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Perceptions of importance and what safety is enough [☆]

Bongkosh N. Rittichainuwat ^{a,*}, Goutam Chakraborty ^{b,1}

^a International Program in Hotel and Tourism Management, Siam University, 235 Petkasem Road, Phasichareon, Bangkok, 10160, Thailand

^b Spears School of Business, Room 419A, Oklahoma State University, Stillwater, OK, USA

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ABSTRACT

This research explores perceived importance of safety and security measures from the perspectives of tourists and service providers. Use of face-to-face-semi structured interviews with supply side providers in Thailand results in recognizing safety measures to ask tourists about, other than those found in the literature. Researchers collected questionnaire data from international leisure and business tourists to Thailand on importance of safety and security measures. Analysis of the importance of 23 safety and security measures show a six factor pattern in thinking about measures. However, the most important measure is not in a factor. Therefore, the study considers analysis method issues and raises questions about the value of structured data and merits of the recognition of if-then conditions by research methods such as long interviews. Examination of practical, theoretical and methodological values of findings includes considering research needed and the utility of safety measure information in business decision making.

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1. Introduction

Due to the increased threats of terrorism, disease, and natural disasters, tourism service providers are taking safety and security actions. A suggestion is that service providers install safety devices and take other safety and security measures (Palmer, 1989). Experts advise travel agents to avoid booking a hotel or sending their clients to a potentially unsafe destination without having proof of issuing a warning (Cavlek, 2002; Wilks & Page, 2003). As a result of the Severe Acute Respiratory Syndrome (SARS) outbreak, airport personnel issued face masks and had tourists go through thermal detectors (McKercher & Chon, 2004). Following the 2006 tsunami, officials are implementing safety measures such as tsunami warning systems (Rittichainuwat, 2006, 2008, 2011).

Governments and service providers implement different types of safety measures, but which of these measures are important to tourists? If someone asks about importance of safety and security measures, how does one use survey responses like very important to very unimportant in understanding demands and in making decisions about provision? For example, how should researchers and clients

interpret and use any differences in perceived importance of safety measures between leisure and business tourists in decision making?

In order to understand the purpose of this research, one must first clarify what research clients need from research on safety and security measures. Saying that information on perceived importance of safety and security measures helps service providers make better decisions on providing services, makes justification trivial or even tautological. However, does at least a certain proportion of a sample feeling a safety and security measure is very important imply that a service provider should accommodate that measure? How do service providers balance considerations of their costs and rights with tourists' willingness to pay? How rating data can contribute to theory development and to practical decision are matters to address.

2. Safety and security

Safety and security is important to tourists. In fact, research finds that safety and security are the most important travel considerations for some tourists (Pizam, Tarlow, & Bloom 1996; Rittichainuwat, 2005; Roehl & Fesenmaier, 1992; Ryan, 1993; Sönmez, Apostolopoulos, & Tarlow, 1999; Sönmez & Graefe, 1998). Safety refers to protection of customers and employees from potential injury or death (Enz, 2009). Security is guarding against loss of life, belongings and property (Enz & Taylor, 2002). According to the (US) National Crime Prevention Institute (1986) and Bach and Pizam (1996), research can categorize safety and security measures by: 1) using physical devices and 2) involving employees' behavioral procedures. Physical devices include surveillance systems, such as closed circuit TV (Enz, 2009), and intrusion detection systems such as alarms (NCPI, 1986). Employee behavioral procedures can relate to a

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* Corresponding author. Tel.: +66 2 457 0068/5304; fax: +66 2 868 4406.

E-mail addresses: ngamson@gmail.com (B.N. Rittichainuwat), goutam.chakraborty@okstate.edu (G. Chakraborty).

¹ Tel.: +1 405 744 7644.

crisis management plan. A written plan can specify informing tourists of hazards (NCPI, 1986), listing actions to occur in a crisis and identifying continuing action to see that when needed actions in the plan occur (Kohr, 1994).

In the literature, mention of safety measures touches different matters. The hospitality industry frequently uses such measures as closed circuit TV, photo ID checks, guard presence, and emergency power sources in case of blackouts (Bach & Pizam, 1996; Kwornik, 2005; Milman, Jones, & Bach, 1999). Tarlow and Santana (2002) recognize training to improve foreign language skills of security personnel as an important behavioral measure. Lois, Wall, and Ruxton (2004) determine that guests want announcements and survival manuals in multilingual printed form to inform them of emergency instructions and evacuation procedures. Milman et al. (1999) show the installation of safety devices and behavioral security measures reduces tourists' anxiety and increases their sense of safety, especially among tourists who have had previous exposure to instances of crime. Palmer (1989) acknowledges that providing safety and security can be complicated. Devices do not necessarily deliver security because of image quality or malfunction (Saied, 1990).

