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Government and social trust vs. hotel response efficacy: A protection motivation perspective on hotel stay intention during the COVID-19 pandemic

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\textbf{A R T I C L E    I N F O}

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\textbf{A B S T R A C T}

Based on protection motivation theory (PMT), this study conceptualizes a research framework to explain and examine customer intentions regarding hotel stays during the COVID-19 pandemic. Data were collected from 700 U.S. consumers via a crowdsourcing website in July 2020. Structural equation modeling was used to analyze the collected data for testing proposed hypotheses. The analytical results showed that the level of threat perceived by customers significantly reduced their intention to stay at a hotel. On the contrary, individual customer response efficacy significantly enhanced their intention to stay at a hotel. Additionally, both government and social trust, as well as hotel response efficacy, were found to significantly increase hotel stay intention by mediating the effects of threat perception and individual response efficacy. To the best of our knowledge, this study is one of the first attempts to apply PMT to explain customer hotel stay intentions during the COVID-19 pandemic.

1. Introduction

The COVID-19 pandemic has altered every facet of our lives. It has created a multidimensional crisis: endangering public health, undermining economic development and social stability, and challenging effective governance and leadership (Van der Weerd et al., 2011). As of July 22, 2020, there were 15 million confirmed cases of COVID-19 globally, with 619,150 deaths (WHO, 2020a). Among all the countries of the world, the United States accounts for the highest numbers of confirmed cases (4 million) and deaths (145,000). The spread of COVID-19 has also caused a sharp decline in the economy. According to the U.S. Department of Labor, 20.6 million jobs were lost between mid-March and June, yielding an unemployment rate of 14.7%—a level not seen since the Great Depression of the 1930s (U.S. Department of Labor, 2020). While COVID-19 has affected every business sector across the globe, the hotel industry—which relies significantly on tourism inflows and traveler mobility—is among the hardest hit. The tourism industry has suffered a loss of between 850 million and 1.1 billion international tourists since the pandemic began (WTO, 2020). According to the Bureau of Labor Statistics (2020), approximately 7.7 million leisure and hospitality employees have lost their jobs in the United States. Smith Travel Research (STR) also reported that U.S. hotel gross operating profits per available room fell 105.4% in June 2020 compared to the same month in 2019 (Hotel News Now, 2020). The year 2020 has become the worst year for the hospitality industry since the depths of the Great Depression (American Hotel and Lodging Association, 2020).

In June and early July, the COVID-19 infection rate in the U.S. slowed down, and many U.S. states initiated gradual reopening plans. News surrounding the development of a vaccine has also led to signs of recovery and hope for hotels. In order to prepare for reopening, and to lessen customer concerns and COVID-19 exposure risks, hotels have developed new cleaning protocols and precautions (Lai and Wong, 2020). Such a global-scale pandemic like COVID-19 is new to the hotel industry. Despite all these efforts, it remains unknown what influence these responses and precautions will have on the hotel stay intentions of customers in the midst of the pandemic, as well as which health and safety responses will be most valued by these customers.

Protection motivation theory (PMT) is a model based on the cognitive mediation processes of behavioral change, and it is a popular theory...
used to explain the risk-reducing behaviors of individuals in response to threats or dangers (Rogers, 1975). PMT was originally developed for the field of health promotion and disease prevention, and describes how individuals are motivated to react in a protective way towards a perceived threat (Floyd et al., 2000). The model captures the two main cognitive processes that individuals undergo when faced with a threat: threat appraisal and coping appraisal (Rogers and Prentice-Dunn, 1997). In other words, PMT postulates that, when encountering a threat, individuals first recognize and assess the danger, and then counter this assessment with effective and efficacious mitigation strategies. Building upon PMT, later literature on risk reduction behaviors documented strategies employed by travelers to avoid risky destinations (Kozak et al., 2007; Uriely et al., 2007).

However, there is scant research discussing the attempts of hosts or destination authorities to reduce risk, or how such responses would help alleviate perceptions of risk among travelers. The threat appraisal and coping appraisal processes proposed by PMT can form in an individual their initial perceptions of a threat or risk, thus serving as a reference for determining and guiding their behavioral response. Recent hospitality research related to the pandemic—from the international impacts it has caused (Alonso et al., 2020; Kaushal and Srivastava, 2021), the business innovation it has forced (Breier et al., 2021), stakeholder collaboration during the crisis (Canhoto and Wei, 2021; Rivera, 2020), and the daily coping strategies used within hotel organizations (Smart et al., 2021) has demonstrated a perfect theoretical match for applying PMT to a hospitality context. This study therefore utilizes PMT in the context of the hospitality industry to investigate the relationship between customer evaluations of the COVID-19 pandemic and their decision-making processes, specifically with regard to hotel stays.

