

SEGMENTING MICHIGAN TOURISTS BASED ON DISTANCE TRAVELED

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Abstract: The purpose of this study was to segment Michigan travelers into short, medium and long distance traveler groups by distance that they traveled from home to a primary destination in Michigan, and to compare travel behavior, trip characteristics and sociodemographics among these segments. Significant differences were identified in past trip experiences in Michigan, current trip purpose, side trip behavior, length of stay, travel party size and types of lodging used at destinations. Results of the study suggest that travel distance is a viable variable for travel market segmentation.

Introduction

The relationship between travel distance and travel behavior has been given considerable attention in tourism studies. Travel distance has been most widely included as a partial factor in the gravity models, with respect to its function in forecasting tourist flow from an origin to a destination (Sheldon & Var, 1985; Uysal & Crompton, 1985; Smith, 1985; Calantone, et al. 1987). Gravity models propose that the number of tourists generated or the number of trips taken by a given population from an origin to a particular destination is a function of the total population and per capita income of the origin; the distance between the origin and the destination; and the attractiveness of the destination. Some earlier studies in travel forecasting showed that gravity models were applied to predict tourist flows between different countries, estimate visitor arrivals to a given state, and project the number of campers traveling to state parks (Van Doren, 1967; Armstrong,

1972; Durden & Silberman 1975). However, gravity models have limitations. Because the function of the gravity models is to forecast travel flows from an origin to a destination, they are not able to be used to predict individual travelers' behaviors from an origin to a destination.

A few researchers have investigated the relationship between travel distance and length of stay at destinations. Walsh & Davitt (1983) and Silberman (1985) found that travel distance was positively related to length of stay at destinations. Yet, Uysal, et al. (1988) reported that travel distance was negatively associated with length of stay at destinations. Thus, Uysal, et al. concluded that the relationship between length of stay and distance traveled to destinations may depend on the nature of the activity and the nature of the trip. A more recent study conducted by Stewart and Vogt (1997) explored the relationship between travel distance and trip patterns. The results of their study suggest that travel distances varied significantly across different trip patterns.

A handful of tourism market studies have adopted travel distance as a concept to compare in-state and out-of-state vacationers (McQueen & Miller, 1985; Andereck & Caldwell, 1994), and distant vs. near-home travelers (Etzel & Woodside, 1982). In these studies, a distance traveler was defined in terms of the state of residency rather than upon an actual distance. In reality, however, it is possible that an in-state traveler could have traveled a greater distance than an out-of-state traveler. Conversely, an out-of-state traveler could have gone a shorter distance than an in-state traveler. It is also likely that an in-state traveler may have traveled the same distance as that of an out-of-state traveler. Therefore, the in-state and out-of-state segmentation approach tends to overlook the differences in distances people travel to their destinations, and try to treat the in-state and out-of-state travelers as two distinct homogeneous groups based on state of origin. Nevertheless, the question of whether people traveling different distances to their destinations regardless of state of origin would vary in travel behaviors or whether people traveling similar distances to their destinations regardless of state of origin would exhibit similar travel behaviors remains unanswered.

Purpose of Study

This study was to utilize travel distance (from one's origin to his/her primary destination) as a variable to segment Michigan's travel market into short, medium and long distance traveler groups. Travel behaviors among these three groups were also profiled and compared. The specific research questions addressed in this study were: what differences are there among travelers who have traveled different distances to their destinations in Michigan? Are there differences in (1) past trip experiences in Michigan; (2) current trip characteristics; (3) use of lodging facilities; and (4) sociodemographic characteristics?

Data Source

Data utilized for this study was from the research project titled the Michigan Travel Study, which is jointly funded

by Travel Michigan (formerly known as Michigan Travel Bureau) through contracts with Certec, Frankfort, KY; Travel, Tourism and Recreation Resource Center, Michigan State University; and the Agriculture Experiment Station, Michigan State University. The purpose of this study was to obtain in-depth trip and travel information on the Michigan pleasure travel market. Data were collected in three consecutive seasons: summer (September), fall (October -- December), 1996, and winter (February -- March), 1997. Since this research paper used the data collected from the summer season, discussions regarding methods will be related to the summer season survey only.

Sampling Procedures

The population of the Michigan Travel Study was auto travelers who took a pleasure trip in Michigan during the summer of 1996. A pleasure trip was defined as a trip to a place at least 50 miles one way from one's home, excluding travel for work, business, or school. Highway welcome centers and rest areas administered by the Michigan Department of Transportation (MDOT) were used as sampling locations for the study. In order to get a representative sample, five welcome centers and 11 rest areas were selected. The welcome centers selected were located on the state's major freeways and highways. The eleven rest areas chosen were scattered throughout the state. These sixteen sampling locations were further divided into four regions comprised of four welcome centers/rest areas in each region. These regions represented transportation outflows as shown by maps provided by the Michigan Department of Transportation.

