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The Relationship between a Hotel's Safe Image and Tourists' Patronage Intention under the Threat of COVID-19

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Abstract

Based on the principles of the social exchange theory and protection motivation theory, this study extended the investigation by Atadil & Lu (2021) and adopted the safe image scale they developed. Through the results of the questionnaire, this study examined how guests' perception of a hotel's star rating might affect its safe image and how a hotel's safe image and guests' perceived risk might affect their trust in the hotel and patronage intention. A total of 94 hotels have participated in the survey, and 949 valid questionnaires have been returned. Through factor analysis, correlation analysis, variance analysis, and structural equation modeling analysis, this study found significant differences in star rating perception of the four dimensions of the safe image, a significant moderation effect of perceived risk on the relationship between safe image and trust, and a relationship between safe image, trust, and patronage intention. The value of this study is that under the threat of COVID-19, it has built an influence model of guests' intention to patronize a hotel, thereby providing empirical contributions to the social exchange theory and protection motivation theory, as well as proposing practical suggestions on how hoteliers may improve customer trust.

Keywords: Hotel safe image, perceived risk, trust, patronage intention, COVID-19

1. Introduction

Declared a pandemic by the World Health Organization (WHO) on March 12, 2020, COVID-19 has caused significant and multi-dimensional shocks and impacts on the global economy, politics, socioculture, and psychology (Sigala, 2020). In the past two years, the epidemic situation has gradually stabilized. The governments of various countries and many medical and public health experts and scholars have also called for returning to normal operations. This is a problem that countries are eager to solve in the post-epidemic era. Pursue happiness and epidemic prevention, and hope that life will return to normal. But in the post-epidemic era, the concept of epidemic prevention still needs to be emphasized. For example, in terms of food culture, more people have begun to use delivery platforms to order food, wear masks to enter restaurants and wait until they eat, or dine out on high-speed trains and railways is no longer used. In addition, the Chinese people emphasize the idea of eating together to represent and close interpersonal relationships. In the post-epidemic era, it has gradually developed into a set meal for one person. These changes in eating and living habits show that people attach importance to epidemic prevention and safety maintenance in the post-epidemic era. Tourism and hospitality are highly sensitive to external factors, such as infectious diseases (Ioannides

& Apostolopoulos, 1999). However, previous studies on how external threats may affect tourist mentality and behavior are rare (Zhang, Hou, & Li, 2020). Due to the huge impact of COVID-19 on values and consumer preferences and behavior (Gursoy & Chi, 2020), more and more scholars have explored how consumers may respond to the threats of similar pandemics (Galoni, Carpenter, & Rao, 2020).

Based on the principles of the social exchange theory and protection motivation theory, this study investigated the influence model of guests' intention to visit a hotel under the threat of COVID-19. The social exchange theory (SET) (Blau, 1964; Cropanzano & Mitchell, 2005) argues that if guests realize that safety is more beneficial than danger in their travel decisions, then they will choose to stay in hotels providing such a benefit (Atadil & Lu, 2021). According to Kim, Lee, Jhang, Park, & Lee (2021), guests' perception of a hotel's quality/price is an essential clue to judging whether the hotel is safe or has a safe image. In addition, the protection motivation theory proposed by Rogers (1975) argues that people tend to practice health protection in their daily lives in response to perceived risks. The enormous influence of consumers' perceived risk on their attitudes and behavior is emphasized in this theory.

With the hotel industry as the research subject, Kim, Lee, & Prideaux (2014) found that guests' trust in a hotel might significantly affect their patronage intention and even help develop brand loyalty. Based on the studies of Atadil & Lu (2021), Kim, Lee, Jhang, Park, & Lee (2021), and Kim, Lee, & Prideaux (2014), this research proposed that guests' trust in a hotel is vital in their patronage intention. In addition, by collating the relevant literature, Atadil & Lu (2021) developed a safe image scale for the COVID-19 era and explored the impact of each dimension of the safe image on guests' intention to visit a hotel. However, other influencing factors were not considered in their study. Therefore, by extending Atadil & Lu (2021) and adopting the safe image scale they developed, this study explored how guests' perception of a hotel's quality/price might affect its safe image and how a hotel's safe image and guests' perceived risk might affect their trust in the hotel. Based on this, this study set up an influence model of guests' intention to patronize a hotel in the post epidemic era. The value of this study is that despite the existing research constructs (such as safe image and perceived risk), it investigated how to maintain the trust that affects guests' patronage intention in the post-epidemic era of COVID-19, which has experienced a huge impact on consumers' lives and consumption patterns in recent years. Thus, it provides empirical contributions to the social exchange theory and protection motivation theory, as well as proposes practical suggestions on how hoteliers may improve customer trust.

2. Theoretical framework and hypothesis development

2.1 Safe Image

Corporate image is people's beliefs, opinions, and impressions of a particular organization (Bos, 2007) and therefore represents a company's unique features and personality, which distinguish itself from competitors. A good image helps a company attract consumers' interest, build brand equity, and eventually boost sales (Amini, Darani, Afshani, & Amini, 2012). Consumers' perception of the corporate image is typically formed by their interaction experiences with the company's tangible factors (such as name, products or services, and on-site atmosphere) and intangible factors (such as quality impression, employee education, and organizational culture). Since corporate images are affected by various company levels, scholars suggest that it is a multi-dimensional construct whose definition is subject to different research purposes (Kim, Lee, & Prideaux, 2014).