Despite all the challenges, the increased uncertainty due to the rapid global spread of COVID-19 calls for cooperation and collaboration between individuals, communities, and countries. Studies have shown the critical role that trust plays in facilitating the adoption of protective measures and compliance with governmental restrictions during pandemics (Prati et al., 2011; Quinn et al., 2013; Siegrist and Zingg, 2014). Given that trust in government is strongly associated with adherence to health guidelines during pandemics, a high level of trust in the government or public institutions can facilitate the acceptance and adoption of government information and policies by citizens, and thus contain the spread of COVID-19 infections (Nutbeam, 2020). In times of crisis or sudden epidemic incidents like COVID-19, trust is a subject of great interest that should not be ignored (Devine et al., 2020). COVID-19 is a novel virus, and there is no medical cure at this stage. In a situation like this, a high level of trust in other people can prompt greater stability, lower infection rates, and better health outcomes in the community (Ye and Lyu, 2020).

With all these factors in mind, the PMT approach of this study aims to conceptualize and examine the formation of customer intentions surrounding hotel stays during the COVID-19 pandemic. Fig. 1 shows that our research framework and proposed hypotheses are justified, based on the following literature review.

2. Literature review

2.1. Protection motivation theory

Protection motivation theory (PMT) was proposed by Rogers in 1975 to justify self-protective behaviors exhibited by individuals in response to perceived health threats (Rogers, 1975). Of all the theories and models regarding the health behavior of individuals, PMT is considered as one of the most comprehensive, and its usefulness has been established empirically (Floyd et al., 2000). PMT posits that, when facing a threat or the possibility of a dangerous outcome, individuals often adopt a particular set of cognitive processes to decide how to react. These cognitive processes include the threat appraisal process and the coping appraisal process. During the threat appraisal process, the individual considers both the likelihood of becoming a victim of the threat (threat susceptibility) and the potential severity of the outcome (threat severity). Threat appraisal is also referred to as “risk perception” (Grothmann and Reusswig, 2006). At the same time, the individual considers how effective the adoption of a coping mechanism would be in preventing or reducing the threat (response efficacy), and includes their belief in their own capability to successfully implement that coping mechanism (self-efficacy). Perceptions of response efficacy relate to the degree to which an individual believes that a recommended response is effective at averting a health threat. The interplay of threat and coping appraisals ultimately leads to a decision about whether to apply the applicable adaptive coping response (Rogers and Prentice-Dunn, 1997).

PMT has been widely used in the field of health promotion and disease prevention—as well as in the study of natural hazards, cybersecurity, and pro-environmental behaviors—to explain risk-reducing behaviors in individuals (Babicky and Seebauer, 2019; Floyd et al., 2007).
Today, the COVID-19 pandemic poses a serious danger to hotel customers who move from one destination to another, because doing so increases their risk of exposure to infection and their potential to spread the infectious virus (Rivera, 2020). During the COVID-19 pandemic, hotel firms have had to deal with international management challenges (Alonso et al., 2020), propose innovative business strategies to survive (Breier et al., 2021), build strategic business alliances with other stakeholders (Canhoto and Wei, 2021), and communicate with loyalty program members on policy and benefit changes (Im et al., 2020). These examples are all evidence to support the applicability of PMT to the hospitality industry, and its usefulness in explaining the responses and considerations driven by the current crisis.

This study applied PMT to provide a description of customer perceptions of COVID-19 through their appraisals of perceived threats and of perceived response efficacy. Individual customer response efficacy refers, within our research context, to the degree to which individuals believe wearing a mask, maintaining social distance, and washing hands can effectively facilitate their avoidance of COVID-19 threats (Ruan et al., 2020). In situations where individuals believe that these responses will avert COVID-19 threats to their health, we see an increase in their intention to stay in a hotel during the pandemic. Based on a review of the prior literature, we propose the following hypotheses:

H1. : Perceived threats are negatively related to intention to stay in a hotel during the pandemic.

H2. : Individual customer response efficacy is positively related to intention to stay in a hotel during the pandemic.

2.2. Trust and hotel response efficacy as mediators

Although PMT describes theoretically how threat perception interacts with self-protective behaviors to mitigate adverse health consequences, it neglects external factors that may have an impact on the perceived threats and response efficacy, and thus affect the behaviors and decision-making processes of individuals. In the context of the hotel industry in the midst of a global pandemic crisis, we propose that trust (specifically government and social trust) and hotel response efficacy can mediate the direct effects proposed above in H1 and H2.