Data were collected on randomly selected weekends and weekdays in morning or afternoon hours at the 16 pre-selected welcome centers and rest areas in the month of August 1996. Auto travelers who stopped at the sixteen pre-selected welcome centers and rest areas during the surveying days were approached by the interviewers. A self-administered questionnaire was distributed on site. Respondents qualified for inclusion in the study based on two criteria: (1) they were on their way back home from a pleasure trip, and (2) they stayed at least one night in commercial lodging in Michigan while on the trip. Commercial lodging consisted of hotel, motel and lodge, bed and breakfast, rented or owned cabin, cottage and condo, public or private campground, and a boat or ship. A total of 1,882 people were approached. Of these, 437 people met the criteria yielding a qualifying rate of 23.2%. Among those qualified people, 359 respondents completed the questionnaire, representing an 82.2% response rate.

Classification of Three Market Segments

The inclusion of respondents in this study was based on travelers who chose Michigan as their primary destination, and who had spent at least one dollar on Michigan lodging. One hundred and sixty eight respondents were screened and partitioned into three groups based on the distance they traveled from home to a Michigan primary destination. The groups were defined as (a) the short distance traveler (SDT, $n=71$), traveling within 250 miles; (b) the medium distance traveler (MDT, $n=66$), traveling between 251 and 500

miles; and (c) the long distance traveler (LDT, $n=31$), traveling more than 500 miles.

The rationale for the classification of the three market segments were as follows: (1) a review of the frequency distribution for the travel distance variable showed that the 250 and 500 miles points were the natural cut-off points; (2) using these cut-off points it was possible to include both the in-state and out-of-state travelers in the long distance traveler group because the travel distance from the southern border to the northern border of Michigan is more than 500 miles; (3) an effort was made to secure a reasonable size for each of the three market segments for both data analysis and marketing purposes.

Data Analysis

The independent variable for this study was travel distance, and the dependent variables were:

- (1) Past trip experiences in Michigan:
 - number of pleasure trips taken in Michigan in the last three years
 - number of pleasure trips taken in Michigan in the last 12 months;
- (2) Current trip characteristics:
 - trip purpose
 - number and miles of side trips taken in Michigan
 - total nights away from home on this trip
 - nights spent in Michigan on this trip
 - nights spent on side trips in Michigan
 - number of persons in immediate travel party
 - number of persons under age 18 in immediate travel party;
- (3) Types of lodging stayed in on this trip in Michigan; and
- (4) Demographic characteristics:
 - gender
 - age
 - household income
 - number of full time wage earners in the household

Analytical techniques employed in this study included Chi-square tests for categorical variables and one-way ANOVAs for continuous variables to examine whether differences existed among the three groups.

Results

The results of the analyses indicated significant differences existed in past trip experiences in Michigan, current trip characteristics, and types of lodging used at the destination. Yet, there were no significant differences detected in socio-demographic variables across the three groups.

Past trip experiences in Michigan Differences were observed in the number of past pleasure trips taken in Michigan among the three groups. Table 1 illustrates that the SDT and MDT group took significantly more trips to Michigan in the past than the LDT group. In the last three years, on average, the SDT group took 10 trips to Michigan, the MDT group made almost nine trips, whereas

the LDT group only reported 3.4 trips. In terms of trips taken in the last 12 months, the LDT group again took less trips in Michigan as compared to the other two groups. These findings suggest that frequent or repeat travelers are more likely to be those who reside within a 500 mile radius from a travel destination than those who reside some distance from the destination.

Table 1. Past pleasure trips taken in Michigan by group

	SDT	MDT	LDT	F ratio
Avg. pleasure trips taken in Michigan in last 3 years	n=68 10.12	n=48 8.60	n=24 3.38	5.84**
Avg. pleasure trips taken in Michigan in last 12 months	n=67 3.81	n=47 3.36	n=23 1.30	3.70*

* Significant at $\alpha \leq .05$.

** Significant at $\alpha \leq .01$.

Current trip characteristics: (1) Purpose of trip When assessing the current trip to Michigan, significant differences were identified in purpose of the trip. Sixty two percent of the people in the SDT group claimed their trip purpose was outdoor recreation compared to 36.4% in MDT group and 25.8% in LDT group. Thus, the SDT group was more likely to travel to Michigan for outdoor recreation purposes than the MDT and LDT groups. The MDT and LDT groups were more associated with touring/sightseeing trips. Approximately 48% of people in the MDT and LDT groups reported their trip purpose were touring/sightseeing. Only 20% of people in SDT group stated that their trip purpose were touring/sightseeing (see Table 2). These findings suggest that people traveling to Michigan from destinations within 250 miles had a different travel purpose from that of those people who traveled between 250 and 500 miles, or more than 500 miles.

