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Safety and Security Measures in Egyptian Hotels

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Abstract

This study investigates safety and security measures from Egyptian hotel guests' viewpoint, through assessing the importance level and usage level of measures and testing the gap between the importance and usage of measures. Using IPA Methodology, a stratified random sample was chosen. 500 questionnaires were randomly distributed to the guests in the 5-star hotels. The results indicated that the highly important and rarely usage measures are related to three dimensions; "Medical Preparedness, Guestroom Security, and Emergency Preparedness". Meanwhile, the less important and widely usage measures are related to two dimensions; "Detectors, and Access Control". Additionally, there is a statistically significant gap between the importance level and the usage level of measures. Hence, there are opportunities for changes and improvements in Egyptian hotels.

Introduction

Safety and security are important factors to tourists when choosing a destination and when selecting a hotel to stay at. The first aspect tourists consider is to be protected from risks and hazards. Unfortunately, the hotel and tourism industry is highly vulnerable in terms of safety and security threats. These threats are frequently in the forms of crimes, terrorism, natural disasters, health, and man-made hazards [1-22]. This puts increasing pressure on hotel managers and planners to develop more effective measures to stop or limit their negative impacts to protect hotel business and society in general. This emphasizes that hotels should upgrade their safety and security measures and procedures to make them harder targets against threats and hazards [5,17,18,21,23-25].

The problem of this study is the increasing of safety and security threats in recent years, which negatively affect the tourism and hospitality industry on a regular basis. Safety and security threats are now becoming more frequent, intense, and geographically diverse. The tragic incidents of the Egyptian Revolutions are recent reminders of the vulnerability of hotels to potential safety and security threats. From 25 January 2011 to date, Egypt experienced one of the worst political crises in its recent history. During this transition period, Egypt suffered a series of political instability events, violent incidents, terrorist attacks, clashes, labour strikes, and large protests. The violence was extensively and intensively reported in the international media. Many countries arranged to evacuate their citizens from Egypt and others warned their citizens about travelling to Egypt. Egypt was perceived as an unsafe and insecure destination for travel and tourism activities [24,25]. As a result of the Egyptian social and political instability, the international tourists, revenues, hotel occupancy rates, and employment levels dramatically decreased [26-28].

The dramatic events associated with the Egyptian Revolutions from 2011 to date, will be remembered for some time and perhaps leading to tourists putting a greater emphasis on personal safety and security when choosing accommodation in the future. In the light of these tragic incidents, the purpose of this study is to investigate safety and security measures in the Egyptian hotel context through assessing both the importance level and performance level of measures from the perspectives of guests. Despite an increase in tourism safety and security literature in the past years, there is a lack of empirical research that evaluates the safety and security measures from guests' viewpoint in the hotel industry in general and in Egyptian hotels in particular.

Study Objectives

- The purpose of this study is investigating safety and security measures in the Egyptian hotel context in order to enhance the understanding of safety and security measures and their effectiveness. The study focuses mainly on investigating the gap between hotel guests' perceived importance and their perceived performance of hotel safety and security measures. In particular, the study evaluates two related factors from guest's viewpoint 1) The level of importance of safety and security measures, 2) The level of performance (actual usage) of these measures. The specific objectives are to:

- Assess the perceived importance of safety and security measures from Egyptian hotel guests' viewpoint.

- Assess the perceived performance (usage) of safety and security measures from Egyptian hotel guests' viewpoint.

- Assess the gap between the perceived importance and perceived usage of safety and security measures from Egyptian hotel guests' viewpoint.

Study Hypothesis

Using the Importance-Performance Analysis (IPA) methodology [29], hotel safety and security measures are evaluated by using this proposition:

Hypothesis of this study is to test whether the performance (usage) level of safety and security measures are falling, meeting, or exceeding the importance level of these measures. It tests the gap between the importance level and usage level of security measures. Hence, the null

and alternate of Hypothesis 1 are:

• H_0 — there will be no a significant difference between the importance guest assigns to a certain measure and the performance level of this measure.

• H_1 —there will be a significant difference between the importance level assigns to a certain measure and level of performance of this measure.

Literature Review

Safety and security conceptualization

The meaning of the terms safety and security varies considerably depending on the context in which it is being used and the researcher's discipline, leading to potential ambiguities. Linguistics and translation are responsible for some of the ambiguity [30,31]. The Oxford Dictionary [32,33] defined safety as "the condition of being protected from or unlikely to cause danger, risk, or injury," whereas defined security as "the state of being free from danger or threat". In tourism literature, the terms "safety" and "security" are usually used interchangeably as twin concepts. However, the two concepts differ in their focus (spotlight different angles) [9,22,34,35]. According to Sönmez and Graefe [36], tourists' safety concern is a parallel concept to risk. Other studies [37,38] perceive safety and security as the subsets of risk. The Servqual Model suggested that security is "the freedom from danger, risk, or doubt" [39]. This definition infers that security is the opposite of risk and danger, which means 'no risk' equals to secure. Hall, et al. [40] stated, "for the tourism industry at least, security is now seen as more than just the safety of tourists" and "the term security resonates with deep seated longings to be safe". The above statements imply that safety and security are two distinctive but interrelated concepts [22].

In hotel context, hotel safety refers to "protecting employees and customers within hotel property from potential injury or death" [3], whereas hotel security goes beyond protecting employees and guests, to also include preserving guests' possessions and hotel property [3,41]. In other words, safety relates to human life while security deals with guests' and hotel's assets. Thus, safety issues deal with the effects of accidents, hazardous materials, and fire, whereas security issues involve such matters as theft and violent crime [3,11,15]. Hence, safety and security for this study focuses on the protection of 1) guests, 2) employees, 3) and the hotel property.