2.2.1. Government and social trust

Trust is conceptualized as “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (Rousseau et al., 1998, p. 395). It describes our willingness to be vulnerable to the actions of others due to our belief that they have good intentions and will behave well toward us. In the risk domain, trust serves as a nexus to reduce complexity and enable people to maintain their capacity to act in complex environments (Siegrist, 2021). The current study focuses on institutional and social trust, which are two essential types of trust studied in risk management research when trying to understand hazards and risk perceptions. They are the two most relevant types of trust to the COVID-19 pandemic response.

Government trust refers to trust bestowed upon governments (Bachmann, 2003). It is the perceived probability that institutions will carry out their remit to a satisfactory degree (Hudson, 2006). Institutional trust is crucial in the midst of a pandemic because it is associated with the adherence of members of the public to health guidelines and their compliance with regulations (Falcone et al., 2020; Quinn et al., 2013). Yang and Wong (2003) of the SARS outbreak in Hong Kong found that confidence in the government predicted health behaviors, such as maintenance of proper hygiene and the use of face masks. Similar results were suggested by studies conducted in the UK (Rubin et al., 2009) and Italy (Prati et al., 2013). If the public trusts the authorities to fulfill their duty of care, then the persuasiveness of risk information will be greater, the public will be more accepting of risks and uncertainties, and discursive conflicts will be significantly reduced (Wardman and Mythen, 2016). Public officials who demonstrate proactivity and empathy play an important role in sending messages and in shaping how the general public perceives threats and crises (Everett et al., 2020). When facing a crisis like COVID-19, authorities (e.g., federal, state, and local governments) are essential for the delivery of effective risk and crisis communication. Mistrust during a pandemic, on the other hand, can be counterproductive to achieving effective control of an infectious outbreak (Siegrist, 2021).

Social trust refers to faith placed in the honesty, integrity, and reliability of other people (Earle, 2010). It connotes social ties and interpersonal trust between individuals within communities, workplaces, and stakeholder groups (McKnight and Chervany, 2000). COVID-19 is an infectious disease that can be transmitted from one person to another. Collectively, the behavior of people in the community can influence the spread of a virus (Yan et al., 2018), demonstrating the importance of social trust during a serious pandemic. Research shows that the presence of trust in a society often leads to positive outcomes, including optimistic economic growth, enhanced stability, and positive health outcomes (Siegrist et al., 2005). Communities with a strong sense of trust tend to respond better to crises or emergencies (Patton, 2007).

Building upon PMT, Al-Rasheed (2020) sampled 679 residents in Kuwait and found that their level of trust in government was associated with their intention to enact protective behaviors against COVID-19. Informed by previous studies based upon a trust and confidence model, we argue that the government and social trust held by a customer plays an important role in explaining both their risk perception regarding COVID-19 and their response efficacy. This in turn affects their intention to stay in a hotel during the pandemic crisis. We therefore hypothesize that:

H3. : Perceived government and social trust mediates the relationship between perceived threats and hotel stay intention during the pandemic.

H4. : Perceived government and social trust mediates the relationship between individual customer response efficacy and hotel stay intention during the pandemic.

H5. : Perceived government and social trust is positively related to intention to stay in a hotel during the pandemic.

2.2.2. Hotel response efficacy

The COVID-19 pandemic has been a catastrophe for the hotel industry. The severity of COVID-19 was showing signs of easing in some states at the time the data in this study were collected (July 2020), and plans for staged reopening were underway as a growing number of hotels welcomed guests once again. In order to ensure the safety and health of their guests and employees, hotels have established more stringent cleaning protocols and social distancing policies in order to limit exposures to and the spread of COVID-19 (Im et al., 2020). This commitment to protecting guests and employees has become a frequent and high-profile feature displayed on company websites, as well as in CEO letters to hotel loyalty program members (Im et al., 2020). For example, Marriott’s website includes a video from Bill Marriott, Executive Chairman and Chairman of the Board of Marriott International, Inc., detailing all the extra precautions that Marriott will take to protect guests and employees. Marriott’s website also contains health protection information regarding guest rooms, public spaces, social distancing, hand sanitizer, new cleaning technologies, and mobile apps.

