

## Segmenting Tourists' Information Behavior in the Event of a Crisis

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### ABSTRACT

*The study examined tourists' information behavior in the event of a crisis using the Consumer Information Acquisition and Processing Model as a guideline. The data were gathered in June-July 2009, during the hurricane season. Cluster analysis and Discriminant analysis were employed to segment tourists based on personality traits. Three clusters emerged: complacent tourists, risk-adverse tourists, and happy-well informed tourists. The examination of clusters and likelihood of gathering information prior to travel, source information used, and knowledge of hurricanes indicated that the clusters were different with regard to which variables were utilized for information sources; newspapers and the radio, and two demographic variables: gender and ethnicity. Finally, application of the finding is presented.*

**Keywords:** *tourists' behavior, hurricanes, crisis.*

### INTRODUCTION

Tourists are an at-risk population in the event of a crisis (Phillips & Morrow, 2007; Sonmez & Graefe, 1998; Faulkner, 2001; Drabek, 1993, 1994, 1996). This is because tourists may not speak or read the host language and may lack knowledge specific to destinations (exit routes, local radio stations, etc.) (Buckle *et al*, 2001; Johnston *et al*, 2007). Since tourists who are

faced with a crisis during their vacation may be less familiar with their surroundings, the gathering and processing of information may differ. The Consumer Information Acquisition and Processing Model (Vogt & Fesenmaier, 1998) was used as a framework to guide this study. The model outlines four main phases: (1) acquiring information, (2) processing information, (3) evaluating alternatives and (4) making a final decision to purchase or travel in this scenario. These phases take the traveler from the preplanning phase to the actual travel phase. Moving along the continuum indicates that past experiences with various aspects of the travel experience will factor into the final decision.

In order to understand the tourist information acquisition process in the event of a crisis, we adapted and altered the model to apply to a travel situation, which may involve exposure to a crisis, specifically hurricanes. The model was adapted by changing “brand evaluation” to “evaluation of the destination,” and “purchase decision” to “travel to destination.” In addition, the entire context of the decision was framed in a decision making model which included the likely potential that the destination would be faced with a hurricane which was quantified by “have you ever been faced with making a travel decision when a hurricane was anticipated at your destination?”

As indicated by the model, several antecedents act as predictors of information acquisition, information processing, and alternative evaluation. One key, understudied variable is “personality.” Research has found that personality plays a significant role in the information acquisition, which leads to decision-making (Aarts, Verplanken, & Van Knippenberg, 1997; Schaninger & Sciglimpaglia, 1981). Those who are more risk adverse are more likely to acquire a greater level of information (Major, 1998), obtain information from more credible sources (Grunig, 1982, 1983) and acquire more knowledge about the situation (Vasquez, 1993) before making any final decisions. Extending this research to the risk communication literature, scholars have found that understanding characteristics such as personality may influence decision making during risky situations. Some scholars have found that crafting messages based on the target audience’s characteristics (i.e., personality) yields better outcomes than crafting messages to a general audience (Lindell & Perry, 2004; Heath & Nathan, 1991). Thus, understanding the personality traits of tourists should provide a substantial contribution to the consumer acquisition and processing path.

### **PURPOSE OF THE STUDY**

The purpose of this study was to segment tourists into different personality clusters and examine their information acquisition, processing, and evaluation. The research questions, which guided this study, were:

1. Is there a relationship between different “types” of tourists and their likelihood of acquiring information regarding the crisis before their travel?
2. Is there a relationship between different “types” of tourists and the credibility of the source (formal vs. informal)?
3. Is there a relationship between different “types” of tourists and having a greater understanding of the crisis (knowledge of that specific type of natural disaster)?

### **METHODS**

A self-completion survey using an intercept approach was conducted during the hurricane season of 2009, specifically in June-July 2009. It was argued that during the hurricane season, people were more likely to cognitively think about and seek information concerning hurricanes.

In addition, the summer season was considered as a high tourist season in the state of Florida (Visit Florida, 2009). Surveys were administered in two locations: Orlando and Clearwater/St. Petersburg Beach. The locations were chosen based on the high volume of visitors to these areas. In addition, Orlando represented an inland destination, while Clearwater Beach and St. Petersburg represented coastal destinations.

At each respective location, a random sample of tourists were intercepted and requested to complete the questionnaire. A screening question was employed to identify eligible tourists. Only every third eligible tourist was invited to participate. One adult from each travel party was identified and sampled. The surveys took an average of 16 minutes to complete. Sampling occurred on weekdays and weekends on both regions in order to capture tourists who travel the regions during weekdays and weekends. The interviewers were on location from 9:00 A.M. -5:00 P.M. for all sites. A total of 1,860 people were approached for permission to conduct interviews. Out of this number, 964 were identified as tourists, while 935 were identified as locals. Five hundred and four tourists agreed to participate (response rate 52%). Four hundred and sixty tourists refused to participate. Tourists were then segmented based on several constructs and classified based on demographics and information acquisition variables.