Typology offers a better way to understand overall multidimensional constructs and help theorists achieve parsimony. As shown in Figure 1, the International Hotel and Restaurant Association classified safety and security issues in the hotel industry into broad categories of macro
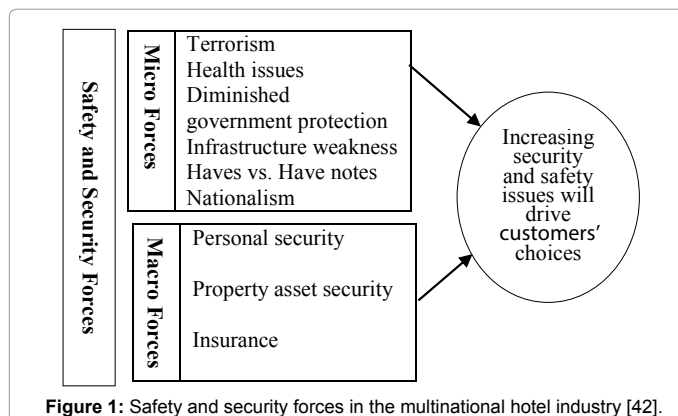

Figure 1: Safety and security forces in the multinational hotel industry [42].
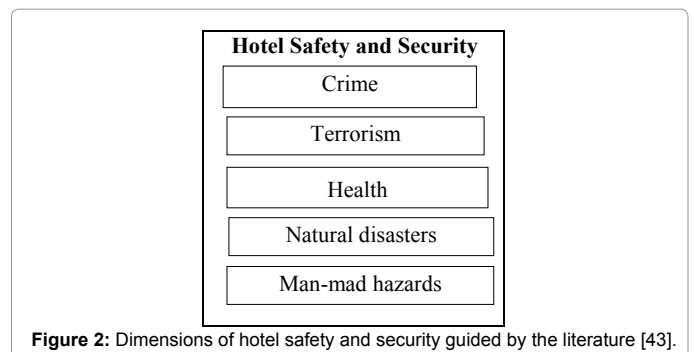

Figure 2: Dimensions of hotel safety and security guided by the literature [43].

forces and micro forces [42]. However, each of the safety and security events fitted under the dimensions of hotel safety and security offered by Olsen and Pizam [43], as described in Figure 2. Pizam and Mansfeld [44] identified four types of security incidents that are malevolent to the tourism industry: crime, terrorism, war, and civil/political turmoil. Safety, on the other hand, leans more towards health, accident, natural disaster, and other non-human induced incidents [44-46]. Nevertheless, as an effect of globalization, the nature of tourism security has changed significantly from traditional issues of crime, terrorism, political stability, and national security to include health, social, and environmental issues [22-40].

Indeed, the tourism literature fails to provide a clear and concise definition to the concepts "safety" and "security" in the hotel sector. Safety and security are basically synonyms and the difference is really small and not remarkable. Both are conditions where one is well protected and without risks. The basic ideas of safety and security are the same; both are protecting from hazards/threats creating safe/secure conditions [22,35,40]. Nevertheless, there are some nuances that distinguish them, as shown in Table 1 [47]. One way to look at is that security is external factors that create the feeling of safety [35]. Some experts include safety as a category of security that focuses on the protection of guests and employees from injuries, whether from accidents or criminal activity [3]. Following these distinctions, this study treats safety as a particular form of security that focuses on the protection of guests, employees, and the hotel from hazards/threats to create safe/secure conditions.

Study rationale

Hotels vulnerability to safety and security threats and hazards

Hotel properties generally present greater vulnerabilities with respect to safety and security threats. These threats are frequently in the forms of crimes, terrorism, natural disasters, health, and man-made hazards [1-22]. The reasoning behind this can be five-fold:

1. Hotels have a long history of being a "soft target" environment for safety and security threats [3,4,16,17,19-21,41]. Hotel as a working environment have become an easy target because of several factors, including open access with 24 hours a day, many public and multiple access points, parking lots, and encounters with strangers and foreigners. Furthermore, hotels have become vulnerable on account of their brand names, location, and their profile guests that include foreign tourists and hence attract the attention of National and International media on the happenings. Moreover, it is often difficult to distinguish among guests, legitimate visitors, and people who are potential threats. Lastly, building designs and configurations are not security oriented. Many hotel buildings, particularly older ones, may not have been designed with security considerations in mind (e.g.,

	Security	Safety
Causes	an incident is most often a result of one person or a group's will	an incident is most often a result of human behaviour in combination with the environment
Causes	often planned actions	often unplanned
Causes	criminal acts	criminal acts (working environment act)
Causes	mainly malicious acts	seldom, if ever, malicious
Causes	mainly deliberate acts with a wish of a wanted output/consequence of the act	mainly deliberate acts without a wish of a wanted output and accidental incidents
threats/hazard	external and internal human threats	internal human threats
threats/hazard	threats are not always observable, tangible and proximate	hazards are observable, tangible and proximate
Loss	loss is mainly related to physical assets and information	loss is related to human injuries/death and reliability of industrial assets
Surroundings	reflects the state of society through its structures, economic situation, law-abidingness and moral	includes physical and environmental conditions – not only humans and society

Table 1: Main difference between security and safety [47].

no shatter-proof glass, no bomb-proof Kevlar wallpaper, not tamper-resistant doors/windows).

2. Balancing security imperatives with guest satisfaction is difficult. Hoteliers find it awkward to maintain the highest possible standards of safety while preserving a hotel's hospitable and welcoming image [1,4,15,17,18,41]. Security may upset customers if it is deemed to be over-intrusive and an invasion of privacy so should be discreet, although an obvious presence can be a deterrent. A stringent increase in safety measures could frighten tourists because such measures could create a false perception that something untoward has previously happened at the destination. Hence, the old claim that stringent safety measures frighten tourists remains a classic rule of thumb.

3. Technology was expensive and always changing [18]. It was widely agreed that technology was an invaluable asset which could be used to detect dubious characters or harmful substances and deter terrorists. It was therefore important for hotels to be equipped with the latest technology and have the personnel to utilize it to optimal effect. However, technology was expensive and always changing. New technologies might not be compatible with those already in existence and installment could be a disruptive and costly operation, especially in older properties. Hotel security also could not rely on technology alone, even state-of-the-art, but depended on the aptitude of those manning it.

4. Many hoteliers did nothing to improve their safety and security systems, due to an "it can't happen here" mentality [5,16,18,48,49]. Some hotel managers regarded security as a non-revenue-creating, non-productive expense and therefore did not see a need to improve their safety and security systems. Hence, security, if available, often ends up with the least amount of focus, attention and resources needed to adequately address the challenges and risks facing numerous organizations.

