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Can communication messages affect promotion of international air travel in preparation for the post COVID-19 pandemic era?

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ABSTRACT

The purpose of this research was to identify the effects of message contents and framings that airline companies communicate with potential airline passengers during the COVID-19 pandemic to enhance behavioral intentions to engage in international air travel. A survey of 1300 respondents was conducted using the Posttest Control Group experimental design method. Several meaningful findings were generated. Among them, the “loss” message regarding cash-redeemable coupons was most effective in raising intentions to take an international flight and obtaining favorable assessments of the message contents. Covariates including income level, travel purpose, premium card ownership, perceived risk, importance of airline brand, and sanitation were significant in determining the intention to take international flights. The results of this study can help with establishing promotional strategies to foster international travel in the post-pandemic era.

1. Introduction

The COVID-19 pandemic has suppressed tourism demand because of social distancing regulations and restricted movement. The unprecedented nature of the pandemic has devastated the conventional supply–demand structure of international tourism including transportation, online travel agencies, resorts, attractions, and shopping (Serrano & Kazla, 2020). One of the most severe impacts was in the passenger airline sector because of drastically reduced flights, which pushed most airlines to the brink of bankruptcy or financial risk. Enforced restrictions on movement of tourists across countries and regions led to the disruption of economic activities in destinations (Mariolis, Rodousakis, and Soklis, 2020). Although the pandemic swept the globe in 2020, there is a silver lining in the development of vaccines and the launch of inoculations to stop further infection. Thus, the tourism industry expects some mitigation of social distancing measures in 2021, and famous destinations may resume attracting tourists soon after the pandemic is controlled.

Previous studies exploring how the framing of messages can alter customer attitudes and consequent behavior can be divided into several research streams. The first stream involves testing the effectiveness of messages according to their themes (e.g., Eustice, McCole, & Rutty, 2019; Fleischer, Tchetchik, & Toledo, 2015; Garus, Wagner, & Back, 2017; Kim & Crompton, 2001; McCarville, 1991; Saunders, Weiler, Pascal Scherrer, & Zeppel, 2019; Schwer & Daneshvary, 1997; Steckreuter & Wolf, 2013). The second is analyzing differences in the effects of “gain” and “loss” message framing (e.g., Grazzini, Rodrigo, Aiello, & Viglia, 2018; O’Keefe & Jensen, 2007; Rothman, Bartels, Wlaschin, & Salovey, 2006). Third is comparing the effects of emotional versus rational message framing (e.g., Wang, Kim, & Agrusa, 2018; Zhang, Sun, Liu, & Knight, 2014). The fourth stream compares the effectiveness of message-displaying methods (e.g., Jeong & Crompton, 2019; Leuprecht, 2017; Kim

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However, there are research gaps based on a thorough review of the past literature. First, the effects of communication messages have not been widely researched in the airline field. Second, as situational crisis communication theory (Coombs, 2004) and need of recovery marketing messages in post disaster (Walters & Mair, 2012) indicates, a company’s communication tactics should be different before and after a crisis. Airline companies under the COVID-19 pandemic-caused global crisis have lost loyal customers, revenue and brand reputation. Therefore, although airlines need to bolster situational crisis communication strategies in the post-crisis era, there are few studies dealing with these pragmatic and vital research questions for airlines.

Therefore, this research was designed to apply the effects of message contents and framings on airline passenger reactions in the current COVID-19 pandemic risk situation. More specifically, the first objective is to assess the effectiveness of presented messages on willingness to take international flights upon the pandemic’s demise and not to be sensitive to negative news related to the pandemic in deciding on foreign travel. The second is to analyze the evaluations of the provided message information. The third objective is to identify the role of covariates that moderated the relationship between the message versions and dependent variables.

2. Literature review

2.1. Determinants influencing airline choice behavior

The predominant factor in choosing an airline is the airline ticket price (Chung & Petrick, 2013; Hess, Adler, & Polak, 2007; Narangajavana, Garrigos-Simon, García, & Forgas-Coll, 2014). Since mileage redemption is a proxy for ticket price, airline customers prefer to choose an airline that offers more mileage credits (Davis & Nag, 2020; Kim & Park, 2017). Because the provision of coupons can be interpreted as price discounting, this is one of the key airline selection determinants (Chung & Petrick, 2013; Kim & Park, 2017). Ong and Tan (2010) found several attributes determining airline choice, including the customer’s ethnicity and education level, the purpose of the journey, flight routes, schedules, airfares, and booking methods. Milioti, Karlaftis, and Akkoglu (2015) identified that airline image, fares and safety are the most influential determinants in choosing an airline, which are affected by customers’ socio-demographic features (e.g., age, income) and trip characteristics (e.g., flight schedule, travel purpose).