Before the COVID-19 pandemic, many scholars already considered safety an essential attribute of tourists' selection of hotels (Chan & Lam, 2013; Ghazi, 2016). Herjanto, Erickson, & Calleja (2017) found that safety is a critical factor affecting guest satisfaction. Shin & Kang (2020) argued that more and more scholars have studied tourism and hospitality safety issues, particularly after the pandemic outbreak; therefore, a hotel's safe image is crucial for attracting tourists. Based on the relevant literature, Atadil & Lu (2021) proposed four factors affecting guests' perception of a hotel's safe image: medical preparedness, hygiene control, health communication, and self-service technologies. Taking U.S. guests above age 18 with accommodation experience over the past two years as the research subjects, they explored the relationship of the safe image with guests' hotel selection behaviors. The findings indicated that hygiene control is the most critical factor for hotel selection, followed by health communication. In addition, 90% of respondents were willing to pay more to stay in hotels with safe images. Atadil & Lu (2021) developed a four-dimensional, 27-item scale with reliability and validity by introducing the safe image of hotels, an existing research construct, into the context of COVID-19.

2.2 Star Rating and Safe Image

As COVID-19 has significantly affected people's lives in various aspects, an increasing number of studies has probed its impact on the tourism and hospitality industries. According to these findings, such pandemics affect consumers' choices of attractions as well as their preferences on how services are provided. (Kim, Kim, Badu-Baiden, Giroux, & Choi, 2021). Zhang, Hou, & Li (2020) found that the pandemic might magnify the negative consumer response to low-cost hospitality providers or unreasonable tourism pricing, thereby threatening practitioners' financial performance. In addition, as Kim & Lee (2020) pointed out when the threat of COVID-19 rises, consumers tend to patronize restaurants or hotels that provide private facilities or charge higher prices. Therefore, Kim, Lee, Jhang, Park, & Lee (2021) researched U.S. consumers with hotels distinguished by their star ratings. For example, one- to three-star hotels were classified as low- star rating and four- and five-star hotels as high- star rating. The results showed that consumers prefer to choose tourist hotels with higher prices and quality under the high threat of such large-scale infectious diseases as COVID-19. In addition, consumers' perceived risk of COVID-19 may affect their willingness to choose high- star rating hotels; that is, the higher the perceived risk is, the greater the intention is to patronize hotels with higher star rating. Given that more scholars have argued that star rating is the safety indicators in consumers' hotel selection, this study proposed:

H1: Star rating may positively affect guests' perception of a hotel's safe image.

2.3 Perceived Risk

The protection motivation theory (PMT) was developed by social scientist Rogers (1975), who argued that people tend to practice health protection in their daily lives in response to perceived risks; that is, the greater the perceived risk is, the higher the intention is to take protective measures. During the COVID-19 pandemic, many people have faced inconveniences caused by restrictions, changes in their way of work and life, unemployment, and negative mental states such as psychological stress, frustration, insomnia, and anxiety arising from the worry of infection. According to PMT, such threats may affect their behavior and attitudes (Floyd, Prentice-Dunn, & Rogers, 2000). The concept of perceived risk, introduced by Bauer (1960), was developed from psychology. It describes that consumers buying products or services may

have a sense of uncertainty about the outcomes because they cannot anticipate or face uncertainty. Such a feeling may even affect their purchasing behaviors. The importance of perceived risk is emphasized in PMT, which argues that perceived risk is composed of three elements: the expected probability of risk exposure, the fear of the severity of the risk, and the anticipated consequences. Based on PMT and with Polish health care staff as the research subjects, Krok & Zarzycka (2020) explored the relationship among the risk perception of COVID-19, personal resources, and the coping ability under the pandemic. The findings reveal that the perceived risk of COVID-19 may significantly reduce positive mental perceptions such as a sense of happiness. With food handlers in restaurants and department stores as the research subjects, Young, Thaivalappil, Waddell, Meldrum, & Greig (2019) studied the factors affecting their food safety behaviors. The results indicated that attitudes towards food safety, perceived risk, and expertise may encourage food handlers to demonstrate food safety behaviors that comply with standards.

By collating studies related to perceived risk, Van der Linden (2015, 2017) concluded that the level of perceived risk is affected by cognition (such as the knowledge and understanding of the risk), emotion and experience (such as personal experience), sociocultural factors (such as social network, cultural theory, and trust and values), and the relevant individual differences (such as gender and educational level). According to previous studies related to hotels, consumers' perceived risk may remarkably affect their attitudes and behavioral intentions (Choi, Lee, & Ok, 2013; Harris, Ali, & Ryu, 2018). Kim & Lee (2020) argued that under the impact of COVID-19, guests prefer to stay in hotels providing personal supplies and appliances. While Kim, Lee, Jhang, Park, & Lee (2021) took the U.S. hotel industry as an example to investigate the relationship among guests' perceived risk of COVID-19, their seeking for safety, and the selection of hotels with high/low quality and prices. Their findings revealed that guests' perceived risk may prompt them to choose safer hotels, meanwhile, quality and prices are the clues for the interviewees to judge the safety. In other words, their study proved that guests favor high-priced or high-quality hotels when their perceived risk of COVID-19 is high. Therefore, this study argued that consumers' perceived risk of COVID-19 affects their intention to patronize hotels.