5. There is high turnover rate in security personnel which necessitates maintaining regular training for staff. Security department was understaffed and plagued with overtime issues [4,18,50]. The dilemma was finding the right people for the job of security officer, given its long hours and relatively low pay. Retirees and the less educated usually formed the bulk of officers and they did not always display great physical fitness or the best mindset which was hard to instill. Moreover, at the helm of the security department was a director of security, who himself was unlicensed and exhibited a militaristic disposition and non-customer service approach to dealing with the staff and guests.

In conclusion, due to hotels high vulnerability to threats and hazards, safety and security issues will remain a challenge for hotel firms for some period of time. This emphasizes that hotels should upgrade their safety and security measures and procedures to make them harder targets against threats and hazards. Hotel management has been forced to review and revise security measures accordingly [5,17,18,21,23,24]. The dramatic incidents associated with the Egyptian Revolutions from 2011 to date, are recent reminders of the vulnerability of hotels to potential safety and security threats. It will be remembered for some time and perhaps leading to tourists putting a greater emphasis on personal safety and security when choosing accommodation in the future. It provides an opportunity to study safety and security measures from hotel guests' viewpoint.

Need for study

Although available research on safety and security issues in the hospitality and tourism industry in general has been growing recently, studies on this matter in the hotel industry, in specific, are still limited. There are still only a few publications which discuss the concept systematically and holistically. No matter how far the existing literature has gone, there is a constant need to understand better safety and security issues and examine measures that can be used to stop or limit their negative impacts on a growing and important industry sector [5,10,18,21,44]. Based on reviewing safety and security literature, a number of gaps have been identified:

• The need for studying safety and security conceptualization. Due to the highly intangible nature of safety and security, there is no common body of terms or agreement on how and in what aspects safety and security is addressed. In this situation, searching for absolute, universal definitions is bound to fail. A lack of conceptualization of hotel safety and security needs to be addressed [3,22,31,35,40].

• The need for studying safety and security measures in developing countries. While safety and security research has increased in recent years, relatively little has been written in emerging nations (African nations) [10]. Most of research has occurred mostly in developed nations, most notably the United States. To fill this gap, Egypt as a developing country represents a unique setting for studying safety and security measures among hotel guests.

• The need for studying safety and security measures in the hotel industry from guests' viewpoint. There is a lack of empirical research that investigates and evaluates the measures of safety and security from guests' viewpoint in the hotel industry in general and in Egyptian hotels in particular. The majority of past studies investigates safety and security issues and measures from hotel managers' viewpoint

[1,3,5,20,21,51,52]. Useful though these studies might be, they are primarily anecdotal and do not provide an empirical understanding of hotel guests' security-related choices, perceptions, or needs [2,10].

- The need for studying the gap between the importance and usage of safety and security measures. While safety and security research has increased in recent years, very little studies have attempted to examine the gap between hotel guests' perceptions of the relative importance and performance of safety and security measures. It is logically, with an incorrect understanding of guest expectations and perceptions, hotel security managers would implement inappropriate security plans or provide relatively less important security measures. To provide high-quality services and a secure environment, it is important that managers understand the expectations and perceptions of their guests regarding the services and facilities provided. If not, managers might make a chain of bad decisions resulting in perceptions of poor hotel service quality [15,16,53]. This study fills this gap.
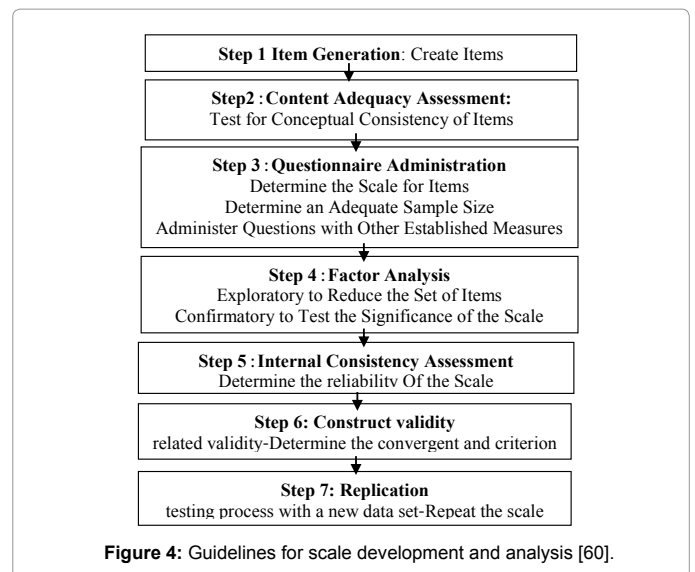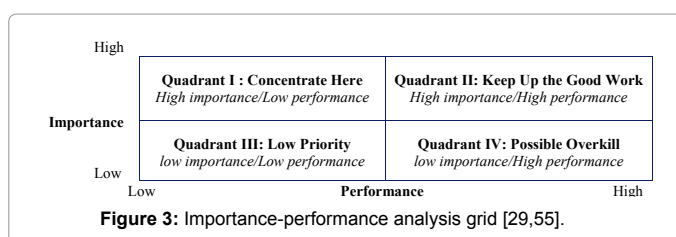
Study Methodology

Importance-performance analysis (IPA) method

This study uses Multi-method data collection. The study objectives and its hypothesis revealed that this research study is primarily a descriptive-analytical study with qualitative and quantitative approaches. A combination of data collection methods provides a way to gain in depth insights and adequately reliable statistics [11]. Using the Importance-Performance Analysis (IPA) methodology, this study examines the level of importance and level of performance (actual usage) of safety and security measures from hotel guests' viewpoint. IPA was developed by Martilla and James [29], as a popular managerial tool to facilitate prioritization of improvements and resource allocation. IPA assesses the convergence between the importance of specific attributes and how well a service provider is supplying those identified attributes. The main argument of the IPA model is that matching importance and performance (usage) is the basis of effective management. Typically, IPA involves a three-step process:

- **Identification of management-influenced attributes associated with a concept.** This step is to identify the full complement of salient concept attributes. This is usually accomplished via consultation with experts, focus groups or other qualitative techniques.

- **Analysis of these attributes based on user data that rates attribute importance and performance.**

- **Graphical presentation of the results.** As shown in Figure 3, the interpretation of the IPA is graphically presented on a two dimensional grid divided into four quadrants, based on high or low importance on the y-axis and high or low performance (usage) on the x-axis [54,55] (Figure 3).

The decision to use the IPA structure and terminology was due to its relative simplicity and the fact that it was widely used and adopted in general managerial problems and also in the context of tourism and

Figure 3: Importance-performance analysis grid [29,55].

