.371	23.857	1	0.000	0.163
Variables Not in the Equation				Score	df	Sig.
IBillbrd(1)				2.763	1	0.096
ICVB(1)				0.008	1	0.929
IInfc(1)				2.651	1	0.104
IWlcmCtr(1)				2.913	1	0.088
IMgzne(1)				0.469	1	0.493
Inwsppr(1)				0.108	1	0.742
ITrvlffc(1)				2.692	1	0.101
IWord(1)				0.487	1	0.485

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	371.254	0.123		5.402	8	0.714

H.1.7: The choice of lodging type can be used to predict activity participation while controlling the variable.

Transient Visitors--Boating

Candidate independent variables for the logistic regression model included staying in bed and breakfasts, cabins, and second homes. However, the analysis did not show any significant results. Lodging type did not predict boating while controlling the primary destination variable (Appendix B, Table B-5).

Transient Visitors--Festival/event

Analysis did not show any significant results. Thus, choice of lodging type did not predict festival/event participation while controlling the primary destination variable (see Appendix B, Table B-6).

Overnight Visitors--Hiking/walking

Based on the survey regarding overnight visitors' most current trip to the WCMI, the choice of second home had a very significant level ($p = 0.002$), indicating that visitors who chose to stay in a second home tended to participate in hiking (Table 4-32). For those who participated in hiking/walking, the probability of staying in a cabin was 2.462 times higher than those that did not to stay in the cabin.

Table 4-32: Logistic Regression Model Results--Hiking/walking by Accommodation Type for Overnight Visitors

Dependent Variable				Hiking/walking			
Variables in the Equation			B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)			0.675	0.288	5.497	1	0.019	1.964
LCabin(1)			0.901	0.395	5.190	1	0.023	2.462
LSndHm(1)			1.264	0.414	9.318	1	0.002	3.539
Lcamp(1)			0.690	0.397	3.017	1	0.082	1.993
Constant			-1.157	0.217	28.454	1	0.000	0.314
Variables Not in the Equation						Score	df	Sig.
LHotel(1)						0.151	1	0.697
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test		Chi-square	df	Sig.	
	315.805	0.096			0.530	4	0.971	

Overnight Visitors--Shopping

The type of lodging chosen for the most current trip to the WCMI did not predict participation in shopping while controlling the variable of nights stayed in the WCMI (Appendix B, Table 4-7).

H.1.8: WCMI attraction visits can be used to predict activity preferences while controlling the variable.

Transient Visitors--Boating

As shown in Table 4-33, DLudFrr(2) was significant at the 0.004 level with a negative estimated coefficient, indicating that transient visitors who have visited the Ludington Car Ferry were more likely to participate in boating than those who were not aware of this place. Other WCMI attractions did not predict boating for transient visitors.

Transient Visitors--Festival/event

As shown in Table 4-34, the estimated coefficient for primary destination was -0.422. The exp (*B*) 0.656 indicated that visitors whose primary destination was not the WCMI were 0.656 times less likely to participate in a festival/event than those whose destination was the WCMI. DCasino(1) was significant at 0.022 level with a negative estimated coefficient, indicating that those who were aware of but have not visited the Little River Casino tended to participate in a festival/event less than those who have visited the casino. Knowledge of the Silver Lake Sand Dunes (DSndDn) was also associated with participation in a festival/event. The negative coefficients of these variables suggest that, in general, visitors who have visited the Silver Lake Sand Dunes were more likely to participate in a festival/event than those who were aware but have not visited and those who were not aware of this place.

Table 4-33: Logistic Regression Model Results--Boating by Attractions for Transient Visitors

Dependent Variable			Boating			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)	-0.518	0.219	5.581	1	0.018	0.596
DLudFrr			8.360	2	0.015	
DLudFrr(1)	-0.411	0.239	2.947	1	0.086	0.663
DLudFrr(2)	-0.990	0.346	8.168	1	0.004	0.372
Constant	0.823	0.210	15.375	1	0.000	2.276
Variables Not in the Equation				Score	df	Sig.
DCasino				0.959	2	0.619
DCasino(1)				0.336	1	0.562
DCasino(2)				0.921	1	0.337
DMnstRvr				0.669	2	0.716
DMnstRvr(1)				0.296	1	0.586
DMnstRvr(2)				0.592	1	0.442
DLudStPk				2.315	2	0.314
DLudStPk(1)				2.148	1	0.143
DLudStPk(2)				0.001	1	0.973
DMrqtRvr				0.604	2	0.739
DMrqtRvr(1)				0.001	1	0.971
DMrqtRvr(2)				0.467	1	0.494
DMskRvr				0.507	2	0.776
DMskRvr(1)				0.063	1	0.802
DMskRvr(2)				0.196	1	0.658
DSndDn				1.090	2	0.580
DSndDn(1)				0.954	1	0.329
DSndDn(2)				0.002	1	0.962
DHartTrl				1.351	2	0.509
DHartTrl(1)				1.020	1	0.312
DHartTrl(2)				0.044	1	0.834

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	516.755(a)	0.038		0.486	3	0.922

Table 4-34: Logistic Regression Model Results--Festival/event by Attractions for Transient Visitors

Dependent Variable			Festival/event			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)	-0.422	0.219	3.726	1	0.054	0.656
DCasino			7.316	2	0.026	
DCasino(1)	-0.520	0.227	5.221	1	0.022	0.595
DCasino(2)	0.104	0.304	0.117	1	0.732	1.110
DSndDn			12.037	2	0.002	
DSndDn(1)	-0.422	0.216	3.837	1	0.050	0.656
DSndDn(2)	-1.207	0.369	10.734	1	0.001	0.299
Constant	0.484	0.202	5.745	1	0.017	1.623
Variables Not in the Equation				Score	df	Sig.
DLudStPk				3.259	2	0.196
DLudStPk(1)				3.224	1	0.073
DLudStPk(2)				0.089	1	0.766

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	555.747	0.057		5.803	7	0.563

Overnight Visitors--Hiking/walking

With regard to awareness of attractions, the Little River Casino, Ludington State Park, and Irons/Lake County snowmobile trails were associated with hiking/walking. Those who were aware of but did not visit the Little River Casino were 2.431 times more likely to participate in hiking than those who have visited the Little River Casino (see Table 4-35). Overall, the Ludington State Park (DLudStPk) did not seem to be a significant variable as there was no difference among those who have visited that place, those who were aware but did not visit, and those who were not aware. Those who were aware but did not visit the Irons/Lake County snowmobile trails were 4.427 times more likely to participate in hiking/walking than those who have visited. Also those who were not aware of this place were 2.339 times more likely to participate in hiking/walking than those who have visited.

Table 4-35: Logistic Regression Model Results--Hiking/walking by Attractions for Overnight Visitors

Dependent Variable			Hiking/walking			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)	0.926	0.331	7.830	1	0.005	2.524
DCasino			6.312	2	0.043	
DCasino(1)	0.888	0.398	4.985	1	0.026	2.431
DCasino(2)	0.122	0.463	0.070	1	0.792	1.130
DLudStPk			2.958	2	0.228	
DLudStPk(1)	-0.714	0.415	2.958	1	0.085	0.490
DLudStPk(2)	-20.536	13968.518	0.000	1	0.999	0.000
DIrnsSnw			8.390	2	0.015	
DIrnsSnw(1)	1.488	0.545	7.439	1	0.006	4.427
DIrnsSnw(2)	0.850	0.555	2.344	1	0.126	2.339
Constant	-2.045	0.565	13.118	1	0.000	0.129
Variables Not in the Equation				Score	df	Sig.
DMnstRvr				0.043	2	0.979
DMnstRvr(1)				0.016	1	0.90
DMnstRvr(2)				0.008	1	0.927
DLudFrr				0.169	2	0.919
DLudFrr(1)				0.001	1	0.971
DLudFrr(2)				0.165	1	0.684
DMrqtRvr				3.097	2	0.213
DMrqtRvr(1)				3.094	1	0.079
DMrqtRvr(2)				0.622	1	0.430
DMskRvr				0.972	2	0.615
DMskRvr(1)				0.954	1	0.329
DMskRvr(2)				0.369	1	0.543
DNwStPk				2.384	2	0.304
DNwStPk(1)				0.063	1	0.801
DNwStPk(2)				2.038	1	0.153
DSndDn				0.143	2	0.931
DSndDn(1)				0.096	1	0.756
DSndDn(2)				0.088	1	0.767

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	217.636	0.182		6.979	8	0.539

Overnight Visitors--Shopping

The Pere Marquette River (DMrqtRvr) was the only attraction associated with participation in shopping activity while controlling the nights stayed in the WCMI. Those

who were not aware of the Pere Marquette River tended to participate in shopping (see Table 4-36).

Table 4-36: Logistic Regression Model Results--Shopping by Attractions for Overnight Visitors

Dependent Variable			Shopping			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)	0.721	0.311	5.372	1	0.020	2.057
DMrqtRvr			8.573	2	0.014	
DMrqtRvr(1)	0.534	0.363	2.159	1	0.142	1.705
DMrqtRvr(2)	1.153	0.394	8.553	1	0.003	3.167
Constant	-1.243	0.298	17.449	1	0.000	0.289
Variables Not in the Equation				Score	df	Sig.
DCasino				3.927	2	0.140
DCasino(1)				3.349	1	0.067
DCasino(2)				2.417	1	0.120
DLudFrr				2.230	2	0.328
DLudFrr(1)				0.817	1	0.366
DLudFrr(2)				1.992	1	0.158
DIrnsSnw				2.712	2	0.258
DIrnsSnw(1)				0.009	1	0.925
DIrnsSnw(2)				1.332	1	0.249
DMskRvr				1.838	2	0.399
DMskRvr(1)				0.929	1	0.335
DMskRvr(2)				1.764	1	0.184
DNwStPk				2.378	2	0.305
DNwStPk(1)				2.264	1	0.132
DNwStPk(2)				0.313	1	0.576
DSndDn				1.710	2	0.425
DSndDn(1)				0.181	1	0.670
DSndDn(2)				1.010	1	0.315
DHartTrl				2.484	2	0.289
DHartTrl(1)				1.387	1	0.239
DHartTrl(2)				0.000	1	0.984

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	237.950	0.080		0.606	4	0.962

H.1.9: Perception of WCMI destination attributes can be used to predict activity preferences while controlling the variable.

Overnight Visitors--Hiking/walking

When exploring the relationship between WCMI attractions and participation in hiking/walking, no significant differences were found (Appendix B, Table B-8.

Overnight Visitors--Shopping

As shown in Table 4-37, the positive sign of the WCMI offering great shopping opportunities (MIShpng) indicated that those who thought the WCMI offered great shopping opportunities were 1.182 times more likely to participate in shopping during their current trip to the WCMI.

Table 4-37: Logistic Regression Model Results--Shopping by Destination Attributes for Overnight Visitors

Dependent Variable			Shopping			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)	0.784	0.310	6.383	1	0.012	2.191
MIShpng	0.167	0.079	4.489	1	0.034	1.182
Constant	-1.790	0.557	10.322	1	0.001	0.167
Variables Not in the Equation				Score	df	Sig.
MIFmly				0.456	1	0.500
MIFall				1.554	1	0.213
MIWinter				0.132	1	0.716
MISafe				0.072	1	0.788
MIExctng				0.284	1	0.594
MIScnc				0.803	1	0.370

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	236.399	0.064		4.506	8	0.809

From the *a priori* approach, many activities were found to be significantly popular in each sample based on the criteria set in each sample. The profiling factors were found useful in explaining the resulting segments (i.e., activity participation in

boating, festival/event, shopping, hiking/walking, and visiting a federal/state park). But these factors for predicting activity participation are slightly different for each activity.

Post Hoc Approach--Bundle of Activities

The Choices of Market Segmentation Bases

Classes of respondents participating in the forty-five activities were identified using latent class analysis (LCA). The assumption of LCA is that the relationship among dichotomous variables is explained by the latent variable (Perron, Ilgen, Hasche, & Howard, 2008). LCA was performed using Mplus (Version 5.2; Muthen and Muthen) software to explore the classes of activity participation.

LCA was applied to explore classes, that is, groups in which respondents had similar participation in activities among the 45 different activities which were dichotomized in yes and no categories. Conditional probabilities and class probabilities are two major model parameters in the LAC model with categorical outcomes. The conditional probabilities represent the probabilities assigned to each class resulting from how a participant responds in that class. The class probabilities are described as the percentage of respondents in each class. A posterior probability is a number calculated to estimate class probability for each respondent. Each respondent's a posteriori probability in each class was calculated, and then each respondent was assigned to the class with the highest a posteriori probability (Clark & Muthén, 2009; McCutcheon, 1987).

A two-class model was examined first, and the other classes were added one at a time to the model until no further improvements in model fit were observed. Nylund, Asparouhov, and Muthen (2007) discussed how researchers applied mixture criteria to decide the number of classes in mixture modeling. Statistical information criteria (IC) such as Akaike's Information Criterion (AIC) (Akaike, 1987) and Bayesian Information

Criterion (BIC) (Schwartz, 1978) are the best known indicators of model fit for LCA. Among ICs, BIC has been recommended in many articles and textbooks for selecting classes (Collins, Fidler, Wugalter, & Long, 1993; Hagenaars & McCutcheon, 2002; Yang, 2006; Zhang, 2004). Sample-size-adjusted BIC suggested by Sclove (1987) is one of the most accurate ICs for LCA (Yang, 2006). Lower values of ICs are usually considered better. Likewise, entropy, a summary measure of the classification, is another indicator (Kreuter, Yan, & Tourangeau, 2008). Entropy values range from 0 to 1, with values that are close to 1 indicating clear classifications. Based on these methods suggested by previous research, in this study, LCA models with varying numbers of latent classes were estimated using AIC, BIC, sample-size-adjusted BIC, entropy, and by visual inspection of class profiles (Flaherty, 2002; Perron, et al., 2008).

Following selection of the best fitting model, comparisons among latent classes on demographic, travel trip-related, travel motivations, WCMI attractions, and WCMI destination attribution variables were conducted using chi-square for categorical variables and analysis of variance (ANOVA) with Tukey's studentized range (honestly significant difference) test for continuous variables to profile the classes.

H2.1: There are classes that can be identified using an activity-based approach.

Transient Visitors

LCA was conducted on the forty-five indicator variables related to respondents' activity participation during their current trip. Two-, three-, four-, and five-class models were tested to examine model fit. The four-class model was found to have the highest entropy. AIC, BIC and sample-size adjusted BIC decrease with an increasing number of classes (see Table 4-38). The least change in any of the indices occurs between the four-

and five-class models. Thus, the four-class model was selected as the best fitting model based on the substantive considerations. Based on the selected four-class model, respondents were classified into four classes as presented in Table 4-39.

Table 4-38: Comparison of Model Fit Indicators for the Transient Visitor Sample

	C=2	C=3	C=4	C=5
Akaike (AIC)	23481.418	22838.512	22320.449	22047.733
Bayesian (BIC)	23870.592	23424.412	23103.075	23027.085
Sample-Size Adjusted BIC	23581.731	22989.533	22522.178	22300.169
Entropy	0.913	0.907	0.916	0.911

Table 4-39: Probability of Activity Participation across Latent Classes among Transient Visitors

	LC 1 Heavy Outdoor Activity Participants (n=97)	LC 2 Light Outdoor Activity Participants (n=160)	LC 3 Heavy General Activity Participants (n=96)	LC 4 Light General Activity Participants (n=179)
Antique shopping	0.10	0.08	0.38	0.23
Bicycling	0.22	0.25	0.70	0.51
Boating	0.70	0.25	0.86	0.50
Camping	0.78	0.36	0.86	0.60
Canoeing/kayaking/tubing	0.52	0.26	0.86	0.43
Casino gaming	0.31	0.16	0.42	0.26
Concert	0.13	0.05	0.59	0.29
Cross-country skiing	0.13	0.04	0.35	0.20
Dining out (excluding fast food)	0.29	0.06	0.86	0.62
Downhill skiing/snowboarding	0.14	0.02	0.45	0.16
Farm market/u-pick/winery	0.09	0.04	0.65	0.32
Festival/event	0.20	0.10	0.84	0.53
Fishing, charter	0.46	0.11	0.37	0.15
Fishing, fly	0.49	0.08	0.33	0.07
Fishing, ice	0.54	0.02	0.34	0.05
Fishing, other	0.79	0.15	0.69	0.31
Golfing	0.33	0.14	0.48	0.39
Hiking/walking	0.30	0.13	0.76	0.50
Historic site	0.13	0.01	0.62	0.39
Horseback riding	0.13	0.01	0.43	0.21
Hunting, deer	0.86	0.08	0.56	0.15
Hunting, small game	0.76	0.01	0.37	0.04
Hunting, turkey	0.47	0.01	0.26	0.02

Table 4-39 (Cont'd)

	LC 1 Heavy Outdoor Activity Participants (n=97)	LC 2 Light Outdoor Activity Participants (n=160)	LC 3 Heavy General Activity Participants (n=96)	LC 4 Light General Activity Participants (n=179)
Jet skiing	0.15	0.04	0.41	0.14
Lighthouse touring	0.13	0.06	0.59	0.49
Live theatre	0.01	0.03	0.48	0.17
Movie (at a cinema)	0.06	0.02	0.74	0.32
Museum	0.06	0.03	0.54	0.29
Mushroom collecting	0.28	0.01	0.40	0.11
Nature center	0.11	0.03	0.47	0.25
Off-roading	0.37	0.08	0.44	0.12
Photography	0.07	0.04	0.55	0.31
Sailing	0.08	0.03	0.24	0.15
Scuba diving/snorkeling	0.05	0.02	0.26	0.09
Shopping	0.13	0.06	0.81	0.53
Sightseeing (general)	0.26	0.10	0.86	0.64
Snowmobiling	0.33	0.09	0.51	0.14
Sports tournament	0.12	0.00	0.34	0.05
Swimming (lake, pond, river)	0.41	0.05	0.90	0.49
Swimming (pool)	0.13	0.03	0.69	0.28
Theme/amusement park	0.07	0.01	0.68	0.24
Visiting a federal/state park	0.26	0.03	0.76	0.45
Visiting friends/relatives	0.28	0.08	0.83	0.46
Wildlife viewing/bird watching	0.24	0.01	0.63	0.34
Wind surfing	0.02	0.00	0.13	0.01

Latent class 1(LC 1, 18% of the sample), heavy outdoor activity participants, included those who particularly participated in hunting and fishing related activities. Among those activities, the most popular activities with a participation probability higher than 0.5 included hunting (deer) (0.855), fishing (other) (0.791), camping (0.784), hunting (small game) (0.764), boating (0.704), fishing (ice) (0.538), and canoeing/kayaking/tubing (0.522). LC 2 (30.1% of the sample), light outdoor activity participants, included those whose activity participation did not exceed 0.2 for any

activity except camping, canoeing/kayaking/tubing, boating, and bicycling. LC 3 (18.0%), heavy general activity participants, included those whose probability of participating in all the various activities was higher than 0.3 except for hunting (turkey), scuba diving/snorkeling, sailing, and wind surfing. LC 4 (33.6% of the sample), light general activity participants, was the largest class in transient visitors. The most popular activities in this class with participation probability higher than 0.5 included sightseeing (general), dining out (excluding fast food), camping, shopping, festival/event, bicycling, hiking/walking and boating. This class exhibits similar patterns to LC 3 but the participation in each activity is lower than LC 3 (see Figure 4-1).