2.4 Trust

In addition to perceived risk, trust is another factor affecting consumer attitude and behavior in the presence of risks, according to scholars. Rivera (2020) proposed that epidemic disease is a major threat to the hospitality industry, and guests' trust is the seed of its recovery. Therefore, he emphasized the need to study what affects guests' trust. According to Hosmer (1995), trust is the positive expectation people arouse when facing uncertainty. Therefore, scholars suggested that trust may make dangers more acceptable, thereby reducing their complexity and the sense of uncertainty (Chen, 2013). From a company's perspective, trust is consumers' perception of its ability to perform management activities based on its knowledge, expertise, and reliability. Trust may help consumers develop brand loyalty for the company's products or services and eventually boost sales (Lafferty & Goldsmith, 2004). With the hotel business as the research subject, Kim, Lee, & Prideaux (2014) found that guests' trust in a hotel might contribute to brand loyalty. Therefore, the present study suggested that consumers' trust in a company might affect their attitudes and behaviors, and the importance of this trust has become more notable under the threat of COVID-19.

2.5 Safe Image and Trust

Given the importance of consumers' trust in a company, how to maintain or raise consumer trust has been practitioners' concern, one of which is the corporate image. According to Han & Ki (2010), as increasing consumers support practitioners to engage in social responsibilities, companies dedicated to activities benefiting society may positively strengthen consumer trust. Lee, Singal, & Kang (2013) found that hiring unemployed workers might contribute to a hotel's social responsibility image, thereby enhancing consumer trust. In addition, guests' perception of the hotel image may affect their trust in the hotel, thereby developing their brand loyalty, according to Kim, Lee, & Prideaux (2014). Social exchange theory advocates actions that occur when others respond reciprocally and stop when they do not respond reciprocally, that is, individuals and individuals or individuals and groups interact with each other because they gain what they need. There are two kinds of rewards for satisfying needs from the exchange, one is intrinsic rewards, such as fun, affirmation, trust, love, etc., and the other is extrinsic rewards, such as money, goods, services, etc. This study believes that the relationship between safe image and trust can be explained from the social exchange theory. When customers get a sense of security from the image of the hotel, it will generate the customer trust psychology that the hotel needs, and then stimulate patronizing behavior. Taking the cruise industry as an example, Aha, Shamim, & Park (2021) noted that passengers' trust and loyalty to a cruise company might be significantly affected by their perception of its image. A review of relevant research showed that images may positively affect consumer trust. However, most of the studies focused on companies' social responsibility images. Given that image is a multi-dimensional construct (Kim, Lee, & Prideaux, 2014), this study proposed that practitioners' safe images have become increasingly important under the threat of the COVID-19 pandemic in recent years. Therefore, it inferred that there is a relationship between a hotel's safe image and guest trust and proposed:

H2: There is a significant positive relationship between a hotel's safe image and guest trust.

2.6 Safe Image, Perceived Risk, and Trust

Consumers' perceived risk may affect their trust in institutions or products (Fjaeran & Aven, 2021). Taking the hotel industry as an example, Kim, Lee, Jhang, Park, & Lee (2021) found that guests' perceived risk might lead them to choose hotels providing a sense of safety under the threat of the virus - that is, guests' perceived risk may affect their hotel selection attitude and patronage intention. Li, Yin, Qiu, & Bai (2021) explored the impact of technology-based services on hotel guests' values and attitudes (such as satisfaction, trust, and re-patronage intention) and the influence of COVID-19-related factors (such as spatial distance, perceived risk, and access to health services) on the relationship between service approaches and customer values and attitudes under the threat of COVID-19. The results presented that guests' perceived risk of COVID-19 may affect their trust in hotel services. The theory of protection motivation, which advocates that when people perceive danger, they will take protective behavior, can also explain the relationship between hotel safety image, perceived risk and trust. Therefore, they will value and trust hotels with a safe image, and then stimulate their patronage behavior. Therefore, despite the lack of research related to safe image and based on corporate image and perceived risk affecting customer trust (such as Aha, Shamim, & Park, 2021, Li, Yin, Qiu, & Bai, 2021), this study proposed:

H3: Perceived risk may affect the relationship between a hotel's safe image and guest trust.