2.1. Leisure tourists' safety and security

Risk taking is different from recognizing risk in making decisions. Research shows that leisure tourists pay attention to security when traveling and choose travel destinations not only on the basis of price but also based on personal safety (Ananth, DeMicco, Moreo, & Howey, 1992; McCleary, Weaver, & Zhao, 1993; Prideaux, 1996). Nevertheless, mention of safety measures can frighten tourists (Feickert, Verma, Plaschka, & Chekitan, 2006; Groeneboom & Jones, 2003), so service providers need to frame warnings carefully. Rittichainuwat and Chakraborty (2009) find that only 13% of leisure tourists traveling abroad considered price as the most important destination selection criteria, whereas 63% of their respondents specify personal safety as a high priority in considering low travel costs. Feickert et al. (2006) provide evidence that leisure tourists are becoming tolerant to some inconvenience in exchange for a feeling of safety and security while traveling.

2.2. Business tourists' safety and security

Business tourists differ from leisure tourists in some significant ways. Because of previous travel experience, frequent business tourists are less risk averse than first time leisure tourists (Sirakaya & Woodside, 2005). Compared to business tourists, leisure tourists are more likely to accept obtrusive safety measures such as metal detectors, background checks and armed guards (Feickert et al., 2006). Although business tourists are less seasonal and less sensitive to price and negative publicity than leisure tourists, business tourists do not overlook safety and security (Withiam, 1998). Frequent-travel business tourists consider safety and security in hotel selection (Knutson, 1988). Female business tourists are more concerned about security than their male counterparts (McCleary, Weaver, & Zhao, 1993), especially regarding physical devices such as a spy hole in a door and a deadlock on the entry door (Sammons, Moreo, Benson, & DeMicco, 1999). Luxury and upscale hotels acknowledge what business tourists want and tend to invest in what these tourists want (Taylor & Enz, 2002). Business tourists tend to expect fewer safety features at relaxing beach resorts than they do at airports and urban hotels (Enz & Taylor, 2002).

3. Hypotheses

This paper introduces the premise that safety and security measures covered in the pre-2005 literature are only part of the measures salient to the supply-side in 2005. H1 expresses the

expectation that interviews with service providers will uncover safety and security measures not found in the pre-2005 literature.

H1. Research finds safety and security concerns of tourists that are not found in the pre-2005 literature by tapping the thoughts of tourism service providers.

Material covered suggests hypotheses that give structure to analysis and results. The literature is based on people thinking about safety and security and taking action based on their thoughts. Logically, thinking by individuals will not occur but the patterning of responses is a matter of conjecture.

H2. Tourists' responses about the importance of safety and security measures will show a structure that corresponds with attributes of the safety and security measures.

Based on the literature on leisure and business tourists viewing safety and security differently, H3 is reasonable.

H3. Business tourists will rate safety and security measures differently than leisure tourists.

Finally, a common claim is that knowing the importance of safety and security measures supports good business decision making.

H4. Tourists' importance ratings on safety and security measures provide good information for service provider decision making.

4. Method and supply-side long interview results

4.1. Multi-method data collection

In order to investigate leisure and business tourists' perceived importance of safety measures, this study uses face-to-face interviews and a self-completed survey. Literature points out the weaknesses of relying only on a written, closed-end self-completed questionnaire surveys. The closed-end questionnaire survey has limitations (Woodside, 2004; Woodside, MacDonald, & Burford, 2004). Such surveys may not capture unconscious thoughts (Woodside, 2004), and 95% of thought is sub-conscious (Woodside & Wilson, 2003). However, using long interviews to collect data involves high consumption of time and thus usually of research dollars. Also, a drawback of long interviews is drawing inferences such as proportions of a population being in a certain category (Wilson & Woodside, 1999; Woodside et al., 2004). A combination of data collection methods provides a way to gain in depth insights and adequately reliable statistics. Schatz (2009) highlights the benefit of nesting semi-structured interviews in surveys in solving the quantitative concerns on generalization of the finding to population.

4.2. Supply-side long interviews rational and sampling

The structured instrument of this study is a self-administered questionnaire which obtains information about the importance tourists place on safety and security measures. Section 2 of this paper introduces literature identifying safety and security measures. Semi-structured interviews with supply-side people provide a way to see if people dealing with inbound tourists recognize items for a questionnaire that are not covered in the literature and get their ideas on supplying them. However, getting supply-side information involves recognizing providers and selecting personnel to interview. A sample of service providers (airlines, hotels, and tour operators) was drawn from a directory of Thai hotels and the directory of Thailand Incentive and Convention Association. Sampling resulted in airlines, hotels and tour operators (Table 1). As the goal of interviewing was to elicit information about safety and security measures, thinking about whom to interview resulted in deciding on managers and related

Table 1
Information on service providers interviewed.*

Type of Business	Person Interviewed	Classification
Airlines (5)	Managers –corporate(1); duty airport(1); duty(1); ground passenger(1); sales (1)	national carrier(3); low cost national carrier (2)
Destination management companies, tour operators (2)	operation manager (2)	inbound (2)
Tour operator (3)	operations managers (2); general manager(1)	inbound (3)
Convention & exhibition venue, hotels& resorts	security manager(2); director of security (1)	Luxury (2), mid-priced (1)
Hotels & resorts (8) guest houses (1) bungalows (1)	Security- team leader (1), manager & chiefs (4); loss prevention department manager(1); general manager (3) Owner (3)	Luxury (9); mid-priced (4) Budget (2)

* Numbers in brackets give numbers of persons or number of different firms/businesses in a classification.

personnel who would be involved in decisions on safety and security (Table 1).

