
Tourist Perception of Food Safety Risk and Destination Choice

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Abstract: Growing concern about food-borne illness on vacation damages destination image and affects tourist travel decision. This paper draws on a review of research literature to works towards a conceptual framework to explore the potential factors which would influence tourist perception of food safety related risks and the possible impact on destination choice. The relevant strategies adopted by international tourists to reduce risk exposure and the likely influence on selecting travel destination are also reviewed, together with the implication for the tourism industry. The overriding purpose of the study is to identify appropriate risk management strategies for the mutual benefit of both tourism industry and international tourists.

Key Words: Tourist perception, destination choice, risk reducing strategies, risk characteristics, food-borne illness.

Introduction

As there are approximately 200 nations and 2 million destinations that tourists can choose from, destination image can attract or deter tourists to visit the place. An estimated total of 1.480 billion US dollars was spent on promoting a worldwide destination in 2006 (WTTC, 2007a). In spite of trying to provide a destination with past history, inherited names and so forth, some controllable micro-environmental factors, such as food-borne infection, robbery, or uncontrollable macro-environmental factors, such as earthquakes, tsunamis and diseases can disrupt tourism earnings (WTTC, 2007b). Indeed, negative information remains in the mind longer than positive information (Slovic, 1993); in other words, the effect of negative destination image is greater than that of positive.

Frequent report of food poisoning on vacation heightens the level of perceived travel risk (Sonmez and Graefe, 1998a). Tourist risk perception influences the attractiveness and evaluation of destination choices (Sonmez and Graefe, 1998a). Safety could be one of the factors to choosing a destination. The devastating effect of Severe Acute Respiratory Syndrome (SARS) on the tourism industry in particular areas of Asia, is an example showing that the destination would become less desirable when it is perceived as risky, even though the infection rate is low. Another example is the outbreak of foot and mouth disease in the United Kingdom which discouraged many potential tourists (CNN European, 2001). The destination marketer should be aware of the consequences of the

destructive controllable and uncontrollable risk factors and develop a risk management strategy. Despite the importance of addressing the causal factors and consequences of tourist risk perception, a formal framework linking all these constructs has not yet been developed.

The present study attempts to explore the relationship between the risk characteristics, tourist risk perception and destination choice, as well as tourist risk reducing strategies by drawing on a review of research literature. The aim is to produce a conceptual model to assess the possible link between the antecedent factors which shape tourist risk perception, and how they affect on destination choice.

The underlying purpose of this paper is to make a significant contribution to an understanding of the factor(s) affecting tourist risk perception of food safety and the choice of travel destination. The research aims to provide a framework for tourism industries to develop marketing strategies when potential hazards occur. To achieve this, the research incorporates the following objectives:

1. To investigate variables for measuring perceived risk on destination choice, assuming that perception of risk is a psychological interpretation that influences consumer behaviour with respect to choice of travel destination. Possible variables for perceived risk would include the probability and the consequences of loss in physical pain and discomfort, the problem of finding suitable medical treatment, and anything that would spoil the entire vacation experience, etc (MacLaurin, 2003).
2. To investigate a broader set of psychological factors (risk characteristics) of perceived risk on destination choice. This has been chosen as previous research has shown that perception of risk is not so much affected by the hazard per se but more with the social and psychological characteristics of risk (Slovic 1987). For example, concern about the consequences and safety in travel destination, unfamiliarity of the destination (Lawton and Page, 1997; Powell, 1999), risk beyond control, legislation and regulation, and so forth.
3. To investigate the appropriateness of these risk reducing strategies, and to explore any new possible strategies based on marketing, economics and the psychology used by tourism industry. Risk perception has been shown to relieve a variety of risk reducing strategies, such as seeking information from trusted sources and choosing destination with a quality assurance standard (Fodness and Murray, 1997; Maser and Weiermair, 1998; Sonmez and Graefe, 1998b; Lam and Zhang, 1999; Yee and Yeung, 2002; Yeung and Yee 2003; Yee, Yeung and Morris, 2006).
4. To develop a conceptual framework of tourist risk perception and destination choice by building on the existing consumer risk behaviour model from the marketing and psychological discipline. Perceived risk has been found to influence consumer choice (Yeung and Yee, 2004; Yeung and Morris 2006) The framework lays a foundation for a subsequent quantitative study which is to quantify and estimate the direct and indirect

causal effects of the identified risk characteristics and risk reducing strategies on perceived risk and destination choice.