Hilton Hotels and Resorts proposed their “Hilton CleanStay” program, describing its intentions to provide extra disinfection of top-10 high-touch areas in guest rooms, increased cleaning frequency of public areas, guest-accessible disinfecting wipes, enhanced cleaning for fitness centers, a reduction in paper amenities in guest rooms, enhanced cleaning and other changes to buffets, in-room dining and meeting spaces, contactless check-in and check-out with digital keys, an application of new cleaning technologies, and enhanced team member safety and well-being protocols.
InterContinental Hotels Group (IHG) launched their “IHG Clean Promise,” and has a video on their website designed to communicate their COVID-19 measures and precautions to the public. IHG’s “Way of Cleaning” process emphasizes four areas: reception, public spaces and facilities, guest rooms, and food and beverages. To ensure the full implementation of their Clean Promise, IHG appointed “Clean Champions” to ensure that on-property teams will consistently deliver their new cleanliness standards.

The website of Hyatt Hotels Corporation also includes a video illustrating their “Global Care & Cleanliness Commitment.” They address their enhanced cleaning procedures, installation of sanitizer stations throughout their hotels, more frequent cleaning of public spaces and guest room surfaces, and their enhanced food safety and hygiene protocols. Hyatt also pursued GBAC STAR accreditation, which is a third-party validation method used to ensure that a property delivers a clean, safe, and healthy environment for its stakeholders.

These proactive precautions and measures are being employed by hotels with the intent of providing a safe and healthy environment for guests, thus reducing the concerns, worries, and anxieties these guests may have about staying in a hotel (Im et al., 2020). Therefore, we propose the following hypotheses:

**H6.** : Hotel response efficacy mediates the relationship between perceived threats and hotel stay intention during the pandemic.

**H7.** : Hotel response efficacy mediates the relationship between individual customer response efficacy and hotel stay intention during the pandemic.

**H8.** : Hotel response efficacy is positively related to intention to stay in a hotel.

### 3. Method

#### 3.1. Data collection

Data were collected from a convenience sample of U.S. customers via a crowdsourcing website: Amazon’s Mechanical Turk (MTurk). The MTurk service has been established as a valid source for gathering favorable representative samples (Behrend et al., 2011). Buhrmester et al. (2011) found no difference between the quality of data collected through MTurk and that collected from other resources. To comply with the minimum age requirement for booking a hotel room in the United States, the survey was set to only accept participants who were 18 years old or more and resided in the United States. Data were collected on July 11, 2020 when spikes in COVID-19 cases emerged in Texas and Florida. On this day, the cumulative total number of COVID-19 deaths in the U.S. was 163,651 and the cumulative total number of confirmed cases was 5 million (CDC, 2020). Descriptive analysis and structural equation modeling were utilized to analyze participant profiles and to perform hypothesis testing.

#### 3.2. Survey instrument

Survey questions were divided into two sections, with questions mainly adopted from previous studies (Coxa et al., 2004; Destination Analysts, 2020; Greening and Stoppelbein, 2000; Lai and Wong, 2020; Lee, 2020; Nanua et al., 2020; Ruan et al., 2020; Witte et al., 1996; Ye and Lyu, 2020). Wording modification was performed to fit the scope of the study. Section I had 30 questions measuring multiple constructs proposed in the model. Perceived threats were measured by 7 questions pertaining to perceived vulnerability (Coxa et al., 2004; Witte et al., 1996) and perceived severity (Coxa et al., 2004; Greening and Stoppelbein, 2000). Individual customer response efficacy was measured by three questions adopted from Ruan et al. (2020). Government and social trust was measured by 6 items adopted from Lee (2020) and Ye and Lyu (2020). Hotel response efficacy included 11 items constructed using the websites of major hotel companies, as well as the relevant literature (Destination Analysts, 2020; Lai and Wong, 2020). Intention to stay in a hotel during the pandemic was measured by three questions (Nanua et al., 2020). The scale items used are reported in Table 2. Section II of our survey included demographic questions regarding respondents’ gender, age, educational background, employment status, state of residence, and travel frequency prior to the COVID-19 pandemic.

A pilot test involving 52 respondents from Amazon MTurk was conducted prior to final data collection to check the suitability of the research instrument and to improve the clarity of the survey questions. Cronbach’s alpha reliability for five constructs ranged between 0.78 and 0.86, indicating an acceptable internal reliability. We noticed from the pilot test that some of the MTurk respondents finished the survey questions in less than 2 min. Therefore, an attention check question—What’s the color of a red rose? (a) strongly disagree (b) disagree (c) neutral (d) agree (e) strongly agree (f) red—was added to the survey to screen out those who were answering the survey items carelessly.