## **Operationalization of the variables**

### Personality traits

In order to measure personality traits, four statements about general personality traits were derived from a literature review. Respondents were asked to what extent these statements describe their general personality and emotions, using a 5-point Likert scale, ranging from 1= not at all to 5= very much. The personality traits represented four of the five “big personality traits” as identified by Barrick & Mount (1991) (extroversion, worry/anxiety, agreeable and conscientious).

### Likelihood of gathering information prior to travel

The likelihood of gathering information concerning the crisis was measured using the question “Did you check the likelihood of a hurricane striking your destination during your stay, prior to departure?” Responses were close ended (“yes” or “no”).

### Credibility of the source (Formal vs. informal)

The source of preferred hurricane information was measured by asking what sources tourists were likely to use to acquire information about hurricanes. Information sources included: local television stations, hotel staff, the Internet, weather channels, newspapers, other tourists or “other.” Based on work by Renn (1991), sources were interpreted as credible or less credible based on their level of formality, which stems from being a primary source or a secondary source. Thus, local television, the internet, weather channels, radio stations and newspapers were deemed credible sources while hotel staff and other tourists were deemed to be less credible sources.

### Knowing more about the crisis (Knowledge about hurricanes)

Hurricane knowledge was measured by 4 basic questions about hurricanes. The score then were indexed to create an aggregate knowledge score. True/False questions included: “The ‘Hurricane Season’ in Florida extends from June 1 to November 30.” ; “It is rare for hurricane-

force winds to affect cities that are located inland away from the coast.” ; “A Category 1 hurricane has the least intensity among all hurricanes.” ; “If a *Hurricane Warning* has been issued, it means that you should immediately start preparing to protect yourself as hurricane conditions will begin within 24 hours.” Responses were “True,” “False,” and “Don’t know.”

The final section of the survey measured the following socio demographic variables: gender, education, annual income, ethnicity, and residence. Data were analyzed using the Statistical Package for the Social Sciences. Initially, descriptive statistics were computed to obtain a “snapshot” of the data. Second, a cluster analysis was performed on the four personality traits statements to identify groups of tourists who responded similarly to the personality dimension. This analysis employed a two-step procedure. Finally, crosstabs were employed to examine the relationship between the types of personality with likelihood to gather information prior to travel, information source collection while at the destination, hurricane knowledge, and the socio-demographic variables.

### FINDINGS

A total of 467 completed questionnaires were used for analysis. The sample was mostly white (65.9%), with males comprising 50.5% of the sample. There were six income brackets with the greatest percentage earning \$50,000 to \$74,999 (22.65%). Among all education levels, the greatest representation was with respondents who earned a bachelor degree. Thirty four percent resided in other states than Florida, which represented the highest percentage among respondents. Descriptive statistics indicated that the personality statement that best represented most respondents was: “I would rather be safe than sorry,” The statement that least reflected the views of the respondents was “I am easily frightened.” Cluster analysis was applied to identify groups of tourists based on similar responses to the four general personality trait statements. Initially, Ward’s hierarchical clustering method was used to determine the number of clusters. Examination of dendrograms and agglomeration coefficients suggested three clusters (table 1). This number was then used as an a-priori in a K-means cluster analysis. In order to validate the cluster analysis, analysis of variance and discriminant analysis were used. Analysis of variance documented that statistically significant differences existed between three clusters on all personality traits. More specifically, Cluster III was a happy but liked to be well informed. All four personality traits mean scores were above the averages for the sample as a whole. Cluster III represented 46.0% of the sample (n= 215). Cluster II accounted for 33.8% of the sample (n= 158). Cluster II mean scores for 2 statements (I would rather be safe than sorry and I am easily frightened) were above the average mean score but the other two statements were below the average mean scores. Cluster I (n = 94) accounted for 20.2%, scored below the mean averages on all of the four personality traits. Therefore, based on the personality traits of each cluster, they were labeled, “Complacent tourists” (Cluster I), “Risk-adverse tourists” (Cluster II), and “Happy-well informed tourists” (Cluster III).

Discriminant analysis was performed on the three clusters in an effort to identify which personality traits best discriminated among the three clusters. The two canonical discriminant functions were statistically significant as measured by the Chi-square statistic. Function I explained 58.0% of the total variance and had an Eigenvalue of 2.092. Function II explained 42.0% of the total variance and had an Eigenvalue of 1.515. Approximately, 99.5% of the cases were correctly classified (table 2).

The final step was to examine how the clusters differed from one another on (1) likelihood of gathering information prior to travel, (2) credibility of the source used, and (3) knowledge of hurricanes or knowing more about the crisis. Results indicated that clusters were not different with regard to the likelihood of acquiring hurricane information prior to their travel (table 3). In fact, less than 50% of tourists checked the likelihood of hurricane strikes prior to their visit. With regard to the hurricane information source used, there were significant differences with regard to two information sources. Risk-adverse tourists tend to use newspapers and radio media more than other clusters. There were no significant differences found with regard to knowledge about hurricanes among clusters. In addition, two demographic variables were found to be significantly different among clusters: gender, and ethnicity. It is interesting to note that the cluster of “Risk-adverse tourists” tended to be white males, whereas, “happy well-informed tourists” tended to be white females.