Risk involved in International Tourism

Risk is defined as “exposure to the chance of injury or loss, a hazard or a dangerous chance” (Macquarie 1999), or “the potential to lose something of value” (Priest 1990). Previous studies have examined certain types of travel risk including terrorist attacks, disease epidemics, natural disasters, political instability, problems with hygiene, crime and so forth (Maser and Weiermair, 1998; Lepp and Gibson, 2003; Reisinger and Mavondo, 2005; Reichel, Fuchs and Uriely, 2007; Lepp and Gibson, 2008). Lepp and Gibson (2003) note in a study on the relationship between tourists’ perception of risk associated with international tourism that health-related risk has the highest mean score among all other risks. Similar results were obtained in another study conducted by Carter (1998). Respondents in his study gave a higher weight to risk exposure to disease than other aspects, such as the threat of violence or robbery. Health scare is more obvious during the period of safety concern, such as the 1994 outbreak of plague in India (Clift and Page, 1996). Past disaster events make some places seem to be more risky than others. For example, Africa and Asia were identified as dangerous for tourism regarding infectious diseases and food poisoning or dysentery respectively, due to poor hygiene standards (Carter, 1998); Africa is the destination generally avoided by travellers due to food safety concern (MacLaurin, 2003). Such travel risks can increase tourist risk perception at a destination (Dioko *et al.*, 2005).

In particular, food-borne illness appears to be a hurdle to destination choice. Reports indicate that around 10 percent of travel population is affected by food-borne illness every year (MacLaurin, MacLaurin and Loi, 2000), and approximately 30 percent of visitors to Asia, Latin America and Africa suffered food-borne illness such as diarrhoea (JHHI, 2002). These statistics are alarming and the incidents have aroused attention in the tourism industry (Dawood, 1989; Travel Weekly, 1998; Cheung, Prisk, and Maxwell, 2000; Delgado’s, 2000). The effect of food-borne infection on vacation is associated with the frequency of travel in the 21st century. The importance of food safety has been seen as a critical factor in travel planning and destination selection. MacLaurin, Loi and MacLaurin (2000) report that the majority of overseas travellers take the food safety reputation of a destination into consideration when they choose their travel destinations. In particular, past travel experiences were found to influence traveller risk perception of the destination (Dioko, *et al.*, 2005), and in turn the presence of perceived food safety risk will probably change future travel intention (Sonmez and Graefe, 1998b). As such, a poor food safety image of a country would adversely affect its tourism industry and decrease tourism revenue from overseas tourists (WHO, 2000). This is one area where more research is justified.

Risk perception

A number of studies have been conducted to examine the types of travel risk and tourist risk perception. Perceived risk however differs from type of travel risk which is defined in the previous section. Mowen and Minor (1998) define perceived risk as “a consumer’s perception of the overall negativity of a course of action based upon an assessment of the possible negative results and the likelihood that they will occur”. By referring to the definition, many researchers adopt the two-component model of risk perception, comprising the probability of a loss occurring and the magnitude / seriousness of the loss once it has occurred. They measure risk either in scalar quantities of low through to high in order to reflect perceptions (for example, Cox, 1967a), or in a 7-point, Likert-like scale, anchored at the ends with the terms ‘very unlikely’ and ‘very likely’ for probability, and ‘not at all’ and ‘very much’ for severity (Mitchell, 1998, Yeung and Yee, 2004). An additive or multiply model was generally adopted combining probability of occurrence and seriousness of consequence to derive an estimate of total perceived risk (Lanzetta and Driscoll, 1968; Bettman, 1973; Cunningham, 1967a).