2.7 Trust and Patronage Intention

Under the high threat of COVID-19 in recent years, scholars have mentioned that when consumers believe that the government can control the spread of the virus in the public life and the health and safety environment, they may have a high sense of trust in the authority (Nakayachi & Cvetkovich, 2010). Furthermore, they may be more willing to comply with government regulations and patronize restaurants and other public places where they will have interactions with others (Rudolph, 2009). Dedeoglu & Bogan (2021) investigated the factors affecting consumers to dine out under the threat of COVID-19. The findings indicated that consumers' perceived risk of COVID-19 and their trust in the government may affect their intention to eat out. In their study on the value of online booking in the hotel industry, Amin, Ryu, Cobanoglu, & Nizam (2021) found that the quality of hotel websites and guests' trust in e-commerce may remarkably affect their willingness to book online. These findings revealed that consumer trust in practitioners or institutions may affect their attitudes and behavior. Therefore, this study suggested that guests' trust in a hotel might affect their patronage intention - that is, guests may be willing to patronize a hotel and comply with its control measures, such as taking body temperature and keeping social distance, if they trust the hotel to guarantee their safety and health. Therefore, this study proposed:

H4: Guests' trust in a hotel may affect their patronage intention.

3. Methodology

The COVID-19 pandemic has drastically impacted the global economy and people's lives, health, and safety. In Taiwan, as people's lives and work have also been affected by the spread of the epidemic starting in May 2021, hospitality and tourism became the first industries to suffer. With guests accommodated in Taiwan's star-rated hotels over the past two years as the research subjects, this study investigated the relationship between safe image, perceived risk, trust, and patronage intention through a questionnaire survey. There are two reasons for choosing guests with hotel accommodation experience within the past two years as the research subjects. First, experiences and memories that occurred less than two years ago can be traced back and recalled (Atadil & Lu, 2021). Second, these guests are familiar with the spread of COVID-19 and the related governmental and industrial control measures, thereby having sufficient abilities to complete the questionnaire. In addition, this study used an existing questionnaire to ensure reliability and validity. Since most of the respondents were native Chinese-speaking Taiwanese, professionals proficient in English and Chinese carried out a two-way translation to ensure the questionnaire would not be distorted from its original meaning due to translation.

The safe image in this study refers to the respondents' perceptions of various safety and security characteristics of hotels under the threat of COVID-19, with the adoption of the 27-item safe image scale proposed by Atadil & Lu (2021) and composed of four dimensions, including medical preparedness, hygiene control, health communication, and self-service technologies. The perceived risk in this study means the respondents' perceptions of potential safety or financial damages caused by visiting hotels under the threat of COVID-19, with the adoption and modification of the four-item perceived risk scale developed by Shin & Kang (2020). The trust in this study describes the level of the perception that the respondents believe the hotel can perform various internal and external management activities with the utmost professionalism, knowledge, and ethics, with the adoption of the four-item trust scale proposed

by Dedeoglu & Bogan (2021), but with wording modified. The patronage intention in this study is the level of the perception that the respondents are willing to stay and consume in the hotel, with the adoption of the three-item patronage intention scale developed by Dedeoglu & Bogan (2021), but with wording modified.

The initial questionnaire was handed out to five scholars and practitioners to check the suitability of its content. Inappropriate wording and descriptions in the questions were revised to serve as the scales for measuring each research variable. Therefore, the formal questionnaire of this study includes five parts: part one with 27 questions about respondents' perceptions of hotels' safe images, part two with 4 questions about the respondents' perceptions of perceived risk, part three with 4 questions about respondents' trust in hotels, part four with 3 questions about respondents' intentions to patronize hotels (using the 5-Point Likert Scale of strongly disagree, disagree, fair, agree, and strongly agree to specify respondents' level of agreement to the statement of each question from part one to part four), and part five for personal basics, including demographic variables, such as gender, age, and the star ratings and areas of the hotels they have stayed in.

This study explored the influence of star rating on a hotel's safe image, with the quality/price construct classified by a hotel's star rating. According to Kim, Lee, Jhang, Park, & Lee (2021), quality/price is an essential clue for safety. Thus, this study classified hotels with one to three stars as low-quality/priced and those with four to five stars as high-quality/priced. According to the Taiwan Tourism Bureau, there are 401 legal hotels, with 302 rated one to three stars and 99 rated four to five stars. Therefore, first, this study contacted these hotels' human resource managers to specify the purpose of the research and ask about their willingness to assist. The questionnaires and small gifts were sent to those with intentions to reach the guests. Second, with the adoption of convenience sampling, staff were deployed at the stations of Taiwan High Speed Rail and Taiwan Railways in each area to ask people that fit the purpose of the research about their willingness to participate before handing out the questionnaires and small gifts. This study carried out the questionnaire survey in October 2022 in cooperation with 94 hotels, with 64 one- to three-star and 30 four- to five-star. These hotels are mainly distributed in the northern and southern regions, because the hotels in these two regions account for nearly 70% of the whole Taiwan, so the representation is sufficient. Each hotel was given 10 questionnaires, and 768 were returned (a response rate of 81.7%). In addition, near the stations, people with accommodation experience in these 94 hotels over the past two years were inquired about their intention to participate in the survey. In total 210 questionnaires were returned. Therefore, this study collected 978 questionnaires through two channels. Excluding 29 with more than five missing answers, 949 valid questionnaires were returned, with an average of 10 for each hotel. The data were analyzed with the Statistical Package for the Social Sciences (SPSS). First, the appropriateness of each construct question was checked by a factor analysis and reliability analysis. Second, frequency analyses were performed to understand the characteristics of the data and samples. Finally, in order to verify the appropriateness of the framework and hypotheses of this study, correlation analysis, variance analysis, and structural equation modeling were performed to understand the relationship among safe image, perceived risk, trust, and patronage intention, as well as the differences in the safe images of hotels with different star ratings.