Figure 4: Guidelines for scale development and analysis [60].

hospitality management [54-62]. IPA is a powerful evaluation tool for practitioners and academics to find out attributes that are doing well and attributes that need to be improved, which require actions immediately. In particular, there are two explicit advantages for hotel managers in applying IPA to their management know-how. First, IPA displayed graphically on a two-dimensional grid that explicitly shows the strengths and weaknesses of the hotel safety and security measures being studied. Second, IPA provides useful recommendations for hotel managers or policy makers for developing safety and security strategies and measures in the future. This is a useful and effective way for management to identify what problems exist, and why.

Data collection instrument

A written survey questionnaire was chosen as the primary method of quantitative data collection to measure safety and security measures through assessing the importance and performance (usage) level of practices. The questionnaire was developed based on two criteria:

A. The scale development procedures outlined by Hinkin et al. [60] for developing reliable and valid measurement instruments in any hospitality industry field research setting (Figure 4).

B. The Importance- Performance Analysis method [29] for evaluating the importance and usage level of security measures.

The first version of survey questionnaire was pilot tested using an appropriate number of hotel managers, guests, and academics to test the clarity of the content of the questionnaire and estimate of completion time. Revisions to the questionnaire were made based on feedback from the pilot test participants. The changes made the statements more specific and easier to understand. 50 measures representing 8 dimensions has finally identified in the questionnaire. The final instrument consisted of two-parts. The first examined the importance level guests assigned to each measure using a Likert scale of 1-least important to 5-most important. Additionally, this part examined the performance (usage) level for the same measure using a Likert scale ranging from 1-rarely used to 5-extensively used. The second part collected demographics. A cover letter in the message explained the purpose of the survey, due dates, contact information, and general directions.

Sampling plan and procedures

The target population of this study was the guests at five-star hotels in Egypt. Stratified random sample was chosen as the most appropriate sampling technique. Accordingly, Egypt was stratified geographically into 5 regions; Cairo, North West Coast, Canal Zone and Sinai, Red Sea, and Upper Egypt. As shown in Table 2, the percentage 30% was selected as the Sample of this study. The total selected number of hotels in the five regions was 47 hotels (representing 30% from total 157 5-star hotels) (the Egyptian Hotel Guide 2010-2011) [63-66].

A guest who is staying at five-star hotels in the five regions of Egypt was asked to serve as respondents for the survey. A total of 500 questionnaires were randomly distributed to the guests in the hotel sample in January, 2015. From the sample, 300 questionnaires were returned, with a response rate of 60%. Out of these 300 questionnaires, 25 were not included because of incompleteness. The valid number of questionnaires for analysis was 275, and the response rate was 55% [67]. Privacy and confidentiality were critical to the success and integrity of the study. The use of Informed Consent was practiced. Additionally, each participant received a cover letter that reiterated the information in the Informed Consent form, but also stressed that participation in the study was voluntary. The respondents were advised that the data collected would be used solely for the purpose to address the research topic. There were no anticipated risks to the respondents who participated in the study.

Data analysis

Data collected from the questionnaire was entered into SPSS (version 19) data sheet and all analyses were performed. Study objectives and hypothesis were achieved by Descriptive Analysis, IPA matrix, and Paired T-test Analysis [68,69]. Finally, interpretation of the results was done at 5% level of significance; where the value of $p \leq 0:05$ was considered as being significant, and $p \leq 0:01$ was considered as being highly significant.

Definition of key terms

Safety and security measures refer to measures that are taken to protect the hotels, guests, and staff from danger or apprehension (threats or hazards). Measures include facilities, equipment, personnel, practices, and procedures designed to prevent or mitigate the effects of threats or hazards. The hotel guest is a person who stayed at a hotel for accommodation and hospitality services.

Results and Discussion

General profile of the respondents

With respect to demographic information about the respondents, 60% of respondents were male, while 40% were female. The majority of the respondents (71%) were leisure tourists, but about 24% of respondents were in Egypt on business. The largest percent (39%) were between 39-59 years old, followed by those who old (31%) were between 20-39 years. The majority of respondents (85%) were international guests, while a small proportion of the respondents (15%) were domestic guests. Most of the respondents come from Russia and Ukraine, Asia, the Arab states, and the Egyptians, respectively. With regard to the length of guest stay, most of the respondents (68%) stayed at hotels for 4-nights or more and 32% stayed for less than 4-nights. A variety of educational levels were reported by the respondents. The majority of respondents (52%) have a college degree and a small proportion of the respondents (13%) have a postgraduate degree. 35% have other degree such as high school or below.

Importance and usage assessment of security measures

Table 3 and Table 4 indicate the safety and security measures' importance and usage assessment and analysis. The importance means scores of the 50 measures varied from 4.39 (the highest) to 3.16 (the lowest), with 1.0 indicating least important and 5.0 indicating most important. However, there was a distinction between the 50 measures and a priority of importance was evident. Meanwhile, the usage means scores of the 50 measures varied from 3.57 (the highest) to 2.45 (the lowest), with 1.0 indicating rarely used and 5.0 indicating extensively used. However, there was a distinction between the 50 measures and a priority of measures usage was evident. Overall, the average importance mean of measures was 3.86, and the average usage mean of measures was 2.99.

When evaluating measures' importance, Eighteen practices were perceived as most important with a mean greater than 4.20 (M>4.20, on a 1 to 5 scale). It should be noted that these measures are related to three dimensions; "Medical Preparedness, Emergency Preparedness, and Guestroom Security". Hotel guests believed that these measures play a significant role in influencing their safety and security. This finding implied that hotel guests focus on these measures as the number one of priority. It is a guests' top priority in safety and security which should also be the priority of hoteliers. Hence, hotel operators should put in more effort and attention to improve these measures when managing safety and security. Twenty-one practices were perceived as important with a mean greater than 3.40 and less or equal to 4.20 (4.20 ≥ M>3.40, on a 1 to 5 scale). It should be noted that these measures are related to three dimensions; "Staff Security, Access Control, and Information/Cyber security" [70,71]. This finding implied that hotel guests focus on these dimensions as the number two of priority. It is a guests' second top priority in safety and security management which should also be the second priority of hoteliers. Hence, hotel operators should put in more effort and attention to improve these measures when managing safety and security. 11 measures were perceived as moderately important with a mean greater than 2.60 and less or equal to 3.40 (3.40 ≥ M>2.60). It should be noted that these measures are related to two dimensions; "Detectors, and Pool and Beach Security". Hotel guests considered these measures as the less important in safety and security management. They believed that these measures play a low significant role in influencing their safety and security. It is a guest's less priority which should also be the less priority of hoteliers. It should be noted, however, that these measures were also deemed important, but to a lesser extent and shouldn't be disregarded when managing safety and security.