From the earliest marketing literature, Roselius (1971) suggests that the concept of perceived risk is a multidimensional phenomenon with overall risk subdivided into various loss outcomes. He identified four types of potential loss, namely hazard which is dangerous to health, money and time wasted for replacing the product, and loss of ego or self-esteem when the product fails. Yeung and Yee (2002) later supports that multi-dimensional analysis significantly improves the understanding of risk perception. Researchers extend the concept by including other losses in their studies, varying from the physical to the psychological, and from the functional to the political (e.g., Fuchs and Reichel 2004, 2006; Lepp and Gibson 2003; Mansfeld 1996; Pizam and Sussmann, 1999; Reisinger and Mavondo 2005; Roehl and Fesenmaier 1992; Sönmez and Graefe, 1998a, 1998b). Seven types of perceived loss are identified for measuring perceived risk. They are health loss (inflicting injury or illness), functional (not delivering benefits to customers), financial loss (losing or wasting money if the service goes wrong), time loss (taking too much time, and/or wasting time); social loss (losing social and personal status), psychological loss (reflecting poorly on personality/feeling of anxiety and fear of negative consequences), and satisfaction loss (not delivering satisfaction). Health is considered a major factor in international travel as the enjoyment of the holiday is spoilt if a tourist has a stomach upset while travelling (Cartwright, 2000). These measurements of perceived risk can provide a useful framework for assessing tourist risk perception on food-borne infection when they evaluated travel destinations, as shown in Table 1.

Table 1 Components of perceived risk associated with food-borne infection during travel

Perceived Risk	Implications
Health Loss	Possibility of becoming sick and suffering discomfort while travelling or at the destination due to a food borne infection
Financial Loss	Possibility that travel experience will not provide value for money spent due to a food borne infection

Time Loss	Possibility that the travel will waste time in seeking medical treatment due to a food borne infection
Performance Loss	Possibility that the travel will be cut short and some places may not be visited as planned due to a food borne infection
Social Loss	Possibility that friends or relatives may disapprove of the destination choice due to a food borne infection
Psychological Loss	Possibility of feeling stressful about the possibility of infection by a food-borne disease
Satisfaction Loss	Possibility of spoiling the entire vacation experience due to a food borne infection

Risk perception and risk characteristics

It appears that consumer perceived travel risk is determined not so much by the hazard *per se*, but the social and psychological aspects of the risk. Slovic *et al.* (1980) have referred to the social and psychological aspects as “risk characteristics” which form the basis of consumer concerns. Slovic and his colleagues propose a set of risk characteristics to explain public perception in general. Their studies reveal severity of consequences, control over risk, immediacy of effect, voluntariness of risk, knowledge about risk, newness, chronic-catastrophic, and common-dread could be the factors influencing consumer perception of risk. Slovic (1987) further shows that some characteristics are mutually related with one another across a range of hazards. These factors have been adopted in numerous studies on many types of risk, including food-related risks (Frewer, *et al.*, 1994; Yeung and Morris, 2006). Other research confirms that risk perception is closely related to risk characteristics (Miles *et al.*, 1999). A number of characteristics, such as ‘concern’, ‘adverse effect’, ‘knowledge’, ‘own control’, ‘involuntary’, ‘media influence’, ‘uncontrollable’ and ‘legislation’ are identified. These factors are found particularly significant for food safety risk.

The factor of ‘concern’ covers concern about consequences and about the safety of food consumption. Concern arises due to repeated incidents of food poisoning, some of which have proved fatal for vulnerable groups (Fife-Shaw and Rowe, 1996). Travellers may be concerned about the consequences of sickness during journeys, and as a result, such concern heightens the level of perceived risk (Sonmez and Graefe, 1998a). ‘Adverse effect’ refers to the adverse effect on future generations and the adverse effect on the environment. This factor explains why a possible uncertain delayed effect is worse than an immediate harmful effect to health (Slovic *et al.*, 1980). For example, perceived catastrophic outcomes of nvCJD is associated with the long incubation period with BSE (Anderson, 1999). ‘Knowledge’ associates with consumer awareness of health warnings and their understanding of the importance of codes of good practice on food safety. Knowledge of such awareness may facilitate purchase likelihood (Teague and Anderson, 1995), even in times of general concern. Familiarity with a product or a destination would be seen as safe (Carter, 1998). In contrast, a traveller often attributes high risk to a