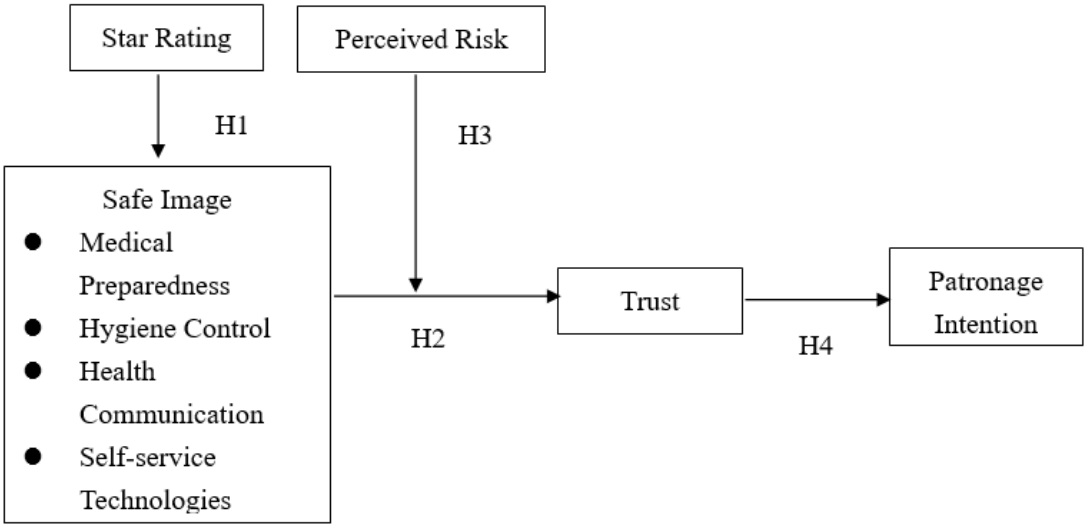

Figure 1. Conceptual framework

4. Research Results

Among the returned guest samples, 48.9% were male, and 51.1% were female. Married respondents accounted for 52.2%. The main age group was 31 to 45 years old (47.8%), followed by 20 to 30 years old (30.5%). Respondents with a bachelor's degree accounted for 58.2%, followed by those with an associate degree and those with a master's degree, accounting for approximately 20% and 19.5%, respectively. The largest personal monthly income group was NT$40,000 to 60,000 (42.6%), followed by NT$30,000 to 40,000 (33.9%). In terms of occupations, technology and manufacturing accounted for 30.5%, followed by department stores and retailing (24.6%), and government employees and teachers (21.2%). Up to 40.2% of the respondents lived in the northern part of Taiwan, followed by 35.2% living in the southern region. Respondents with accommodation experience in one- to three-star and four- to five-star hotels accounted for 42.9% and 57.1%, respectively. The primary purpose of accommodation was sightseeing, accounting for 52.7%. Regarding the number of visits over the past two years, two visits accounted for 58.6%, followed by one visit (40.7%), among whom 39.6% had stayed in the same hotel two years previously, however.

Table 1. Measurement model assessment

Construct & Factor	Items	Mean (t-value)	Factor loading	Cronbach's α	CR	AVE
Safe Image	27 items totally			0.82	0.89	0.74
medical preparedness	1. 24-hour on call nurse	3.82 (0.95)	0.81	0.75	0.90	0.76
	2. A health clinic in the hotel	3.89 (0.89)	0.80			
	3. A pharmacy close to the hotel	3.86 (0.95)	0.79			
	4. A first-aid kit in guest rooms	3.56 (0.79)	0.71			

	5. A health and wellness vending machine in the hotel	3.07 (0.89)	0.75			
	6. Exercise equipment provided in each guest room	3.86 (0.94)	0.82			
	7. Provision of guests' emergency contact information as part of the check-in process	3.23 (0.96)	0.76			
	8. Thermometers in guest rooms	4.01 (0.86)	0.80			
hygiene control	9. Front-line employees with first-aid-certification	3.07 (0.85)	0.78			
	10. Disinfection of the guest rooms before new arrivals	3.79 (0.91)	0.83	0.89	0.92	0.81
	11. Front-line employees in good health condition	3.85 (0.97)	0.79			
	12. Front-line employees strictly performing personal hygiene (e.g., frequent handwashing)	3.93 (0.98)	0.86			
	13. Front-line employees displaying respiratory etiquette (e.g., covering mouth and nose with bent elbow or tissue when coughing or sneezing)	3.72 (0.92)	0.79			
	14. Hand sanitizers in guest rooms	3.95 (1.07)	0.76			
	15. Regular checks to ensure the proper functioning of soap and disinfectant solution dispensers	3.81 (1.05)	0.82			
	16. Limiting the number of guests on each floor	3.97 (1.12)	0.75			
	17. Personal protective equipment (e.g., disposable gloves, face mask, eye goggles)	3.78 (1.04)	0.86			