In addition, now that service quality includes cabin crew kindness, upgraded meals, more spacious seats, greater selections of movies and music, and diverse amenities in washrooms, these attributes generate greater customer satisfaction and loyalty to specific airlines (Han, 2013; Kim & Park, 2017; Narangajavana et al., 2014). Similarly, Dennett, Ineson, Stone, and Colgate (2000) found that booking services and supplementary services affected customers’ satisfaction, while Ostrowski, O’Brien, and Goeden (1993) found that service quality was a more significant factor in generating satisfaction than fares. Aside from the impacts of personally perceived factors on decision making, passengers can be influenced by factors such as brand name enhancement attributed to societal contribution or corporate social responsibility (Hwang & Choi, 2018; Lee, Soo, & Sharma, 2013).

During the COVID-19 catastrophe, unexpected situational factors have also affected airline choice behavior. For example, sanitization became an important factor in choosing airlines (Sotomayor-Castillo, Radford, Li, Nahidi, & Shaban, 2021). Under severe COVID-19 threat, social distancing restrictions across countries and regions led to the disruption of airline businesses and aggravated their already difficult financial situation (Adrienne, Budd, & Bon, 2020; Forsyth, Guionard, & Niemeier, 2020). However, since there has been little or no effort to proactively identify the determinants affecting airline choice in the post-

COVID-19 era, this study attempted to examine the effectiveness of communications that can help passengers to readily resonate with an airline’s tactics.

2.2. Effects of communication message themes on customers’ reactions

Communications can substantially change or improve customer perceptions of corporations (Garaus et al., 2017; Pashupati, Arpan, & Nikolaev, 2002; Zhang, Ritchie, Mair, & Driml, 2019b). The efficacy of communications has been an important research topic particularly in crisis times (Cowden & Sellnow, 2002; Kapucinski & Richards, 2016; Kim, 2013; Ritchie, 2004; Wan, 2008). Zhang et al. (2019b) adopted communication theory in examining the impact of information source credibility on customer attitudes and behavioral choices. In their findings, the trustworthiness component directly influenced purchase behavior, whereas expertise was ineffective. Further, situational crisis communication theory suggests that since situational crises can negatively influence reputation, a company should respond to the crisis properly through preset strategies (Coombs, 2004). Cowden and Sellnow (2002), in their empirical study of the Northwest Airlines pilot strike of 1998, analyzed the effectiveness of the airline’s communications. They found that communications served as the primary channel for responding to the crisis and sustaining the airline’s brand, and were effective in favorably restoring customer opinions of Northwest Airlines.

Kim, Wang, Jhu, and Gao (2016) found that inclusion of flight safety messages is effective in enhancing attitudes toward an airline brand and purchase intentions.

Liu et al. (2016) investigated the effect of a Norovirus outbreak on a cruise ship on experiment participants’ responses to four message versions (two levels of threat and two levels of efficacy). The results indicated that a low efficacy message at low threat showed a higher level of perception of safety in cruising than a high efficacy message, whereas a high efficacy message produced a higher perception of safety than a low efficacy message at high threat. In a similar vein different messages during COVID-19 pandemic can be effective in reinforcing airline brand value and loyalty. Ou and Wong (2020) ascertained though reviewing press releases by six international airlines that airline images pre-COVID-19 were fortified by advertising messages including business success and optimistic future scenarios. However, messages after the pandemic had focus on crisis response messages featuring financial subsidies, medical care, cleanliness, and empathy creation for airline financial crises.

However, since the effects of communication messages were not actively studied for airlines, this research conducted a literature review on studies about other parts of tourism. Wan (2008) conducted an experiment to examine the effectiveness of communications on travel decisions in the context of a health-related crisis (the infectious disease named NORAS). A study of Wan (2008) identified that resonance was an underlying psychological factor in explaining the impacts of different messages (e.g., promotion and medical messages) in nudging attitudes and travel intentions. Kim (2013) proposed a conceptual framework that explained how consumers evaluate corporate advertising in a crisis. She postulated that credibility and attitudes toward company messages can be influenced by the impact of pre-crisis corporate advertising, consumer resistance to negative news, individual differences, and external factors.