destination with bad news if they have less knowledge of it (MacLaurin, 2003). Past experience of health and food safety risk is positively associated with a high level of perceived risk (Reichel, Fuchs and Uriely, 2007). 'Own control' reflects consumer ability to handle the risk by killing potentially harmful bacteria through thorough cooking and proper handling of food. Travellers can have control over the life threatening risk, such as food poisoning, viruses, and infection by avoiding eating unclean food at the destination (MacLaurin, 2003). Carter (2000) shows that the tourist can control the risk by taking health advice / precaution such as checking your teeth before travelling. 'Involuntary' relates to a low tolerance of exposure to the risk which could be avoided if the consumer is fully informed about the risk to make choice. The tolerance of risk associated with involuntary activities is 1,000 times greater than risk from voluntary activities, even though both provide the same level of benefit (Starr, 1985). Involuntary risk is often associated with profit seeking by the service provider as "travel agents were not perceived as a reliable source of food safety information" (MacLaurin, 2003). As such, the lack of health and safety information and no spontaneous health warning given prior to departure to high-risk destinations by a travel agency are considered as involuntary risk. The unwillingness of taking such risk would adversely affect consumer risk perception (Wandel, 1994). 'Media influence' reflects the impact of the action / campaign taken by the pressure groups such as Environment Friends, a consumer association who are perceived to be independent of the government. Most of their actions are intended to increase consumer perceived risk through media and wide media coverage, and this can create sensationalism of the threat regarding personal safety in international travel (Sonmez and Graefe, 1998a). 'Uncontrollable' associates with consumer perception of the industry's inability to control the risk effectively. Reports of the increasing incidence of food poisoning give an impression to consumers that food hazards are not under control (Yeung and Morris, 2006). 'Legislation' refers to adequate regulations and enforcement of food standards and practices. The consumer often demands tighter standards and proper enforcement when there were increases in food contamination in spite of the measures already taken (Slovic, 1987).

Risk perception and destination choice

In the marketing context, Bauer (1967) proposed that once a risk has been perceived in a general purchase situation, consumer behaviour is shaped by such risk perception because consumer behaviour is motivated by a subjective impression of a risk rather than the objective estimation of risk involved. Recent research shows a negative relationship between risk perception and consumer purchase likelihood in the context of food safety risk in a general purchase (Yeung and Yee, 2004; Yeung and Morris, 2006). Earlier research also reports the causal link between perceived risk of residue contaminated food produce and the tendency to avoid purchasing such products (Huang, 1993; Eom, 1994). In the context of international travel, Reisinger and Mavondo (2005) confirm that perceived risk of safety greatly influence the intention to travel. The destination would become undesirable or eliminated from selection if it is perceived to be risky (Crompton,

1992; Sonmez and Graefe, 1998a). Some places, such as Africa, Asia and South/Central America were noted as risky due to food safety concerns, and are avoided by American respondents (MacLaurin, 2003). These studies note the negative relationship between tourist risk perception and the destination choices regarding the risky situation in the destinations.

Risk perception and Risk reduction

According to protection motivation theory, people tend to avoid risk in terms of the threat intensity or probability of occurrence in a risky purchase decision process (Rogers, 1975, 1983 S&Gp.177). If the perceived risk exceeds their minimum tolerable level, they also develop a coping response to enable them to act with confidence and ease in uncertain situations (Dowling, 1986); that is, people will either stop purchasing problematic products permanently or temporarily, or choose to absorb the unresolved risk, provided that the perceived risk for the particular product is more tolerable than the alternatives. However, consumers do choose risk relievers according to their preference and to the type of risk involved when consumers have to cope with an unresolved risk.

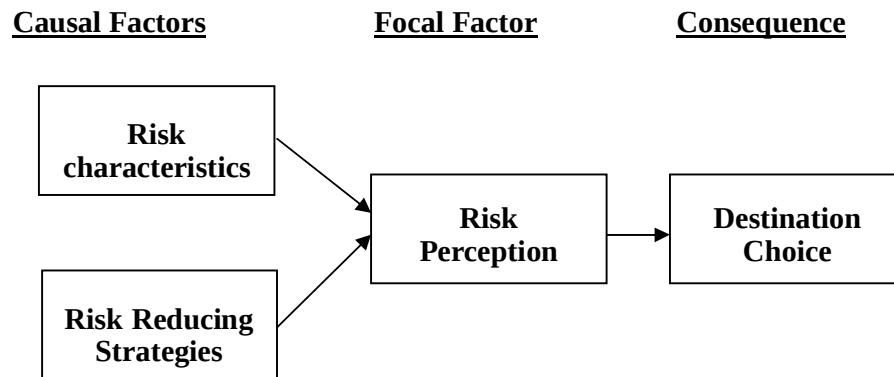
Roselius (1971) suggests that consumers adopt a range of common strategies in general purchase situation, that is, brand loyalty, major brand image, government testing, private testing, store image, free sample, money-back guarantee, shopping around, expensive model, endorsement, and word of mouth. Nevertheless, the adoption rate and type of risk reliever may differ in other purchase situation. For example, consumer guides, product information, cheaper price, trial and special offer has been added for the study on convenience goods, and for shopping for goods and services (Mitchell and Greatedorex, 1990). Considering the changes in technology and society over time, it is necessary to accommodate the change in the selection of risk relievers according to consumers' needs, motives and perceived risks (Mitchell, 1998a). Research on how to reducing food safety concern is particularly important as risk reducing mechanism, such as reliable and helpful information, high food hygiene standards and quality product with affordable prices are sought by consumers (Pugh, 1990). Nine variables, namely brand loyalty, well-known brand, government laboratory testing, private laboratory testing, traceability, consumer guide, in-store leaflet and price discount are found as risk reducing strategies adopted by consumer in a study of food safety risk on chicken meat (Yeung and Yee, 2005). These variables have different levels of effect on perceived risk and purchase intention.