### 4. Results

#### 4.1. Profile of participants

A total of 700 valid responses were collected after eliminating 107 respondents who failed the attention check question. Among all the respondents, approximately 55.3% were male and 44.7% were female (Table 1). The respondent profile indicates that the majority of participants fell into the categories of (1) holding an undergraduate degree (45.9%), (2) being 30–39 years old (32.3%), (3) being married (69.7%), and (4) being in full-time employment (71.4%). This sample includes respondents residing in 50 states and two special geographic areas (Puerto Rico and Washington, DC) of the United States. Travel frequency shows that most people went on two to three business trips per year (40.3%) and two to three leisure trips per year (50.4%) before the pandemic.

| Characteristics          | n   | %    |
|--------------------------|-----|------|
| **Gender**               |     |      |
| Male                     | 387 | 55.3 |
| Female                   | 313 | 44.7 |
| **Education Level**      |     |      |
| Less than High School    | 4   | .6   |
| High School Graduate     | 38  | 5.4  |
| Some College             | 82  | 11.7 |
| Undergraduate Degree     | 321 | 45.9 |
| Graduate Degree          | 255 | 36.4 |
| **Age**                  |     |      |
| Under 21                 | 1   | .1   |
| 21–29                    | 269 | 29.9 |
| 30–39                    | 226 | 32.3 |
| 40–49                    | 135 | 19.3 |
| 50–59                    | 82  | 11.7 |
| 60–69                    | 39  | 5.6  |
| Over 70                  | 8   | 1.1  |
| **Marital Status**       |     |      |
| Married (married, separated) | 488 | 69.7 |
| Single (never married, divorced, widowed) | 266 | 29.4 |
| Other (partner)          | 6   | .9   |
| **Employment Status**    |     |      |
| Full-time                | 500 | 71.4 |
| Part-time                | 98  | 14   |
| Self-employed/freelancer | 39  | 5.6  |
| Unemployed/not working/homemaker | 35  | 5    |
| Retired                  | 16  | 2.3  |
| Student                  | 12  | 1.7  |

n = 700
4.2. Measurement model

To check the convergent and discriminative validity of the constructs, a confirmatory factor analysis (CFA) was performed to specify the dimensionality among the items used to measure perceived threats (PT), individual customer response efficacy (RE), government and social trust (T), hotel response efficacy (HR), and intention to stay in hotels (INT). IBM AMOS 26 was utilized as an analysis tool. Table 2 shows descriptive results from the initial measurement model with the five constructs.

Table 2
Descriptive results of the initial measurement model.

| Constructs and items | Mean   | S.E.  | Factor Loading |
|----------------------|--------|-------|----------------|
| PT1: It is likely to be infected | 3.25   | 1.16  | .66            |
| PT2: It is possible to be infected | 3.69   | 1.11  | .73            |
| PT3: There is a chance to be infected | 3.74   | 1.03  | .72            |
| PT5: Staying in a hotel during a pandemic is a threat to one’s health | 3.66   | 1.07  | .77            |
| PT6: Staying in a hotel during a pandemic can lead to serious negative health consequences | 3.57   | 1.11  | .81            |
| PT7: Staying in a hotel during a pandemic can be extremely harmful | 3.60   | 1.10  | .77            |
| RE1: Wearing a mask | 3.66   | 1.07  | .70            |
| RE2: Keeping a social distance | 3.82   | .99   | .83            |
| RE3: Washing my hands frequently | 3.85   | .99   | .77            |
| T1: US government | 3.40   | 1.22  | .74            |
| T2: Your state government | 3.77   | 1.06  | .77            |
| T3: Your local government | 3.72   | 1.01  | .73            |
| T4: U.S. Centers of Disease Control and Prevention | 3.92   | .95   | .53            |
| T5: Hotel companies (their efforts to protect guests from exposure to COVID-19) | 3.44   | 1.03  | .65            |
| T6: Other people (people around you will comply with COVID-19 guidelines, such as wearing masks, social distancing, washing hands) | 3.42   | 1.15  | .76            |
| HRE1: A new cleaning protocol | 4.10   | .86   | .69            |
| HRE2: Offer contact-free transaction (e.g., virtual check-ins, digital keys, and automated restaurants) | 4.09   | .94   | .73            |
| HRE3: Social-distancing (e.g., removing or rearranging furniture to allow more space, floor markings for social distancing) | 4.12   | .88   | .73            |
| HRE4: Hospital-grade disinfectants | 4.08   | .86   | .66            |
| HRE5: Installation of hand-sanitizing stations throughout the hotel and its properties | 4.13   | .87   | .73            |
| HRE6: Offer guests sanitizer kits (e.g., hand sanitizer, face masks, and disinfection wipes) | 4.15   | .89   | .71            |
| HRE7: Staggered hotel room assignment (leaving recently occupied guest rooms unoccupied for a day or two before reuse) | 3.99   | .97   | .63            |
| HRE8: Installation of temperature measuring cameras installed at the hotel entrances | 3.89   | .99   | .55            |
| HRE9: Mandatory employee health screening | 4.10   | .90   | .69            |
| HRE10: A mandate requiring hotel employees to wear masks and gloves | 4.18   | .92   | .71            |
| HRE11: Presentation of a third-party certification of COVID-19 health & safety | 3.93   | .96   | .46            |

Note: (DE) refers to deleted items in the final model.