In the formulation of communications, a corporation can express and emphasize different themes (e.g., political, social, or economic ideas) to enhance customer attitudes and support for the company (Pashupati et al., 2002; Schumann, Hathcote, & West, 1991). Schumann et al. (1991) described two types of corporate messages: financial and special opportunity messages. They found that financial messages had a relatively specific purpose and targeted potential investors, whereas special opportunity messages responded to negative events or crises (e.g., malicious rumors, financial risks, labor union boycotts). During a crisis, special opportunity messages are often deployed to overcome the crisis.
and improve the public’s attitudes toward a corporation. Empirical studies have found that different themes in such messages produce dissimilar psychological reactions to risk perception (Kapucinski & Richards, 2016) and carbon offsetting behavior (Chi, Denton, & Gursoy, 2021; Zhang, Ritchie, Mair, & Driml, 2019a). For example, Chi et al. (2021) tested the efficacy of eight different combinations of framed messages relating to carbon-offsetting behaviors. Among them, a gain-framed objective message showed the highest level of effectiveness in stimulating carbon-offsetting behaviors, while loss-framed subjective messages helped to elevate purchase intentions and willingness to pay.

While struggling in the unprecedented crisis generated by the COVID-19 pandemic, airlines have proactively developed and promoted messages with different themes (e.g., corporate social responsibility, safety enhancement, monetary benefits, and financial difficulty). However, which message theme is most effective in ameliorating airline passenger attitudes and behavioral intentions is unknown for airlines. Hence, this research tested and compared the effectiveness of different themes in airline messages to potential customers.

2.3. Role of gain and loss message framings in determining customers’ reactions

Message framing is considered one of the most common ways to manipulate customer attitudes and behavior in the literature on communications and advertising (Maheswaran & Meyers-Levy, 1990). In particular, prospect theory is widely applied to explain the asymmetric effects of gain- or loss-framed messages (Tversky & Kahneman, 1981). Messages can be framed to emphasize the positive outcomes of undertaking a behavior (i.e., gain frame) or the negative outcomes of not undertaking a behavior (i.e., loss frame). Gain-framed messages focus on the desirable consequences elicited by the benefits gained, and loss-framed messages highlight the undesirable consequences elicited by the benefits lost (Block & Keller, 1995; Lee & Aaker, 2004; Maheswaran & Meyers-Levy, 1990).

Framing can shift the persuasiveness of messages as it influences whether the audience perceives information as gains or losses relative to their psychological reference points (Tversky & Kahneman, 1981). Previous research comparing the effectiveness of gain-versus loss-framed messages has yielded mixed results. Some researchers have suggested greater persuasiveness for gain frames (Meyerowitz & Chaiken, 1987; Tversky & Kahneman, 1981), whereas others have documented greater persuasiveness for gain frames (Chi et al., 2021; Maheswaran & Meyers-Levy, 1990; O’Keefe & Jensen, 2007). Such mixed findings stimulated research examining the conditions under which one frame works better than the other. The persuasiveness of frames may be contingent on the characteristics of the audience. For example, loss-framed messages tend to be more effective in encouraging avoidance-oriented individuals to engage in a health behavior (Sherman, Updegraff, & Mann, 2008). Gain frames tend to be more effective in convincing the audience to perform a low-risk health behavior (e.g., sunscreen use), while loss frames tend to be more persuasive in persuading individuals to engage in a health behavior perceived as relatively riskier (e.g., Pap tests; Banks et al., 1995; Rothman et al., 2006; Schneider et al., 2001). As evidenced by the aforementioned research, message framing has been primarily studied in relation to health behaviors. Recently, this line of research has been extended to the marketing domain.

Researchers have largely adopted green or socially responsible behavior when investigating message framing in the hospitality and tourism. For example, hotel guests’ linen reuse (Bliese, Mack, & Pitts, 2015; Lee & Oh, 2014), recycling behavior (Grazzini et al., 2019) and participation in responsible tourism (Chi et al., 2021; Yoon, Jeong, Chon, & Yoon, 2019) are influenced by message framing. However, how hospitality and tourism consumers respond to messages promoting diverse services or products remains relatively unclear. Thus, this research tested how consumers respond to gain-versus loss-framed advertisements emphasizing different benefits offered by airlines.