Overnight Visitors

The model fit index represented in Table 4-40 had different suggestions on class selection. BIC indicates that two classes is a better choice. But the indices of AIC and sample-size adjusted BIC decrease as the number of classes increases indicating that the four-class model performs better. However, the least change occurs in between the three- and four-class models also indicating that the choice of three-class is not much different from four-class. Entropy also seems to point to three classes. Also, after testing the profiling data, the two-class model did not differentiate characteristics between the two classes. Therefore, the three-class model was chosen for overnight visitors (Table 4-41 and Figure 4-2).

Table 4-40: Comparison of Model Fit Indicators for the Overnight Visitor Sample

	C=2	C=3	C=4
Akaike (AIC)	7333.793	7219.283	7177.104
Bayesian (BIC)	7660.573	7711.249	7834.255
Sample-Size Adjusted BIC	7372.047	7276.874	7254.031
Entropy	0.860	0.898	0.851

Figure 4-1: Probability of Activity Participation by Latent Classes among Transient Visitors

Table 4-41: Probability of Activity Participation across Latent Classes among Overnight Visitors

	LC 1 No Preference Activity Participants (n=146)	LC 2 Heavy General Activity Participants (n=17)	LC 3 Light General Activity Participants (n=105)
Antique shopping	0.08	0.40	0.20
Bicycling	0.04	0.17	0.14
Boating	0.08	0.59	0.33
Camping	0.15	0.53	0.21
Canoeing/kayaking/tubing	0.03	0.41	0.16
Casino gaming	0.19	0.58	0.16
Concert	0.02	0.29	0.04
Cross-country skiing	0.01	0.17	0.01
Dining out (excluding fast food)	0.44	0.77	0.86
Downhill skiing/snowboarding	0.00	0.12	0.00
Farm market/u-pick/winery	0.03	0.65	0.25
Festival/event	0.05	0.69	0.15
Fishing, charter	0.02	0.41	0.04
Fishing, fly	0.10	0.24	0.01
Fishing, ice	0.01	0.06	0.00
Fishing, other	0.15	0.54	0.24
Golfing	0.07	0.30	0.19
Hiking/walking	0.21	0.82	0.54
Historic site	0.06	0.52	0.27
Horseback riding	0.00	0.06	0.04
Hunting, deer	0.07	0.46	0.00
Hunting, small game	0.03	0.46	0.01
Hunting, turkey	0.01	0.12	0.00
Jet skiing	0.01	0.12	0.08
Lighthouse touring	0.01	0.25	0.36
Live theatre	0.01	0.00	0.00
Movie (at a cinema)	0.00	0.34	0.11
Museum	0.02	0.40	0.06
Mushroom collecting	0.03	0.35	0.01
Nature center	0.00	0.34	0.12
Off-roading	0.07	0.35	0.08
Photography	0.09	0.53	0.35
Sailing	0.00	0.06	0.04
Scuba diving/snorkeling	0.00	0.00	0.01
Shopping	0.12	0.76	0.69
Sightseeing (general)	0.22	0.82	0.61

Table 4-41 (Cont'd)

	LC 1 No Preference Activity Participants (n=146)	LC 2 Heavy General Activity Participants (n=17)	LC 3 Light General Activity Participants (n=105)
Snowmobiling	0.04	0.23	0.00
Sports tournament	0.02	0.12	0.00
Swimming (lake, pond, river)	0.04	0.54	0.55
Swimming (pool)	0.01	0.28	0.23
Theme/amusement park	0.01	0.12	0.05
Visiting a federal/state park	0.07	0.64	0.41
Visiting friends/relatives	0.19	0.58	0.24
Wildlife viewing/bird watching	0.11	0.70	0.26
Wind surfing	0.01	0.00	0.00

Latent class 1 (LC 1, 54.5%), no preference activity participants, was characterized by light to medium activity participation by those who only responded to dining, sightseeing, and hiking/walking with a probability of greater than 0.2 (Table 4-43). Latent class 2 (LC 2, 6.3%), heavy general-activity participants, was characterized by higher participation in a variety of activities. Activities such as sightseeing (general), hiking/walking, dining out (excluding fast food), shopping, wildlife viewing/bird watching, festival/event, farm market/u-pick/winery, visiting a federal/state park, boating, casino gaming, visiting friends/relatives, fishing (other), swimming (lake, pond, river), camping, photography, and historic site exhibited probabilities of participation higher than 0.5 in this class. Latent class 3 (LC 3, 39.2%), light general activity participants, was characterized by medium activity participation because the probability of activity participation mostly fell between the probability of the other two classes. In latent class 3, the probabilities of participation in fishing (fly), casino gaming, hunting (small game), mushroom collecting, hunting (deer), snowmobiling, sports tournament, hunting (turkey),

downhill skiing/snowboarding, fishing (ice), live theatre, and wind surfing were the lowest among the three classes.

Potential Visitors

As found in the analyses of transient and overnight visitors, comparison of the indicators in the LCA did not provide consistent evidence for selecting the best model. AIC and sample-size adjusted BIC decreased as the number of classes increased, while entropy increased as the number of classes increased. However, based on the index of BIC as well as judging by the classification profile, the three-class model was a superior relative fit for potential visitors (Table 4-42).

Table 4-42: Comparison of Model Fit Indicators for the Potential Visitor Sample

	C=2	C=3	C=4	C=5
Akaike (AIC)	12317.859	11999.159	11861.544	11763.581
Bayesian (BIC)	12655.508	12507.488	12540.552	12613.269
Sample-Size Adjusted BIC	12366.906	12072.999	11960.176	11887.006
Entropy	0.834	0.868	0.877	0.912

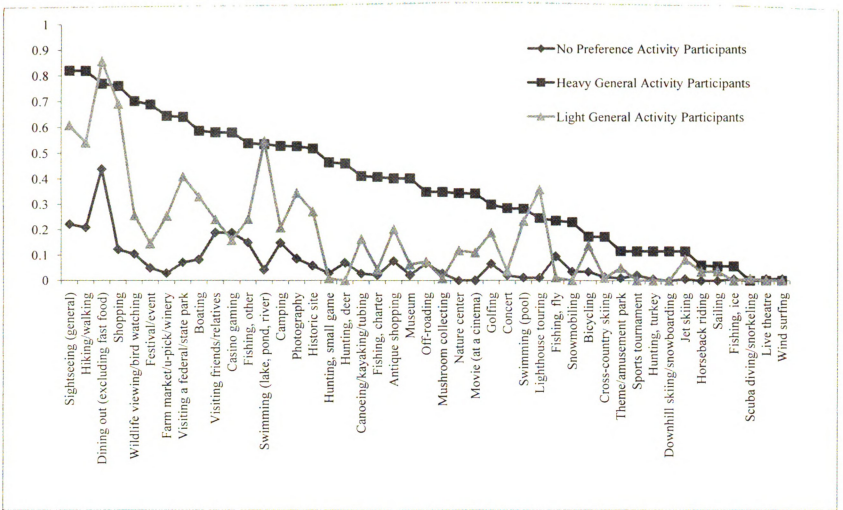


Figure 4-2: Probability of Activity Participation by Latent Classes among Overnight Visitors

LC 1, general tourists (about 29.1% of the respondents), included those who generally participated in different kinds of activities on their trips. Sightseeing (general) (91.8%), dining out (excluding fast food) (90.4%), historic site (87.8%), visiting a federal/state park (81.7%), museum (81.2%), shopping (78%), hiking/walking (74.5%), festival/event (74.3%), visiting friends/relatives (74.3%), nature center (71.5%), swimming (lake, pond, river) (54.3%), photography (52.7%), farm market/u-pick/winery (52.1%), camping (49.4%), lighthouse touring (47.9%), swimming (pool) (44.9), live theater (42.8), movie (at a cinema) (42.3%) and bicycling (41.6%) were frequently participated in within this class (Table 4-43 and Figure 4-3). Latent Class 2 (LC 2, 22.2% of the respondents), outdoor tourists, was characterized by their stronger participation in outdoor activities. Activity participation probability of LC 2 far exceeded members of other classes in camping, wildlife viewing/bird watching, boating, canoeing/kayaking/tubing, fishing (other), fishing (charter), hunting (deer), off-roading, fishing (fly), fishing (ice), hunting (small game), mushroom collecting, snowmobiling, and hunting (turkey). Latent class 3 (LC 3, 48.7% of the respondents), cultural tourists, was characterized by light-to-medium activity participation with the lowest probability in all activities except sightseeing (general), dining out (excluding fast food), historic site, shopping, festival/event, and visiting friends/relatives.

Table 4-43: Probability of Activity Participation across Latent Classes among Potential Visitors

	LC 1 General Tourists (n=88)	LC 2 Outdoor Tourists (n=67)	LC 3 Cultural Tourists (n=147)
Antique shopping	0.36	0.03	0.17
Bicycling	0.42	0.24	0.05
Boating	0.33	0.50	0.09
Camping	0.49	0.79	0.09
Canoeing/kayaking/tubing	0.29	0.33	0.07
Casino gaming	0.33	0.27	0.29
Concert	0.40	0.07	0.17
Cross-country skiing	0.16	0.10	0.02
Dining out (excluding fast food)	0.90	0.49	0.75
Downhill skiing/snowboarding	0.17	0.15	0.03
Farm market/u-pick/winery	0.52	0.22	0.23
Festival/event	0.74	0.29	0.38
Fishing, charter	0.10	0.24	0.05
Fishing, fly	0.05	0.15	0.00
Fishing, ice	0.03	0.25	0.00
Fishing, other	0.24	0.53	0.08
Golfing	0.29	0.29	0.22
Hiking/walking	0.75	0.57	0.25
Historic site	0.88	0.37	0.45
Horseback riding	0.14	0.08	0.06
Hunting, deer	0.09	0.48	0.03
Hunting, small game	0.03	0.22	0.00
Hunting, turkey	0.00	0.25	0.00
Jet skiing	0.06	0.04	0.02
Lighthouse touring	0.48	0.20	0.18
Live theatre	0.43	0.02	0.14
Movie (at a cinema)	0.42	0.14	0.19
Museum	0.81	0.15	0.27
Mushroom collecting	0.01	0.20	0.04
Nature center	0.72	0.21	0.12
Off-roading	0.08	0.25	0.03
Photography	0.53	0.41	0.26
Sailing	0.08	0.03	0.01
Scuba diving/snorkeling	0.10	0.07	0.02
Shopping	0.78	0.26	0.55
Sightseeing (general)	0.92	0.51	0.73
Snowmobiling	0.01	0.13	0.00
Sports tournament	0.13	0.12	0.09

Table 4-43 (Cont'd)

	LC 1 General Tourists (n=88)	LC 2 Outdoor Tourists (n=67)	LC 3 Cultural Tourists (n=147)
Swimming (lake, pond, river)	0.54	0.50	0.19
Swimming (pool)	0.45	0.24	0.29
Theme/amusement park	0.39	0.13	0.21
Visiting a federal/state park	0.82	0.55	0.24
Visiting friends/relatives	0.74	0.51	0.56
Wildlife viewing/bird watching	0.33	0.40	0.12
Wind surfing	0.01	0.03	0.00

Figure 4-3: Probability of Activity Participation by Latent Classes among Potential Visitors

Development of Profiles of Resulting Segments

Chi-square analyses and ANOVAs were carried out to profile each class's socio-demographic, trip-related, motivations, WCMI attraction, and WCMI destination attributes. In an ANOVA test, if the Levene statistic is significant at the 0.05 level, the researcher rejects the null hypothesis that the classes have equal variances, which means the assumption of homogeneity of variances to ANOVA is violated and Welch's variance would be recommended (Garson, 2009b; Howell, 2002). The *post hoc* test, Tukey's honestly significantly different (HDS), follows to determine the driving forces that cause differences among the classes. Following the suggestion of Jaccard, Becker, and Wood (1984), while the homogeneity of variances assumption is violated, the Games-Howell results, a modified HSD test, are reported.

H2.2: There are significant differences between classes with respect to respondents' socio-demographic characteristics.

Transient Visitors

Within transient visitors, age and living with children under 18 years old showed significant differences among the classes. Based on Tukey's HSD test, LC 3 (heavy general activity participants) was significantly younger than LC 2 (light outdoor activity participants) and LC 4 (light general activity participants). LC 3, the majority of females, was more likely to live with children under 18 years old while LC 2 was less likely to do so. The other socio-demographic characteristics did not show significant differences among the classes of transient visitors (Table 4-44).

Table 4-44: Socio-demographic Characteristics across Latent Classes among Transient Visitors

Socio-demographic Characteristics	LC 1 Heavy Outdoor Activity Participants (n=97)	LC 2 Light Outdoor Activity Participants (n=160)	LC 3 Heavy General Activity Participants (n=96)	LC 4 Light General Activity Participants (n=179)	Test Statistics
Age, *Mean (SD)*	43.6(13.9)	45.8(13.9)^{A}	41.0(13.0)^{AB}	46.0(13.1)^{B}	$F = 3.371$*
Gender (female) , %	19.8	37.8	54.2	49.7	$\chi^2 = 30.819$**, df = 3
Living with children under 18 years old , %	28.9	21.9	38.5	34.1	$\chi^2 = 9.776$*, df = 3
Income, %					$\chi^2 = 6.487$, df = 6
Below $42,500	22.0	24.4	14.9	18.6	
Between $42,500 and $75,000	51.6	44.5	47.9	43.7	
Above $75,000	26.4	31.1	37.2	37.7	
Employment, %					$\chi^2 = 6.282$, df = 6
Employed	79.3	79.5	79.1	74.3	
Unemployed	3.3	4.9	9.9	7.6	
Retired	17.4	15.6	11.0	18.1	

*$p<.05$, **$p<.01$

A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.

W: Welch statistics was reported while robust tests of equality of means.

Overnight Visitors

Respondents in LC 2 (heavy general activity participants) tended to be younger (mean age=50), less likely to live with children under 18 years old (29.4%) and 43.8 % of them had an annual income higher than $75,000. However, of those socio-demographic characteristics, only living with children under 18 showed significant differences among the classes (Table 4-45).

Table 4-45: Socio-demographic Characteristics across Latent Classes among Overnight Visitors

Socio-demographic Characteristics	LC 1 No Preference Activity Participants (n=146)	LC 2 Heavy General Activity Participants (n=17)	LC 3 Light General Activity Participants (n=105)	Test Statistics
Age, *Mean (SD)*	51.1(12.6)	49.7 (11.7)	51.0 (11.4)	$F = 0.107$
Gender (female), %	32.1	29.4	44.8	$\chi^2 = 4.513$, df = 2
Living with children under 18 years old, %	30.1	29.4	45.7	$\chi^2 = 6.779$*, df = 2
Income, %				$\chi^2 = 1.337$, df = 4
Below $43,000	19.8	18.8	25.3	
Between $43,000 and $75,000	42.7	37.5	38.4	
Above $75,000	37.4	43.8	36.4	
Employment, %				$\chi^2 = 1.834$, df = 4
Employed	73.0	66.7	75.2	
Unemployed	2.8	0.0	4.0	
Retired	24.1	33.3	20.8	
Education, %				$\chi^2 = 4.417$, df = 4
High school, some high school	17.5	17.6	17.8	
Some college, college graduate/professional	65.7	47.1	58.4	
Post-graduate	16.8	35.3	23.8	

*$p<.05$, **$p<.01$

Potential Visitors

Table 4-46 shows that only gender was significantly different among the three classes. LC 1 (general tourists) seemed to have more females (53.4%), while LC 2 (outdoor tourists) was dominated by males (69.7%).

Table 4-46: Socio-demographic Characteristics across Latent Classes among Potential Visitors

Socio-demographic Characteristics	LC 1 General Tourists (n=88)	LC 2 Outdoor Tourists (n=67)	LC 3 Cultural Tourists (n=147)	Test Statistics
Age, *Mean (SD)*	51.3(12.2)	51.4(12.3)	55.0(15.8)	$F = 2.381$ W
Gender (female) , %	53.4	31.3	43.7	$\chi^2 = 7.527$*, df = 2
Living with children under 18 years old , %	35.2	40.3	25.2	$\chi^2 = 5.704$, df = 2
Income, %				$\chi^2 = 3.885$, df = 4
Below $43,000	24.4	25.8	29.6	
Between $43,000 and $75,000	32.1	38.7	40.0	
Above $75,000	43.6	35.5	30.4	
Education, %				$\chi^2 = 8.037$, df = 4
High school, some high school	8.6	14.8	20.9	
Some college, college graduate/professional	63.0	67.2	61.2	
Post-graduate	28.4	18.0	17.9	

*$p<.05$, **$p<.01$
W: Welch statistics was reported while robust tests of equality of means.

H2.3: There are significant differences between classes with respect to respondents' trip-related characteristics.

