



Research Paper

An empirical evaluation of the determinants of tourist's hurricane evacuation decision making



Ignatius Cahyanto^{a,*}, Lori Pennington-Gray^{b,1}, Brijesh Thapa^{b,1}, Siva Srinivasan^{c,2}, Jorge Villegas^{d,3}, Corene Matyas^{e,4}, Spiro Kioussis^{f,5}

^a Tourism & Hospitality Management, School of Business, Black Hills State University, Meier Hall 335, 1200 University Street Unit 9007, Spearfish, SD 57799-9007, United States

^b Department of Tourism, Recreation and Sport Management, University of Florida, 325 FLG, PO Box 118209, Gainesville, FL 32611, United States

^c Department of Civil and Coastal Engineering, University of Florida, 513-a Weil Hall, Gainesville, FL 32611, United States

^d College of Business and Management, University of Illinois at Springfield, One University Plaza, MS UHB 4054, Springfield, IL 62703-5407, United States

^e Department of Geography, University of Florida, 3141 Turlington Hall, Gainesville, FL 32611-7315, United States

^f Department of Public Relations, University of Florida, PO Box 118400, Gainesville, FL 32611-8400, United States

ARTICLE INFO

Article history:

Received 13 February 2013

Accepted 22 October 2013

Available online 27 November 2013

Keywords:

Tourists

Evacuation

Decision-making

Crisis

Florida

Probit modeling

ABSTRACT

Tourists are vulnerable in the event of a crisis. This article is focused on examining aspects of tourists that potentially influence whether or not they evacuate in the event of a hurricane. In general the results of this study suggest that individual characteristics (risk belief, connectedness, knowledge, and past experience with hurricanes), travel related variables and the socio-demographic characteristics of tourists influence their decision regarding whether or not to evacuate in the event of a hurricane, with tourists who are not local showing higher risk beliefs regarding hurricanes, with low connectedness and knowledge about hurricanes, without past experience with hurricane impacts, traveling with a larger party, traveling with children, traveling for the first time to the destination, traveling by plane and personal vehicle, older age groups, female, with an annual income more than \$125,000 are more likely to evacuate. Managerial implications of the findings are discussed.

© 2013 Elsevier Ltd. All rights reserved.

1. Background of the study

Over the last decade, the tourism industry worldwide has experienced ample crises ranging from naturally induced crises such as wild fires, tornadoes, earthquakes, tsunamis, and human induced crises such as political unrest and terrorist attacks. The aforesaid crises have contributed to a decline in tourists' visitation and have had a negative impact on the economy of the tourism industry in multiple places (Pennington-Gray, London, Cahyanto, & Klages, 2011; Schaper, 2012). A VISIT FLORIDA[®] survey found that 20% of potential visitors were concerned with returning to Florida during 2005s hurricane season, indicating that if all those people stayed away, it would result in a \$6.7 billion loss in expenditures (Pain, 2006).

Key West, Florida lost approximately \$1.5 million a day from commerce and tourism when an evacuation order was issued during the 2008 hurricane season (Miami Herald, 2009).

Faulkner (2001) and Ritchie (2004) argued that there is a scarcity of research on the crisis phenomenon in the tourism industry, albeit within the last five years there have been a substantial number of research articles published on crises affecting the tourism industry. Publications on tourism crisis management can be seen from two angles. The first angle focuses on the supply side of tourism, while the second angle focuses on the demand side of tourism. Recent publications, however, focus primarily on the supply side of the tourism system and can be further categorized into two major themes. The first theme focuses on the impacts of a crisis on the tourism industry and studies on how the tourism industry, such as destination management organizations, responds to crises (e.g. Carlsen, 2006; Chacko & Marcell, 2007; Chandler, 2004; Cheung & Law, 2006; Cooper, 2005). The second theme examines how tourists might respond effectively to crises. Specifically, research in this area concentrates on crisis management models and attempts to offer the most effective model to save lives and mitigate risks to tourism businesses that can be implemented by destination management organizations (e.g. Evans & Elphick, 2005; Faulkner, 2001; Hystad & Keller, 2006; Ritchie, 2004).

* Corresponding author. Tel.: +1 605 642 6876.

E-mail addresses: ignatius.cahyanto@bhsu.edu, igcahyanto@gmail.com (I. Cahyanto).

¹ Tel.: +1 352 294 1657.

² Tel.: +1 352 392 9537.

³ Tel.: +1 217 206 7927.

⁴ Tel.: +1 352 392 0494; fax: +1 352 392 8855.

⁵ Tel.: +1 352 273 1220; fax: +1 352 273 1227.

Ritchie (2009) argued that research from the demand side, such as how tourists respond to crises is still lacking and suggested that future researchers examine tourist behavior during crises. This focus on behavior is pivotal to understanding tourist behavior in the event of a crisis in order to effectively design ways to develop assistance to ensure the safety of tourists in the event of a crisis. Furthermore, Phillips and Morrow (2007) contend that tourists are vulnerable in the event of a crisis, with one of the main reasons being that tourists may not speak and/or read the host language and may lack knowledge of the risks that hurricanes present. Hence, tourists may experience difficulty in receiving, interpreting, and responding properly to risk messages. Tourists are often unfamiliar with their surroundings and lack support systems from their home community (Burby & Wagner, 1996; Faulkner, 2001; World Tourism Organization (WTO), 1998). While in unfamiliar environments, tourists may not know who their “protectors” are as they do not know from whom to seek assistance. Thus, the impacts to tourists in risky situations may be greater than to those in the general resident population. Due to the need to better understand tourists' behaviors in the event of a crisis, this study, unlike previous studies in the area of tourism crisis, will focus on tourists' behaviors in the event of crisis, specifically on their behaviors in the event of hurricanes.