2.4. Moderating role of covariates between communication messages and customers’ reactions

Previous studies have found that the effect of message theme and/or framing is not always homogeneous, and the effect can be moderated by other factors (Buda & Zhang, 2000; Kim & Crompton, 2001; Kim et al., 2020). Researchers in consumer behavior have begun to explore moderators of message themes and framing effects. In the context of airlines’ communication messages, such moderators can be categorized into demographic, travel-related, and psychological variables.

Researchers have provided empirical evidence that age, gender, and socio-economic status play a moderating role in processing a corporate communication message (Lee & Kim, 2018; Lewis, Watson, & Tay, 2007; Myers-Levy & Sternthal, 1991). Similarly, studies have suggested travel-related variables (e.g., previous travel experience and travel pattern or preference) moderate how people perceive and process travel information (Kim & Crompton, 2001; McCarville, 1991). Psychological factors are also potential moderators in assessing the effect of the presented messages. For example, positively framed messages can be more effectively persuasive for consumers with low interest in the message than negatively framed messages (Zhang & Buda, 1999). The psychological state triggered by stimuli also modulates the framing effect. Consumers whose high- (low-) level construal is activated by a message are more readily persuaded by gain (loss) frames to purchase products (Chang, Zhang, & Xie, 2015; Chi et al., 2021) and engage in eco-friendly behavior (White, MacDonnell, & Dahl, 2011). Some studies (Kapucinski & Richards, 2016; Kim, 2013) also postulated that pre-determined attitudes toward a corporation or a destination can strongly influence how individuals process negative messages about a crisis.

3. Conceptualization

Fig. 1 shows the conceptual model used in this research. The choice of the right communication messages post-crisis need to be proactive to assure a company’s future growth (Liu et al., 2016; Walters & Mair, 2012). It was conceptualized that the effects of message framings and message contents in 13 message versions altered attitudes towards advertising, such as the willingness to take a flight for international travel and not to be sensitive to negative news related to the pandemic in deciding on traveling internationally, and evaluations of provided message information. Here, the relationships are determined by moderators including sociodemographics, travel-related variables, factors influencing airline selection when traveling abroad, and perceived risk level of the pandemic. In an experimental design procedure, the role of moderators can be treated as covariates in using covariance analysis (Kim & Crompton, 2001; McCarville, 1991). When they are controlled effectively, and/or their effects on intentions and evaluation are fully considered, the influence of the message contents on intentions and evaluation are adequately considered.

4. Methods

4.1. Literature review and in-depth interview to develop message versions

The most important part of this study was the development of different message versions that acted as a main effect (treatment effect). To identify and select potentially effective messages, a literature review on airline service and influencing factors in selecting an airline was carried out (e.g., Chang & Petrick, 2013; Davis & Nag, 2020; Etebad-Sajjadi, Way, & Bohrer, 2016; Hwang & Choi, 2018; Loureiro & Filho, 2017). The factors of service quality in an airplane cabin were flight attendant kindness and the provision of high quality meals, magazines, films, and other amenities. Important determinants in choosing an airline included provision of additional mileage and seat
upgrades, brand name, price, and contribution to society.

Subsequently, 15-min interviews investigating the current impact of the COVID-19 pandemic were conducted with ten regular cabin crew members working on international air routes for two international airlines. They proposed the inclusion of situational factors such as concerns about sanitation issues and the difficult financial situations of airline companies due to diminished international travel demand. In addition, 10-min interviews with ten airline customers who had traveled in the past few months were conducted to determine the factors affecting their airline choices. The results of the content analysis of recorded manuscripts revealed substantial personal benefits such as ticket price discounts, coupons, extra mileage credits, upgraded cabin services, and recently recognized factors such as strict sanitization.