Long interviews were selected for data collection since, as literature covered indicates, long interviews help get at what people are thinking. To get the information desired from long interviews, planning for interviewing was careful. To foster casual discussion, 30 to 40 min were allowed and interviewing was done in a natural setting. The questions selected for guiding interviews from the general matter of safety and security measures to specific matters related to situations newly prominent in Thailand are below. The context of the interviews is Thailand in 2006.

Due to the recent threat of terrorism, which kind of safety measures have you used to protect your clients from the terrorism? Please identify physical devices and behavioral procedures important to guard against terrorism. Due to the recent SARS outbreak, which type of safety measures have you used to guard against such disease? What physical devices and behavioral measures are important to safeguard tourists from getting infectious disease? Due to the 2004 tsunami disaster, which types of safety measures have you implemented to protect your guests from such disaster? Please identify physical devices and behavioral procedures that are important to protect your guests from a tsunami disaster.

Interviewing was carefully arranged. The first author faxed a letter of invitation to target personnel (Table 1) at service providers asking for participation in an interview about safety and security measures, particularly new measures. The fax explains the purpose of the study, states the approximate length of the interview and promises not to disclose the name of an interviewee or her/his organization. The interviewees were informed that the researcher would contact them by phone after the interview to ensure the interview results recorded were accurate and to ask for their opinions on safety measure questionnaire items being considered for structured data collection.

The face-to-face semi-structured interviews were carried out from August 25 to September 14, 2005. Invitations resulted in 25 interviews with the range of people shown in Table 1. As implied by the table, all persons interviewed were associated organizations with recent experience with disease, terrorism or natural disaster crises. The interviews were recorded. Shortly after the interview the interview results were transcribed and synoptic material prepared including a list of safety and security measures for possible inclusion in the questionnaire for structured data collection. As indicated earlier, synoptic material was reviewed with the interviewees to ensure that information carried the meaning intended by the interviewees.

4.3. Long interview results on security measures

4.3.1. Airlines

Some interview results apply to all airlines. The safety measures identified by all airline representatives interviewed were passport or photo ID check-ins, staff training in case of emergency, and probing questions. A typical response was: "We followed strict airport safety precautions." Respondents usually enumerated the measures. Interviewees also specified that airlines relied on the safety measures of

airports, such as uniformed guard presence, X-ray luggage checks and thermal-checks during the SARS outbreaks.

4.3.2. Tour operators

Tour operators give a fairly homogeneous message. All respondents report relying on the safety measures implemented at airports and hotels. They also all state that since the tsunami, they inspect the safety measures of hotels once or twice a year to ensure that hotels take action regarding crisis management. In the words of one respondent, "Due to liability concerns, we do not book a hotel or send our clients to dangerous areas during terrorism warnings or natural disasters." Statements include: "We've asked hotels to announce information about the tsunami evacuation plan in major languages": "During the SARS outbreaks, we gave face masks to our customers to use while visiting major attractions"; and "The double thermal checks at both departing and arrival airports helped us screen for sick passengers."

4.3.3. Hotels, guest houses and bungalows

For hotels some general safety and security measures exist. Photo ID checks upon check-in and prohibiting parking in front of the lobby are pervasive. All owners, general managers and security managers report seeing value in closed circuit TV and video surveillance at public areas. The rationale for these is that they help ensure guest safety and security. However, only international brand-name hotels report using closed circuit TVs, mobile metal detectors, walk-in metal detectors, and employee background checks. Higher end hotels report having frequent staff safety trainings on dealing with bomb blasts, on preventing action by terrorists, and on sanitation. Frequent inspections from franchisors occur only at international brand-name hotels. About a fifth of the hotels whose personnel the authors interviewed temporarily use ad-hoc safety measures in times of crises, such as face masks, survival kits including a survival manual, a flash light and a thermometer in guest rooms.

The increase in crisis management started with the war against terrorism after 9/11. Locally-owned hotels and international brand hotels are increasing their safety and security measures. However, only international brand-name hotels report having implemented written crisis management plans. International brand-name hotels with a written crisis management plan implement and rehearse the emergency action plan. The hotels also coordinate with police departments to communicate regarding occurrence of terrorist attack at a particular hotel.

The December 26, 2004 tsunami resulted in more safety and security awareness in both locally-owned and international chain hotels. Nonetheless, although Thailand now requires an active in-house crisis management plan for overseas franchise hotels, not all such hotels have a written crisis management plan. For instance, one large international chain hotel was, at the time of this research (2005–2006), still in the drafting stage of a plan. Likewise, 4 out of 5 locally-owned budget and mid-price hotels in the provider survey had not instituted written crisis management plans and did not have drills to test their non-written crisis management strategy. The rationale for

lack of action is feeling that the possibility of another crisis was very low.