When evaluating measures' usage, Fourteen measures were perceived as quite used with a mean greater than 3.40 and less or equal to 4.20 (4.20 ≥ M>3.40). It should be noted that these measures are related to two dimensions; "Detectors, and Access Control". Hotel

Hotel Categories Egypt Regions	5-star Hotels	
	Total Population	Sample (30%)
Cairo Region	33	10
North West Coast Region	14	4
Canal Zone & Sinai Region	55	16
Red Sea Region	42	13
Upper Egypt Region	13	4
Total	157	47
Source: The Egyptian Hotel Guide (2010-2011) [63]		

Table 2: The Total Number and Selected Percentage of Hotels in the Five Regions.

Security Measures		Importance (I)		Usage (U)		Gap (U-I)		IPA Model
		Mean[a]	Rank	Mean[b]	Rank	Gap[c]	Rank	IPA grid
1.	**Detectors**	**(3.22)**	**(8)**	**(3.50)**	**(1)**	**(0.28**))**	**(8)**	**(Overkill)**
M1	Walk-in metal detector at the hotel entrance	3.18	49	3.57	1	0.39**	40	Overkill
M2	Luggage and bags check by metal detector and X-ray machines	3.23	46	3.55	2	0.32**	43	Overkill
M3	Check hotel's entering vehicles by metal detector	3.16	50	3.45	11	0.29**	44	Overkill
M4	Closed-circuit television systems (CCTVs) and video surveillance at hotel public areas	3.25	44	3.53	4	0.28**	46	Overkill
M5	Smoke, fire, heat, and carbon monoxide detectors in guestrooms and the entire complex	3.30	42	3.54	3	0.24**	49	Overkill
M6	Bomb-proof Kevlar wallpaper, Snifex device, shatter-proof glass	3.21	48	3.38	15	0.17**	50	Overkill
2.	**Emergency Preparedness**	**(4.22)**	**(3)**	**(2.57)**	**(7)**	**(-1.65**)**	**(3)**	**(Concentrate)**
M7	Emergency power generators(sources) in blackouts	4.21	17	2.54	47	-1.67**	10	Concentrate
M8	Emergency plans and evacuation sound warning system	4.30	5	2.55	45	-1.75**	4	Concentrate
M9	Emergency master keys for duty and security managers	4.11	22	2.54	46	-1.57**	19	Concentrate
M10	Clearly marked emergency exits and stairways	4.21	15	2.66	30	-1.55**	22	Concentrate
M11	Clearly marked fire sprinklers, extinguishers or dampers	4.21	16	2.65	31	-1.56**	21	Concentrate
M12	Emergency contact list for local authorities (police), including the hotel emergency phone number	4.14	21	2.53	48	-1.61**	17	Concentrate
M13	Safe deposit boxes at the front desks	4.28	8	2.65	32	-1.63**	15	Concentrate
M14	Remote trouble and alarm stations at all points of entry	4.31	4	2.45	50	-1.86**	1	Concentrate
3.	**Medical Preparedness**	**(4.24)**	**(2)**	**(2.56)**	**(8)**	**(-1.68**)**	**(2)**	**(Concentrate)**
M15	A doctor on call 24 hours	4.29	6	2.60	36	-1.69**	8	Concentrate
M16	A small clinic in the hotel	4.26	9	2.58	40	-1.68**	9	Concentrate
M17	A Pharmacy close to the hotel	4.24	12	2.57	41	-1.67**	11	Concentrate
M18	Defibrillation Units: A life saving device in heart attacks	4.21	18	2.49	49	-1.72**	6	Concentrate
M19	A face mask for each guest for smoke, disease	4.23	13	2.56	42	-1.67**	12	Concentrate
M20	An ambulance or bed ambulance carrier	4.23	14	2.56	43	-1.67**	13	Concentrate
4.	**Staff Security**	**(3.91)**	**(4)**	**(3.02)**	**(4)**	**(-0.89**)**	**(4)**	**(Keep Up)**
M21	24 Uniformed and non-uniformed security guards carrying walkie-talkies	3.89	32	3.09	21	-0.80**	26	Keep Up
M22	Security guards periodically patrolling the hotel	3.89	31	3.07	22	-0.82**	25	Keep Up
M23	Security personnel with foreign language skills.	3.95	23	2.95	26	-1.00**	23	Concentrate
M24	Staff knowledgeable about safety/security procedures	3.92	26	2.98	25	-0.94**	24	Concentrate
5.	**Guestroom Security**	**(4.27)**	**(1)**	**(2.59)**	**(6)**	**(-1.68**)**	**(1)**	**(Concentrate)**
M25	A first-aid kit in in each guest room	4.39	1	2.56	45	-1.83**	2	Concentrate
M26	In-room Secure deposit boxes to keep valuables (lap-top)	4.29	7	2.58	39	-1.71**	7	Concentrate
M27	Door chains to allow the doors opened slightly to view outside while still remaining locked	4.25	10	2.61	35	-1.64**	14	Concentrate
M28	Spy holes to allow residents to view clearly area of outside without opening the door	4.24	11	2.61	34	-1.63**	16	Concentrate
M29	Electronic key card-locking system (smart card, optical, punch, biometrics and magnetic) on guestroom doors	4.35	2	2.62	33	-1.73**	5	Concentrate
M30	Multilingual brochures to survive emergencies and recommended guest safety/security precautions	4.33	3	2.56	44	-1.77**	3	Concentrate
M31	A flash light in hotel rooms	4.18	19	2.59	37	-1.59**	18	Concentrate
M32	Dedicated female-onlyguestfloor	4.16	20	2.59	38	-1.57**	20	Concentrate
6.	**Pool and Beach**	**(3.26)**	**(7)**	**(2.94)**	**(5)**	**(-0.32**)**	**(7)**	**(Low Priority)**
M33	Tsunami warning system on beaches	3.30	40	2.87	29	-0.43**	34	Low Priority
M34	Lifeguards on the pool and beach for supervision	3.30	41	2.94	27	-0.36**	42	Low Priority
M35	Security boat surveillance(low noise pollution engines)	3.22	47	2.93	28	-0.29**	45	Low Priority
M36	Secured fence and non-slip around the swimming pool	3.23	45	2.98	23	-0.25**	48	Low Priority
M37	Safety signs as children should be supervised by an adult	3.25	43	2.98	24	-0.27**	47	Low Priority
7.	**Access Control**	**(3.89)**	**(5)**	**(3.46)**	**(2)**	**(-0.43**)**	**(6)**	**(Keep Up)**
M38	Limiting hotel main Access Points as possible	3.85	39	3.48	6	-0.37**	41	Overkill
M39	Physical and Hydraulically road barriers to prevent close access by bombs or high-speed vehicles	3.88	33	3.46	8	-0.42**	35	Keep Up
M40	Sniffer dogs in hotel entrances and public areas (parks)	3.86	38	3.46	9	-0.40**	39	Keep Up
M41	Key-activated elevators : Elevators interfaced with a room electronic locking system	3.94	24	3.44	14	-0.50**	31	Keep Up
M42	Visitor management system: all visitor must be given a 'visitor pass card'.	3.88	34	3.47	7	-0.41**	37	Keep Up
M43	Passport or photo ID check , especially for walk-in guests at hotel check in	3.89	30	3.45	12	-0.44**	33	Keep Up
M44	Employees wearing a photo ID/nametag allowing quick identification (Employee Verification)	3.90	28	3.50	5	-0.40**	38	Keep Up
M45	Trash management system by preventing bad odor/diseases, hiding harmful/explosive substances, and unauthorized access to discarded paper records	3.88	35	3.46	10	-0.42**	36	Keep Up