Transient Visitors

In Table 4-47 the questions on trip-related characteristics indicated that only "days in advance to plan this trip" was significantly different. The *post hoc* test showed that significant differences were found between LC 1 (heavy outdoor activity participants) and LC 2 (light outdoor activity participants), as well as LC 1 and LC 4 (light general activity participants). LC 1 tended to plan their trip 42 days in advance while LC 3 (heavy general activity participants) tended to plan the trip about 113 days ahead.

Table 4-47: Trip-Related Characteristics across Latent Classes among Transient Visitors

Trip-related Characteristics	LC 1 Heavy Outdoor Activity Participants (n=97)	LC 2 Light Outdoor Activity Participants (n=160)	LC 3 Heavy General Activity Participants (n=96)	LC 4 Light General Activity Participants (n=179)	Test Statistics
Days in advance to plan this trip, *Mean (SD)*	41.5 (61.2) ^{AB}	77.4 (112.7) ^{A}	113.1 (260.7)	88.1 (127.3) ^{B}	$F = 7.093^{**}$ ^{W}
Nights planned to be away from home, *Mean (SD)*	3.2 (3.2)	3.9 (4.8)	4.6 (9.8)	5.2 (13.0)	$F = 1.213$
Types of lodging used in the WCMI, %					
Friend's or relative's home	15.5	26.3	24.0	21.8	$\chi^2 = 4.226$, df = 3
Hotel, motel or resort	15.5	16.3	10.4	16.8	$\chi^2 = 2.181$, df = 3
Bed & breakfast	1.0	0.0	0.0	2.2	$\chi^2 = 5.661$, df = 3
Rented cabin, cottage or condominium	3.1	5.6	5.2	6.1	$\chi^2 = 1.238$, df = 3
Owned second or seasonal home	12.4	11.3	17.7	12.3	$\chi^2 = 2.433$, df = 3
Campground or RV park	27.8	27.5	27.1	25.7	$\chi^2 = 0.205$, df = 3

*$p<.05$, **$p<.01$
A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.
W: Welch statistics was reported while robust tests of equality of means.

Overnight Visitors

Among trip-related attributes, LC 1 preferred to plan the trip about two months ahead while LC 2 preferred to plan the trip about five months ahead, and LC 3 tended to plan the trip four months in advance (Table 4-48). The statistic on days in advance to plan this trip showed a significant difference between LC 1 and LC 2 and between LC 1 and LC 3. In terms of overall experiences in the WCMI, LC 3 had better experiences than LC 1. LC 3 also spent more days in the WCM than LC 1. The Internet was the most popular travel source for LC 3, while LC 2 significantly depended on billboards/outdoor advertising, chambers of commerce, convention and visitors bureaus, state travel offices, highway welcome centers, television and radio more than the other two classes. Among lodging types, a significant difference was only shown in the lodging type of rented cabin

or cottage. The heavy general activity participants preferred to rent cabins (23.5%) more than the LC 1 (7.5%) while visiting the WCMI.

Potential Visitors

Chi-square analyses and ANOVAs were carried out to profile each class's trip-related characteristics (see Table 4-49). With respect to sources of information used in planning the pleasure trip, significant differences among classes were found in sources such as billboards/outdoor advertising, highway welcome centers, Internet/web sites, local visitor guides, magazines, radio, state travel offices, travel guides/brochures and word of mouth. In general, the Internet, friends or relatives, and word of mouth were the most important sources among the three classes. LC 1, general tourists, preferred to use the Internet (78.4%) and word of mouth (75.0%), both of which were significantly higher than other classes. LC 2, outdoor tourists, used radio (16.4%) significantly more than the other classes while their use of the Internet was the lowest among the three classes.

The results of Tukey's HSD *post hoc* tests showed that the outdoor tourists were significantly more likely to visit the WCMI in the next three years than the cultural tourists, but were not significantly different from the general tourists. LC 2 also was the largest class with 94% having visited the WCMI.

Table 4-48: Trip-related Characteristics across Latent Classes among Overnight Visitors

Trip-related Characteristics	LC 1 No Preference Activity (n=146)	LC 2 Heavy General Activity (n=17)	LC 3 Light General Activity (n=105)	Test Statistics
Days in advance to plan this trip, *Mean (SD)*	59.3 (86.8) ^{AB}	144.7 (161.3) ^{A}	112.5 (117.5) ^{B}	$F = 8.219^{**}$ ^{W}
Travel party size, *Mean (SD)*	3.2 (2.2) ^{A}	3.2 (1.3)	4.0 (3.0) ^{A}	$F = 3.367^{*}$
Overall experience in the WCMI , *Mean (SD)*	2.7 (0.8) ^{A}	2.4 (0.9)	2.3 (0.9) ^{A}	$F = 5.087^{*}$ ^{W}
Likely to visit the WCMI within next three years, *Mean (SD)*	1.5 (0.9)	1.2 (0.5)	1.5 (0.8)	$F = 2.042$ ^{W}
Nights spent within the WCMI, *Mean (SD)*	2.5 (1.8) ^{A}	6.3 (8.6)	4.3 (5.1) ^{A}	$F = 7.267^{*}$ ^{W}
Sources of information used in planning this visit, %				
AAA	10.3	23.5	17.1	$\chi^2 = 3.864$, df = 2
Billboards/outdoor advertising	2.7	17.6	1.9	$\chi^2 = 11.550^{**}$, df = 2
Chamber of commerce	8.9	35.3	18.1	$\chi^2 = 10.890^{**}$, df = 2
Convention and visitors bureau	6.8	35.3	12.4	$\chi^2 = 13.203^{**}$, df = 2
Friends or relatives	33.6	58.8	36.2	$\chi^2 = 4.208$, df = 2
Highway welcome centers	1.4	11.8	5.7	$\chi^2 = 6.470^{*}$, df = 2
Internet/web site(s)	29.5	17.6	43.8	$\chi^2 = 7.825^{*}$, df = 2
Magazine	4.1	17.6	8.6	$\chi^2 = 5.402$, df = 2
Newspaper	0.7	5.9	1.9	$\chi^2 = 2.997$, df = 2
Radio	0.0	5.9	1.0	$\chi^2 = 7.212^{*}$, df = 2
State travel office/Travel Michigan	2.1	41.2	12.4	$\chi^2 = 32.880^{**}$, df = 2
Television	0.7	11.8	1.0	$\chi^2 = 13.057^{**}$, df = 2
Travel guide(s)/brochure(s)	11.0	18.0	27.0	$\chi^2 = 10.420^{**}$, df = 2
Word of mouth	23.3	23.5	24.8	$\chi^2 = 0.074$, df = 2
Types of lodging used in the WCMI, %				
Friend's or relative's home	10.3	17.6	5.7	$\chi^2 = 3.239$, df = 2
Hotel, motel or resort	51.4	64.7	56.2	$\chi^2 = 1.393$, df = 2
Bed & breakfast	4.1	5.9	7.6	$\chi^2 = 1.426$, df = 2
Rented cabin, cottage or condominium	7.5	23.5	22.9	$\chi^2 = 12.709^{**}$, df = 2
Owned second or seasonal home	13.7	17.6	8.6	$\chi^2 = 2.089$, df = 2
Campground or RV park	8.9	17.6	19.0	$\chi^2 = 5.681$, df = 2

$^{*}p<.05$, $^{**}p<.01$

A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.

W: Welch statistics was reported while robust tests of equality of means.

Table 4-49: Trip-related Characteristics across Latent Classes among Potential Visitors

Trip-related Characteristics	LC 1 General Tourists (n=88)	LC 2 Outdoor Tourists (n=67)	LC 3 Cultural Tourists (n=147)	Test Statistics
Days in advance to plan your pleasure trip, *Mean (SD)*	22.2(22.9)	32.9(55.5)	22.8(25.8)	$F = 0.992$
Likelihood to visit the WCMI in the next 3 years, *Mean (SD)*	2.3(1.2)	1.9(1.1)^{A}	2.6(1.3)^{A}	$F = 8.776^{**}$ ^{W}
Have ever visited the WCMI, %	78.2	94.0	71.8	$\chi^2 = 13.412^{**}$, df = 2
Sources of information used in planning pleasure trip, %				
AAA	40.9	25.4	29.9	$\chi^2 = 4.839$, df = 2
Billboards/outdoor advertising	18.2	13.4	5.4	$\chi^2 = 9.734^{**}$, df = 2
Chamber of commerce	21.6	19.4	17.0	$\chi^2 = 0.771$, df = 2
Convention and visitors bureau	27.3	22.4	16.3	$\chi^2 = 4.117$, df = 2
Friends or relatives	77.3	74.6	70.7	$\chi^2 = 1.259$, df = 2
Highway tourist information centers	37.5	23.9	23.8	$\chi^2 = 5.802$, df = 2
Highway welcome centers	40.9	26.9	22.4	$\chi^2 = 9.305^{**}$, df = 2
Internet/web site(s)	78.4	53.7	62.6	$\chi^2 = 11.099^{**}$, df = 2
Local visitor guides	58.0	31.3	19.0	$\chi^2 = 37.744^{**}$, df = 2
Magazine	51.1	38.8	29.9	$\chi^2 = 10.516^{**}$, df = 2
Newspaper	39.8	29.9	30.6	$\chi^2 = 2.499$, df = 2
Radio	13.6	16.4	6.1	$\chi^2 = 6.361^{*}$, df = 2
State travel office	21.6	6.0	7.5	$\chi^2 = 13.376^{**}$, df = 2
Television	20.5	23.9	21.1	$\chi^2 = 0.296$, df = 2
Travel guide(s)/brochure(s)	67.0	47.8	46.3	$\chi^2 = 10.366^{**}$, df = 2
Word of mouth	75.0	74.6	57.8	$\chi^2 = 9.816^{**}$, df = 2

$^{*}p<.05$, $^{**}p<.01$

A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.

W: Welch statistics was reported while robust tests of equality of means.

H2.4: There are significant differences between classes with respect to respondents' travel expenditures.

Overnight Visitors

In terms of travel expenditures, significant differences among classes were found only on grocery spending. The LC 2 (heavy general activity participants) spent

significantly more on groceries than LC 1 (no preference activity participants) and LC 3 (light general activity participants) (Table 4-50).

Table 4-50: Travel Expenditures across Latent Classes among Overnight Visitors

WCMI Destination Attributes [a]	LC 1 No Preference Activity Participants (n=146) Mean (SD)	LC 2 Heavy General Activity Participants (n=17) Mean (SD)	LC 3 Light General Activity Participants (n=105) Mean (SD)	Test Statistics
Activities (equipment rentals, lessons, etc.)	1.6 (6.0)	3.0(6.4)	5.0 (12.6)	$F = 2.884$ W
Attractions (tickets, entrance fees, etc.)	3.4 (14.6)	4.6 (7.4)	3.1 (6.2)	$F = 0.104$
Gas/fuel	9.2 (11.0)	11.2 (10.0)	7.7 (8.6)	$F = 0.98$
Groceries	3.5 (5.0) A	8.4 (4.9) AB	4.3 (4.8) B	$F = 6.529$**
Lodging	24. 3 (27.1)	20.2 (14.7)	27.9 (33.0)	$F = 0.644$
Meals at restaurants/fast food	13. 6 (16.9)	13.2 (11.1)	14.5 (15.4)	$F = 0.098$
Shopping (clothes, souvenirs, etc.)	6.8 (37.1)	10.5 (12.7)	9.0 (11.9)	$F = 0.225$

*$p<.05$, **$p<.01$
A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.
W: Welch statistics was reported while robust tests of equality of means.

H2.5: There are significant differences between classes with respect to respondents' travel motivations.

Potential Visitors

With regard to travel motivations, significant differences were found in upscale facilities/services, a variety of shopping opportunities, interesting scenery, service quality, and a variety of attractions and/or activities. From Tukey's HSD test, specifically, LC 2, outdoor tourists, were least motivated by upscale facilities, service quality, shopping opportunities and a variety of attractions and/or activities. LC 1 was motivated by interesting scenery (mean=4.3) which was significantly different from LC 3 and, service quality (mean=4.2) and a variety of shopping opportunities (mean=3.1) which were statistically different from LC 2. It makes sense that the LC 1 is motivated to travel by a

variety of attractions and/or activities, more so than the other classes as LC 1 are general tourists who enjoyed various kinds of activities (see Table 4-51).

Table 4-51: Travel Motivations across Latent Classes among Potential Visitors

Motivations	LC 1 General Tourists (n=88) Mean (SD)	LC 2 Outdoor Tourists (n=67) Mean (SD)	LC 3 Cultural Tourists (n=147) Mean (SD)	Test Statistics
Upscale facilities/services	3.2(1.0)^{A}	2.6(1.1)^{AB}	3.2(1.1)^{B}	$F = 6.334$ **,
Travel time/distance	3.4(0.9)	3.1(0.9)	3.3(1.0)	$F = 1.122$
Cost	4.1(0.8)	3.7(0.9)	3.8(0.9)	$F = 2.963$
Family-friendly place and/or opportunities	3.5(1.3)	3.7(1.2)	3.5(1.1)	$F = 0.532$
Safety/security	4.2(0.8)	4.2(1.0)	4.3(0.8)	$F = 0.366$
Variety of shopping opportunities	3.1(1.0)^{A}	2.6(1.1)^{A}	3.0(1.1)	$F = 4.072$*
Interesting scenery	4.3(0.7)^{A}	4.2(0.7)	4.0(0.8)^{A}	$F = 4.376$*
Service quality	4.2(0.7)^{A}	3.9(0.8)^{A}	4.1(0.8)	$F = 3.381$*
Variety of attractions and/or activities	3.9(0.8)^{AB}	3.5(1.0)^{A}	3.6(1.0)^{B}	$F = 6.723$** ^{W}
Nightlife activities	2.6(1.2)	2.2(1.0)	2.4(1.1)	$F = 2.911$
Accessibility for disabled persons	2.0(1.3)	1.8(1.0)	2.1(1.3)	$F = 1.374$
Pet accommodations	1.9(1.3)	2.2(1.4)	1.8(1.1)	$F = 1.959$ ^{W}

*$p<.05$, **$p<.01$
A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.
W: Welch statistics was reported while robust tests of equality of means.

H2.6: There are significant differences between classes with respect to respondents' knowledge of WCMI attractions.

Transient Visitors

Awareness of WCMI attractions differed among these three classes represented in Table 4-52. LC 1 was identified as heavy outdoor activity participants. Respondents had visited water resource attractions such as the Manistee River, Ludington State Park/beaches, Pere Marquette River, and Muskegon River. However, LC 2 was characterized as lighter outdoor activity tourists; the majority of the LC 2 respondents fell into the category of "aware but not visited" in water resource attractions such as the

Manistee River, Ludington State Park/beaches, Pere Marquette River, and Muskegon River.

Table 4-52: Knowledge of Attractions across Latent Classes among Transient Visitors

WCMI Attractions	LC 1 Heavy Outdoor Activity (n=97)	LC 2 Light Outdoor Activity (n=160)	LC 3 Heavy General Activity (n=96)	LC 4 Light General Activity (n=179)	Test Statistics
Little River Casino					χ^2 = 32.439**, df = 6
Have Visited	47.7	37.4	47.9	27.4	
Aware, but Not Visited	45.5	33.0	39.4	53.0	
Not Aware of This Place	6.8	29.6	12.8	19.6	
Manistee River					χ^2 = 32.346**, df = 6
Have Visited	65.1	36.3	52.1	33.5	
Aware, but Not Visited	29.1	38.1	29.8	44.5	
Not Aware of This Place	5.8	25.7	18.1	22.0	
Ludington Car Ferry					χ^2 = 17.389**, df = 6
Have Visited	43.9	25.2	39.4	27.3	
Aware, but Not Visited	48.8	56.1	54.3	57.0	
Not Aware of This Place	7.3	18.7	6.4	15.8	
Ludington State Park/beaches					χ^2 = 30.518**, df = 6
Have Visited	66.7	38.2	66.3	65.7	
Aware, but Not Visited	28.7	44.5	25.0	22.5	
Not Aware of This Place	4.6	17.3	8.7	11.8	
Pere Marquette River					χ^2 =33.404**, df = 6
Have Visited	56.0	25.7	43.5	29.2	
Aware, but Not Visited	38.1	43.8	37.0	40.4	
Not Aware of This Place	6.0	30.5	19.6	30.4	
Irons/Lake County snowmobile trails					χ^2 = 12.063, df = 6
Have Visited	29.3	22.8	22.2	16.5	
Aware, but Not Visited	48.0	43.6	47.8	40.5	
Not Aware of This Place	22.7	33.7	30.0	43.0	
Muskegon River					χ^2 = 16.735*, df = 6
Have Visited	46.3	23.4	37.0	29.4	
Aware, but Not Visited	40.2	47.7	38.0	39.9	
Not Aware of This Place	13.4	29.0	25.0	30.7	
Newaygo State Park					χ^2 = 9.594, df = 6
Have Visited	27.6	18.4	18.5	17.9	
Aware, but Not Visited	55.3	47.6	48.9	46.9	
Not Aware of This Place	17.1	34.0	32.6	35.2	
Sand Dunes at Silver Lake					χ^2 = 18.728**, df = 6
Have Visited	60.7	36.5	58.7	44.9	
Aware, but Not Visited	34.5	45.2	31.5	41.9	
Not Aware of This Place	4.8	18.3	9.8	13.2	

Table 4-52 (Cont'd)

WCMI Attractions	LC 1 Heavy Outdoor Activity (n=97)	LC 2 Light Outdoor Activity (n=160)	LC 3 Heavy General Activity (n=96)	LC 4 Light General Activity (n=179)	Test Statistics
Hart-Montague (rail) Trail					χ^2 = 7.630, df = 6
Have Visited	25.6	18.8	26.9	21.5	
Aware, but Not Visited	48.7	46.5	33.3	41.1	
Not Aware of This Place	25.6	34.7	39.8	37.4	

*p<.05, **p<.01

Overnight Visitors

The three classes showed significant associations with awareness of WCMI attractions such as the Manistee River, Ludington State Park/beaches, Pere Marquette River, Irons/Lake County snowmobile trails, Newaygo State Park and Hart-Montague (rail) Trail. LC 2, heavy general activity participants, had visited most of the attractions. Eighty-two percent of LC 3, light general activity participants, had visited the Ludington State Park/beaches, but only 8% had been to the Irons/Lake County snowmobile trails (Table 4-53).