Management of guest houses and bungalows tend to see crisis management as management by crisis (to solve the crisis once it occurs). Respondents report that guests do not ask for a crisis management plan. The guests consider price and proximity to tourist attractions as the important selection criteria in choosing a hotel. The management interviewed did not attend any crisis management seminars. Willingness exists to participate with governmental agencies for crisis management training. Due to limited resources, participating in Government offerings and planning is the preferred option in initiating crisis management plans and training programs.

4.4. Inbound exit questionnaire construction

Consolidation of safety and security items from the literature review and from the semi-structured interviews allows development of a self-administered questionnaire. The long interviews identify 13 items not found in the literature. The literature yields seven items (Bach & Pizam, 1996; Feickert et al., 2006; Kwortnik, 2005; Lois, Wang, Wall, & Ruxton, 2004; Milman et al., 1999) not found in long interviews. Three items (photo ID checks at airport and at hotels and closed circuit TV) are in the literature and occur in interviews. Therefore, the structured questionnaire contains 23 safety measures, which are listed in Table 2. Based on the literature (e.g., see Milman et al., 1999), the researchers rate the importance of each safety measures on a five-point scale (1 = very unimportant, 5 = very important). Table 2 gives a short version of text used in the safety and security measure statements printed in the questionnaire. In addition to safety and security questions, the questionnaire has sections on travel behaviors and demographic attributes of respondents. Questions include trip purpose, type of accommodation, gender and age group. With questions drafted, long interview respondents were to review the safety and security measure items and faculty members in the field of travel and tourism reviewed the instrument. Use of suggestions offered improved the questionnaire.

4.5. Inbound exit questionnaire distribution

A necessity in survey administration is selecting a reasonable population to interview that can be affordably sampled. Random sampling from all tourists was not feasible. Reflection suggested that data collection from international tourists addressed a segment with significant ramifications for Thailand's economy and for the particular businesses from which the researchers collected long interview data. Therefore, the segment of leisure and business international tourists became the focus. Resources did not allow for sampling leisure and business tourists departing Thailand from all airports and for all flights. Given that the research is exploring attitudes, not trying to establish accurate percentages for a population, the researchers restricted the interviews to people in the inbound (foreign visitor) segment waiting for departure flights who felt comfortable answering an English questionnaire. Collecting data at departure gates allows respondents to share their travel experience when fresh memory about details is readily available.

Sampling involved selecting flights departing in April and May of 2006. A research assistant handed out questionnaires in a flight's departure area prior to the flight. Passengers approached were chosen based on convenience and willingness to participate in the survey. They were first asked if they were a leisure or business tourist. If they were and appear able to answer an English questionnaire and if they were, they were asked to fill out a questionnaire and return it to one of the persons distributing questionnaires. With the resources available, 500 questionnaires were distributed, of which 297 were returned (response rate of 59%).

5. Analysis and results

5.1. Hypothesis 1

Section 4.4 identifies the numbers of safety and security items found in interviews but not in the literature. Thirteen of 23 items were uncovered in interviews but not literature.. Therefore, the results of supply side interviews support accepting H1.

Table 2 Importance of safety measures.

Safety and security measure followed by% in ratings with (a) very unimportant and unimportant; (b) neutral and (c) important and very important. See * below for other columns.	(a)	(b)	(c)	$\hat{\mu}$	Factor #	Segment difference	
						$\mu_L - \mu_B$	$\hat{\sigma}_{Dif}$
For disaster, announce evacuation in major languages	4	27	69	3.9	X	0.46	4.68
Tsunami warning system on beaches	3	30	67	3.9	5	0.37	3.53
Crisis management plan of service providers	5	29	66	3.8	2	0.36	3.47
"How to survive a disaster" manual in guest room	5	31	63	3.8	2	0.42	4.02
Evacuation warning system linked to guest room	5	35	60	3.7	5	0.54	5.52
Frequent hotel safety inspection by your tour operators	6	34	60	3.7	2	0.31	2.55
Rehearsal of evacuation plan in case of emergency	9	36	54	3.6	2	0.33	2.99
Prohibit vehicles parking to guard against car bombs	11	34	55	3.6	X	0.25	2.25
Permanent walk-in thermal check at the airport	7	39	52	3.5	1	0.14	1.36
Walk-in metal detector at the hotel	13	34	51	3.5	1	0.01	0.06
Check hotel's entering vehicles by metal detector	15	33	51	3.5	1	0.12	1.01
Luggage check by metal detector at the hotel	13	35	51	3.4	1	0.24	1.9
Emergency light for all services in case of blackouts	21	37	40	3.3	4	0.38	3.05
Passport or photo ID card upon check-in at airport	21	41	35	3.2	3	0.3	2.35
Flash light in hotel room	18	45	34	3.2	4	0.06	0.41
Lifeguard on the beaches	21	43	35	3.2	X	0.11	0.95
X-ray luggage check at the airport	22	42	35	3.2	3	0.3	2.46
First aid kit in hotel room	20	47	31	3.1	4	0.23	2.04
Passport or photo ID card upon check-in at hotel	21	43	34	3.1	3	0.02	0.14
Guard presence at tourist attractions	5	21	69	3.0	X	0.13	1.02
Face mask for each guest in case of smoke, disease	3	25	69	3.0	6	-0.02	-0.2
Closed circuit TV, video surveillance at public areas	27	45	25	3.0	X	0.02	0.14
Thermometer to measure fever in each guest room	32	38	24	2.8	6	-0.31	-2.74

Factor # gives the factor (Table 3) an item is in with X indicating not in the six factors kept. Segment difference is between business (B) and leisure (L) tourists. $\hat{\sigma}_{Dif}$ is mean difference in standard deviations.