M46	The corridors and staircases are bright lighting and wide enough for clients to prevent accidents	3.93	25	3.44	13	-0.49**	32	Keep Up
8.	**Information and cyber security**	(3.88)	(6)	(3.30)	(3)	(-0.58**)	(5)	(Keep Up)
M47	Pre-travel data surveillance and screening procedures linked to check-in	3.91	27	3.32	17	-0.59**	28	Keep Up
M48	Install and maintain up-to-date cyber-security techniques and software patches (firewalls, virus/spyware protection, encryption, user authentication).	3.90	29	3.28	20	-0.62**	27	Keep Up
M49	Secure guest information (credit card number- reservation information- registration card………..)	3.86	36	3.30	18	-0.56**	29	Keep Up
M50	Caller screening by telephone operators	3.86	37	3.30	19	-0.56**	30	Keep Up
	Total	**(3.86)**	-	**(2.99)**	-	**(-0.87**)**	-	

a Mean scale: 1—least important to 5—most important. b Mean scale: 1— rarely used to 1—extensively used. c Significant Difference: *p ≤ 0.05; **p≤ 0.01

Table 3: Measures'' Importance and Usage Assessment.

Importance scale	1 Least important	2 Little Important	3 Moderately important	4 Important	5 Most Important
Intervals	1.00-1.80	1.81 - 2.60	2.61 - 3.40	3.41 - 4.20	4.21 - 5.00
Measures	-	-	38 measures 2 dimensions in descending order: • Pool and beach norms • Detectors	44 measures 3 dimensions in descending order: • Information and cyber security • Staff security • Access control	18 measures 3 dimensions in descending order: • Medical preparedness • Guestroom security • Emergency preparedness
Usage Scale	1 Rarely used	2 Slightly used	3 Moderately used	4 Quite used	5 Extensively used
Intervals	1.00-1.80	1.81-2.60	2.61-3.40	3.41-4.20	4.21-5.00
Measures	-	25 measures 3 dimensions in descending order: • Emergency preparedness • Medical preparedness • Guestroom security	45 measures 3 dimensions in descending order: • Information and cyber security • Staff security • Pool and beach	30 measures 2 dimensions in descending order: • Detectors • Access control	-

Table 4: Measures, Importance and Usage Analysis (Prioritizing).

guests perceived these measures as the widely used action in safety and security. Hotel guests perceive these measures as the number one of usage priority. This finding implied that hotels' performance in applying these particular measures is strong. Thus, hotel managers ought to take them into consideration and continue to maintain good standard and shouldn't be ignored. The top usage priority of Detectors and Access Control can be explained by the fact that the survey was conducted during the Egyptian political instability. One possible explanation is that detectors and access control measures are almost automatically considered when a new safety and security threats arises. Moreover, Detectors and Access Control measures are tangibles (high visible and noticeable) that invite guest concern. 5-star hotels invest significantly in detector measures and offer more features than do hotels in economy or budget segments in resort or small town settings [15]. 21 measures were perceived as moderately used with a mean greater than 2.60 and less or equal to 3.40 (3.40 ≥ M>2.60). It should be noted that these measures are related to three dimensions; "Staff Security, Information/Cyber security, and Pool/Beach Security". Hotel guests perceived these measures as the number two of usage priority. This finding implied that hotels' performance in applying these particular measures is moderate. Hence, hotel managers should concentrate on these practices and more resources, effort and attention should be spent on improving performance of these measures. Fifteen measures were perceived as slightly used with a mean greater than 1.80 and less or equal to 2.60 (2.60 ≥ M>1.80). It should be noted that these measures are related to three dimensions; "Medical Preparedness, Guestroom Security, and Emergency Preparedness". Hotel guests perceived these measures as the rarely used in safety and security management. Hotel guests perceived these measures as the less usage priority. This finding implied that hotels' performance in applying these particular measures

is low. Hence, hotel managers should concentrate on these dimensions and more resources, effort and attention should be spent on improving performance of these measures.

The rankings in descending order of the importance mean scores of 8 dimensions were as follow: Guestroom Security (4.27), Medical Preparedness, (4.24), Emergency Preparedness (4.22), Staff Security (3.91), Access Control (3.89), Information and cyber security (3.88), Pool and Beach Norms (3.26), and Detectors (3.22). Meanwhile, the rankings in descending order of the usage mean of 8 dimensions were as follow: Detectors (3.50), Access Control (3.46), Information and cyber security (3.30), Staff Security (3.02), Pool and Beach Norms (2.94), Guestroom Security (2.59), Emergency Preparedness (2.57), and Medical Preparedness (2.56). The results indicated that the less important and highly usage measures are related to Detectors dimension. While, the high important and rarely usage measures are related to Guestroom Security, and Medical Preparedness dimensions.