Table 4-53: Knowledge of Attractions across Latent Classes among Overnight Visitors

WCMI Attractions	LC 1 No Preference Activity (n=146)	LC 2 Heavy General Activity (n=17)	LC 3 Light General Activity (n=105)	Test Statistics
Little River Casino				χ^2 = 9.356, df = 4
Have Visited	39.3	56.3	28.1	
Aware, but Not Visited	35.2	43.8	43.8	
Not Aware of This Place	25.4	0.0	28.1	
Manistee River				χ^2 = 13.807**, df = 4
Have Visited	35.9	84.6	34.4	
Aware, but Not Visited	41.9	7.7	47.9	
Not Aware of This Place	22.2	7.7	17.7	
Ludington Car Ferry				χ^2 = 5.504, df = 4
Have Visited	32.5	42.9	43.6	
Aware, but Not Visited	58.3	50.0	53.5	
Not Aware of This Place	9.2	7.1	3.0	

Table 4-53 (Cont'd)

WCMI Attractions	LC 1 No Preference Activity (n=146)	LC 2 Heavy General Activity (n=17)	LC 3 Light General Activity (n=105)	Test Statistics
Ludington State Park/beaches				χ^2 = 10.837*, df = 4
Have Visited	66.1	80.0	82.8	
Aware, but Not Visited	26.3	20.0	16.2	
Not Aware of This Place	7.6	0.0	1.0	
Pere Marquette River				χ^2 = 10.367*, df = 4
Have Visited	49.2	71.4	34.0	
Aware, but Not Visited	29.2	7.1	39.4	
Not Aware of This Place	21.7	21.4	26.6	
Irons/Lake County snowmobile trails				χ^2 = 14.737**, df = 4
Have Visited	19.6	42.9	8.0	
Aware, but Not Visited	35.7	42.9	39.8	
Not Aware of This Place	44.6	14.3	52.3	
Muskegon River				χ^2 = 7.968, df = 4
Have Visited	30.2	64.3	28.9	
Aware, but Not Visited	41.4	28.6	40.0	
Not Aware of This Place	28.4	7.1	31.1	
Newaygo State Park				χ^2 = 16.749**, df = 4
Have Visited	18.8	61.5	33.0	
Aware, but Not Visited	50.0	30.8	31.9	
Not Aware of This Place	31.3	7.7	35.2	
Sand Dunes at Silver Lake				χ^2 = 5.596, df = 4
Have Visited	42.7	41.7	51.6	
Aware, but Not Visited	38.5	58.3	35.8	
Not Aware of This Place	18.8	0.0	12.6	
Hart-Montague (rail) Trail				χ^2 = 14.295**, df = 4
Have Visited	11.1	41.7	24.7	
Aware, but Not Visited	39.8	50.0	30.3	
Not Aware of This Place	49.1	8.3	44.9	

*p<.05, **p<.01

H2.7: There are significant differences between classes with respect to respondents' perceptions of WCMI destination attributes.

Overnight Visitors

Among the destination attributes, the three classes were statistically different with respect to the WCMI being a great family vacation destination, being a great winter

destination, being a safe place to visit, offering great shopping opportunities, and offering much scenic appeal. Compared to the other two classes, LC 2 more strongly agreed with all of these attributes except the WCMI being a great family vacation destination. LC 3 more strongly agreed with the WCMI being a great family vacation destination than LC 1. (see Table 4-54).

From *post hoc* results, a number of classes were found in each sample. The activity-based segmentation was helpful in segmenting the classes. While profiling the classes, these factors used in the *a priori* approach also explained the resulting classes. The marketing suggestions based on the classes generated in each sample are discussed in the next chapter.

Table 4-54: Perceptions of Destination Attributes across Latent Classes among Overnight Visitors

WCMI Destination Attributes[a]	LC 1 No Preference Activity Participants (n=146)	LC 2 Heavy General Activity Participants (n=17)	LC 3 Light General Activity Participants (n=105)	Test Statistics
Has good roads	7.9 (2.0)	7.2 (3.1)	7.6 (2.1)	$F = 0.744$ W
Has great outdoor recreation opportunities	9.1 (1.6)	9.5 (0.9)	9.1 (1.2)	$F = 0.63$
Has high quality lodging	7.3 (2.2)	7.8 (1.6)	7.6 (1.9)	$F = 0.979$
Has interesting historical sites	7.2 (2.1)	7.5 (1.6)	7.7 (2.0)	$F = 1.722$
Is a good place to meet friendly people	8.1 (1.9)	7.9 (1.7)	8.0(1.9)	$F = 0.026$
Is a great family vacation destination	8.4 (1.9) A	9.1 (1.2)	8.9 (1.3) A	$F = 3.714$* W
Is a great place to start a business	4.8 (2.2)	6.2 (3.2)	5.2 (2.3)	$F = 1.327$ W
Is a great spring destination	7.2 (2.2)	7.8 (2.5)	6.8 (2.5)	$F = 1.865$
Is a great summer destination	8.9 (1.6)	8.9 (1.6)	9.2 (1.4)	$F = 1.239$
Is a great fall destination	8.8 (1.6)	9.3 (1.1)	8.6 (1.9)	$F = 1.277$
Is a great winter destination	7.2 (2.7) A	9.2 (1.1) A B	7.0 (2.5) B	$F = 15.737$** W
Is a safe place to visit	8.7 (1.7) A	9.4 (0.7) AB	8.8 (1.3) B	$F = 4.973$* W
Is an exciting place to visit	7.0 (2.3)	8.1 (1.5)	7.6 (2.1)	$F = 2.821$
Is close enough for a weekend getaway	7.9 (2.9)	8.4 (3.1)	7.3 (3.2)	$F = 1.700$
Is easily accessible	8.2 (2.2)	7.6 (3.0)	8.3 (2.1)	$F = 0.682$
Offers exceptional value for the money	7.5 (1.9)	7.9 (2.2)	7.4 (1.8)	$F = 0.462$
Offers exciting nightlife and entertainment	5.1 (2.4)	5.9 (2.7)	5.2 (2.2)	$F = 0.666$
Offers great dining opportunities	6.4 (2.3)	7.1 (2.6)	6.7 (2.1)	$F = 1.037$
Offers great shopping opportunities	6.1 (2.2)	7.3 (2.2)	6.6 (1.9)	$F = 3.261$*
Offers much scenic appeal	9.0 (1.5) A	9.6 (0.5) A	9.3 (1.3)	$F = 5.86$* W

*$p<.05$, **$p<.01$

A-B: Means in the same row followed by the same superscript were significantly different at $p<.05$.

W: Welch statistics was reported while robust tests of equality of means.

CHAPTER 5 DISCUSSION AND CONCLUSIONS

The intent of this study was to assess the effectiveness of activity-based segmentation of the rural tourism market in the west-central Michigan region (WCMI). A theoretical framework, activity-based market segmentation, consisting of both *a priori* and *post hoc* approaches, was used to guide the study. Three samples were included: transient, overnight, and potential visitors. Data were collected using mail questionnaires for the overnight and potential visitor surveys and via in-person intercepts of transient visitors.

Statistical analysis included: (a) Descriptive statistics focusing on tourists' socio-demographic profiles and key variables used in the conceptual model (i.e., activity preference, trip-related characteristics, travel expenditures, travel motivations, WCMI attractions, WCMI destination attributes); (b) Chi-square testing of popular activities followed by logistic regression to examine the relationships between popular activities and other variables; and (c) Latent class analysis distributing the samples into classes from their participation in the 45 activities, then chi-square and one-way ANOVA testing of the relationship between the classes by each factor. A *post hoc* test examined expected differences among the classes.

Summary of Results and Discussion

The literature has generally suggested that activity participation is related to socio-demographic characteristics (e.g., age), trip-related characteristics (e.g., trip duration), and psychographic dimensions (e.g., travel motivations). However, few studies in rural tourism have specifically examined the relationship between tourists' activity participation and their travel behavior. This study contributes to filling this gap by

examining tourists' participation in activities on their trips in relation to some other potentially influential factors that could be used to predict their activity participation patterns. The key results of the study are discussed in three sections. The discussion from both the *a priori* and *post hoc* approaches is addressed. Summary results with conclusions and suggestions for applications for marketing strategies are presented. Then the segmentation performance of the two approaches is compared and evaluated.

A Priori Approach

The first part of the study focused on finding the groups based on participation in a single activity; therefore, the profiles are developed on the basis of each activity chosen from each sample.

Discussion of the Groups Resulting from the A Priori Approach

Among transient visitors, those whose primary destination on this current trip was the WCMI were more likely to stay in privately owned vacation homes and less likely to stay in hotels, motels, or resorts or bed and breakfasts. The Ludington State Park/beaches was a very popular attraction among those whose primary destination was the WCMI. The top two popular and distinctive activities transient visitors participated in (boating and attending a festival/event) were chosen to develop the profiles. Younger visitors tended to participate in boating more often. Visitors participating in boating also tended to visit the Ludington Car Ferry. Female visitors tended to participate in festivals/events. Visitors participating in a festival/event were more likely to have visited the Little River Casino and the sand dunes at Silver Lake.

Among overnight visitors, some differences were found between those who spent two nights or less on their most recent overnight visit to the WCMI and those who spent at least three nights on their most recent overnight visit to the WCMI. Those who spent at least three nights were more likely to plan their trips four months ahead, travel with a larger party, and use chambers of commerce and travel guides/brochures than those who spent two nights or less. Those who spent more nights also tended to stay in a rented cabin, cottage or condominium but not in a hotel, motel or resort. Those who spent at least three nights agreed significantly more with the WCMI being a good place to meet friendly people, a great family vacation destination, and an exciting place to visit. The most popular and distinctive activities among overnight visitors regarding trip length included hiking/walking and shopping. The activities with participation frequency higher than 45% and also having significantly more participation by those who spent at least three nights in the WCMI (shopping and hiking/walking) were chosen for profiling.

Among hiking/walking participants, female visitors were more likely to participate in hiking/walking. Visitors participating in hiking/walking tended to spend more money on groceries but less on gas. They used travel information from convention and visitor bureaus and were more likely to stay in cabins or second homes. Shoppers tended to include more female visitors, preferred to plan the trip in advance, and were motivated to shop and to spend more money. This group tended to rely on travel information from friends or relatives. The shopping group was more likely to visit the WCMI within the next three years. But the result seemed to conflict with potential visitors' choice of activity while on their pleasure trips. From potential visitors' activity participation, those who have visited the WCMI participated in shopping significantly

less than these who have not visited the WMCI. Therefore, for promotion strategies related to shopping activities, advertisements of shopping events would be better put in media ahead of time, so shoppers can have relevant information early since they seemed to plan their trips earlier. Shopping is a very popular activity (Carmichael & Smith, 2004); it is worth creating more shopping opportunities or advertising them more to enhance tourists' shopping experiences.

Activities such as shopping and hiking/walking attract visitors to stay longer. Promotions of these activity opportunities are suggested to come along with lodging choices. For example, maps of hiking/walking trail routes placed in convention and visitor bureaus could feature local businesses such as grocery stores and advertise cabins and second home properties in this area.

Among potential visitors, activity participation differences between those who have never visited the WCMI and those who have visited the WCMI were evaluated. Those who have visited the WCMI tended to be older and preferred to use travel sources such as billboards/outdoor advertising, magazines, and newspapers. The group was less concerned with cost and nightlife activity but showed a higher concern for interesting scenery. The most popular activity for those who have visited the WCMI compared with those who have never visited the WCMI was visiting a federal/state park. The group who participated in visiting a federal/state park tended to possess a post graduate degree and was concerned more about cost and attractions and less about nightlife opportunities. The travel sources used by this group included Internet, local visitor guides, and radio. However, the Newaygo state park is not as well known among this group as the Ludington state park; hence, promotion of the Newaygo state park could create more

interest in events related to its attractions and remind visitors of the low cost of enjoying these attractions.

Identifying Bases for Market Segmentation in the A Priori Approach

The results demonstrate that activity is an effective segmentation base applied in the *a priori* approach while segmenting rural tourists. Transient visitors whose primary destination on this current trip was the WCMI significantly participated in boating, festival/event, fishing (fly), hunting (deer), off-roading, and sports tournaments. Overnight visitors who spent at least three nights on the most recent overnight visit to the WCMI enjoyed more antique shopping, boating, canoeing/kayaking/tubing, concerts, farm market/u-pick/winery, fishing (other), hiking/walking, shopping, and swimming (lake, pond, river). Potential visitors who had visited the WCMI enjoyed more antique shopping, fishing (other), golfing, hunting (deer), lighthouse touring, and visiting a federal/state park during their pleasure trips compared to those who had never visited the WCMI. The transient survey was conducted over a two-month period; therefore, the activity participation in the current trip was limited to summer and fall activities. That sports tournaments were found to be significant within the transient survey might be due to some special events such as local golf tournaments that were held in that period of time. But generally speaking, boating, fishing, and deer hunting were confirmed as the most popular activities across the three different samples.

Developing Profiles of Resulting Segments in the A Priori Approach

Socio-demographic variables such as gender and education were confirmed as valuable in profiling segments. This result is consistent with the findings in previous studies (citied in Brown, 2001; Loker & Perdue, 1992). Among these variables, gender

was the most distinguishable variable. It was significantly related to participation in festivals/events, hiking/walking, and shopping. Jansen-Verbeke (1987) and Turner and Reisinger (2001) suggested that there is a strong positive relationship between shopping activity and the female gender. In this study, results confirmed that the shopping market was dominated by females. Also, festival/event and hiking/walking were found strongly favored by females. This study area contains many easy hiking trails, and that may be the reason why walking/hiking attracted females more than males in the study area. Boating was more popular among younger visitors.

Motivations have been commonly discussed as a segmentation base in tourism research (e.g., Bieger & Laesser, 2002; Cha, et al., 1995), and motivation variables were useful in the segmentations developed in this study. In general, potential visitors who visited a federal/state park were motivated to travel by some motivation factors. This result is consistent with the previous study of MacKay, Kathleen, and Vogt (2002), which suggested that motivation variables are helpful in segmentation studies. Thus, promotional strategies for state parks could focus on the attractions in the state parks and the reasonable cost that motivate tourists to visit them.

Trip-related variables such as party size and length of stay (e.g., Moscardo, 2004; Spencer & Holecek, 2007) are among of the most accepted variables by researchers to differentiate tourists. Differences in travel patterns were found between transient, overnight, and potential visitors. However, though these variables were discussed in each particular activity, most of the trip-related variables did not demonstrate any variation between activity participation and non-activity participation, except for shopping. Thus, trip-related variables in this study were not helpful in differentiating tourists by activity

participation. Yoon, Spencer, Holecek, and Kim (2000) found that festival/event tourists in Michigan were more likely to start their trips during the summer time, plan their trips and choose their destinations earlier, take longer trips, and spend more money on their trips when compared to other tourists. In contrast, the findings of this study did not reveal any relationship between festival/event and trip-related variables. This might be due to the fact that the relationship was compared in overnight visitors, who already have similar travel patterns such as length of stay.

Knowledge of expenditures can help to understand tourists' consumption patterns. Using spending patterns, tourism planners can create more opportunities for tourists and produce economic development plans for locals as well. But, one important issue in estimating expenditures, recall bias, often occurs in research (Rylander, Propst, & McMurtry, 1995). This study asked respondents to recall the most recent trip to the WCMI. This method would also result in recall bias. Investigation of expenditures of visitors who spent two nights or less in the WCMI and those who stayed at least three nights showed significant differences for spending on gas, groceries, lodging, and meals at restaurants. Profiling the activity participation in hiking/walking and shopping showed that those who enjoyed hiking/walking would spend less on gas and but more on groceries and those who liked shopping would spend more on shopping.

Generally speaking, friends/relatives, and the Internet were the most popular information resources. According to the Domestic Travel Market Report by the Travel Industry Association (TIA, www.tia.org) (as cited in Miller & Washington, 2009a), about 59% of shopping travelers obtained shopping information from friends, family, or co-

workers, and 25% searched from hotels. This study confirmed the same result as the report.

The results in choices of lodging type were only found to be significant for hiking/walking. The results echoed the patterns of consumption found for expenditures. Given the significant relationship between hiking/walking and staying in a cabin or second home, the spending on groceries for hiking/walking participants was a rational outcome.

Understanding WCMI attractions and activity participation can directly assist tourism planners to recognize the strengths and weaknesses of promoting the study area. For example, among boating participants, 26.3% were aware of the Ludington State Park, 41.8% were aware of the Pere Marquette River, 40.6 % were aware of the Muskegon River, and 50.4% were aware of the Newaygo State Park but have not visited these areas. Further, 8.5% were not aware of the Ludington Sate Park, 19.3% were not aware of the Pere Marquette River, 23.7% did not know of the Muskegon River, and 28.5% have not heard about the Newaygo State Park. These destinations are known for abundant water resources for boating activities. Surprisingly, there were still many respondents who did not know or were aware but have not visited these attractions. In terms of hiking/walking, 37.6% of the participants were aware of the Hart-Montague (rail) Trail but have not visited it, and 41.2% did not know about this trail. It seems that advertising for these attractions has not yet been developed to efficiently attract visitors.

The particular activities that the study region can target include boating, festival and events, hiking/walking, shopping, and visiting a federal/state park. Logistic regression models identified some important socio-demographic variables such as age,

gender, and education, travel related attributes such as days in advance to plan this trip, travel party size, and likelihood to visit the WCMI within next three years. WCMI destination attributes such as the WCMI being a good place to meet friendly people and a great family vacation destination explained activity participation. Also influencing the dependent variables were travel sources such as AAA, Internet, local visitor guides, radio, billboards/outdoor advertising, magazines, newspapers, chambers of commerce, travel guides/brochures, friends or relatives, and knowledge of WCMI attractions such as the Ludington State Park/beaches, Ludington Car Ferry, Little River Casino and sand dunes at Silver Lake, Irons/Lake County snowmobile, and Marquette River. Travel motivations such as shopping, cost, nightlife, and interesting scenery and travel expenditures for shopping and groceries also predicted the dependent variable in different levels (see Table 5-1).