5.2. Interview with inbound tourists

No data are available to allow the researchers to assess how survey respondents relate to the population. This is not a concern because this research is not drawing conclusions about particular percentages or proportions. However, the diversity of respondents indicates results are not just reflecting, for example, males. To see the diversity of respondents, some statistics are useful. The majority of the respondents are leisure tourists but about 20% of respondents were in Thailand on business. More than half of the respondents are female (55%). The largest percent is between 20–39 years old (43%), followed by those who are between 30–39 years old (36%). Most respondents are highly educated with college (39%) and graduate degrees (48%).

The respondents show (Table 2) varying. The top five safety measures, based on percentage of respondents rating important or very important relate to a warning system, crisis management planning, presence of guards at tourist attractions and detectors. Most based on highest mean and largest percent of respondents rating important or very important, the most important safety and security item is a respondent wanting the evacuation system announcements to be in her/his language or a language he/she understands (a major language). Safety measures of low importance include closed circuit TV, video surveillance at public areas and availability of thermometers to measure fever in each guest room. Though airport detectors of people running a temperature and use of metal detectors are only mid-range in importance, 50% of respondents are rating them important or very important.

5.3. Structure in responses and H2

Table 2 shows patterns in responses in percentages and means but gives little information about any structure in responses by individuals. As long as responses meet certain statistical conditions, researchers can

use principal components analysis to determine dimension in ratings of safety and security items (Table 2). Criteria justifying using Principal Component Factor Analysis (PCFA) accompany Table 3. PCFA was run with Latent Root Criterion and the Varimax rotation as provided in SAS (see 1990, Ch. 33). Table 3 shows how 23 safety and security measures are reduced to 18 variables in six factors, explaining 69.6% of total variance. Based on loadings given in the table, the researchers loosely describe the six factors as: 1) detectors; 2) crisis management; 3) airport/hotel checks; 4) emergency kits; 5) warning system; and 6) disease control instruments.

While the exploratory factor analysis (PCFA) results look reasonable, as suggested by Shelby (2011), the researchers ran CFA. The CFA examines the six-factor representation (SAS/Stat user's Guide, 1990, Ch. 14; see Brown, 2006 for using SAS Proc CALIS and other statistical packages for CFA). The program forces the 18 safety measures contributing to the six factor solution (Table 3) to load on only one of the six factors, as identified in Table 3. All cross-loadings are constrained to zero. The Chi-square test for the model is significant ($\chi^2 = 199.4$ with 120 df, p -value < 0.0001). Being significant is not surprising given the sample size close to 300 ($N = 297$). However, the fit indices are also good (NFI = 0.90, TLI = 0.95, CFI = 0.96) and the RMSEA is excellent (0.047). All of the factor loadings are statistically significant (p -values less than 0.01). Thus, overall, the CFA results show a good measurement model. In other words, in accord with H2, respondents tend to think about 18 of 23 safety and security measures in a systematic way reflecting attributes of the measures. The PCFA results support accepting H2.

5.4. More on structure, H2 and H3

Rather than pursue difference in ratings between leisure and business tourists using 23 variables, consider using six composite variables based on PCFA (Table 3). One reason to use six composite

Table 3
Underlying dimension of the importance of safety and security measures.

Safety and security measures by factor	1	2	3	4	5	6
<i>Factor 1: detectors</i>						
Walk-in metal detector at the hotel [0.8]	0.9					
Luggage check by metal detector at the hotel [0.7]	0.8					
Check hotel's entering vehicles by metal detector [0.7]	0.8					
Continuing airport temperature/thermal check [0.6]	0.6					
<i>Factor 2: crisis management</i>						
A crisis management plan of service providers [0.7]		0.8				
Frequent hotel safety inspection by tour operators [0.6]		0.8				
"How to survive a disaster" manual in guest room [0.6]		0.6				
Rehearsal of evacuation plan for emergency [0.6]		0.6				
<i>Factor 3: airport and hotel checks</i>						
A passport or photo ID check at airport check-in [0.8]			0.8			
A passport or photo ID check at hotel check-in [0.7]			0.8			
X-ray luggage check at the airport [0.6]			0.7			
<i>Factor 4: emergency kits</i>						
A flash light in hotel room [0.7]				0.8		
Emergency light for all services for blackouts [0.7]				0.8		
A first aid kit in hotel room [0.7]				0.7		
<i>Factor 5: warning system</i>						
Tsunami warning system on beaches [0.8]					0.9	
Evacuation warning system linked to guest room [0.8]					0.8	
<i>Factor 6: disease control instrument</i>						
A face mask for each guest for smoke, disease [0.8]						0.9
A thermometer to measure fever in each guest room [0.7]						0.8
Eigen value	4.7	2.9	1.9	1.1	1.0	0.9
Variance (%)	25.2	16.1	10.5	6.1	5.8	4.9
Cornbach's alpha reliability	0.9	0.8	0.8	0.7	0.6	0.5
Cumulative variance (%)	26.0	42.0	52.8	58.9	64.7	69.6