**Table 1: Means of Personality Traits among Three Groups of Tourists**

Statement	Cluster I	Cluster II	Cluster III	F- Ratio	Sig. Level
I would rather be safe than sorry.	2.93	4.64	4.47	222.760	.000
I like to make well-informed decision.	3.46	4.72	4.74	162.178	.000
I am generally a happy person.	3.59	4.56	4.50	67.040	.000
I am easily frightened.	2.39	3.51	1.57	406.485	.000

\*Note: all statements significant at the  $p < .05$  level

**Table 2: Classification Results**

Group	No. of cases	I	II	III
Complacent tourists	94	93 (98.9%)	1 (1.1%)	0 (0.0%)
Risk- adverse tourists	158	0 (0.0%)	158 (100%)	0 (0.0%)
Happy-well informed tourists	215	1 (1.1%)	214 (98.9%)	0 (0.0%)

99.5% of original grouped cases were correctly classified

**Table 3: Characteristics of Clusters**

Statement	Cluster I %	Cluster II %	Cluster III %	Chi-Square	Sig. Level
Likelihood of Gathering Information Prior to Travel.	27.8	32.5	31.4	.609	.738
Information source while at-destination					
Television	80.6	86.0	86.9	2.116	.347
Internet	44.1	41.4	44.4	.358	.836
Hotel staff	29.0	34.4	32.7	.770	.680
Other tourists	14.0	15.3	9.8	2.713	.258
Weather Channel	49.5	40.8	46.3	2.023	.364
Newspaper	61.2	76.3	62.7	6.950	.031*
Radio	10.9	20.3	11.9	5.614	.035*
Hurricane knowledge				22.836	.197
High	55.3	69.6	68.8		
Medium	36.1	26.6	27.0		

Low	8.6	3.8	4.2		
Gender				37.681	.000*
Male	43.6	70.3	39.1		
Female	56.4	29.7	60.9		
Education				12.508	.052
Graduate school	26.5	20.9	31.9		
Undergraduate	29.8	31.6	38.1		
High school	27.7	31.0	28.4		
Other	16.0	16.5	1.6		
Ethnicity				26.672	.021*
White - Caucasian	63.8	71.5	74.0		
Black - African American	2.1	11.4	6.5		
Hispanic - Latino	20.2	7.6	9.3		
Asian	7.4	4.4	2.8		
Pacific Islander	.0	.0	.5		
Native American	.0	.6	.5		
Multi-racial or mixed race	3.3	3.9	2.8		
Other	3.2	.6	3.6		
Income				16.038	.190
\$125,000 +	18.1	17.1	20.9		
\$100,000 - \$124,999	14.9	13.3	19.1		
\$75,000 - \$99,999	16.0	17.7	19.1		
\$50,000 - \$74,999	30.9	27.8	19.1		
\$35,000 - \$49,999	6.4	10.1	11.2		
\$24,000 - \$34,999	3.2	8.2	3.6		
Less \$24,000	10.5	5.8	7.0		
Age				131.815	.256
70+	4.4	3.7	2.5		
60 - 69	3.9	10.8	8.0		
50 - 59	12.8	21.5	20.0		
40 - 49	41.5	35.2	37.2		
30 - 39	15.0	13.4	17.2		
20 - 29	15.0	10.7	10.0		
19 - 18	7.4	4.7	5.1		
Residence				11.213	.082
Domestic Florida	12.8	18.4	18.1		
Domestic Non Florida	29.8	34.8	42.3		
International UK	26.6	25.9	22.8		
International Non UK	30.9	20.9	16.7		

\*Significant at the  $p < .05$  level

### APPLICATION

The primary purpose of this study was to segment tourists by personality and examine the relationship between their personality and their information behavior gathering. The results yielded three different clusters of tourists. Risk-adverse tourists were more likely to use credible



sources such as newspapers and radio stations to acquire information with regard to hurricanes, compared to other groups. This finding was parallel with Grunig's (1982, 1983) and Major's (1998) study wherein those who perceived higher risks were more likely to seek information about the topic from credible sources. In addition, the happy well-informed tourists tended to be white females whereas those considered to be risk-adverse tended to be white males. Some of this is consistent with other general (non-tourist) studies, which indicates that women tend to desire more information through communication before making decisions (Dash, & Gladwin, 2007; Fothergill, Maestas, & Darlington, 1999).

However, some of this is inconsistent with previous findings, particularly the finding that men expressed being easily frightened. In our study, a higher percentage of men indicated that this statement was moderately true. Perhaps this is because these men tend to be the decision maker in the event of a crisis and feel responsible for their families and thus more "risk adverse." Undoubtedly, further research on this finding is necessary. Findings from this study are important to destination management organizations (DMOs) and Emergency Management Agencies in reaching out to tourists in order to inform them of risks. These organizations can benefit from knowing that these three segments of tourists may react differently toward risk communication messages. Furthermore, newspapers and radio stations are frequently used by risk-adverse tourists in addition to other media in order to seek information with regard to hurricanes. Therefore, if the Emergency Management Agencies and DMOs want to reach this group, disseminating hurricane risk information using the aforesaid media is recommended.

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