Table 5-1: Summary of Results Based on the A Priori Approach

	Transient Visitors	Overnight Visitors	Potential Visitors
H1.1: Activity type	Boating, festival/event, fishing (fly), hunting (deer), off-roading, sports tournament,	Antique shopping, boating, canoeing/kayaking/tubing, concert, farm market/u-pick/winery, fishing (other), hiking/walking, shopping, swimming (lake, pond, river)	Antique shopping, fishing (other), golfing, hunting (deer), lighthouse touring, visiting a federal/state park, shopping (reverse)
H1.2: Socio-demographic characteristics	Boating: age Festival/event: gender	Hiking/walking: gender, Shopping: gender	Visiting a Federal/state Park: education
H1.3: Travel motivations	-	-	Visiting a Federal/state Park: cost, attractions, nightlife
H1.4: Trip characteristics	Boating: none Festival/event: none	Hiking/walking: none Shopping: plan days in advance, visit	Visiting a Federal/state Park: none
H1.5: Travel spending	-	Hiking/walking: gas, grocery Shopping: shopping	-
H1.6: Travel sources	-	Hiking/walking: convention and visitors bureaus Shopping: friends or relatives	Visiting a Federal/state Park: Internet, guide, radio
H1.7: Choice of lodging type	Boating: none Festival/event: none	Hiking/walking: cabin, second home Shopping: none	-
H1.8: WCMI attractions	Boating: Ludington Car Ferry Festival/event: Little River Casino, sand dunes at Silver Lake	Hiking/walking: Little River Casino, Irons/Lake County snowmobile trails Shopping: Pere Marquette River	-
H1.9: Destination Attributes	-	Hiking/walking: none Shopping: shopping	-

Post Hoc Approach

The second part of the study focused on finding bundles of activities that can be used to segment visitors; these segments (classes) can then be used to develop motivational and travel behavior profiles of distinct segments of rural tourists (Table 5-2).

Discussion of the Classes Resulting from the Post Hoc Approach

Transient visitors

Transient visitors were classified into four classes. LC 1, named heavy outdoor activity participants, contained more males who did not plan their trips far ahead. The visitors in LC 1 have visited WCMI attractions such as the Manistee River, Ludington State Park/beaches, Pere Marquette River, Irons/Lake County snowmobile trails, Muskegon River, and sand dunes at Silver Lake.

Activities such as hunting, fishing, camping, boating, and canoeing/kayaking/tubing are strongly recommended for promoting to this class. It seemed that this class knows the attractions in the study area well. The strategy for targeting this class could be advertising any events related to outdoor activity in the media one or two months in advance.

LC 2, named light outdoor activity participants, enjoyed camping, canoeing/kayaking/tubing, boating, and bicycling (participation probability ranged from 0.2 to 0.4). But the probabilities of participation in these activities were less than for LC 1. Light outdoor activity participants' average age is 46 years old, and the majority are males. They tended to plan their trips at least two months in advance. Most of them did not live with children. The majority of this class had not visited the Manistee River,

Ludington Car Ferry, Ludington State Park, Pere Marquette River, Muskegon River, and Silver Lake.

For targeting this class, activities such as camping, canoeing/kayaking/tubing, boating, and bicycling are the most recommended. Promotion is suggested to provide information about the various activities, locations, and activity-related events about two-three months before the activity season starts. It seemed that many attractions are not well known by this class. In terms of the strategy of marketing for this class, promotions of attractions are suggested to cover more details about each activity's location and related events.

LC 3, named heavy general activity participants, contained the same proportion (18%) as LC 1. The class was the youngest and had more females. The LC 3 has the highest percentage of respondents with children under 18 years old among the four classes. They also preferred to plan the trip further in advance. The Little River Casino, Manistee River, Ludington State Park/beaches, Pere Marquette River, and sand dunes at Silver Lake were popular attractions for this class.

Since heavy general activity participants were interested in various activities, promotions of swimming (lake, pond), boating, sightseeing, dinning out, camping, canoeing/kayaking/tubing, festival/event, visiting friends/relatives, hiking/walking, movie, bicycling, swimming (pool), fishing, theme/amusement park, farm market/u-pick/winery, wildlife viewing/bird watching, and historic sites are recommended to match their needs. Advertisements featuring more family friendly opportunities related to the activities could be posted in the media three or four months ahead.

LC 4, named light general activity participants, was the largest and the oldest class. This class was fairly even in gender. They planned their trips almost three months ahead. They enjoyed staying in hotels, motels or resorts slightly more than the other classes. This class included the largest proportion of respondents who were aware of but have not visited the Little River Casino and the Ludington Car Ferry.

Activities such as sightseeing (general), dining out (excluding fast food), camping, shopping, festival/event, bicycling, hiking/walking, boating, swimming (lake, pond, river), lighthouse touring, visiting friends/relatives, visiting a federal/state park, canoeing/kayaking/tubing are recommended for this class. Light general activity participants tended to plan their trips about three months ahead. Promotions featuring accommodation choices and providing coupons three or four months ahead would be effective in drawing this class's attention.

Overnight visitors

Overnight visitors were classified into three classes. LC 1, no preference activity participants, planned their trip 40 days in advance and travelled in smaller groups. Friends or relatives and word of mouth are the common information sources among overnight visitors. This class stayed least often in a rented cabin, cottage or condominium. This class had the lowest proportion of respondents who have visited the Ludington State Park, the Newaygo State Park, and the Hart- Montague (rail) Trail. In terms of destination attributes, "no preference activity" participants showed the lowest agreement on attributes such as the WCMI "offers much scenic appeal," "offers great shopping opportunities," "is a safe place to visit," and "is a great family vacation destination." In

general their overall experience in the WCMI was less satisfactory than for the other two classes.

Dining out, sightseeing, and hiking were the most popular activities in this class; the probability of participation in other activities was very low. The suggested marketing plan for this class is to create more dining promotions or small town exhibits and advertise those activities one to two months in advance.

LC 2, consisting of heavy general activity participants, was the smallest class of overnight visitors. The majority did not live with children. This class planned their trips on average five months in advance and stayed longer in the WCMI. It used travel sources such as billboards/outdoor advertising, chambers of commerce, convention and visitors bureaus, highway welcome centers, radio, state travel office/Travel Michigan, and television more often than other classes. Although hotels, motels or resorts were common lodging choices among overnight visitors, LC 2 was more likely to stay in rented cabins, cottages and condominiums. Compared to the other two classes, LC 2 included the largest percentage of visitors who have visited WCMI attractions except Ludington State Park/beaches. This class also agreed very strongly with the WCMI being a great family vacation destination, a great winter destination, a safe place to visit, offering great shopping opportunities, and offering much scenic appeal. The travel expenditure on grocery shopping was higher than for the other classes.

Heavy general activity participants strongly engaged in sightseeing, hiking/walking, dining out, shopping, wildlife viewing/bird watching, festival/event, farm market/u-pick/winery, visiting a federal/state park, boating, visiting friends/relatives, casino gaming, fishing, swimming (lake, pond, and river), camping, photography, and

historic site. Hunting, fishing, and water related activities should be promoted to this class. Billboards/outdoor advertising, chambers of commerce, convention and visitors bureaus, highway welcome centers, state travel office/Travel Michigan, and television are potentially useful sources to advertise these activities. Since this class tended to plan their trip far in advance, activity-related information or any special offers should be posted about four to six months before activity seasons. Promotion of these activities should also include those distinctive WCMI destination attributes that attract "heavy general activity" types of tourists.

LC 3, light general activity participants, included the majority of the respondents who lived with children under 18 years old. This class typically planned their trips three to four months ahead and stayed four nights on average. This class most often travelled in bigger parties and used the Internet/web sites and travel guides/brochures more often for gathering travel information than other classes. Besides hotels, these participants, like LC 2, enjoyed staying in a rented cabin, cottage or condominium. This class favored the Ludington State Park/beaches more than the other classes. The majority of LC 3 were aware of but have not visited the Pere Marquette River and Manistee River, and have the highest proportion that were not aware of the Newaygo State Park compared with other classes. This class agreed least with the WCMI being a great winter destination. Its overall experience in the WCMI was rated the best among the three classes.

Major activities that could be promoted for LC 3 include dining out, shopping, sightseeing, swimming (lake, pond, and river), hiking/walking, and visiting a federal/state park. Since this class enjoyed summer more, tourism planners could design more events during summer but at least three or four months in advance and post the information

along with accommodation promotions a couple of months in advance. Larger rooms and rented cabins would attract more attention because this class tended to have larger travel parties. Family friendly environment is another marketing theme. Attraction locations and information about activities could follow the theme to create a family friendly environment to better fit this class's needs.

Potential visitors

Potential visitors were classified into three classes. LC 1 was best described as "general tourists" and included more females. The use of Internet, word of mouth, travel guide(s)/brochure(s), magazines, and local visitor guides was significantly more popular than in the other classes. The class was motivated most strongly by interesting scenery, service quality, a variety of shopping opportunities, upscale facilities/services, and a variety of attractions and/or activities when travelling.

For targeting LC 1, activities such as sightseeing (general), dining out, historic sites, visiting a federal/state park, museums, shopping, hiking/walking, festival/event, visiting friends/relatives, nature center, swimming (lake, pond, river), photography, and farm market/u-pick/winery are recommended. For accommodation choices, the promotion could emphasize higher quality and service, interesting scenery, and variety of attractions and /or activities to meet demands of this class.

LC 2, named outdoor tourists, had the largest proportion of males, had over 90% who have visited the WCMI, and was more likely to visit the WCMI in the next three years. They used the Internet relatively less but relied more on the radio for information than the other classes. This class cared the least about upscale facilities/services, variety of attractions and/or activities, and variety of shopping opportunities.

For targeting this class, camping, hiking/walking, visiting a federal/state park, fishing, sightseeing, visiting friends/relatives, swimming (lake, pond, and river),and boating are the main activities suggested for promotions.

LC 3, named cultural tourists, was the largest class among potential visitors. Concern for upscale facilities/services was significantly higher than for outdoor tourists (LC 2). Concern for interesting scenery was significantly lower than for the other two classes. This class contained the smallest proportion of respondents who have visited the WCMI, and the likelihood of visiting the WCMI in the next three years was significantly lower than for the other classes. Again, travel information mainly came from friends or relatives, Internet, and word of mouth. The use of radio, magazine, local visitor guides, highway welcome center, billboards/outdoor advertising, travel guides(s)/brochure(s), and word of mouth was significantly less than for the other classes.

Promotions of the most popular activities such as dining out, sightseeing, visiting friends/relatives, shopping, historic site, and festival/event are strongly recommended to meet cultural tourists' needs. Activities and related events could be posted one month before the activity season starts. Marketing for the area could also emphasize the upscale facilities/services.

Identifying Bases for Market Segmentation in the Post Hoc Approach

The study confirmed that activity type provides a practical basis for segmenting tourists. Activity-based segmentation helps to identify classes that participate in different activities while traveling. These results appeared to echo other research studies manifesting activity-based segmentation as an appropriate approach to segment tourists (Beritelli & Boksberger, 2005; Lang, et al., 1993).

From the transient visitor results, the study area was dominated by light general activity participants and light outdoor activity participants. For overnight visitors, the majority of visitors were no preference activity participants, and light general activity participants. Visitors enjoyed participating in a variety of activities, but did not particularly focus on certain types of activities.

Among potential visitors, the three classes (general, outdoor, cultural tourists) identified seemed very different from the classifications of overnight (no preference activity, light general activity, heavy general activity participants) and transient visitors (light general activity, light outdoor activity, heavy outdoor activity, heavy general activity participants) (Table 5-2). The samples from the overnight and transient surveys may include similar types of tourists and it is difficult to segment these tourists by different activity participation. Because overnight visitors were actual rural tourists who have visited the WCMI and transient visitors were identified as tourists who have stayed in or passed through the WCMI, these two samples were found to have similar classes.

While discussing rural tourists in the WCMI, it is interesting to note that the largest clusters (i.e., no preference activity participants, and light general activity participants) comprised individuals whose probability of participating in activities was low. But it is understandable since the WCMI is a rural setting offering a variety of activities and marketing has not specifically focused on certain activities. Additionally, the classes from the rural tourists in the study were different from other populations shown in Table 2-4. The rural tourists showed different needs than other types of tourists.

Table 5-2: Summary of Results Based on the Post Hoc Approach--Activity Participation

	Transient Visitors	Overnight Visitors	Potential Visitors
Activity	**Heavy outdoor-activity participants (LC 1): (18.2%)** Hunting, fishing, camping, boating, and canoeing/kayaking/tubing **Light outdoor activity participants (LC 2) (30.1)** Camping, canoeing/kayaking/tubing , boating, and bicycle **Heavy general activity participants (LC 3): (18.1%)** Swimming (lake, pond), boating, sightseeing, dinning out, camping, canoeing/kayaking/tubing , festival/event, visiting friends/relatives, hiking/walking, movie, bicycling, swimming (pool), fishing, theme/amusement park, farm market/u-pick/winery, wildlife viewing/bird watching and historic sites **Light general activity participants (LC 4): (33.6%)** Sightseeing (general), dining out (excluding fast food), camping, shopping, festival/event, bicycling, hiking/walking, boating, swimming (lake, pond, river), lighthouse touring, visiting friends/relatives, visiting a federal/state park, canoeing/kayaking/tubing	**No preference activity participants (LC 1): (54.5%)** Dining out, sightseeing and hiking **Heavy general-activity participants (LC 2): (6.3%)** Sightseeing, hiking/walking, dining out, shopping, wildlife viewing/bird watching, festival/event, farm market/u-pick/winery, visiting a federal/state park, boating, visiting friends/relatives, casino gaming, fishing, swimming (lake, pond, and river), camping, photography and historic site **Light general activity participants (LC 3): (39.2%)** Dining out, shopping, sightseeing, swimming (lake, pond, and river), hiking/walking, and visiting a federal/state park.	**General tourists (LC 1): (29.1%)** Sightseeing (general), dining out, historic site, visiting a federal/state park, museum, shopping, hiking/walking, festival/event, visiting friends/relatives, nature center, swimming (lake, pond, river), photography, and farm market/u-pick/winery **Outdoor tourists (LC 2): (22.2%)** Camping, hiking/walking, visiting a federal/state park, fishing, sightseeing, visiting friends/relatives, swimming (lake, pond, and river) and boating **Cultural tourists (LC 3): (48.7%)** Dining out, sightseeing, visiting friends/relatives, shopping, historic site and festival/event

Developing Profiles of Resulting Segments in the Post Hoc Approach

The results of this study were also consistent with the study of Choi and Tsang (1999), Lang (1993), Moscardo (2004) and Sarigöllü and Huang (2005) showing that socio-demographic variables and trip-related attributes are helpful information for creating market strategies for rural tourism markets. Motivation variables were confirmed as an important factor influencing tourists' travel decisions, which was consistent with the studies of Carr (2006), and McKercher, et al (2002).

This study also included the profiling factors for WCMI destination attributes and WCMI attractions. These results could help to promote destination attractions more efficiently to meet visitors' needs.

Comparison between A Priori and Post Hoc Approaches

The performance of *a priori* and *post hoc* approaches can be compared by two dimensions, identifying bases for market segmentation and profiles of resulting segments. For identifying bases for market segmentation, both approaches were demonstrated to be powerful bases in segmenting tourists based on activity participation. In the *a priori* approach, activity participation in boating, festival/event, shopping, hiking/walking, visiting a federal/state park, etc. was found to be significantly higher in the defined groups regarding the criteria set in each sample. In the *post hoc* approach, samples were segmented into three to four classes. Both approaches segmented samples well based on activity participation. Regarding the performance of profiles of resulting segments, the prediction of resulting segments from the *a priori* approach is not as powerful as from the *post hoc* approach. More variables were found to explain the classes (from the *post hoc* approach) better than the groups (from the *a priori* approach). Therefore, marketing

strategies based on the *post hoc* approach would be more practical for tourism planners. But the *a priori* approach is easier to use, and when the tourism planner has a particular target in mind, it is the direct approach to explore the characteristics of that group.

The combination of the two approaches is recommended. The promotion of only one or two activities may not help in promoting rural tourism destinations since the results have shown that rural tourists favor a wide variety of activities. But the combination of *a priori* and *post hoc* approaches can complement each other in developing effective promotion strategies. The general target from the *post hoc* approach and certain targets from the *a priori* approach can both be applied not only to position the study area to become a more popular rural destination based on general activities but also to emphasize specific outdoor activities to highlight the characteristics of the study region.

The results from both *a priori* and *post hoc* approaches addressed the different characteristics for activities chosen as important targets as well as for classes that were classified from 45 activity categories. The study area possesses a variety of resources, enabling its promotion to target different group visitors. Giving many choices to fit visitors' diverse needs and targeting more than one group also includes the benefit that tourists can spread out in the study area instead of crowding in certain locations for certain activities. The latter could affect tourist satisfaction and cause negative environmental impact. However, tourism planners could introduce the variety of resources well enough to draw visitors' attention. Sometimes, the variety of resources seemed to be perceived by tourists as having no distinguishing characteristics; the outcome from the *a priori* approach, therefore, offered a complementary plan for the area

which would highlight distinct attritions. Tourism planners could choose and combine some results and develop special marketing plans based on these profiles.

Webb and Quintana (2009) suggested that non-traditional marketing plans in rural tourism should take advantage of the best information source expressway, the Internet. The researchers introduced several search engines such as Google Adwords, Google Maps, NAVTEQ.com, Twitter, and Skype as powerful tools to promote local business.

As evident from this study, the Internet has become very popular as one of the important means for searching for travel information. Michigan's Great Outdoors is an informal partnership of tourism leaders in Manistee, Mason, Oceana, Lake, and Newaygo counties and is set up for tourists to find their interests in the study area. The results of this study could be used for designing the web site. In order to save visitors time and effort in searching for information on the web site, the activities could be bundled and designed based on the results of this study as different packages so tourists could find their interests directly.