The Bartlett's test of sphericity is significant (p -value < 0.001) and the Kaiser's MSA is 0.81 supporting appropriateness of using Principal Components Factor Analysis of the data.

variables is that with only 61 business respondents, the results consider differences between leisure and business segments based on variables with lower within segment variability than individual importance ratings for a safety or security measure. To create the six composite variables, the study averages the items loading on each of the six factors of Table 3.

Cronbach's Alpha values for some of the six composite variables are greater than 0.8. The value of 0.8 is appropriate for research concerning groups of individuals. Researchers often site lower values for factors in Table 3 as acceptable (Nunnally & Bernstein, 1994), but Shelby (2011) cautions against only using Cronbach's alpha to measure scale reliability. In fact, having derived the six factors based on correlation between importance ratings, assessing reliability by a measure of correlation between ratings involves circular logic. Regardless, Shelby's suggestion of running CFA for segments to see if factors apply to segments makes sense.

The CFAs run for the business and leisure segments meet the same criteria as for CFA for the six factors for all data. The chi-square is 167.96 and degrees of freedom is 104 for the leisure sample and the chi-square is 185.39 and degrees of freedom is 105 for the business sample. These have probabilities <0.0001 indicating an acceptable sub sample models. The fit indices (CFI = .96, TLI = .94, RMSEA = .051) are reasonable for leisure sample but not good for the business sample (CFI = .97, TLI = .96, RMSEA = .113). Also an offending (negative) estimate of variance exists in the business sample. The CFA for business may yield poor results because of a relatively small sample size or because business tourists show somewhat different dimensions in thinking about safety and security measures.

The CFA results for the two segments have implications. The weak results do not support accepting or rejecting H3. Ambiguity shows the need for more definitive proof of differences existing or not existing for drawing a conclusion about H3. Having a factor structure that, at least for five factors, is appropriate to leisure and business tourists supports accepting H2.

5.5. Mean differences and accepting hypotheses

Analysis to this point may be giving the impression that business and leisure visitors respond in a similar way. However, in what way does having a similar factor structure mean responding similarly? One way the perceived importance of safety and security measures could vary between leisure and business tourists is in the distribution of responses. For example, the means of distributions could differ. A two-group t-test can determine whether the means for the six safety and security variables based on factors differ. Table 4 shows the results of the test. Means differ on evacuation plan (t = 4.43, p-value < 0.01) crisis management (t = 3.76, p-value < 0.01) and emergency kits (t = 2.02, p-value < 0.05). Business and leisure tourists may show a similar factor structure but the differing means show the segments do not respond similarly for some factors (i.e., they respond around different means).

Table 4
Crisis management as expected by leisure and business tourists.

Factors	Leisure tourists		Business tourists		Std. of mean difference	
	Mean for 236	Std. Err.	Mean for 61	Std. Err.		
Emergency kits	3.23	0.051	3.01	0.084	2.02	p < .05
Evacuation plan	3.87	0.049	3.41	0.074	4.43	p < .01
Disease control	2.88	0.056	3.05	0.072	- 1.46	
Airport/hotel checks	3.20	0.049	2.99	0.085	1.92	p < .10
Crisis management	3.80	0.043	3.45	0.070	3.76	p < .01
Detectors	3.50	0.051	3.37	0.078	1.11	

Given in Table 4, three differences out of six are positive and significant at the 0.05 level and only one difference is negative, inferences are possible. If only one difference out of six were, significant that might be dismissed by chance. However, when more than one difference occurs and two differences are over 3.5 standard deviations, the chance that differences between business and leisure tourists occur by chance is near zero (i.e., the probability of drawing two observations greater than 3.5 and one greater than 2.0 in 6 draws from a normal zero-one distribution is < .000001). Therefore, Table 4 justifies concluding that for leisure tourists on average rate higher than business tourists on some categories of safety and security measures.

The significant differences in means have implications for accepting hypotheses. Unfortunately, responding around different means need not imply rejecting H2. Rejecting H2 depends on the interpretation of H2. Structure exists in the way leisure and business tourists respond. Even if the structure differed, researchers could accept H2 if for both segments structure related to the nature of safety and security measures. Difference in means between the segments does not show a lack of structure in responses but rather a difference in structure. Though H2 may seem like a reasonable hypothesis, H2 is not precise enough to allow its rejection or acceptance. For H3 the impression raised by possibly sharing factor structure across segments is rejecting H3 is reasonable. However, significantly different means existing shows rating differences exist. Therefore, accepting H3 is possible.