The gap between the importance and usage of measures

Table 2 indicates the mean gap score and rank order for each measure of safety and security. The mean gap scores for the 50 measures varied from -1.86** (the highest gap) to 0.17** (the lowest gap). Nevertheless, each measure of security showed differences with respect to the size and direction of gap score. The mean gap scores for the 50 measures are all statistically significant (at p<0.01). Overall, the average mean gap score was -0.87**. The average usage level of practices (2.99) is lower than the average importance level (3.86).

The results of the paired t-test indicated a statistically significant difference (gap) (p ≤ 0.01) between the level of importance mangers assigned to each measure and the level of usage of that measure. The

mean gap between importance and usage for the 50 measures, are all statistically significant (at p<0.01). Hence, the null hypothesis which proposed an absence of difference was therefore rejected. Meanwhile, the alternate hypothesis which proposed an existence of difference was therefore accepted.

There are two observations. *First*, It should be noted that gaps are all significant, which suggests that at a basic level, there is considerable difference between the measures' importance and usage. This finding implied that the hotels did not do a good job in matching measures' importance with measures' usage. There are opportunities for changes and improvement in Egyptian hotels. The existence of significant gaps clearly showed that there is a room for security management improvement in studied hotels. These gaps were the shortfalls and require the most attention by hotel managers in their efforts to make some improvement. By understanding and investigating those gaps. It is easier for management to control and take corrective action to reduce the difference between the importance and usage level of measures. The disparity between guests' perceptions of importance and actual performance of hotel safety and security measures may lead to guest dissatisfaction during hotel stays. *Second*, it should be noted that the majority of gaps are negative (in 44 measures, 7 dimensions), the usage level is lower than the importance level. A negative score indicated measures which should command more attention and that need to be improved. This finding implied that further improvement resources and efforts should concentrate here. Conversely, the few gaps are positive (in 6 measures, 1 dimension), the usage level is higher than the importance level. All positive measures are related to 'Detector' dimension. A positive score indicated measures which may be consuming too many resources and that need to be changed. This finding implied that present efforts and resources invested on these measures are over-utilized and therefore, hotel planners should consider allocating resources (i.e., money, time...) elsewhere, especially on the measures of negative gaps, to yield a higher return.

The main argument of the IPA model is that matching importance and performance (usage) is the basis of effective management.

Importance-performance analysis matrix: IPA grid

Figure 5 shows the Importance-Performance Analysis Matrix for safety and security measures. Importance and performance (usage) mean scores of measures are plotted on a two dimensional grid with importance on the y-axis and usage on the x-axis. The Y-axis reports the hotel guests' perceived importance of measures, and the X-axis shows the guests' usage in relation to these measures. In this particular matrix, the quadrants are separated by the average mean scores for importance and performance. The IPA matrix helps hotels to identify the areas for improvement and actions for minimizing the gap between importance and performance. Accordingly, the evaluating hotels should provide attention to items in the upper left quadrant, maintain services to those in the upper right, and consider reducing resources to those in the lower right (Figure 5).

Conclusion and Recommendations

Using IPA methodology, this study examines safety and security measures from hotel guests ' viewpoint, through assessing the importance and usage level of measures, and testing the gap between the importance and usage of measures. When evaluating the measures' importance, guests focused on "Medical Preparedness, Emergency Preparedness, and Guestroom Security". Meanwhile, when evaluating the measures' usage, guests focused on "Detectors, and Access Control". The results indicated that the highly important and rarely usage safety and security measures are related to three dimensions; "Medical Preparedness, Guestroom Security, and Emergency Preparedness". Meanwhile, the less important and widely usage/used measures are related to two dimensions; "Detectors, and Access Control". Additionally, there is a statistically significant gap between the importance level and the usage level of measures. Overall,

Figure 5: Applying importance-performance grid for security measures.
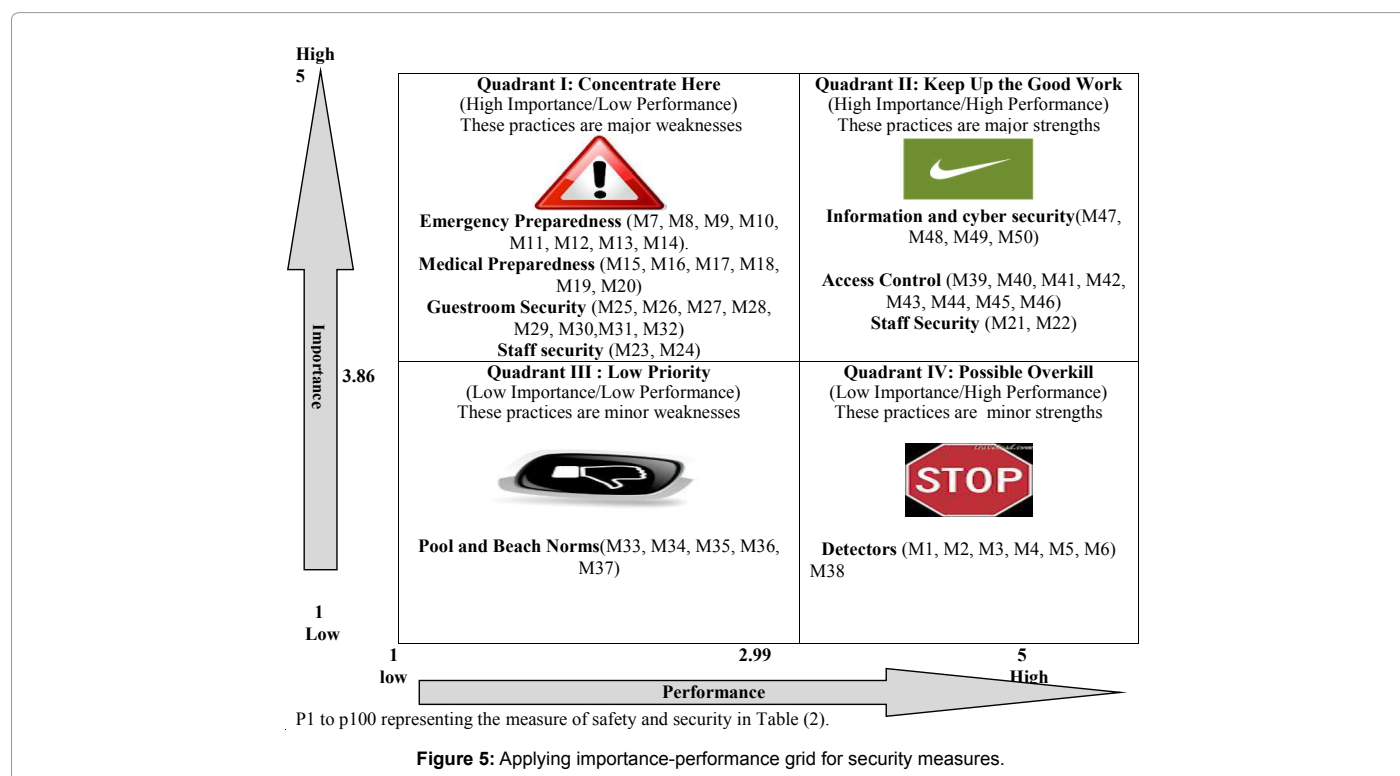
the average usage level of measures (2.99) is lower than the average importance level (3.86). Hence, there are opportunities for changes and improvements in Egyptian hotels.