4.2. Message versions

Reflecting on the results of the literature review and in-depth interviews with ten airline staff and ten airline customers led to the development of a draft questionnaire containing 13 message versions. Aside from the control message, there were six message themes, and each theme was described using either gain or loss framing. Message version 1 was the control message. Message versions 2 and 3 illustrated the difficult business environment as a result of the pandemic (Forsyth et al., 2020; Serrano & Koopmans, 2016). Message versions 4 and 5 addressed extra mileage provisions, which can directly motivate passengers to choose an airline (Davis, 2013; Han, 2013; Hwang, 2017; Han & Hyun, 2015; Kim & Park, 2017; Loureiro & Fialho, 2017). Finally, message versions 12 and 13 reflected first-hand concerns about the pandemic.

Two items that indicated behavioral intentions were developed to reflect potential customer intentions to take international flights and not to be sensitive to negative news related to the COVID-19 in deciding on international travel. Items to evaluate the provided message information were designed to assess the effectiveness of the presented information (Choi, Choi, Oh, & Kim, 2020; Wang et al., 2018; Zhang et al., 2014). Respondents were allowed to answer on a 7-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (7).

4.3. Pilot study and manipulation check

A pilot study was then conducted using an MTurk-led online panel survey. One hundred participants were asked to provide responses to all 13 message versions. For the manipulation check, mean scores, percentages, outliers, and distribution patterns for all items were computed. Using repeated measures ANOVA, the mean ratings for the 12 experimental message versions on two items of behavioral intentions and five evaluation variables for the presented message information ranged from 4.89 to 5.53 on a seven-point Likert-type scale (mean = 4.00). Therefore, the message versions were very effective in explaining all seven dependent variables. Accordingly, after revising for minor inaccuracy in wording, the 13 message versions were included in the questionnaire for the main survey. Table 1 describes the operationalization of the 13 message versions.

4.4. Main survey

The main survey was performed using an online survey company called MTurk. Questionnaires containing the 13 message versions were developed and randomly distributed to online panelists. Two screening questions were offered: age and experience of international travel using an airline within the past three years. The reason for asking potential respondents’ age was to establish stratification of the respondents according to age groups from 20s to 60s or older because features of international travel can differ with age (Otoo & Kim, 2020). To facilitate attention checks, two questions to ask age including categorical answering in the early part and typing birth year in the last part were given and compared. In addition, respondents who completed the questionnaire within 2 min were deleted. Since 100 respondents were randomly assigned to each message type, a total of 1300 questionnaires were required to achieve the sample size to test the between subject...
Message types and content.

| Message type | Content |
|--------------|---------|
| Common content | Coronavirus disease 2019 (COVID-19) has been spreading worldwide since around October 2019. This pandemic negatively affects all human lives and tourism businesses. However, international tourism demand will increase slowly with good news of introduction of vaccines and medicine. |
| Type 1 (Control message) | After carefully reading the above message, please complete the questionnaire provided. |
| Type 2 (Gain: Difficult business environment message) | Due to reduced tourism demand and government restrictions, airlines are currently not fully operating. Hence, many airline companies are already bankrupt or in danger of bankruptcy. Your travel can help the airline overcome its financial problems and provide you with ongoing travel services. After carefully reading the above message, please complete the questionnaire provided. |
| Type 3 (Loss: Difficult business environment message) | Due to reduced tourism demands and government restrictions, airlines are currently not fully operating. Hence, many airline companies are already bankrupt or in danger of bankruptcy. This may force airlines to shut down their businesses and thus be no longer able to provide you with ongoing travel services if you do not travel during this difficult time. After carefully reading the above message, please complete the questionnaire provided. |
| Type 4 (Gain: Extra mileage provision message) | Despite business difficulties, the airlines would like to provide an extra mileage allowance (10,000 miles) to promote international travel. You can gain additional mileage allowances by traveling. After carefully reading the above message, please complete the questionnaire provided. |
| Type 5 (Loss: Extra mileage provision message) | Despite business difficulties, the airlines would like to provide an extra mileage allowance (10,000 miles) to promote international travel. You will lose the chance to enjoy these services if you do not travel. After carefully reading the above message, please complete the questionnaire provided. |
| Type 6 (Gain: Coupon message) | Despite business difficulties, the airlines would like to provide a coupon (equivalent to USD 100) free of charge to promote international travel. You will have the chance to receive a coupon by traveling. After carefully reading the above message, please complete the questionnaire provided. |
| Type 7 (Loss: Coupon message) | Despite business difficulties, the airlines would like to provide a coupon (equivalent to USD 100) free of charge to promote international travel. You will lose the chance to receive a coupon if you do not travel. After carefully reading the above message, please complete the questionnaire provided. |
| Type 8 (Gain: Corporate social responsibility) | Despite business difficulties, the airlines would like to provide assistance for children from poor families, participate in a charity computer scheme, and provide study aids for affected families. Your travel can help the airlines continue their corporate social responsibility projects. After carefully reading the above message, please complete the questionnaire provided. |
| Type 9 (Loss: Corporate social responsibility) | Despite business difficulties, the airlines would like to provide assistance for children from poor families, participate in a charity computer scheme, and provide study aids for affected families. The airline cannot continue these corporate social responsibility projects if you do not travel. |
| Type 10 (Gain: Upgraded services in a cabin) | After carefully reading the above message, please complete the questionnaire provided. Despite business difficulties, the airlines would like to provide upgraded services to our customers by offering increased varieties of meals, magazines, updated films, slippers, music, and wine refills. You can enjoy these upgraded services by traveling. |
| Type 11 (Loss: Upgraded services in a cabin) | Despite business difficulties, the airlines would like to provide upgraded services to our customers by offering increased varieties of meals, magazines, updated films, slippers, music, and wine refills. You will lose the chance to enjoy these services if you do not travel. After carefully reading the above message, please complete the questionnaire provided. |
| Type 12 (Gain: Sanitation services) | Despite business difficulties, the airlines would like to provide sanitation services to our customers by offering free hand sanitizers, a wide variety of clean food, frequent sanitation during flights, and sanitary toilets. You can enjoy these services by traveling. After carefully reading the above message, please complete the questionnaire provided. |
| Type 13 (Loss: Sanitation services) | Despite business difficulties, the airlines would like to provide sanitation services to our customers by offering hand sanitizers, a wide variety of clean food, frequent sanitation during flights, and sanitary toilets. You will lose the chance to enjoy these services if you do not travel. After carefully reading the above message, please complete the questionnaire provided. |