Table 3
Reliability, validity, and inter-construct correlation.

| CR | AVE | MSV | T | PT | RE | INT | HRE |
|----|-----|-----|---|----|----|-----|-----|
| T | 0.81 | 0.52 | 0.20 | 0.72 |
| PT | 0.89 | 0.54 | 0.13 | 0.16 | 0.74 |
| RE | 0.81 | 0.59 | 0.23 | 0.44 | 0.13 | 0.77 |
| INT | 0.91 | 0.76 | 0.13 | 0.36 | 0.26 | 0.23 | 0.67 |
| HRE | 0.88 | 0.51 | 0.23 | 0.20 | 0.56 | 0.48 | 0.20 | 0.71 |

Note: CR = composite reliability, AVE = average variance extracted, MSV = maximum shared variance, T = Trust, PT = Perceived Threats, RE = Response Efficacy, INT = Intention to stay at a hotel during the pandemic, HRE = Hotel Response Efficacy.
response efficacy (HRE, M = 4.11), and three items relating to intention to stay in hotels (INT, M = 3.07).

4.3. Structural model and test of hypotheses

Structural equation modeling (SEM) was used to assess the proposed conceptual model using the maximum likelihood estimation (MLE) method. As shown in Table 4, the chi-square value of the measurement model was 867.15 (df = 266, p < 0.001, $\chi^2/df = 3.26$). Other goodness-of-fit indexes also revealed that the measurement model fits the data well (CFI = 0.918, AGFI = 0.879, RMSEA = 0.057).

Hypotheses H1, H2, H5, and H8 were tested by using standardized estimates to examine the relationships among the latent variables (Table 5). As shown in Fig. 2 and Table 5, H1 was supported ($\beta = -0.24$, $p < 0.001$), indicating that perceived threats are negatively related to the likelihood of staying in a hotel during the pandemic. In other words, an increase in the level of perceived threat would decrease the intention of a customer to stay in a hotel during the pandemic. Individual customer response efficacy is positively related to the likelihood of staying in a hotel during the pandemic ($\beta = 0.25$, $p < 0.001$). H2 was also supported, suggesting that individuals who believe in their own COVID-19 coping competency would be more likely to stay in hotels during the pandemic. H5 proposed a positive relationship between government and social trust and intention to stay at a hotel, and H8 predicted a positive relationship between hotel response efficacy and this same intention. H5 was supported ($\beta = 0.35$, $p < 0.001$), as was H8 ($\beta = 0.31$, $p < 0.001$). These results indicated that both trust and hotel response efficacy had a direct impact on hotel stay intentions during the pandemic.

This study adopted the indirect effect plugin created by Gaskin and Lim (2020) to test the mediation effects of government and social trust, and of hotel response efficacy. The specified indirect effects were extracted based on the relevant hypotheses. Government and social trust mediated the effects of perceived threats ($\beta = 0.04$, $p < 0.05$) and of individual customer response efficacy ($\beta = 0.14$, $p < 0.001$) on hotel stay intention. In addition, as shown in Table 6, hotel response efficacy also mediated the effects of perceived threats ($\beta = 0.09$, $p < 0.001$) and of individual customer response efficacy ($\beta = 0.14$, $p < 0.001$) on hotel stay intention.

5. Discussion

Building upon PMT, this study conceptualized and examined the formation of customer intentions to stay in hotels during the COVID-19 pandemic. This study found that perceived threats and individual customer response efficacy were direct predictors of these customer intentions. The more customers perceived the threat of COVID-19, the less intention they had to stay in a hotel. On the other hand, the more customers believed in their abilities to adhere to health measures, the greater their intention to stay in a hotel. This study reinforces the impact of threat and coping appraisals on the hotel stay decisions of customers in the midst of the pandemic (Lai and Wong, 2020). This study also discovered mediation effects of government and social trust, and of hotel response efficacy, in our proposed model. Based on these findings, this study empirically established that the efforts of hotels in adopting COVID-19 precautions to protect guests and employees could help increase the intention of customers to stay in hotels, as did their level of trust toward governments and the society.