This research study contributes to the existing safety and security management literature by adding to the knowledge a theoretical model of safety and security measures, but more importantly it also contributes to the hotel practice by adding to the knowledge a practical methodology by which hotel managers can assess and improve their level of safety and security measures. The study would enable hotel managers to determine which measure should require more attention and which may be consuming too many resources on achieving competiveness and effectiveness as a significant way for managing safety and security. Hoteliers can easily understand the areas where changes and improvements are needed. As noted in Figure 3, the results of IPA matrix provide useful recommendations for hotel managers or policy makers for improving and developing security management strategies and practices in the future. It provides insight for future management recommendations for each measure based on its position in one of the four quadrants. Each quadrant implies a different management strategy:

1. The studied hotels should command more attention and improvement efforts to 24 measures in the "concentrate here" quadrant (High Importance/Low Performance). These measures represents 3 dimensions; Guestroom Security, Medical Preparedness, and Emergency Preparedness. In addition 2 measures from Staff Security Dimension. These measures are major weaknesses and require immediate attention for improvement. It represents key areas that need to be improved with top priority. The management scheme for this quadrant is "concentrate here".

2. The studied hotels should maintain efforts and resources to 14 measures in the "keep up the good work" quadrant (High Importance/ High Performance). These measures represent 2 dimension; Information and Cyber Security, and Access Control. In addition 2 measures from Staff Security Dimension. These measures are major strengths and opportunities for achieving competitive advantage. Thus, hotel managers should keep up the good work in maintaining. The management scheme is "keep up the good work."

3. The studied hotels should not deserving remedial actions to 5 measures in the "low priority" quadrant (Low Importance/Low Performance). These measures represent 1 dimension; Pool and Beach Norms. These measures are minor weaknesses and do not require additional effort. Managers should not be overly concerned on these measures and should expend limited resources and efforts. The management scheme for this quadrant is "low priority."

4. The studied hotels should consider reducing resources and efforts to 7 measures in the "possible overkill" quadrant (Low Importance/High Performance). These 7 measures represents one dimension; Detectors. In addition 1 measure from Access Control Dimension. These measures are minor strengths. Hotel planners should overkill resources invested in these measures and therefore they should consider allocating resources (i.e., money, time) elsewhere, especially on those practices in the Concentrate Here quadrant. The management scheme for this quadrant is "possible overkill."

At a country level,

• At a political level, the current regime should take swift steps to end the political turmoil in Egypt.

• The short-term response by the government should be to exploit the media, particularly the international media, to emphasize the safety and the security of hotels and tourists.

• The government should also take serious steps in supporting the Ministry of Tourism in support of the recovery of the tourism and hotel industries, such as by coordinating with UNTWO to get the necessary support.

• 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.

• Government should decide that the security measures should be implemented within the premises of hotels in order to enhance the safety of tourists and should be imposed as conditions of the Tourist Enterprise License for hotels.

Future research recommendations

Future research should examine the generalizability of these results. As technology improves and security features are expanded, additional research may be necessary to further validate these findings.

• Future studies can extend the same examination to other locations and other tourism and hotel sectors (e.g., airline, restaurant industries) to improve the robustness of the findings. This study serves as an impetus for additional studies in other nations and locations that will enhance the understanding of hotel safety and security measures and their effectiveness.

• This research can be extended to include broader types of hotels (e.g., 3, 4 and 5-star hotels) to test whether the guests' importance level and performance level of security measures will vary between types of hotels.

• It can be expanded to include a broader application of IPA for a comparison of safety and security measures for independent versus chain hotels, male versus female, leisure versus business guests, international or domestic guests, and according to the length of guest stay. The aim is to test whether the perceived importance and performance of a hotel's security measures differ depending on these twin variables.

• Future research should identify and assess the primary motivators and barriers for implementing safety and security management.

• Future research studies should identify and examine the safety and security management knowledge and training necessary for hotel staff.

• Research is needed on the relationship between the levels of safety and security measures, and hotel's size, star rating, branding or nationality.

Study Limitations

The first limitation of this study is that it is limited to Egypt. The second limitation of this study was the sample population. The study findings are limited to the guests of 5-star hotels within five geographic regions of Egypt (Cairo, North West Coast, Canal Zone and Sinai, Red Sea, and Upper Egypt). Therefore, the findings cannot be generalized beyond this target population or to a broader population. A third limitation is that the safety and security measures used in this study do not represent all possible measures that may be taken. In addition, because of the wide variety in the types, sizes, and locations of hotels, not all suggested measures will be relevant or applicable. The measures

in this guide are based on measures that owners and operators across the country have employed at their facilities. The ability to implement them at any specific facility will vary. The ideal number and structure of measures and dimensions could be different depending on the type of industry being studied, the service firm in question or the circumstances under which studies are rendered. Final limitation was the potential for researcher bias. *Additional research should focus on these potential limitations in order to assure the most precise results.*

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