ANOVA design. In addition, G*Power3 software was used (Faul, Erdfelder, Buchner, & Lang, 2009). Based on the relatively conservative input parameters (effect size: $\eta^2 = 0.015$, 90% power, and $\alpha = 0.05$) for comparing 13 conditions in ANOVA, G*Power3 suggests a sampling of 84 for each experimental treatment. Therefore, this study used more than the required sample size of 100 for each treatment.

4.5. Data analysis

One-way ANOVA and post-hoc ANOVA were used to identify the mean differences in the responses to dependent variables (two behavioral intention variables and five evaluation variables for the presented message information) between the 13 message versions. Then, analysis of covariance (ANCOVA) was adopted to compare the mean differences in the dependent variables across the 13 message versions, while controlling for the effects of 13 covariates which included age, gender, income level, education level, travel purpose, airline membership, premium card ownership, importance of air ticket price, importance of airline brand, importance of safety, importance of sanitation, importance of service, and perceived risk of COVID-19 infection. ANCOVA is superior to one-way ANOVA because it controls the influence of covariates on each dependent variable (Campbell & Stanley, 1963). If significance in a covariate was found at least at the 0.05 level, graphical figures were developed to visually explore the pattern of interactions among each of the 13 message versions, covariates, and each dependent variable.
5. Results

5.1. Profiles of the respondents

Respondents were males (60%) and females (40%). Their ages were distributed as 30s (32.5%), 20s (26.8%), 40s (23.9%), 50s (11.2%), and 60s (5.5%). With regard to education level, the highest percentage was found for college graduates (59.2%), followed by graduate school or above (24.2%), high school or less (9.2%), and college students (7.4%). With regard to annual household income levels, they were listed as USD50,000 to 69,999 (25.1%); USD30,000 to 49,999 (24.9%); USD90,000 or more (17.5%); USD29,999 or less (16.5%); and USD70,000 to 89,999 (16.0%). Places of residence were California (15.2%), New York (10.5%), Texas (10%), Florida (6%), and other states. The number of international travel events since January 1, 2015 were once (18.0%), twice (13.7%), and three times or more (68.3%). With regard to the usual purpose of international travel, the respondents reported pleasure (61.7%) and business travel (38.3%). In relation to the number of airline memberships, participants reported none (29.9%), one (28%), two (20.3%), and three or more (23.9%); for airline premium card ownership they reported none (46.5%), one (28%), two (12.8%), and three or more (13.6%).