health communication	accessible at the reception desk					
	18. An operable window in each room to provide natural air flow	4.01 (1.11)	0.80			
	19. Multilingual brochures on safety and security precautions in guest rooms	3.92 (0.88)	0.71	0.82	0.85	0.70
	20. Health questionnaire with infectious diseases screening questions as part of the check-in process	3.61 (0.92)	0.84			
	21. Information signs in public areas reminding guests to be cautious about infectious diseases	3.87 (1.04)	0.85			
	22. Provision of guests' past 14-days travel history as part of the check-in process	3.72 (1.04)	0.76			
	23. Hotel certification for preventing and controlling infectious diseases	3.65 (0.98)	0.72			
self-service technologies	24. A voice control system to operate the elevator	3.88 (1.02)	0.81	0.72	0.88	0.62
	25. A voice control system to operate the in-room amenities (e.g., room temperature, lighting, TV, curtain, guest room door)	3.62 (0.85)	0.89			
	26. Self-service technology for check-in and out (e.g., kiosks, in-room check-out system through TV and smartphones)	3.05 (0.79)	0.76			
	27. Robot butlers performing guest service	3.32 (1.02)	0.82			

Perceived Risk	4 items totally			0.90	0.92	0.82
	1. I feel nervous about visiting this hotel because of health concerns	3.89 (0.95)	0.85			
	2. Visiting this hotel is a risky decision for my health	3.21 (0.78)	0.80			
	3. I feel uncomfortable visiting this hotel because of my health safety	3.56 (0.89)	0.73			
	4. There is high probability that visiting this hotel would lead to a health problem	3.88 (1.01)	0.79			
Trust	4 items totally			0.86	0.84	0.74
	1. I believe this hotel has high integrity about COVID-19 restrictions	3.91 (1.02)	0.85			
	2. In general, I believe this hotel motives and intentions are good about COVID-19 restrictions	4.02 (0.95)	0.81			
	3. This hotel is always honest and truthful about COVID-19 restrictions	3.79 (0.87)	0.74			
	4. I think this hotel treats me fairly about COVID-19 restrictions	3.52 (1.17)	0.70			
Patronage Intention	3 items totally			0.88	0.90	0.83
	1. I'm willing to visit this hotel, when I travel	3.87 (1.02)	0.81			
	2. I plan to visit this hotel for eating, when I dine out	3.85 (0.98)	0.85			
	3. I will make an effort to visit this hotel when I travel or dine out	3.95 (0.87)	0.78			

As suggested by Anderson & Gerbing (1988), two-stage data processing was adopted in structural equation modeling. First, in the measurement mode, the goodness-of-fit indices were acceptable ($\chi 2/df$=4.824, CFI=.93, TLI=.91, and RMSEA=.075) (Schermelleh-Engel, Moosbrugger, & Muller, 2003). According to confirmatory factor analysis, Cronbach's α values were greater than 0.7, and AVE values were above 0.5, indicating internal reliability (Anderson & Gerbing, 1988). In addition, since all of its factor loadings and AVEs were greater than 0.5, this study has convergent validity (Table 1). Furthermore, the square root of each factor's AVE was greater than the correlation coefficient with other factors, representing discriminant validity (Table 2) (Fornell & Larcker, 1981).

Table 2. Results of discriminant validity

Measurements	1	1.1	1.2	1.3	1.4	2	3	4
1. Safe Image	.86							
1.1 Medical Preparedness	.69	.87						
1.2 Hygiene Control	.80	.81	.90					
1.3 Health Communication	.72	.73	.69	.84				
1.4 Self-service Technologies	.64	.68	.61	.64	.79			
2. Perceived Risk	.82	.76	.84	.80	.71	.91		
3. Trust	.79	.75	.82	79	.70	.79	.86	
4. Patronage Intention	.75	.65	.78	.76	.62	.69	.75	.91

Note: Italics refer to square roots of AVE

This study employed the chi-square test to understand the relationship between a hotel's quality/price and its safe image. Hotel star rating was adopted as a measurement tool for quality/price, with one to three stars classified as low-quality/priced hotels and four to five stars regarded as high-quality/priced ones, and the enrolled number of 64 and 30 hotels, respectively. The chi-square test found significant differences between the low-quality/priced and high-quality/priced groups in all the dimensions of a hotel's safe image, indicating a positive correlation between its quality/price and safe image. Thus, H1 is supported.

Table 3. Result of Moderating Effect of Risk Perception

Dependent Variable: Trust	Std. Factor Loadings			
	High Risk	Low Risk	$\Delta\chi^2$	support
Medical Preparedness → Trust	.081	.020	$\Delta\chi^2(1)$-0.92	No
Hygiene Control → Trust	.328***	.016	$\Delta\chi^2(1)$-26.0***	Yes
Health Communication → Trust	.019	.168**	$\Delta\chi^2(1)$-5.20**	Yes
Self-service Technologies → Trust	.185***	.018	$\Delta\chi^2(1)$-8.92**	Yes