Hurricanes are one of the most disruptive natural disasters to destinations, not only because of the costs associated with the impacts, but also due to the time full recovery takes following a hurricane strike. According to the National Hurricane Center (NHC) (2006), the 2005 Atlantic hurricane season was considered the most active and harmful season in recorded history in the United States, causing approximately 2300 deaths and over \$130 billion in damages. Furthermore, the economic losses associated with hurricanes from fishing, agriculture, commerce, and tourism are long lasting, usually taking several years from which to recover (Lindell & Perry, 2004).

An extensive body of research has identified many factors that influence households' responses to hurricanes (e.g. Drabek, 1986, Lindell & Perry, 2004; Riad & Norris, 1998). The research has examined gender (Bateman & Edwards, 2002; Dash & Gladwin, 2007; Gladwin & Peacock, 1997), wealth (Burton, Kates, & White, 1993; Viscusi, 1995; Whitehead, 2003, 2005), past experiences related to hurricanes (Burton & Kates, 1964; Peacock, Brody, & Highfield, 2005; Vitek & Berta, 1982), hurricane knowledge (Daniels & Loggins, 2007; Dow & Cutter, 1998) and race and ethnicity (Gabe, Falk, & McCarty, 2005; Niga, Barnshaw, & Torres, 2006).

Unfortunately, little attention has been focused on transient populations such as tourists (Phillips & Morrow, 2007). Consequently, while general findings in hurricane studies have facilitated emergency managers and policy makers to develop plans that make realistic assumptions about the general nature of human behaviors related to hurricanes, such studies may not be sufficient to provide the information that emergency management, policy makers, and the destination management organizations need for specific predictions about the behavior of tourists in their communities.

The few noteworthy contributions which examine tourist behavior during hurricanes were published in the early and mid 1990s and largely by one author (Drabek, 1991, 1993, 1994, 1995, 1996, 1999, 2000) with a focus on evacuation strategies and policies from a supply viewpoint. A recent study conducted by Matyas et al. (2011), Pennington-Gray, Kaplanidou, and Schroeder (2012) and Villegas et al. (2012) were the only studies focused on the tourist population. These studies examined the interplay between tourists' perceived risks and their likelihood to evacuate, and found that those who perceived higher risk are more likely to evacuate in the event of hurricane warning. This study expands on

Matyas et al. (2011) by employing decision theory to examine determinants that influence tourists' evacuation decision making in the event of hurricanes.

Given the paucity of academic research on tourists' evacuation behavior and the urgency to conduct such studies, this paper is focused on examining aspects of tourists that potentially influence whether or not tourists evacuate during a hurricane. Specifically, this study is guided by three interrelated questions:

- (1) What are the effects of a tourist's individual characteristics on decisions regarding whether or not to evacuate?
- (2) What are the effects of travel related variables on a tourist's decisions regarding whether or not to evacuate?
- (3) What are the effects of socio-demography on decisions regarding whether or not to evacuate?

2. Literature review

In this section we discuss the guiding theory for this study as well as three areas that are presumed to influence tourists' evacuation decision making: Individual characteristics, travel related variables, and socio-demography.

2.1. Decision theory under uncertainty

As this study intends to examine the decision making of tourists with regard to their evacuation choices, the study employs decision-making theory as a theoretical lens. The decision theory typically can be divided into two major parts: A description of the agent to which the theory applies and normative claims about how the agent should behave.

Under the typical decision theory, the agent in which the theory applies satisfies the following conditions: First, the agent's belief state at the time can be represented by a probability function over a space of possibilities that indicates the agent's confidence that the possibility is true, with greater values indicating greater confidence. Second, the agent's evaluative state at the time that can be represented by a function which assigns positive numbers to elements in the space of possibilities, referred to as a utility. Utilities indicate the extent to which the agent values that possibility of obtaining the act. Higher numbers indicate higher utilities. Third, the agent's potential acts in a decision situation that can be represented by a unique set of mutually exclusive propositions $\{a_1, \dots, a_n\}$ where “ a ” can be considered as the proposition that the agent performs the i th available act. Typical decision theory also posits that the agent would only perform a potential act a if the utilities of this act are at least as large as the expected utilities of any alternatives. This assertion is also known as utility maximization (Jones, Boushey, & Workman, 2006; Meacham, 2010).

Within decision theory, there are two competing schools of thought regarding individual choice. The first is the rational choice that assumes that individuals behave as if they were acting as pure utility maximizers to deduce patterns of outputs from social systems (Friedman, 1953). The second is bounded rationality that acknowledges psychological restrictions on human decision-making, premised on the assumption that individuals would maximize the utility of alternatives that are available for them at that time. Decision theory has been widely used in order to examine various fields from transportation behaviors (Kitazawa & Batty, 2004), insurance purchasers (Kunreuther & Pauly, 2004) as well as evacuation decision makers (Burton et al., 1993; Letson, Sutter, & Lazo, 2007; Viscusi, 1995).

In tourism literature, decision theory has long been used to examine travel decision-making, purchase behaviors, as well as

Download English Version:

<https://daneshyari.com/en/article/1011154>

Download Persian Version:

<https://daneshyari.com/article/1011154>

[Daneshyari.com](https://daneshyari.com)