5.2. Results of one-way ANOVA to assess the effectiveness of messages

Table 2 shows the results of one-way ANOVA tests to explore the effectiveness of the messages. All mean scores on 12 experimental messages scores showed a high level of agreement, indicating a range of 3.83–5.22. Hence, they were satisfactory with securing internal and external validity because this study examined significance of selected items using different times and respondents through in-depth interviews, a pilot study, and main survey. In all seven ANOVA models, the effectiveness of the control message was lower than that of the 12 experimental messages. For intention to take a flight for international travel, message versions 4, 7, and 10 were the most effective. Those who were exposed to message versions 10, 12, and 13 showed an intention not to be sensitive to negative news related to the pandemic in deciding upon international travel. Respondents who were exposed to message versions 4, 5, and 7 had the highest mean scores for the attractiveness of the message information provided. Message version 7 was the most influential in enhancing the effectiveness of the presented information, while message versions 4, 5, and 7 were the most convincing in attracting respondents to engage in international flights. Respondents who read message versions 7, 12, and 13 indicated the highest trustworthiness of the offered information, while message version 7 was the most informative in persuading participants to undertake international flights. Table 2 and Fig. 2 report the results.

5.3. Results of ANCOVA

First, the assumptions of ANCOVA were ascertained by scrutinizing the following potential problems: unequal sample sizes; missing data on the dependent variable in any of the treatment groups; and outliers in the data for the dependent variables and/or the covariates. All of the other statistical results confirmed that the assumptions made in conducting ANCOVA had not been violated. Table 3 lists the covariates used. Tables 4–10 report the results of ANCOVA undertaken to investigate the relationships between dependent variables (two behavioral intention variables and five variables indicating evaluation of the offered messages) and the 13 message versions, while holding the 13

| Behavioral intention and evaluation of the provided message information | MT1 | MT2 | MT3 | MT4 | MT5 | MT6 | MT7 | MT8 | MT9 | MT10 | MT11 | MT12 | MT13 | F-value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I am willing to take a flight for international travel. | 3.05a | 3.83b | 3.84b | 4.43c | 4.02b | 3.90b | 4.31c | 4.14b | 3.86b | 4.39c | 4.13b | 4.08b | 4.15b | 3.05** |
| I am willing not to be sensitive to negative news related to the COVID-19 in deciding international travel. | 4.20a | 4.67b | 4.38b | 4.88bc | 4.41b | 4.51b | 4.92bc | 4.93bc | 4.68b | 5.22d | 4.89bc | 5.00d | 5.02d | 2.73* |
| This message information is attractive in encouraging me to undertake international air travel. | 2.92a | 3.87b | 3.87b | 4.66d | 4.60d | 4.33bc | 4.63d | 4.21c | 4.11bc | 4.41bc | 4.28bc | 4.21bc | 4.35bc | 5.71** |
| This message information is effective in encouraging me to undertake international air travel. | 2.93a | 3.85b | 3.90b | 4.43bc | 4.36bc | 4.21bc | 4.71c | 4.08bc | 4.09bc | 4.19bc | 4.09bc | 4.33bc | 4.28bc | 4.64** |
| This message information is convincing in encouraging me to undertake international air travel. | 2.78a | 3.92bc | 3.88bc | 4.51c | 4.48c | 4.25bc | 4.51c | 4.06bc | 4.01bc | 4.22bc | 4.13bc | 4.28bc | 4.19bc | 5.21** |
| This message information is trustworthy in encouraging me to undertake international air travel. | 3.33a | 4.20bc | 4.03bc | 4.58bc | 4.39bc | 4.41bc | 4.70c | 4.30bc | 4.26bc | 4.53bc | 4.46bc | 4.70c | 4.67c | 4.13** |
| This message information is informative in encouraging me to undertake international air travel. | 3.22a | 4.18bc | 4.04bc | 4.62bc | 4.35bc | 4.57bc | 4.85c | 4.34bc | 4.35bc | 4.46bc | 4.58bc | 4.79c | 4.63bc | 5.17** |

Note: *p < .001, †p < .01.

a, b, c, and d show the sources of mean differences according to Duncan’s multiple range test (a>b>c<d).