5.1. Theoretical implications

Past studies regarding customer hotel stay intentions tended to overlook macro-level social factors, and none investigated hotel stay intention during a life-threatening and life-changing situation like the COVID-19 pandemic. The current study proposed a theoretical model and tested it among a group of customers residing in the United States. One important theoretical contribution of our study lies in its empirical demonstration of the mediation effects that trust and hotel response efficacy have on predicting customer intentions to stay in hotels during the COVID-19 pandemic. We thereby extend the application of PMT into the context of customer decision-making regarding their stays in hotels during a health crisis. This study also contributes to our understanding of the role of social variables (government and social trust) in influencing customer perceptions of the COVID-19 pandemic, as well as affecting their hotel stay decision-making processes. We also filled the research gap that had neglected the risk-reduction actions rendered by hosts or destinations, and confirmed that risk-reduction responses from both service users (individuals) and providers (hotels) can support customer intentions to stay in hotels during a pandemic crisis.

Although the original domain of PMT was in health promotion and disease prevention (Floyd et al., 2000; Rogers and Prentice-Dunn, 1997), this study extends the application of PMT to the domain of hotels during a pandemic by highlighting four key stakeholders in our model: customers, government agencies, other people, and hotel managers. First, we proposed and indeed found that the perceived threats and the individual response efficacy of customers are the two major drivers leading to the formation of their hotel stay intention. Based on Roos and Gustafsson (2011), we further conceptualized “perceived threats” as a passive concept from the perspective of customers in our setting, while we treated “individual response efficacy” as an active concept. That is, during a pandemic, customers passively perceive threats due to safety concerns when it comes to staying at a hotel, while they actively assess their own individual response efficacy on how they might be capable of dealing with any of those concerns.

Second, the construct of government and social trust is perceived by customers based on impacts from two of the stakeholders: government agencies and other people. A pandemic of such a large scale as this is new, and uncertainty has therefore been exacerbated. The proliferation of misleading information on social media platforms about the COVID-19 virus can increase the public’s fear of epidemics, leading to deleterious consequences (Barua et al., 2020), and can even affect the revisit intentions of tourists (Raiber, 2021). In the midst of this disaster, national and local governments play a significant and important role in communicating and delivering correct information and public health education to mitigate this general public fear of COVID-19. We pointed out that if consumers trust in the capability of their government to protect the health and safety of the general public, and they trust in other people to comply with safety protocols, then this can empower them with the courage to travel and stay in a hotel during a pandemic with less safety concerns.

### Table 4

| Model                   | $x^2$  | df   | $x^2/df$ | CFI   | AGFI  | RMSEA |
|-------------------------|--------|------|----------|-------|-------|--------|
| Initial Model           | 1694.4 | 506  | 3.35 *** | .902  | .843  | .584   |
| Modified Model          | 793.29 | 261  | 3.04 *** | .938  | .889  | .054   |
| Structural Model        | 867.15 | 266  | 3.26 *** | .918  | .879  | .057   |

### Table 5

| Hypotheses                          | Estimates | Results |
|-------------------------------------|-----------|---------|
| H1: Perceived threats is negatively related to intention to stay in a hotel. | -.24 *** | Supported |
| H2: Customers’ individual response efficacy is positively related to intention to stay in a hotel. | .25 *** | Supported |
| H5: Perceived government and social trust is positively related to intention to stay in a hotel. | .35 *** | Supported |
| H8: Hotel response efficacy is positively related to intention to stay in a hotel. | .31 *** | Supported |

** p < .001

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Note: *** p < .001

Table 6
Results of hypotheses testing for mediation effects.

| Paths of the proposed mediation effects | Direct effect | Indirect effect | Results |
|----------------------------------------|--------------|----------------|---------|
| H3 Perceived threats → Government and social trust → Intention to stay in a hotel | -.24*** | .04* | Supported |
| H4: Customers’ individual response efficacy → Government and social trust → Intention of hotel stay | .25*** | .14*** | Supported |
| H6: Perceived threats → Hotel response efficacy → Intention to stay in a hotel | -.24*** | .09*** | Supported |
| H7: Customers’ individual response efficacy → Hotel response efficacy → Intention to stay in a hotel | .25*** | .14*** | Supported |

5.2. Practical implications

Of all the precautions and measures, customers especially cared about whether a hotel requires their employees to wear masks and gloves (M = 4.18), offers guests sanitizer kits (M = 4.15), has installed hand-sanitizing stations throughout the hotel and its properties (M = 4.13), encourages social distancing (such as by removing or re-arranging furniture to allow more space, or by using floor markings) (M = 4.12), has new cleaning protocols (M = 4.10), performs mandatory employee health screenings (M = 4.10), and offers contact-free transactions (such as virtual check-ins, digital keys, and automated restaurants) (M = 4.09).