Table 2. Purpose of trip by group

Purpose of trip	SDT	MDT	LDT	χ^2
	n=71 (%)	n=66 (%)	n=31 (%)	
Visit friends/relatives	11.3	19.7	22.6	2.71
Outdoor recreation	62.0	36.4	25.8	14.85*
Touring/sightseeing	19.7	48.5	48.4	14.64*

* Significant at $\alpha \leq .01$.

(2) Side trip behavior When comparing side trips behavior at the destination among the three groups, there were no significant differences detected in the number of sites visited on side trips. Yet, differences were found in the distance traveled from the primary destination to the site. On average, the LDT group traveled substantially more miles (118.6 miles) than the SDT (46.7 miles) and MDT group (56.7 miles) on side trips. As expected, the LDT group spent more nights on the side trips than the other two groups (see Table 3). The findings implied that the SDT and MDT groups exhibit different travel patterns than those

of the LDT group when at primary Michigan destinations. The SDT and MDT tended to visit tourist attractions or sites located close to their primary destinations, and they were less likely to stay overnight at the site visited. In contrast, the LDT group was more interested in exploring the areas they visited than their counterparts, and were attracted to visit sites located farther away from their primary destinations in Michigan. Also they were more likely to spend more nights on side trips than the other two groups.

(3) Length of trip There was a difference in total nights away from home on the trip and the nights spent at Michigan destinations between the long distance travelers and the other two sets of travelers. As indicated in Table 4, the long distance travelers spent 12 days away from home on the trip, of which, ten nights were spent at MI destinations. Both the SDT and MDT groups spent a total of four nights away from home on the trip and spent all these four nights at MI destinations. The results of the analysis implied that the LDT group tended to take longer vacations and stayed longer at their primary destinations in Michigan. While the SDT and MDT groups preferred to take shorter trips on their vacations.

Table 3. Side trips taken at the destination by group

	SDT	MDT	LDT	F ratio
	n=46	n=48	n=28	
Avg. # of sites visited	2.5	3.0	3.7	2.53
Avg. miles traveled from destinations to sites	n=45 46.7	n=47 56.7	n=27 118.6	8.24*
Avg. nights spent on side trips	n=68 .37	n=65 .97	n=28 1.96	11.42*

* Significant at $\alpha \leq .01$.

(4) Travel party size Differences were found in travel party sizes among the groups. The SDT group was likely to travel with a larger group than their counterparts. The average number of persons in the travel party for the SDT group was four. The number for the MDT and LDT groups, however, were 2.9 and 2.7, respectively. There was no significant difference found in the number of persons under age 18 in the travel party among the three groups (see Table 4).

Table 4. Length of trip and travel party size by group

	SDT	MDT	LDT	F ratio
Avg. total nights away from home	n=71 4.32	n=66 4.52	n=31 12.35	14.78**
Avg. nights spent in Michigan	4.32	4.45	10.61	9.02**
Avg. No. of persons in the travel party	4.10	2.89	2.68	3.05*
Avg. No. of persons under age 18 in the travel party	1.27	.85	.65	2.58

* Significant at $\alpha \leq .05$.

** Significant at $\alpha \leq .01$.

Selected Types of Lodging Used at Destinations

Preferences for the types of lodging used at Michigan destinations by three groups are presented in Table 5. As a whole, hotel/motel was the most widely used lodging facility compared to the other selected lodging types for all travelers. The MDT and LDT groups were more likely to patronize a hotel/motel than the SDT group (68.2%, 64.5% vs. 38.0%, respectively). Short distance travelers were more likely to use campground lodging, particularly commercial campgrounds. This might be associated with the travel purpose of the SDT group, i.e., they came to the Michigan primary destinations for outdoor recreation. Among those who chose to stay with friends/relatives, the long distance travelers stayed at friends/relatives' homes (22.6%) more than did short distance (5.6%) and medium distance travelers (10.6%). This finding suggests that many long distance travelers to Michigan destinations take advantage of staying with their friends or relatives and of course this is inherently related to trip purpose. No significant difference was found in the number of people staying at the rented cabin.

Table 5. Selected types of lodging used at the destination by group

	SDT	MDT	LDT	χ^2
	n=71	n=66	n=31	
	(%)	(%)	(%)	
Friends/relatives' home	5.6	10.6	22.6	6.48*
Hotel/motel	38.0	68.2	64.5	14.01**
Rented cabin	15.5	15.2	22.6	.96
Public campground	28.2	16.6	25.8	2.68
Commercial campground	19.7	6.1	6.5	7.16*

* Significant at $\alpha \leq .05$.