Implications

The results of this study have important implications for both future research studies and rural tourism marketing. By providing an analysis of rural tourists by activity categories, this study should contribute to future marketing research as a stepping stone for others to link activities to rural destinations and also promote them to rural tourists. The implications of the study can be discussed from a theoretical and a practical perspective.

Theoretical

Activity-based market segmentation was applied for the first time to better understand market segments in rural tourism. The *a priori* approach that considered the specific activity and the profile related to that specific activity and the *post hoc* approach that provided general ideas were both applied in the study. The two approaches were convincingly effective. This study showed that activity is a practical base to segment rural tourists in the WCMI either by the *a priori* or the *post hoc* approach.

Also, latent class analysis was applied in the *post hoc* approach. The analysis provides model fit indices that can help researchers to select appropriate classes (groups), but researchers still need to decide the number of classes based on their professional judgment. Overall, the classes identified in the study were determined to be useful. The classes could be profiled by a series of variables. Some significant characteristics were found to differentiate the classes.

The study included more sets of attributes than previously analyzed in tourism market segmentation. For example, attributes included socio-demographic, travel motivations, satisfaction, trip characteristics, spending, WCMI attractions, and WCMI destination attributes. These characteristics considered not only demand-side attributes but also supply-side attributes. The study could be utilized to develop marketing strategies as part of tourism planning.

Practical Significance

The study provided a comprehensive tourist profile through market segmentation based on combining the results from the two approaches. The building of precise tourist profiles through market segmentation enables tourism planners to design more effective

promotional strategies as well as provide the necessary supply of tourist services. The results of this study have important implications for management. In the potential visitor survey, the results of the *post hoc* approach showed that tourists can be classified into three classes. The "cultural tourists" dominated and "general tourists" who favored a variety of activities followed as the second largest class. The WCMI region can target "general tourists" based on LCA results from overnight and transient visitors. Overnight visitors had the largest class among "no preference activity participants" and transient visitors had the largest class among "light general activity participants." Those three classes can be treated similarly due to their general activity participation.

The WCMI can also meet needs for outdoor-type tourists. Based on results from the *a priori* approach, the specific activities that can be promoted in the study area include state parks, boating, festival and events, shopping, and hiking/walking; shopping and hiking/walking were considered to attract tourists to stay longer.

Further, the specific market segment characteristics and motivations can be taken into account. With both pull (attractions and destination attributes) and push (travel motivations) factors included while profiling the segments, the results help tourism planners to understand the visitors in more detail. The marketing strategies can thus be designed more effectively to reach the target markets.

The study included three samples, on-site visitors, overnight visitors, and potential visitors. The study explored visitors' activity participation through multidimensional prospects. Tourism planners could create more flexible and efficient marketing plans based on the comprehensive findings.

Limitation of Findings

There are several limitations to the study. First, the mail survey response rates were low. The study was limited to considering the interaction among independent variables. Second, transient visitor surveys were scheduled for both weekdays and weekends, but only conducted in the summer time, which may not capture enough winter travelers. This may have led to bias in the selection of summer activities at the expense of activities that tourists would enjoy in winter. Third, in the potential visitor survey, activity preferences were asked in general. Therefore, the market segmentation results from the potential visitor survey can be applied generally to other rural destinations similar to the study region in Michigan. However, the overnight and transient surveys asked about activity preferences in the study area; thus, the results from those data may not be applied to other destinations due to the uniqueness of the destination resources in the study region. Fourth, the study only collected general travel patterns. Variables were not tested consistently across all three surveys. For example, some important attributes such as travel motivations were not discussed in the potential and transient visitor surveys, and travel information was not identified in the transient visitor survey.

Future Research

As the first known study of activity-based market segmentation of rural tourists in the United States, the study was somewhat exploratory in nature. Further studies of rural tourists – both in Michigan and across the US – are recommended so that the framework used in this study can be tested and improved.

In this current study, the activity participation questions were asked in a 'yes' or 'no' format. The intensity of activity participation was not considered. Future research is

encouraged to analyze the intensity of activity participation and its influence on travel experiences. In addition, the current research asked tourists about their participation in a list of 45 activities. Future research is suggested to ask about additional activities in which they are interested. For example, some health-oriented activities such as spas, aromatherapy, and organic food and farm events should be evaluated to identify tourists' other interests and develop new products to meet their needs.

Tourism research emphasizes the importance of travel motivations in shaping tourists' choices of travel destination (Baloglu & McCleary, 1999; Moco, 2007). Travel motivations have been discussed broadly in research, yet the current study only considered twelve major factors. Further research is encouraged to discover more detailed motivation factors that are more specifically related to rural tourism products in order to better understand the relationship between activity participation and travel motivations.

Use of the *a priori* approach in this study allowed discussion of the relationship between activity and factors such as socio-demographic and trip-related factors. The logistic regression models included a specified set of variables; however, they did not consider the interaction among factors. Further research is encouraged to examine interactions between these factors.

In this study, a total of 20 WCMI attributes were discussed, providing a rather broad view of the study area. For regional rural planning purposes, it is suggested that more attributes related to study area resources such as water, natural, and historical resources be considered. These attributes could provide more specific information to identify area strengths from tourists' point of view, allowing tourism planners to evaluate the results and create tourism plans to balance the supply that the destination can

realistically offer with the demand expressed by tourists. Also, the number of destination attractions considered could be extended to as many as tourism planners are interested in promoting. From the latent class analysis results among transient visitors, light outdoor activity participants were aware of but did not visit the Manistee River, Ludington State Park and beaches, Pere Marquette River, and Muskegon River. The results provide tourism planners with an awareness of the need to promote these areas more. Therefore, the destinations that are potentially worthy of promotion are recommended for future study. Thus, the tourism planners could be conscious of weaknesses in their advertisements and find ways to strengthen them.

Based on market segmentation research, psychographic factors such as lifestyle and personality characteristics and behavioral factors such as benefits and loyalty are recognized as important market segmentation bases. These factors can help tourism planners understand tourists' needs. For example, by understanding reading and television preferences, tourism planners could advertise activities in selected magazines or television programs. For future study, it is recommended that these factors be used to strengthen the efficiency of activity-based segmentation study in rural tourism.

There are many limitations when advertising in the mass media (Lau, Lee, Lam, & Ho, 2001). Due to the expense of mass media and the disadvantage of unknown targets and certain display time slots, it seems that the Internet is a more effective approach to targeting the right customers. The current study confirmed that the Internet is a popular travel information source. Therefore, future research should broadly capture other factors, such as tourists' destination choice patterns, travel motivations, and travel loyalties, to help provide a more comprehensive strategy to promote and develop the study area. In

order to tailor a better plan for the area, specific factors should be examined instead of generalizing conclusions from other studies.

There are always impacts associated with tourism development; these impacts can be positive, but they can also be negative when the tourism industry grows too fast. The central image of the study area is built upon the variety of relaxing, peaceful, countryside leisure activities it has to offer. Therefore, plans for tourism development should be reexamined regularly, recognizing that impacts change over time. Also, consideration of residents' activity preferences and their attitudes toward tourism development can help to reduce the negative impacts of tourism development.

APPENDIX A: Descriptive Statistics for Activity Participation in the Study

Table A-1: Transient Visitors' Socio-demographic Profile--Participation in Boating and Festival/event

Socio-demographic Characteristics	Boating (n = 280)	Festival/event (n = 210)
Age, *Mean* (Std. Dev)	43.28 (13.578)	44.9 (13.606)
Gender (female) , %	41.5	53.6
Living with children under 18 years old , %	33.9	34.8
Income, %	(n = 267)	(n =198)
Below $42,500	19.1	19.7
Between $42,500 and $75,000	47.6	49.5
Above $75,000	33.3	30.8
Employment, %	(n = 267	(n =198)
Employed	77.9	77.8
Unemployed	7.1	6.6
Retired	15.0	15.7

Table A-2: Transient Visitors' Trip-related Characteristics--Participation in Boating and Festival/event

Trip-related Characteristics	Boating (n = 280)	Festival/event (n = 210)
Days in advance to plan this trip, *Mean (SD)*	89.34 (181.664)	96.28(204.975)
Nights planned to be away from home, *Mean (SD)*	4.19 (6.789)	4.07(7.518)
Primary destination is the WCMI %	71.1	71.4
Types of lodging used in the WCMI, %		
Friend's or relative's home	22.5	22.4
Hotel, motel or resort	13.6	14.8
Bed & breakfast	1.4	1.4
Rented cabin, cottage or condominium	6.4	5.7
Owned second or seasonal home	14.6	15.2
Campground or RV park	26.8	24.8

Table A-3: Transient Visitors' Knowledge of Attractions--Participation in Boating and Festival/event

WCMI Attractions	Boating (%)	Festival/event (%)
Little River Casino	(n = 258)	(n = 202)
Have Visited	39.1	42.1
Aware, but Not Visited	47.3	39.1
Not Aware of This Place	13.6	18.8
Manistee River	(n = 255)	(n = 200)
Have Visited	46.7	43.0
Aware, but Not Visited	38.0	38.5
Not Aware of This Place	15.3	18.5
Ludington Car Ferry	(n = 253)	(n = 199)
Have Visited	37.9	35.7
Aware, but Not Visited	53.8	52.2
Not Aware of This Place	8.3	12.1
Ludington State Park/beaches	(n = 259)	(n = 199)
Have Visited	65.2	65.9
Aware, but Not Visited	26.3	24.6
Not Aware of This Place	8.5	9.5
Pere Marquette River	(n = 249)	(n = 193)
Have Visited	39.0	35.2
Aware, but Not Visited	41.7	37.9
Not Aware of This Place	19.3	26.9
Irons/Lake County snowmobile trails	(n = 237)	(n = 189)
Have Visited	22.4	22.8
Aware, but Not Visited	45.1	40.7
Not Aware of This Place	32.5	36.5
Muskegon River	(n = 249)	(n =196)
Have Visited	35.7	33.7
Aware, but Not Visited	40.6	40.3
Not Aware of This Place	23.7	26.0
Newaygo State Park	(n = 242)	(n =195)
Have Visited	21.1	19.0
Aware, but Not Visited	50.4	49.7
Not Aware of This Place	28.5	31.3
Sand Dunes at Silver Lake	(n = 252)	(n = 199)
Have Visited	52.0	56.8
Aware, but Not Visited	38.1	36.2
Not Aware of This Place	9.9	7.0
Hart-Montague (rail) Trail	(n = 245)	(n = 198)
Have Visited	25.7	25.8
Aware, but Not Visited	42.1	39.4
Not Aware of This Place	32.2	34.8

Table A-4: Overnight Visitors' Socio-demographic Profile--Participation in Hiking/walking and Shopping

Socio-demographic Characteristics	Hiking/walking (n = 103)	Shopping (n = 106)
Age, *Mean (SD)*	50.6(11.0)	52.6(11.2)
Gender (female), %	43.7	46.7
Living with children under 18 years old, %	39.8	35.8
Income, %	(n = 95)	(n = 98)
Below $43,000	20.0	21.4
Between $43,000 and $75,000	32.6	37.8
Above $75,000	47.4	40.8
Employment, %	(n = 97)	(n = 104)
Employed	76.3	70.2
Unemployed	4.1	3.8
Retired	19.6	26.0
Education, %	(n = 99)	(n = 104)
High school, some high school	15.2	20.2
Some college, college graduate/professional	57.6	54.8
Post-graduate	27.3	25.0

Table A-5: Overnight Visitors' Trip-related Characteristics on their Most Recent Trip to WCMI--Participation in Hiking/walking and Shopping

Trip-related Characteristics	Hiking/walking (n = 103)	Shopping (n = 106)
Days in advance to plan this trip, *Mean (SD)*	100.8(120.1)	112.9(126.6)
Travel party size, *Mean (SD)*	3.7(2.527)	3.9(2.792)
Overall experience in the WCMI, *Mean (SD)*	2.4(0.8)	2.4(0.8)
Likely to visit the WCMI within next three years, *Mean (SD)*	1.43(0.815)	1.3(0.6)
Spending at least 3 nights within the WCMI, %	61.4	58.3
Sources of information used in planning this visit, %		
AAA	13.6	14.2
Billboards/outdoor advertising	4.9	3.8
Chamber of commerce	20.4	17.9
Convention and visitors bureau	17.5	15.1
Friends or relatives	35.9	46.2
highway welcome centers	4.9	4.7
Internet/web site(s)	37.9	31.1
Magazine	7.8	7.5
Newspaper	1.0	3.8
Radio	0.0	1.9
State travel office/Travel Michigan	12.6	13.2
Television	3.9	1.9
Travel guide(s)/brochure(s)	24.3	22.6
Word of mouth	23.3	24.5
Types of lodging used in the WCMI, %		
Friend's or relative's home	6.8	8.5
Hotel, motel or resort	44.7	57.5
Bed & breakfast	6.8	8.5
Rented cabin, cottage or condominium	22.3	16.0
Owned second or seasonal home	19.4	13.2
Campground or RV park	16.5	16.0

Table A-6: Overnight Visitors' Knowledge of Attractions--Participation in Hiking/walking and Shopping

WCMI Attractions	Hiking/walking (n = 103) (%)	Shopping (n = 106) (%)
Little River Casino	(n = 95)	(n = 97)
Have Visited	28.4	38.1
Aware, but Not Visited	52.7	42.3
Not Aware of This Place	18.9	19.6
Manistee River	(n = 91)	(n = 95)
Have Visited	40.7	36.8
Aware, but Not Visited	43.9	44.3
Not Aware of This Place	15.4	18.9
Ludington Car Ferry	(n = 95)	(n = 100)
Have Visited	40.0	39.0
Aware, but Not Visited	57.9	57.0
Not Aware of This Place	2.1	4.0
Ludington State Park/beaches	(n = 96)	(n = 97)
Have Visited	82.3	76.3
Aware, but Not Visited	17.7	20.6
Not Aware of This Place	0.0	3.1
Pere Marquette River	(n = 93)	(n = 92)
Have Visited	51.6	34.8
Aware, but Not Visited	28.0	33.7
Not Aware of This Place	20.4	31.5
Irons/Lake County snowmobile trails	(n = 86)	(n = 88)
Have Visited	8.1	12.5
Aware, but Not Visited	24.4	35.2
Not Aware of This Place	67.5	52.3
Muskegon River	(n = 89)	(n = 88)
Have Visited	36.0	27.2
Aware, but Not Visited	40.4	36.4
Not Aware of This Place	23.6	36.4
Newaygo State Park	(n = 87)	(n = 88)
Have Visited	32.2	31.8
Aware, but Not Visited	44.8	29.5
Not Aware of This Place	23.0	38.6
Sand Dunes at Silver Lake	(n = 88)	(n = 94)
Have Visited	45.5	53.2
Aware, but Not Visited	45.5	34.0
Not Aware of This Place	9.0	12.8
Hart-Montague (rail) Trail	(n = 85)	(n = 85)
Have Visited	21.2	25.9
Aware, but Not Visited	37.6	27.1
Not Aware of This Place	41.2	47.0

Table A-7: Overnight Visitors' Perceptions of Destination Attributes--Participation in Hiking/walking and Shopping

WCMI Destination Attributes	Hiking/walking (n = 103)	Shopping (n = 106)
Has good roads	7.6(2.2)	7.7(2.1)
Has great outdoor recreation opportunities	9.3(1.1)	9.1(1.3)
Has high quality lodging	7.6(1.8)	7.4(2.0)
Has interesting historical sites	7.5(2.0)	7.5(1.9)
Is a good place to meet friendly people	8.1(2.0)	8.1(1.9)
Is a great family vacation destination	8.9(1.6)	9.0(1.3)
Is a great place to start a business	5.3(2.4)	5.2(2.4)
Is a great spring destination	7.4(2.3)	7.2(2.5)
Is a great summer destination	9.2(1.5)	9.1(1.4)
Is a great fall destination	8.9(1.6)	8.9(1.4)
Is a great winter destination	7.7(2.2)	7.5(2.5)
Is a safe place to visit	8.8(1.5)	8.9(1.3)
Is an exciting place to visit	7.5(2.2)	7.5(2.0)
Is close enough for a weekend getaway	7.5(3.2)	7.7(3.2)
Is easily accessible	8.4(2.1)	8.3(2.3)
Offers exceptional value for the money	7.5(1.8)	7.6(1.8)
Offers exciting nightlife and entertainment	5.2(2.3)	5.3(2.4)
Offers great dining opportunities	6.6(2.2)	6.7(2.1)
Offers great shopping opportunities	6.6(2.2)	6.8(2.0)
Offers much scenic appeal	9.3(1.2)	9.4(1.1)

Table A-8: Overnight Visitors' Travel Expenditures--Participation in Hiking/walking and Shopping

Expenditures	Hiking/walking (n = 103)	Shopping (n = 106)
Activities (equipment rentals, lessons, etc.)	3.8(11.9)	2.8(7.3)
Attractions (tickets, entrance fees, etc.)	4.8(14.8)	2.4(4.6)
Gas/fuel	11.1(11.5)	8.0(8.5)
Groceries	3.3(5.5)	4.6(5.0)
Lodging	31.1(34.3)	23.0(18.7)
Meals at restaurants/fast food	19.2(18.3)	12.8(13.3)
Shopping (clothes, souvenirs, etc.)	10.7(38.6)	15.3(42.7)

Table A-9: Potential Visitors' Socio-demographic Profile -- Visiting a Federal/state Park

Socio-demographic Characteristics	Visiting a Federal/state Park (n = 146)
Age, *Mean (SD)*	52.3(13.1)
Gender (female), %	45.9
Living with children under 18 years old, %	34.2
Income, %	(n= 131)
Below $43,000	26.7
Between $43,000 and $75,000	34.4
Above $75,000	38.9
Education, %	(n= 134)
High school, some high school	13.4
Some college, college graduate/professional	59.7
Post-graduate	26.9

Table A-10: Potential Visitors' Trip-related Characteristics--Visiting a Federal/state Park