It is obvious that, in addition to choosing a hotel property that complies with COVID-19 safety guidelines, customers also want to make sure that the hotel employees they may be in contact with are COVID-19 negative. To safeguard employee health and avoid transmission on their property, hotels should therefore enforce COVID-19 safety protocols among their employees. Such information also needs to be addressed and communicated to guests in order to alleviate their concerns. Hotels should do this by communicating their efforts to potential customers through their company websites, social media platforms, and with emails to guests affiliated with their loyalty programs. This can increase the intention of a customer to book a hotel room with them.

Given the adverse impacts of this pandemic, there is no doubt that hotel guests now have higher health and safety expectations. Hotels must make hygiene and cleanliness their focal points. Looking forward, the lessons learned from the pandemic should provoke hotels into adopting new innovations—including new architectural and design features—that will safeguard the health of their guests and employees.

Moreover, this study found that the more confidence and trust people have in the abilities of their governments to protect them from COVID-19, and the more they trust in other people to comply with the COVID-19 guidelines provided by health authorities, then the more likely they would be to overcome the perceived threats and book a stay in a hotel during the pandemic. Such trust also facilitated the coping mechanisms employed by customers, and further increased their intention to stay in a hotel. The World Health Organization pointed out that national governments should assume a leadership role in terms of overall coordination and communication during the pandemic (WHO, 2020b). They suggested that governments should provide accurate and reliable information to the public; identify, appoint, and lead a coordinating body for pandemic preparedness and response; share knowledge; and enact or modify legislation and policies required to sustain and optimize pandemic preparedness, capacity development, and response efforts across all sectors (WHO, 2020b). Governments also need to be on top of the latest developments and anticipate the next challenges as society moves past the immediate response phase. Their task is to rebuild the
confidence of their citizens, enable them to get back to work, and shorten the length of the economic downturn.

In addition to trust toward governments, another important stakeholder component is “other people.” COVID-19 spreads between people, especially when an infected person is in close contact with another person. People can also become infected by touching a contaminated surface and then touching their eyes, nose, or mouth before washing their hands. People are all in this together. As stated by Ursula von der Leyen, President of the European Commission, “A global pandemic requires a world effort to end it—none of us will be safe until everyone is safe.” (WHO, 2020c). An end to the pandemic requires everyone in society to adhere to COVID-19 guidelines, wash their hands, wear a mask, maintain social distance, avoid cramped settings, and avoid mass gatherings in order to limit the spread of the virus. Only by doing so can we mitigate the effects of the virus, and only then will customers feel comfortable enough to book a hotel room during the pandemic—or even after the pandemic. During this difficult time, hotel operators are exerting all possible effort in order to welcome their guests back. However, being only one of the many players in the tourism industry, it is clear that hotels cannot achieve this alone. The best way to get back to business is to control COVID-19, and this requires a community effort.

5.3. Limitations and suggestions for future research

This study contributes to the literature by modeling the factors predicting customer intentions to stay in hotels during the pandemic. A few limitations of this study should be mentioned. The data were collected by using a convenience-sampling method through a crowd-sourcing website, and thus may lack the perspectives of those not affiliated with the website. This limits the generalizability of the results. The online survey was administered in early July 2020, while the curve was beginning to flatten in many states. However, the infection status may change. For example, at the time of writing (December 2, 2020), the number of infections recorded in the United States was soaring, with more than 13 million confirmed cases and 269,763 deaths (CDC, 2020). Many countries such as the UK and France are experiencing a winter surge of the pandemic (WHO, 2020a). Customer attitudes toward the threats, and their trust toward governments and society, may fluctuate over time.

Therefore, based on the initial data collection, follow-up surveys with a longitudinal approach to monitor customer perceptions surrounding hotel stays at different time points can help us gather a comprehensive understanding of how hotel stay decision-making, both during and after a global pandemic. Future studies can also collect data from customers in different countries to see if there are any differences regarding their hotel stay decision-making processes during a global pandemic. Other variables, such as an individual’s risk propensity for fear of COVID-19, as well as revised hotel marketing and promotion strategies in response to the pandemic, may have an impact on hotel stay decision-making. These variables are all worth exploring. Lazarus and Folkman (1984) posited that people engage in two different types of coping strategies: problem- and emotion-focused coping. This current study addressed problem-focused coping responses of customers to COVID-19. Future studies could explore the emotional responses of individuals to the pandemic, as well as their impacts on the intention of these individuals to stay in a hotel during this challenging time.

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