To investigate the moderation effect of perceived risk on the relationship between safe image and trust, this study divided the returned samples into low perceived risk (363 samples) and high perceived risk (586 samples) through K-means clustering. The configural invariance model test in the next step indicated that the goodness-of-fit was acceptable ($\chi 2/df=3.729$, CFI=.92, TLI=.91, and RMSEA=.062). Thus, the chi-square difference test was performed again on the configural invariance model and metric invariance model. The results showed no significant differences between the two models, indicating that the metric invariance model was acceptable. Therefore, this study tested the moderation effect of perceived risk. Through multi-group analyses, the chi-square test revealed significant differences between the low perceived risk and high perceived risk groups, and between safe image (hygiene control, health communication, and self-service technologies) and trust. As shown in Table 3, in safe image dimensions, such as hygiene control and self-service technologies, high perceived risk has a greater influence on guest trust than low perceived risk does. On the other hand, regarding health communication, low perceived risk is more influential on guest trust compared to high perceived risk. Thus, H3 is supported.

Table 4. Structural Equation Model Results

Hypotheses	Structural relationship	Std. coefficient (Robust t-value)	Contrast
H2	Safe Image ⟶ Trust	0.71**	Accepted
H4	Trust ⟶ Patronage Intention	0.42*	Accepted
	NFI=0.92 TLI=0.94 CFI=0.93	GFI=0.89 RMSEA=0.07	
	$\chi^2/df=2.744$ (p=0.003)		

*p<.05 **p<.01 *** p<.001

H2 and H4 were set to examine the significant correlation between safe hotel image and guest trust as well as between guest trust and patronage intention. Through structural equation modeling, the results showed a significantly positive influence of a safe hotel image ($\beta=0.71$, $p\leq0.01$) on guest trust and that of guest trust ($\beta=0.42$, $p\leq0.05$) on patronage intention. As shown in Table 4, the higher the guests' perception of a hotel's safe image is, the greater their trust is in the hotel; the greater the trust is in a hotel, the higher the patronage intention is. Thus, H2 and H4 are supported.

5. Conclusion

Based on Kim, Lee, Jhang, Park, & Lee (2021), this study measured hotel quality/price by star ratings, with one- to three-star classified as low-quality/priced and four- to five-star as high-quality/priced. Taking hotels in Taiwan as the research subjects, this study investigated the influence of a hotel's star rating on its safe image as well as the correlation among safe image, perceived risk, trust, and patronage intention. A total of 94 hotels participated in this study, with 64 one- to three-star and 30 four- to five-star. Up to 949 valid questionnaires were returned, with an average of 10 for each hotel.

In the post-epidemic era, Taiwanese tourists still attach great importance to and pay attention to hotel safety measures and image. Among the four safe image dimensions, hygiene control—whether the hotel provides hand washing or cleaning liquid and window ventilation, as well as staff hygiene performance—was valued the most, followed by health communication, which refers to the preventive measures during checking in (such as filling out health questionnaires and travel records). Although the last dimension, self-service technologies, including a voice system available to control indoor facilities (such as temperature, lighting, TV, curtains, and the door) and room service offered by a robot butler, obtained generally low ratings, this study suspected that it was because self-services have not yet been popularized in Taiwan's hotels, with most services using equipment and technology only available in luxury ones. While public health awareness is rising in Taiwan, a growing number of hotels is expected to invest in and strengthen technology-based services. In addition, this study found significant differences in quality/price on all four dimensions of the safe image. Particularly, guests who stayed in high-quality/priced hotels had higher perceptions of all four dimensions, indicating that Taiwan's four- to five-star hotels generally pay more attention to and place emphasis on software and hardware investments and measures of safe image.

Using perceived risk as the moderator variable, this study found that a hotel's hygiene control and self-services have a greater influence on the trust of guests with high perceived risks, while the trust of those with low perceived risks is more strongly affected by health communication. This study also found that the level of perceived risk significantly influences the correlation between a hotel's safe image and guest trust, indicating that a greater safe image might benefit guest trust. This finding also signified that hotels should know about their target guests' attitudes and preferences, particularly the guests' risk sensitivity in the context of infectious diseases, thereby intensifying critical facilities, strategies, and actions for a safe image. In addition, no significant differences were observed between different perceived risk groups in terms of medical preparedness. A possible explanation could be that measures such as providing emergency contact information and first aid kits are understood as the basic actions for hotel safety, and hence there are no significant differences in perception.

Gursoy & Chi (2020) pointed out that COVID-19, an unknown infectious disease, still has an inestimable threat and impact on people's lifestyles and lives, particularly in the tourism and hospitality industries. Over the past two years, countries have invested a large number of scientists, medical scientists, and public health scholars in studying and proposing countermeasures and have actively developed vaccines and drugs. However, the pandemic still cannot be effectively controlled due to the rapid mutation of the virus and the influence of different political cultures. Such a situation has deeply affected the exchanges and development within and among countries, with the most significant impact on the tourism and hospitality industries. This study found that trust is a crucial factor for guests to choose a hotel, and a hotel's safe image has a significant influence on guest trust, indicating that the safe image is a hotel's essential marketing and management measure under the threat of the pandemic.