Trip-related Characteristics	Visiting a Federal/state Park (n = 146)
Days in advance to plan your pleasure trip, *Mean (SD)*	25.6(40.2)
Have visited WCMI, %	85.5
Sources of information used in planning pleasure trip, %	
AAA	37.7
Billboards/outdoor advertising	16.4
Chamber of commerce	20.5
Convention and visitors bureau	24.0
Friends or relatives	75.3
Highway tourist information centers	34.9
Highway welcome centers	35.6
Internet/web site(s)	74.0
Local visitor guides	43.2
Magazine	45.9
Newspaper	37.7
Radio	15.1
State travel office	16.4
Television	22.6
Travel guide(s)/brochure(s)	61.6
Word of mouth	70.5

Table A-11: Potential Visitors' Travel Motivations--Visiting a Federal/state Park

Motivation	Visiting a Federal/state Park (n = 146)
Upscale facilities/services	3.0(1.1)
Travel time/distance	3.3(0.9)
Cost	4.0(0.8)
Family-friendly place and/or opportunities	3.6(1.2)
Safety/security	4.2(0.9)
Variety of shopping opportunities	2.9(1.0)
Interesting scenery	4.2(0.7)
Service quality	4.1(0.7)
Variety of attractions and/or activities	3.8(0.9)
Nightlife activities	2.3(1.1)
Accessibility for disabled persons	2.0(1.2)
Pet accommodations	1.9(1.3)

APPENDIX B: Logistic Regression Model Results--without Significant Findings

Table B-1: Logistic Regression Model Results--Boating by Trip-related Characteristics for Transient Visitors

Dependent Variable				Boating			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.462	0.197	5.472	1	0.019	0.630
PartySz		0.110	0.061	3.274	1	0.070	1.117
Constant		0.012	0.212	0.003	1	0.956	1.012
Variables Not in the Equation					Score	df	Sig.
PlanDay					1.008	1	0.315
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	621.219	0.021		4.973	7	0.663	

Table B-2: Logistic Regression Model Results--Festival/event by Trip-related Characteristics for Transient Visitors

Dependent Variable				Festival/event			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.337	0.201	2.796	1	0.095	0.714
Constant		-0.276	0.118	5.445	1	0.020	0.759
Variables Not in the Equation					Score	df	Sig.
PartySz					0.194	1	0.660
PlanDay					2.874	1	0.090
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	613.266	0.006		0.000	0		

Table B-3: Logistic Regression Model Results--Hiking/walking by Trip-related Characteristics for Overnight Visitors

Dependent Variable				Hiking/walking			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.810	0.288	7.925	1	0.005	2.248
Exprnce		-0.298	0.167	3.175	1	0.075	0.742
Constant		-0.051	0.470	0.012	1	0.914	0.950
Variables Not in the Equation					Score	df	Sig.
NoVisit					2.876	1	0.090
PlanDay					0.811	1	0.368
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	275.988	0.056		1.063	5	0.957	

Table B-4: Logistic Regression Model Results--Visiting a Federal/state Park by Trip-related Characteristics for Potential Visitors

Dependent Variable				Visiting a Federal/state Park			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
VisWCM(1)		0.869	0.32	7.368	1	0.007	2.384
Constant		-0.721	0.287	6.287	1	0.012	0.486
Variables Not in the Equation					Score	df	Sig.
ReVisit					0.111	1	0.739
PlanDay					0.050	1	0.824
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	349.854	0.030		0.000	0		

Table B-5: Logistic Regression Model Results--Boating by Travel Sources for Transient Visitors

Dependent Variable				Boating			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.480	0.184	6.791	1	0.009	0.619
Constant		0.269	0.108	6.256	1	0.012	1.309
Variables Not in the Equation					Score	df	Sig.
LBB(1)					2.227	1	0.136
LCabin(1)					1.569	1	0.210
LSndHm(1)					0.477	1	0.490
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	729.198	0.013		0.000	0		

Table B-6: Logistic Regression Model Results--Festival/event by Accommodation Type for Transient Visitors

Dependent Variable				Festival/event			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
DesReg(1)		-0.409	0.191	4.569	1	0.033	0.664
Constant		-0.293	0.108	7.358	1	0.007	0.746
Variables Not in the Equation					Score	df	Sig.
LSndHm(1)					0.684	1	0.408
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	709.106	0.009		0.000	0		

Table B-7: Logistic Regression Model Results--Shopping by Accommodation Type for Overnight Visitors

Dependent Variable				Shopping			
Variables in the Equation		B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)		0.721	0.262	7.592	1	0.006	2.057
LBB(1)		0.928	0.553	2.817	1	0.093	2.530
Constant		-0.797	0.192	17.238	1	0.000	0.451
Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.	
	332.821	0.039		0.003	1	0.956	

Table B-8: Logistic Regression Model Results--Hiking/walking by Destination Attributes for Overnight Visitors

Dependent Variable			Hiking/walking			
Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
NghtCat(1)	0.973	0.333	8.546	1	0.003	2.645
Constant	-1.027	0.238	18.624	1	0.000	0.358
Variables Not in the Equation				Score	df	Sig.
MIOutdr				1.291	1	0.256
MIFmly				1.270	1	0.260
MIBsnss				0.211	1	0.646
MISpring				0.612	1	0.434
MISummer				1.588	1	0.208
MIFall				1.347	1	0.246
MIWinter				2.266	1	0.132
MIExctng				0.403	1	0.525
MIScnc				2.061	1	0.151

Model Summary	-2 Log likelihood	Cox and Snell R Square	Hosmer and Lemeshow Test	Chi-square	df	Sig.
	207.533	0.052		0.000	0	

APPENDIX C: Transient Visitor Survey

(IRB# 04-547)

Site:_____
Date:_____
Survey #:_____
Int. #

The Travel, Tourism, & Recreation Resource Center at Michigan State University is conducting a survey to learn more about people passing through the west-central Michigan region (see attached map for defined area). We would appreciate your help in answering a few questions.

1. **What is the ZIP code of your primary residence?** _____

2. **What is/ was the primary destination of your current trip?** _____(city) _____(state)

3. **How many nights do you plan to be away from home on this trip?** _____ *(If "0", please go to question 5.)*

4. **What type of lodging are you using on this trip?** *(Please check all that apply.)*

   ❑ Friend's or relative's home
   ❑ Hotel, motel, or resort
   ❑ Bed & Breakfast
   ❑ Rented cabin, cottage, or condominium
   ❑ Owned second or seasonal home
   ❑ Campground or RV park
   ❑ Other (please specify) _____

5. **<u>Beginning with yourself</u>, what is the gender and age of each member in your <u>immediate travel party</u> on this trip?**

	Gender	Age	Gender	Age	Gender	Age
Yourself→	❑ M ❑ F	_____	❑ M ❑ F	_____	❑ M ❑ F	_____
	❑ M ❑ F	_____	❑ M ❑ F	_____	❑ M ❑ F	_____
	❑ M ❑ F	_____	❑ M ❑ F	_____	❑ M ❑ F	_____

6. **What is your primary purpose for visiting the west-central Michigan region on this trip?** *(Please check one.)*

   ❑ Passing through
   ❑ Business
   ❑ Recreation / pleasure
   ❑ Visiting friends or relatives
   ❑ Other (please specify) _____

7. **About how far in advance did you begin to make plans for it?**

   _____ Year(s) _____ Month(s) _____ Day(s)

8. **Did you visit the west-central Michigan region any time before this trip?**

   ❑ Yes → When did you visit? _____ (month, year)
   ❑ No → *(Please go to question 10)*

9. **What was the primary purpose of your <u>last visit</u> to this region?** *(Please check one.)*

   ❑ Passing through
   ❑ Business
   ❑ Recreation / pleasure
   ❑ Visiting friends or relatives
   ❑ Other (please specify) _____

10. What do you like most about this region as a tourist destination?

_____

_____

11. What do you like least about this region as a tourist destination?

_____

_____

12. What would attract you to visit this area in...

Spring: _____

Summer: _____

Fall: _____

Winter: _____

13. Have you visited, or are you aware of, any of the following facilities or attractions in this region?

(Please mark only one box per entry.)	Have Visited	Aware, but Not Visited	Not Aware of This Place
Little River Casino	❑	❑	❑
Recreation on Manistee River	❑	❑	❑
Ludington Car Ferry	❑	❑	❑
Ludington State Park / beaches	❑	❑	❑
Recreation on Pere Marquette River	❑	❑	❑
Lakewood Historical Area	❑	❑	❑
Irons / Lake County snowmobile trails	❑	❑	❑
Recreation on Muskegon River	❑	❑	❑
Newaygo State Park	❑	❑	❑
Driving / riding on sand dunes at Silver Lake	❑	❑	❑
Hart-Montague (rail) Trail	❑	❑	❑

14. On a scale of 1 to 10, please rate the following locations based on their desirability as a tourist destination:

1 = not desirable *10 = extremely desirable*	Rating	Don't Know
Traverse City area		❑
Mackinac Straits area		❑
Thumb region of Michigan		❑
West-central Michigan region		❑
Alpena / Northeast Michigan		❑

1 = not desirable *10 = extremely desirable*	Rating	Don't Know
Sault Ste. Marie area		❑
Grayling / Gaylord area		❑
Southwest Michigan		❑
Door County, WI		❑
Shipshewana, IN		❑

15. Which of the following activities are of interest to you or others in your family? *(Please check all that apply.)*

❑ Antiquing	❑ Fishing, charter	❑ Lighthouse touring	❑ Snowmobiling
❑ Bicycling	❑ Fishing, fly	❑ Live theatre	❑ Sports tournament
❑ Boating	❑ Fishing, ice	❑ Movie (at a cinema)	❑ Swimming (lake, pond, river)
❑ Camping	❑ Fishing, other	❑ Museum	❑ Swimming (pool)
❑ Canoeing / kayaking / tubing	❑ Golfing	❑ Mushroom collecting	❑ Theme / amusement park
❑ Casino gaming	❑ Hiking / walking	❑ Nature center	❑ Visiting a federal / state park
❑ Concert	❑ Historic site	❑ Off-roading	❑ Visiting friends / relatives
❑ Cross-country skiing	❑ Horseback riding	❑ Photography	❑ Wildlife viewing / bird watching
❑ Dining out (excluding fast food)	❑ Hunting, deer	❑ Sailing	❑ Wind surfing
❑ Downhill skiing / snowboarding	❑ Hunting, small game	❑ Scuba diving / snorkeling	❑ Other *(please specify):*
❑ Farm market / u-pick / winery	❑ Hunting, turkey	❑ Shopping	_____
❑ Festival / event	❑ Jet skiing	❑ Sightseeing (general)	_____

16. What is your employment status? *(Please check one.)*

❑ Employed full-time	❑ Retired	❑ Student
❑ Employed part-time	❑ Self-employed	❑ Other *(please specify)*
❑ Homemaker	❑ Unemployed	_____

17. The U.S. median household income before taxes is about US$42,500. Would you say that your total household income <u>before taxes</u> in 2003 was...

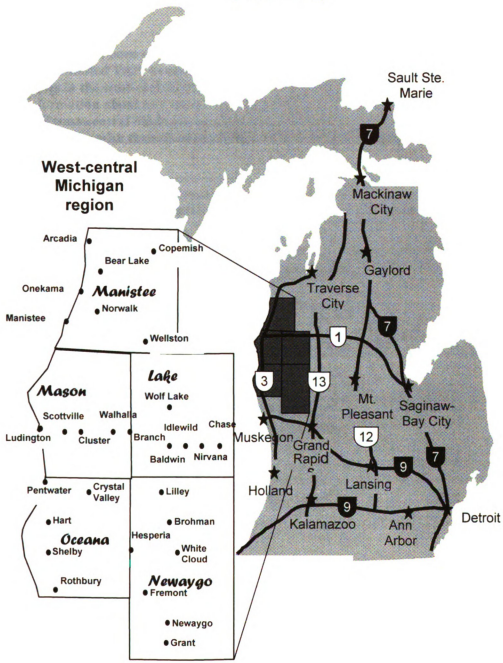
❑ Below $42,500	❑ Between $42,500 and $75,000	❑ Above $75,000

Thank you for your participation in the study!

*This study was reviewed and approved by MSU IRB, approval number IRB# 04-547.

APPENDIX D: Overnight Visitor Survey

(IRB# 04-547)



Travel, Tourism and Recreation Resource Center
Dept. of Community, Agriculture, Recreation and Resource Studies
Michigan State University
172 Natural Resources Bldg.
East Lansing, MI 48824-1222

MICHIGAN STATE
UNIVERSITY

Fall 2004

Dear Sir / Madam:

Your household has been randomly selected to participate in a tourism study (named "Tourism Unlimited TAP") conducted by Michigan State University on behalf of the communities in the west-central Michigan (W-C MI) region. The purpose of this survey is to gather information about any recent trips you might have made to that area and your opinions of west-central Michigan as a vacation destination. Your answers will provide the local communities with the information they need to better serve area visitors.

Your responses are vital to the success of this study, but your participation in it is completely voluntary and you are free to discontinue your participation in the survey at any time. You give your consent to voluntarily participate in this study by completing this approximately 15-minute survey and returning it to us. When filling out the survey, you are free to skip any items to which you do not want to reply. Your privacy will be protected to the maximum extent allowable by law, and your responses will be reported in combination with those of other respondents and your name will not be associated with the findings in any way.

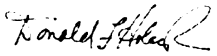
Please return your completed survey in the provided, postage-paid, envelope by Nov. 15, 2004.

As a "thank you" for your participation, we have enclosed a coupon package donated by west-central Michigan tourism businesses. The coupons are yours to keep whether you decide to participate in this survey or not.

If you return a filled-out drawing card by the due date, you will also be included in the drawing for one of the following grand prizes donated by west-central Michigan tourism businesses:

- One of two gift certificates of two mid-week nights free at Northern Escape Lodge in Branch, MI.
- One gift certificate of one night stay in a hot-tub room, Sun--Thu at The Shack (Bed & Breakfast) in White Cloud, MI; and one gift certificate for two 9-hole rounds of golf.
- One gift certificate of one free night lodging at the Sierra Sands Hotel in Mears, MI; excluding weekends.
- One of two certificates for two-night mid-week free in a furnished cabin at The Blueberry Patch Motel in Baldwin, MI.

Thank you very much for your assistance.



Dr. Donald F. Holecek
Professor and Director of Travel, Tourism and Recreation Resource Center

Please feel free to contact me (dholecek@msu.edu, 517-353-0793) if you have any questions about the survey. If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish –Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

*This study was reviewed and approved by MSU IRB, approval number IRB# 04-547.

1. What is the zip code of your primary residence? _____

2. Have you ever stayed overnight in the west-central Michigan (W-C MI) region? *(Please refer to the map on the front page.)*

- ❑ Yes
- ❑ No *(Please go to question 28.)*

3. In which months have you stayed overnight in the west-central Michigan (W-C MI) region? *(Please check all that apply.)*

❑ January	❑ April	❑ July	❑ October
❑ February	❑ May	❑ August	❑ November
❑ March	❑ June	❑ September	❑ December

4. About how many times have you stayed overnight in the west-central Michigan (W-C MI) region during the past three (3) years? # _____

Part 1.
Now, we would like to ask you a few questions about your MOST RECENT OVERNIGHT VISIT WITHIN the west-central Michigan (W-C MI) region. *(If your overnight visit in this region was only a part of a much longer trip to a different destination, when responding to these questions, please refer to your experiences only in this region. Please refer to the map on the front page of the questionnaire.)*

5. In which month and year was your most recent overnight visit within the W-C MI region?
Month: _____, Year: _____

6. Was this your first visit within the W-C MI region?

❑ Yes ❑ No

7. About how far in advance did you begin to plan this trip?

#_____ Year(s), #_____ Month(s), #_____ Day(s)

8. Which of the following sources of information did you use in planning this visit? *(Please check all that apply.)*

❑ AAA	❑ Newspaper
❑ Billboards / outdoor advertising	❑ Radio
❑ Chamber of commerce	❑ State travel office / Travel Michigan
❑ Convention and visitors bureau	❑ Television
❑ Friends or relatives	❑ Travel guide(s) / brochure(s)
❑ Highway welcome center	❑ Word of mouth
❑ Internet / web site(s)	❑ Other (please specify) _____
❑ Magazine	❑ None

9. What was the primary purpose of this visit? *(Please check one.)*

- ❑ Business
- ❑ Recreation
- ❑ Visiting friends / relatives
- ❑ Stop over on the way to another destination
- ❑ Other *(please specify)* _____

10. What was the primary destination of this trip?
City: _____, State or Country: _____

11. How many nights did you spend within the W-C MI region on this trip? _____ nights

12. In / near which town(s) in the W-C MI region did you stay overnight on this trip?
_____, _____, _____

13. Which of the following types of lodging did you use in the W-C MI region on this trip? *(Please check all that apply.)*

- ❑ Friend's or relative's home
- ❑ Hotel, motel or resort
- ❑ Bed & Breakfast
- ❑ Rented cabin, cottage or condominium
- ❑ Owned second or seasonal home
- ❑ Campground or RV park
- ❑ Other *(please specify)* _____

14. Who was included in your immediate travel party on this visit? *(Please check all that apply.)*

- ❑ Immediate family *(parents with children; siblings; spouse / significant other)*
- ❑ Extended family *(grandparents with grandchildren; uncles with nieces / nephews; cousins)*
- ❑ Mixed family *(any combination of immediate and extended family)*
- ❑ Business colleague(s)
- ❑ Friend(s)
- ❑ Nobody (went alone)
- ❑ Other *(please specify)* _____

15. Beginning with yourself, what was the gender and age of each member in your immediate travel party on this visit?

	Gender		Age	Gender		Age	Gender		Age
Yourself →	❑ M	❑ F	___	❑ M	❑ F	___	❑ M	❑ F	___
	❑ M	❑ F	___	❑ M	❑ F	___	❑ M	❑ F	___
	❑ M	❑ F	___	❑ M	❑ F	___	❑ M	❑ F	___
	❑ M	❑ F	___	❑ M	❑ F	___	❑ M	❑ F	___

16. While in the W-C MI region, in which of the following activities did you and your immediate travel party participate on this visit? *(Please check all that apply.)*

- ❑ Antiquing
- ❑ Golfing
- ❑ Sailing

- ❑ Bicycling
- ❑ Boating
- ❑ Camping
- ❑ Canoeing / kayaking / tubing
- ❑ Casino gaming
- ❑ Concert
- ❑ Cross-country skiing
- ❑ Dining out (excluding fast food)
- ❑ Downhill skiing / snowboarding
- ❑ Farm market / u-pick / winery
- ❑ Festival / event
- ❑ Fishing, charter
- ❑ Fishing, fly
- ❑ Fishing, ice
- ❑ Fishing, other
- ❑ Hiking / walking
- ❑ Historic site
- ❑ Horseback riding
- ❑ Hunting, deer
- ❑ Hunting, small game
- ❑ Hunting, turkey
- ❑ Jet skiing
- ❑ Lighthouse touring
- ❑ Live theatre
- ❑ Movie (at a cinema)
- ❑ Museum
- ❑ Mushroom collecting
- ❑ Nature center
- ❑ Off-roading
- ❑ Photography
- ❑ Scuba diving / snorkeling
- ❑ Shopping
- ❑ Sightseeing (general)
- ❑ Snowmobiling
- ❑ Sports tournament
- ❑ Swimming (lake, pond, river)
- ❑ Swimming (pool)
- ❑ Theme / amusement park
- ❑ Visiting a federal / state park
- ❑ Visiting friends / relatives
- ❑ Wildlife viewing / bird watching
- ❑ Wind surfing
- ❑ Other *(please specify):*

_____

_____

17. Is there anything in the W-C MI region that you think needs improvement?

_____, _____, _____

18. What activities or opportunities are missing in the W-C MI region that <u>you</u> would like to participate in?

_____, _____, _____

19. In total, approximately how much did <u>your immediate travel party</u> spend in the each of the following categories <u>within the W-C MI region</u> on this visit?