** Significant at $\alpha \leq .01$.

Sociodemographic Characteristics

Sociodemographic variables including gender, age, number of full-time earners in the household, and household income were compared among the three groups. No statistically significant differences were identified. Table 6 presents the sociodemographics of the three groups.

Gender Across the three groups, there were more male respondents than female respondents. This is particularly apparent in the MDT and LDT group. In these two groups, over 60% of the respondents were male. One of the reasons for the disproportion between male and female respondents might be caused by the fact that males were more likely to fill out the questionnaire.

Age Travelers aged 36 - 55 constituted the majority across the three groups. (46.5% in the SDT group, 53.9% in the MDT group and 53.4% in the LDT group). The SDT group had a higher percentage (23.3) of respondents between the ages of 18 and 35. While the LDT group had the lowest percentage of respondents in this category (3.3). The LDT group had the highest percentage (43.3) of respondents in 55 and older age group.

Number of full-time wage earners in the household More than 60% of respondents had between 1-2 full-time wage earners in the family across the three groups. But, the SDT and LDT group had a higher percentage (23.7 and 22.6) of respondents in zero full-time wage earners category as compared to 16.4% in the MDT group.

Household income The majority of people among the three groups had household incomes over \$50,000 a year, but, the LDT group had the highest percentage (65.5%) of respondents in this category. The SDT and MDT groups had higher percentages (22.4 and 20.7) of people with household incomes less than \$31,000, while only 6.9% of people in the LDT group fell into this category. These findings are reasonable because longer trips are generally more costly.

Table 6. Sociodemographic characteristics by group

	SDT	MDT	LDT	χ^2
	n=77	n=66	n=31	
	(%)	(%)	(%)	
Gender				
Female	48.5	37.1	36.7	
Male	51.5	62.9	63.3	2.15
Age				
18-35	23.3	20.0	3.3	
36-45	20.5	31.4	26.7	
46-55	26.0	22.9	26.7	
56+	30.1	25.7	43.3	8.68
No. of full-time wage earners in household				
0	23.7	16.4	22.6	
1	32.9	34.2	35.5	
2	35.5	39.7	32.3	
3+	7.9	9.6	9.7	1.59
Household income				
Less than \$31,000	22.4	20.7	6.9	
\$31,001 - \$50,000	31.0	32.8	27.6	
\$50,001 or more	46.6	46.6	65.5	4.55

Conclusion and Implications

This study attempted to segment Michigan's travel market by distance traveled from one's origin to his/her primary destination in Michigan. Three market segments - the short, medium and long distance travelers have been identified. They differ in past trip experiences in Michigan, current trip characteristics including purpose of trip, side trip behavior, length of trip and travel party size, and types of lodging used at Michigan primary destinations. The results of the study support the notion that travel distance is a viable variable for travel market segmentation.

The study suggests a new approach for destination marketing in general. Findings of the study show that people who travel similar distances from home to their primary destinations display similar travel behaviors and trip characteristics regardless of whether the origin is in-state or out-of-state which suggests that travel distance could be a better indicator than one's origin because it defines the assumption that the in-state and out-of-state

travelers are two distinct homogeneous groups and proposes that in-state and out-of-state travelers can be segmented into different subgroups based on distance traveled from one's home to the destination. Thus, destination marketers may locate a city, a community, or even a region in a given state as target markets, unlike the traditional marketing which usually focuses on defining markets by the state of residence. Also, in terms of promotion and advertising, it seems inappropriate to apply the same marketing program to all in-state travelers or all out-of-state travelers. Instead, various marketing programs should be developed and directed to different market segments within in-state and out-of-state travelers. Finally, with respect to tourism product packaging, findings of the study suggest that people traveling from varying distances tended to have different preferences for locations and demonstrated distinct travel patterns within the destination region. This suggests that the destination marketers may incorporate travelers' tastes and preferences into packaging design, so tailored programs can be provided to different markets to better meet their needs and wants.

The study also suggests some implications for Michigan destinations in particular. First, results of the study indicate that Michigan's prime market is likely to be constituted by the short and medium distance travelers who reside from a 500 miles radius from a travel destination. But the sociodemographic characteristics suggest some interesting targets with respect to the long distance travelers. They not only have the highest percentage of respondents who are elderly (55+), but they are also the wealthiest group. This could be reflective of a long distance traveler market which is both mature (elderly) and wealthy suggesting, perhaps, that this market has more discretionary time and expendable income. Second, information on uses of lodging at Michigan destinations suggests that the medium and long distance travelers tend to use hotel and motel more than the short distance travelers and the short distance travelers preferred to use more campground lodging. This may be associated with their trip purpose in the summer season. The short distance travel market deserves attention from the lodging industry since much of this market is composed of in-state residents who are the type of travelers that are most likely to take trips in Michigan.

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