Similarly, Sonmez and Graefe (1998b) suggest that tourists will take effective actions to control consequences by either cancelling the travel plan, selecting safe regions and destinations if discretionary time and money are available, taking extra precautions while travelling to risky destinations, or modify their travel activities by taking shorter trips or change their destination, so do Reisinger and Mavondo (2005) in their study on travel anxiety and intentions to travel internationally. An information search is a popular way to reduce risk. Over 70% of tourists seek advice from friends and family, travel professionals, government travel advisers and foreign embassies/consulates as well as travel magazines (Sharpley, Sharpley, and Adams, 1996; Sonmez and Graefe, 1998a).

Conceptual model of tourist destination choice relating to food safety

The preceding review of literature is useful to construct a conceptual model for tourist destination choice in the context of food-borne risk in international travel. There is a possible relationship between risk characteristics, risk reduction, risk perception and destination choice, of which risk characteristics and risk reduction could be the causal factors affecting risk perception and subsequently destination choice. A conceptual model as shown in Figure 1 is generated for a further empirical test.

Figure 1 Conceptual Model of Risk Perception on Destination Choice



Conclusion and Implication

The research literature shows the possible link between risk characteristics, risk perception and purchase likelihood, as well as risk reducing strategies. It appears that tourist perception is shaped by the different risk characteristics, namely ‘concern’, ‘adverse effect’, ‘knowledge’, ‘own control’, ‘involuntary’, ‘activist influence’, ‘uncontrollable’ and ‘legislation’. According to the risk theory, perceived risk is influenced by a combination of perceived degree of exposure to a risk and the consequences of the exposure. Consumer risk perception is heightened by the severity of consequence instead of the probability of the risk even though the probability tends to be very small. The literature with empirical evidence supports a negative correlation between risk perception and purchase likelihood, given other things are equal. It is also apparent that consumers often cope with risk by modifying their purchase decision either by reducing, shifting or postponing the purchase of problematic product /service where this is possible. For unresolved risk, consumers draw on a range of risk reducing strategies, such as purchasing the product from a well known brand, a product with

quality assurance from an independent association, seeking relevant product information advice or endorsements from trusted sources, and trading off the risk with price discount.

Owing to increasing food-borne risk on international travel, many studies are carried out to investigate the impact of food safety on travel and tourism in relation to travel catering and public health, global solutions to food safety training and other aspects (MacLaurin, 2001). These studies mainly concentrated on how the real and absolute risks are minimized by ensuring safety procedures are implemented. However, consumer purchase decision, such as destination choice is often influenced by risk perception, which is more on the psychological aspect of risk than the physical aspect of risk per se (Slovic, 1987). Research on tourists' psychological nature of health issues is somewhat limited. Even less research has been conducted on the effect of tourist risk reducing behaviour, which reflects on the option of purchasing tour package including meals, or the increase use of travel agents to arrange meal options and so forth. However, such research is particularly relevant to the tourism and hospitality industry in Macau as the statistics of tourists is increasing yearly. Tourist perception of food safety / hygienic standard would be affected if there is an outbreak of food hazard, such as food poisoning, H5N1 and so forth. Since tourist perception of food safety risk is one of the factors in destination choice, it is very important for those engaged in catering and tourism industry have a clear understanding of how and why the tourist perceives food safety risk. The industry could draw benefit from studying tourist perception of food safety risk and tourist response to reduce risk by integrating risk management strategy within their marketing mix. As might be expected, proactive management of food safety issues can sustain a positive tourist perception and help to the growth of global tourism industry.

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