Analysis originally moved to using PCFA to reduce large numbers of variables to a smaller number to discuss in interpreting results. Reduction resulted in explaining about 70% of the variance in the data and in defining 6 composite variables with reasonable interpretation (see Section 5.3) based on 18 of the 23 originally used. Note that reduction results in the exclusion of five variables from the six composite variables. Table 2 has a column in which an X identifies those five variables. A variable not being included in a factor shows that responses do not show respondents exhibiting consensus on the variable relating to other variables (i.e., responses on the variable have low correlation with responses on other variables).

The safety and security measure with the highest mean (first in Table 2) is not in one of the six factors. In fact, those measures not run from having the highest to the next to lowest mean. The "Segment difference" column of Table 2 gives segment mean differences in standard deviations using simple subtraction. A first important thing to note is that except for two differences, leisure means exceed business means. Looking at six factor hides the pervasiveness of positive differences. The biggest difference is for linking evacuation warning to rooms which is .54. This item is in factor 5 with beach warning. Respondents rating high or low on one warning tend to rate the same way on the other. If business tourists are mostly not staying where a tourist feels a warning is needed, is the difference in means a surprise? Asking a question reflects the fact that an if-then situation exists without data to draw a conclusion. The second largest difference (.46) is for announcing evacuation in major languages. Given the difference for warnings, is the large difference for announcements a surprise? What may be surprising is that announcement is not in the 6-factor solution.

Looking at Table 2 raises questions. Examination possibly raises more questions about interpreting factor analysis results and using factor-based variables than already broached. Based on distances between means being about two standard deviations or larger, over half the 23 safety and security items have means that differ significantly between business and leisure tourists. Having similar factor structures for business and leisure tourists merits academic interest in showing that items with similar attributes group together. However, given that tsunami warning systems (Factor 5) depend on different providers than either having warnings linked to a hotel room (Factor 5) or announcements being in major languages (not included

in a factor), a practical application problem is clear. While using factor analysis can produce interesting results, focus on factors only can conceal the most important item (based on mean) and information different authorities need to see by consolidation into a summative ratings as occurs for all factors.

Results above allow reflection on H4. Problems exist with the claim that tourists' safety and security importance ratings are good information for service provider decision making. Differences may just reflect supply used. A business traveler coming as a leisure tourist may respond differently because of traveling with family and being exposed to different risks associated with different activities and accommodations. Supply-side interviews show the kind of accommodations that business tourists use tend to offer different safety and security than some leisure tourist accommodations. Furthermore, if most business tourists are not near a beach, how do they answer questions about tsunamis or other beach-related safety concerns? For Thailand, is the tourist destination in the country currently a determinant of terrorism threat? Differences in means between business and leisure tourists reflect more than attitudes. They reflect if-then conditions that researchers need to know even to discount a condition making a difference.

Summary information may be fine for an overview of safety and security concerns; however, as material by Woodside and colleagues cited makes clear, a problem with structured data can be that this data does not help obtain nuisances needed to understand decision making and behavior. The researchers collected long interview data from the supply side to get insights that they could not obtain from the structured data they collected from inbound tourists. Points made support concluding that H4 should not be either accepted or rejected. The information collected is useful, because the information adds to understanding.

6. Follow-up interviews

This section appears because reporting on carrying out follow up interviews shows the authors take the need for more long interviews seriously. Specifically, when ambiguity in results of CFA raised concerns about understanding safety and security concerns of business tourists, the authors conducted follow-up long interviews to provide better insight into concerns of tourists. Results, as suggested by literature such as [Martin and Woodside \(2008\)](#) and [Kajornboon \(2005\)](#) give valuable information beyond what is obtained in structured data collection. Results of the interviews are not introduced here as they are not relevant to this research.

7. Discussion

7.1. Hypotheses

The hypotheses of this research serve as much to organize ideas as something to be accepted or rejected. In-depth interviews with service providers revealed safety and security items that the literature does not cover. Therefore, H1 is accepted. Would a new equally large round of interviews with service providers be worthwhile? If new issues arise, a large number of long interviews is not needed to find them. However, new long interviews with the supply side respondents can be valuable in understanding how the supply side deals with safety and security matters. This research experience supports using well planned long interviews for developing theory and understanding of processes (e.g., see [Martin & Woodside, 2008](#)).

A problem with accepting or rejecting hypotheses is that what is proven may just guide research in obtaining better information. Consider H2. Expecting analysis of similar data would confirm the factor structure found is reasonable. The understanding gained in this research is that respondents tend to rate high or low in such a way that some measures group in a way consistent with attributes of the

measures. However, a problem exists when analysis proceeds with the safety and security measure (announcement in major language) not in a factor. Accepting H2 does not mean PCFA results in factors that should be the focus of analysis. Accepting H3, in fact, is confirmation that treating importance rating factor structure in the data as providing a useful simplification for making decisions and understanding behavior is flawed. Had resources used for structured data collection gone to a grounded a theory approach, the study would not have produced rating information on 23 safety and security measures. However, the study could have given insight into important if-then conditions and possibly captured these conditions in diagrams ([Martin & Woodside, 2008](#)). As mentioned above, multi-mode data collection can be important.