$ _____ Activities (equipment rentals, lessons, etc.)

$ _____ Attractions (tickets, entrance fees, etc.)

$ _____ Gas / fuel

$ _____ Groceries

$ _____ Lodging

$ _____ Meals at restaurants / fast food

$ _____ Shopping (clothes, souvenirs, etc.)

$ _____ Other *(please specify)* _____

$ _____ TOTAL spending <u>in the W-C MI region</u>

20. How would you rate your overall experience in the W-C MI region on this visit?

- ❑ Much better than I expected
- ❑ Somewhat better than I expected
- ❑ About what I expected
- ❑ Somewhat worse than I expected
- ❑ Much worse than I expected

} Why? _____

} Why? _____

Part 2.
The following questions are about your general perceptions of the WEST-CENTRAL MICHIGAN REGION and any experiences you might have had there any time in the past.

21. Have you visited, or are you aware of, the following facilities or attractions in this region? *(Please give responses about all facilities or attractions listed below.)*

	Have Visited This Place	Aware, But Not Visited	Not Aware Of This Place
Little River Casino	❑	❑	❑
Recreation on Manistee River	❑	❑	❑
Ludington Car Ferry	❑	❑	❑
Ludington State Park / beaches	❑	❑	❑
Recreation on Pere Marquette River	❑	❑	❑
Lakewood Historical Area	❑	❑	❑
Irons / Lake County snowmobile trails	❑	❑	❑
Recreation on Muskegon River	❑	❑	❑
Newaygo State Park	❑	❑	❑
Driving / riding on sand dunes at Silver Lake	❑	❑	❑
Hart-Montague (rail) Trail	❑	❑	❑

22. What do you like most about the W-C MI region as a tourist destination?

_____

23. What do you like least about the W-C MI region as a tourist destination?

_____

24. How would you describe W-C MI region to your family or friends?

_____

25. Would you recommend the W-C MI region as a tourist destination to your family or friends?

❑ Yes ❑ No

26. On scale from 1 to 10, where 1 means "do not agree at all" and 10 means "agree completely", how much do you agree with the following statements about the W-C MI region?

The west-central Michigan region...

___ ... has good roads
___ ... has great outdoor recreation opportunities
___ ... has high quality lodging
___ ... has many interesting historical sites
___ ... is a good place to meet friendly people
___ ... is a great family vacation destination
___ ... is a great place to start a business
___ ... is a great spring destination
___ ... is a great summer destination
___ ... is a great fall destination
___ ... is a great winter destination
___ ... is a safe place to visit
___ ... is an exciting place to visit
___ ... is close enough for a weekend getaway
___ ... is easily accessible
___ ... offers exceptional value for the money
___ ... offers exciting nightlife and entertainment
___ ... offers great dining opportunities
___ ... offers great shopping opportunities
___ ... offers much scenic appeal

27. Would you consider living in the W-C MI region ...? *(Please check one.)*

- ❑ ... in a primary residence
- ❑ ... in second / seasonal home
- ❑ ... would not want to live there

28. What would attract you to visit the W-C MI region in the following seasons?

Spring: _____

Summer: _____

Fall: _____

Winter: _____

29. How likely are you to visit the W-C MI region within next three years?

- ❑ Definitely will visit
- ❑ Very likely
- ❑ Somewhat likely
- ❑ Somewhat unlikely
- ❑ Very unlikely
- ❑ Will not visit the area again

30. Which three factors most influence your decision to visit a tourist destination?
(Please enter "1" next to the item you deem most important, and "2" and "3", next to the items you deem second and third most important.)

_____ Climate / weather

_____ Comfort

_____ Convenience / distance

_____ Cost

_____ Family-friendly place and / or opportunities

_____ Safety / security

_____ Service quality

_____ Variety of attractions and / or activities

_____ Other *(please specify)* _____

Part 3.
To conclude our survey, we would like to ask you a few questions that will help us organize the responses.

31. Do you have any of the following persons living in your household?
(Please check all that apply.)

- ❑ Pre-school child(ren)
- ❑ School-age child(ren)
- ❑ Senior citizen(s)
- ❑ Handicapped person(s)

32. What is your employment status? *(Please check one.)*

- ❑ Employed full-time
- ❑ Employed part-time
- ❑ Homemaker
- ❑ Retired
- ❑ Self-employed
- ❑ Student
- ❑ Unemployed
- ❑ Other *(please specify)* _____

33. What is the highest level of education you've completed? *(Please check one.)*

- ❑ Elementary school
- ❑ Some high school
- ❑ High school
- ❑ Some college
- ❑ College graduate / professional
- ❑ Post-graduate
- ❑ Other *(please specify)* _____

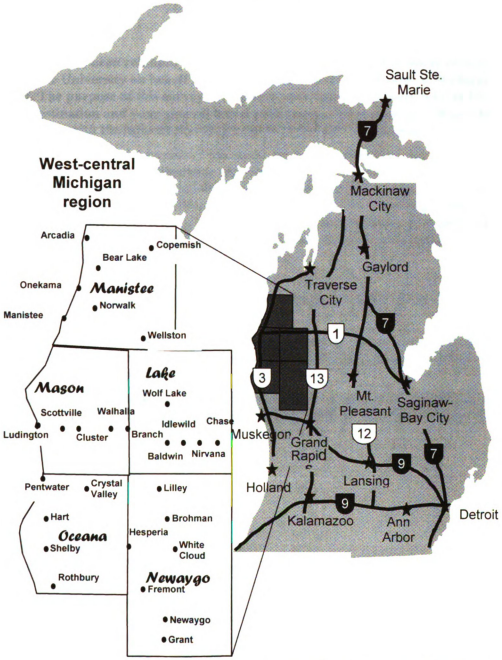
34. The U.S. median household income before taxes is about US$42,500. Would you say that your total household income <u>before taxes</u> in 2003 was ....?

- ❑ Below US $42,500
- ❑ Between US $42,500 and US $75,000
- ❑ Above US $75,000

Thank you for your participation in the study.

APPENDIX E: Potential Visitor Survey

(IRB# X05-244)



Travel, Tourism and Recreation Resource Center
Dept. of Community, Agriculture, Recreation and Resource Studies
Michigan State University
172 Natural Resources Bldg.
East Lansing, MI 48824-1222

MICHIGAN STATE
UNIVERSITY

Fall 2005

Dear Sir / Madam:

Your household has been randomly selected to participate in a tourism study conducted by Michigan State University on behalf of the communities in the west-central Michigan (W-C MI) region. The purpose of this survey is to gather your opinions of west-central Michigan as a travel destination and your general travel preferences. Your answers will provide W-C MI communities with the information they need to better serve area visitors.

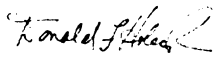
Your responses are vital to the success of this study, but your participation in it is completely voluntary. You are free to discontinue your participation in the survey at any time. You give your consent to voluntarily participate in this study by completing this approximately 10-minute survey and returning it to us. When filling out the survey, you are free to skip any items to which you do not want to reply. Your privacy will be protected to the maximum extent allowable by law, and your responses will only be reported in combination with those of other respondents and your name will not be associated with the findings in any way.

Please return your completed survey in the provided, postage-paid, envelope by December 16, 2005.

As a "thank you" for your participation, we have enclosed a coupon package donated by west-central Michigan tourism businesses. The coupons are yours to keep whether you decide to participate in this survey or not.

If you return a filled-out drawing card by the due date, you will also be included in a drawing for seven Land's End gift certificates: one for $100, two for $50 each and four for $25 each.

Thank you very much for your assistance.



Dr. Donald F. Holecek
Professor and Director of Travel, Tourism and Recreation Resource Center

Please feel free to contact me (dholecek@msu.edu, 517-353-0793) if you have any questions about the survey. If you have questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish – Peter Vasilenko, Ph.D., Chair of the University Committee on Research Involving Human Subjects (UCRIHS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: ucrihs@msu.edu, or regular mail: 202 Olds Hall, East Lansing, MI 48824.

*This study was reviewed and approved by MSU IRB, approval number IRB# X05-244.

We define a "pleasure trip" as any overnight or day trip to a place at least 50 miles from your home that was made for your enjoyment, including weekend getaways, vacations, shopping trips, trips to a second home, and trips to visit friends or relatives.

1. Have you taken a pleasure trip to any destination during the past three (3) years?

- ❑ Yes
- ❑ No

2. How important to you are each of the following factors when selecting a pleasure trip destination? (Please check one box for each category.)

	Not at all important	Not so important	Somewhat important	Important	Very important
Upscale facilities / services	❑	❑	❑	❑	❑
Travel time / distance	❑	❑	❑	❑	❑
Cost	❑	❑	❑	❑	❑
Family-friendly place and / or opportunities	❑	❑	❑	❑	❑
Safety / security	❑	❑	❑	❑	❑
Variety of shopping opportunities	❑	❑	❑	❑	❑
Interesting scenery	❑	❑	❑	❑	❑
Service quality	❑	❑	❑	❑	❑
Variety of attractions and / or activities	❑	❑	❑	❑	❑
Nightlife activities	❑	❑	❑	❑	❑
Accessibility for disabled persons	❑	❑	❑	❑	❑
Pet accommodations	❑	❑	❑	❑	❑

3. Which of the following sources of information do you use when planning your pleasure trip? (Please check all that apply.)

- ❑ AAA
- ❑ Billboards / outdoor advertising
- ❑ Chambers of commerce
- ❑ Convention and visitors bureaus
- ❑ Friends or relatives
- ❑ Magazines
- ❑ Newspapers
- ❑ Radio
- ❑ State travel offices
- ❑ Television

- ❑ Highway tourist information centers
- ❑ Highway welcome centers
- ❑ Internet / web sites
- ❑ Local visitor guides
- ❑ Travel guides / brochures
- ❑ Word of mouth
- ❑ Other *(specify)*_____
- ❑ None

4. Which of the following activities do you and your immediate travel party participate in most often while on pleasure trips? (Please check all that apply.)

- ❑ Antiquing
- ❑ Bicycling
- ❑ Boating
- ❑ Camping
- ❑ Canoeing / kayaking / tubing
- ❑ Casino gaming
- ❑ Concert
- ❑ Cross-country skiing
- ❑ Dining out (excluding fast food)
- ❑ Downhill skiing / snowboarding
- ❑ Farm market / u-pick / winery
- ❑ Festival / event
- ❑ Fishing, charter
- ❑ Fishing, fly
- ❑ Fishing, ice
- ❑ Fishing, other
- ❑ Golfing
- ❑ Hiking / walking
- ❑ Historic site
- ❑ Horseback riding
- ❑ Hunting, deer
- ❑ Hunting, small game
- ❑ Hunting, turkey
- ❑ Jet skiing
- ❑ Lighthouse touring
- ❑ Live theatre
- ❑ Movie (at a cinema)
- ❑ Museum
- ❑ Mushroom collecting
- ❑ Nature center
- ❑ Off-roading
- ❑ Photography
- ❑ Sailing
- ❑ Scuba diving / snorkeling
- ❑ Shopping
- ❑ Sightseeing (general)
- ❑ Snowmobiling
- ❑ Sports tournament
- ❑ Swimming (lake, pond, river)
- ❑ Swimming (pool)
- ❑ Theme / amusement park
- ❑ Visiting a federal / state park
- ❑ Visiting friends / relatives
- ❑ Wildlife viewing / bird watching
- ❑ Wind surfing
- ❑ Other *(please specify)*:

a) _____

b) _____

5. In general, about how far in advance do you begin to plan your ...

... weekend getaway _____ (# of days) vacation (4-day or longer trips) _____ (# of days)

6. Who usually accompanies you on pleasure trips?

- ❑ Immediate family *(parents with children; siblings; spouse / significant other)*
- ❑ Extended family *(grandparents with grandchildren; uncles with nieces / nephews; cousins)*
- ❑ Mixed family *(any combination of immediate and extended family)*
- ❑ Business colleague(s)

- ❑ Friend(s)
- ❑ Nobody (usually go alone)
- ❑ Other *(please specify)* _____

7. Where do you go most often on weekend pleasure trips? (Please list the state and the nearest city of the three destinations you visit most often on weekend getaway trips.)

	Weekend destination	City	State or country
1			
2			
3			

8. Where do you go most often on vacation (4-day or longer) trips? (Please list the state and the nearest city of the three destinations you visit most often on vacation trips.)

	Vacation destination	City	State or country
1			
2			
3			

9. About how many nights in total did you spend in each of the following types of lodging while on pleasure trips during each of the past 12 months? (Please note that the list of months starts with November 2004.)

- ❑ My family and I have not taken any pleasure trips during the past 12 months.

Month	Hotel, motel, inn, bed & breakfast (# of nights)	Campground, cabin, RV park (# of nights)	Your own or a friend or relative's seasonal home or your friend or relative's primary home (# of nights)
Nov 2004			
Dec 2004			
Jan 2005			
Feb 2005			
Mar 2005			
Apr 2005			
May 2005			
Jun 2005			

Month	Hotel, motel, inn, bed & breakfast (# of nights)	Campground, cabin, RV park (# of nights)	Your own or a friend or relative's seasonal home or your friend or relative's primary home (# of nights)
Jul 2005			
Aug 2005			
Sep 2005			
Oct 2005			

10. Have you ever visited the west-central Michigan (W-C MI) region? (Please refer to the map on the front cover.)

- ❑ Yes => *Please skip to question 12.*
- ❑ No

11. What was a reason (or reasons) that you have never visited this region? (After you respond to question 12, please skip to question 16.)

_____

=> Please skip to question 16.

12. In which months have you stayed overnight in the W-C MI region in the past? (Please check all that apply.)

❑ January	❑ April	❑ July	❑ October
❑ February	❑ May	❑ August	❑ November
❑ March	❑ June	❑ September	❑ December

❑ I have never stayed overnight in the W-C Michigan region.

13. What do you like most about this region as a tourist destination?

1) _____

2) _____

14. What do you like least about this region as a tourist destination?

1) _____

2) _____

15. Assuming that there is always room for improvement, what would be your three recommendations for improvements in the W-C Michigan region as a tourist destination?

1) _____

2) _____

3) _____

16. The west-central Michigan region offers many tourist attractions including: Lake Michigan shoreline; sand dunes; rivers and inland lakes; camping, hiking, biking and snowmobile trails; hunting, fishing and other year-round outdoor recreation opportunities; as well as farm markets, quaint shops, and a relaxing and family-friendly atmosphere.

Based on your knowledge of the region from the past visits and/or on the description above, <u>what would attract you to visit the W-C Michigan region in each of the following seasons?</u>

Spring: _____

Summer: _____

Fall: _____

Winter: _____

17. How likely are you to visit the W-C MI region within the next three (3) years? (Please check only one.)

- ❑ Definitely will visit => Please skip to question 19.
- ❑ Very likely => Please skip to question 19.
- ❑ Somewhat likely => Please skip to question 19.
- ❑ Somewhat unlikely
- ❑ Very unlikely
- ❑ Will not visit the area again

18. Why do you think you are not likely to visit this area in the near future?

1) _____
2) _____

19. Do you own any of the following? (Please check all that apply.)

- ❑ Camper / RV
- ❑ Horse
- ❑ Off-road vehicle
- ❑ Second (seasonal) home
- ❑ Snowmobile
- ❑ Water craft

20. What is the zip code of your primary residence? _____

21. Beginning with yourself, please briefly describe each member of your household.

	#	Gender	Age	#	Gender	Age
Yourself →	1	❑ Male ❑ Female	_____	5	❑ Male ❑ Female	_____
	2	❑ Male ❑ Female	_____	6	❑ Male ❑ Female	_____

3 ❑ Male ❑ Female _____		7 ❑ Male ❑ Female _____	
4 ❑ Male ❑ Female _____		8 ❑ Male ❑ Female _____	

22. What is the highest level of education you have attained? (Please check only one.)

- ❑ **Elementary school**
- ❑ Some high school
- ❑ High school
- ❑ Some college
- ❑ **College graduate / professional**
- ❑ Post-graduate
- ❑ Other (please specify) _____

23. The U.S. median annual household income before taxes is about $43,000. Would you say that your total household income <u>before taxes</u> in 2004 was...

- ❑ Below $43,000
- ❑ Between US $43,000 and $75,000
- ❑ Above $75,000

Thank you for your participation in this study.

Please place your completed survey and a drawing card into the postage-paid envelope and mail it to: Tourism Resource Center; Dept. of CARRS; Michigan State University; 172 Natural Resources Building; East Lansing, MI 48824-1222

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