5.1 Managerial Implications

The practical contribution of this study lies in the finding that a hotel's safe image has a positive correlation with guest trust and patronage intention. With a growing number of academic findings that the spread of COVID-19 has impacted the global industries as well as life and work styles, Taiwanese guests' lifestyles and hotels' choices and preferences have naturally

been affected. In the post-epidemic era, as Taiwan's epidemic situation is gradually under control, Taiwanese tourists have retaliatory travel behaviors on the one hand, and on the other hand, they still bear the threat and fear of the epidemic. Dishes, wearing masks, etc. are still maintained. Therefore, when tourists choose to patronize hotels in the future, they will still pay attention to the image and measures of hygiene and safety.

This study, therefore, proposed the following suggestions to hoteliers. First, through guest surveys, they should understand how guests evaluate the hotel's safe image and the safety measures and actions as well as improve and strengthen as soon as possible what guests value or where the deficiencies are at. Second, many foreign hotels provide self-services and other zero-touch technologies, which not only meet guests' needs but also reduce their safety and hygiene concerns about the services. In Taiwan, however, self-service technologies, such as indoor voice control, self-service ordering, and e-butler, are not available in most hotels except for luxury ones. Sometimes, luxury hotels only provide these services to limited guests, such as members, loyal customers, and those staying in high-priced rooms. Therefore, it is recommended that hoteliers should make greater efforts in self-service technology planning and investment as soon as possible. Finally, this study found significant differences in the safe images of hotels with different quality/price levels. As one- to three-star hotels account for as many as 75% of legal hotels in Taiwan, given their scales and the insufficiency of funds and other resources, it is recommended that these low-quality/priced hotels should enhance the communication of safety and hygiene measures so that guests can understand them. In addition, these hotels may adopt easy self-services for check-in and check-out to reduce contact with guests, thereby raising the customers' perception of the safe image of affordable hotels.

In the post-epidemic era, some time-honored hotels have withdrawn from the market, and some have entered Taiwan with refined services, business and resort hotels. Contrary to the layout thinking of urban international tourist hotels in the past, it shows that the repositioning of consumer groups has driven new business. Furthermore, during the epidemic, the catering revenue has been intensified by the double-sided operation risk of sluggish occupancy rate and high fixed costs. Coupled with the challenges of low gross profit and high manpower in the catering industry, it has stimulated the industry to directly transform or finance through asset activation and disposal. investment, flexible escape from difficulties, triggers the re-arrangement of asset-heavy strategies. Finally, hoteliers must consider the digital transformation strategy and investment needed to connect and renovate service content in the face of demographic changes, the fragility of labor sources, and the management limit of extending brand scale. To sum up, how hotel operators adapt to the market requirements of M-shaped prices, refined experience, and flexible services, as well as flexible investment and the face of international hotel competition, are the future business challenges of Taiwan's hotel industry.

5.2 Theoretical Contribution

With the social exchange theory and protection motivation theory as the theoretical foundations, this study explored the influence model of a guest's intention to patronize a hotel under the threat of COVID-19. The social exchange theory proposes that safety may be the factor in hotel selection, while the protection motivation theory argues that guests perceiving risks may take the corresponding protective actions, which means that they may choose the consumption behaviors which make them feel safe. This study found a significant correlation

between a hotel's safe image with guest trust and patronage intention, thereby validating these two theories and relevant studies (such as Kim, Lee, Jhang, Park, & Lee, 2021). However, studies on the safe image of hospitality were rare until recent years due to the threat of the COVID-19 pandemic. Nonetheless, only a safe image scale was directly developed by Atadil & Lu (2021), whose research was limited to investigating the relationship between a hotel's safe image and guests' hotel selection behavior without discussing the influence of different hotels. Therefore, by extending the findings of Atadil & Lu (2021) and adopting their safe image scale, this study further investigated the influence of different star rating on a hotel's safe image as well as the effects of personal factors, such as guests' perceived risk on the safe image, trust, and patronage intention.

In the post-epidemic era, some consumption and lifestyles have changed, such as catering delivery, and the use of service robots in the hospitality industry to reduce contact between employees and customers. On the one hand, service personnel need to develop a second specialty due to changes in job requirements, on the other hand, it shows that the manpower demand structure of the catering industry has changed, and there is an increasing demand for IT talents, which will cause work anxiety and insecurity to employees, which in turn will affect their work performance and related factors, such as turnover rate, customer satisfaction etc. Therefore, hospitality research in the post-pandemic era should be more focused on the impact of human-technology integration on business strategy and performance.

5.3 Research Limitations

This study has the following limitations. First, a questionnaire survey requires the willingness to cooperate from hotels. However, among the 401 legal hotels in Taiwan, only 94 were willing to participate (23.4%), with those ranking one to three stars accounting for 68%, indicating that the generalizability of the results requires further improvement. Second, taking guests with accommodation experience in these participating hotels over the past two years as the research subjects, this study might explore the correlation of the safe image with trust and patronage intention. Nonetheless, how those who never stayed in these hotels may perceive these variables remains unknown. Finally, although this study probed into the relationship between a hotel's safe image, guest trust, and patronage intention in the context of the pandemic, other variables that may affect guest trust, such as social responsibility and service quality, and other personal factors, including perceived risk, personality, and destination, were not included. Therefore, this study framework can be expanded by introducing more topics.

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