Accepting H4 based on research contributing to better future research is not hedging or an excuse. Knowing that the highest rated safety and security measure is “announcing disaster in major languages” provides a clear and useful message. However, even regarding that finding, 31% of respondents rated neutral or lower on this question. If those ratings occur because of the type or location of accommodations or for other reasons affecting implications for action, new research needs to be such that such causes can be recognized. This research meets needs. However, the experience gained in this study reveals that better information can and should be collected in future research.

7.2. Implications for theory and research

In some matters drawing a line between contributions to theory and practice is not easy since no clear line exists. For example, long interview data show hoteliers have invested significantly in the installation of closed circuit TV and that many locations require guests to present their passport upon check-in. However, inbound tourists do not perceive such measures as very important (more than 65% of respondents consider these as neutral or unimportant). Other studies have similar findings ([Palmer, 1989](#); [Saied, 1990](#)). However, inbound survey results differ from those of some other research. [Feickert et al. \(2006\)](#) found positive attitudes of USA tourists toward video surveillance, photo identification, and first aid kits in the hotel room. The inbound data show that less than 17% of respondents from the USA consider these important. Studies show that tourists perceive physical devices, such as emergency power sources and photo ID checks as important in the hotels regardless of size ([Bach & Pizam, 1996](#); [Kwortnik, 2005](#); [Milman et al., 1999](#)). However, findings of others differ ([Donoho, 1993](#); [Kohr, 1994](#); [NCPI, 1986](#)). They find importance of some of these only at brand hotels. Recognizing a difference exists is raising a research question. Maybe, examination of why the difference occurs would lead to some important insight. Interviewees in 2011 allowed examination of matters that were problematic. Collecting more data using the structured questionnaire would not have clarified matters. Long interviews can be valuable in formulating structured data collection and vice versa. Doing research involving new data collection to address a rather obscure difference is a questionable use of resources. Making data available after research is published, could however encourage research on understanding differences between studies.

An idea about future research that arises in this research may not be obvious. If structured data collection had allowed for some unstructured or semi-structured questioning of respondents, the researchers could have obtained better insights into motivation and behavior. Of course with paper questionnaires, reacting by asking general questions based on particular responses or response patterns is not easy (e.g., because a respondent's time to answer expires). However, with surveys on computers, nesting qualitative interviews in questionnaire design is a real possibility. The same device used for structured answers can store verbal responses for later processing. [Schatz \(2009\)](#) suggests that when quantitative findings differ from expectations, a

follow-up interview can provide an explanation. With embedding, follow up can be part of data collection. Data collection automation offers advantages including dealing with if-then conditions more effectively than can occur with paper (e.g., see Liu et al., 2011-this issue).

7.3. Practical and business implications

An option for presenting implications is going through results presenting numbers or inferences of practical value. However, consider that, consistent with Feickert et al. (2006), leisure tourists in this study care more than business tourists about crisis management related measures. While this information may be useful, such facts are of limited value in making decisions about spending scarce resources. How much does this research help management at hotels targeting leisure tourists assess the value of substantial expenditures on crisis management related matters as yielding a good return on investment? The results of this research are not like results of designed experiments that allow relating costs to action.

Considering cost and consequence raises two matters. First, to have more practical value, research needs to move beyond importance to produce quantitative information for wise decision making. Second, as interviews with small accommodation providers show, some of the safety and security measures asked about can cost the provider little or nothing. Government programs may be justified based on net returns to a country. If all people in an area can receive multilingual information prepared by some level of government, be notified of impending disaster by an alarm over a loud speaker and be directed to safety over the same system, government action, not business costs, need to be a focus.

Governments can assist hoteliers by offering support regarding safety training and by cutting taxes on imported technology and security equipment to increase safety and security at public areas. As Sönmez (1998) suggests, a proactive approach to guard against potential crises is needed. Practical research for particular areas where issues are known needs to center more on coordinated disaster management planning than on tourist importance ratings on safety and security measures. If authorities address key safety and security matters, details on consumers wanting safety and security measures need only be for those trying to draw a safety conscious segment.

Crisis management planning is an important practical matter. The interviews suggest that crisis management is already actively practiced in international chain hotels that have experienced natural disasters or other threats to the tourism industry. Although crisis management plans in local brand mid-priced hotels and a newly opened, upscale hotel are less intensive, these hotels are now concerned about the potential threats of disease, terrorism and natural disaster. Supply side interviews make clear the need for hotel associations and government providing encouragement to management of budget and mid-priced hotels. Sending staff to complimentary crisis management training organized by hotel associations and local authorities need not be costly if training does not conflict with times of heavy work load.

8. Conclusion

When this research started in 2005, a key interest was in the need for new safety and security measures being included in data collection. The idea that structure would exist in responses that factor analysis would discover was salient, possibly from common appearance of the idea in the literature in different contexts. The literature was also the source of the hypothesis that importance responses on safety and security measures of business tourists would differ from those of leisure tourists. Only as analysis progressed did insights into limits of the value of the information collected and analysis approaches being pursued become clear. A main value of this research is insights developed while research progressed. In other

words, while the authors found useful results based on original research thrusts, they see a significant contribution of this research is providing insights into where researchers should direct new studies and how they should proceed.

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