Message type 1 (Control message), Message type 2 (Gain: Difficult business environment message), Message type 3 (Loss: Difficult business environment message), Message type 4 (Gain: Extra mileage provision message), Message type 5 (Loss: Extra mileage provision message), Message type 6 (Gain: Coupon message), Message type 7 (Loss: Coupon message), Message type 8 (Gain: Corporate social responsibility), Message type 9 (Loss: Corporate social responsibility), Message type 10 (Gain: Upgraded services in a cabin), Message type 11 (Loss: Upgraded services in a cabin), Message type 12 (Gain: Sanitation services), Message type 13 (Loss: Sanitation services).
Fig. 2. Behavioral intentions and evaluations of provided message information.

Table 3
Categories and mean scores of covariates.

| Variable                  | Category          | % or Mean | Variable                  | Category          | % or Mean |
|---------------------------|-------------------|-----------|---------------------------|-------------------|-----------|
| Age                       | 20s               | 26.8%     | Education level           | High school or less | 9.2%      |
|                           | 30s               | 32.8%     |                           | College student   | 7.4%      |
|                           | 40s               | 23.9%     |                           | College graduate  | 59.2%     |
|                           | 50s               | 11.2%     |                           | Graduate school or above | 24.2%     |
|                           | 60s or older      | 5.5%      |                           |                   |           |
| Gender                    | Male              | 59.6%     | Premium card ownership    | 0                 | 46.5%     |
|                           | Female            | 40.0%     |                           | 1 or more         | 53.5%     |
| Income level              | Lower than USD50,000 | 66.5%  | Importance of five determinants in deciding an airline | Not important (1), Important (2) | 1.55 to 1.94 |
|                           | USD50,000 or higher | 33.5%  |                           |                   |           |
| Airline membership ownership | 0                  | 29.9%     | Perceived risk level of COVID-19 infection | Unafraid (1), Neutral (2), Afraid (3) | 2.45     |
|                           | 1 or more         | 70.1%     |                           |                   |           |
| Travel purpose            | Pleasure          | 61.7%     |                           |                   |           |
|                           | Business          | 29.3%     |                           |                   |           |
covariates constant. The main effect in all seven ANCOVA models was significant at least at the 0.05 level, indicating that the 13 message versions had significant effects on all seven dependent variables.

In the ANCOVA model to identify the effects of the message versions and covariates on intention to take a flight, income level, travel purpose, ownership of a premium card, importance of airline brand, importance of sanitation, and perceived risk of COVID-19 infection were significant at the 0.05 level. Table 4 illustrates the results. In Table 5, the effects of message versions and covariates on intention not to be sensitive to negative news related to the COVID-19 in deciding on international travel, gender, airline membership, importance of sanitation, and perceived risk level of COVID-19 infection were significant at the 0.05 or 0.001 levels. Tables 6–10 present detailed results of the ANCOVA tests for the other five dependent variables (evaluation of provided message information).

### Table 4
Results of ANCOVA to identify the effects of main effect and covariates on intention to take a flight.

| Variables                                | d.f. | Mean square | F-value | p-value |
|------------------------------------------|------|-------------|---------|---------|
| Covariate (age)                          | 1    | 11.09       | 3.37    | 0.067   |
| Covariate (gender)                       | 1    | 3.17        | 0.96    | 0.327   |
| Covariate (income level)                 | 1    | 23.56       | 7.17    | 0.008** |
| Covariate (education level)              | 1    | 0.93        | 0.28    | 0.597   |
| Covariate (travel purpose)               | 1    | 68.06       | 20.71   | 0.000***|
| Covariate (airline membership)           | 1    | 9.05        | 2.75    | 0.097   |
| Covariate (premium card)                 | 1    | 63.45       | 19.30   | 0.000***|
| Covariate (importance of air ticket price) | 1    | 0.28        | 0.09    | 0.771   |
| Covariate (importance of airline brand)  | 1    | 19.63       | 5.97    | 0.015*  |
| Covariate (importance of safety)         | 1    | 1.49        | 0.45    | 0.500   |
| Covariate (importance of sanitation)     | 1    | 16.45       | 0.87    | 0.025*  |
| Covariate (importance of service)        | 1    | 2.85        | 5.01    | 0.035   |
| Covariate (perceived risk level of COVID-19 infection) | 1    | 302.04      | 91.89   | 0.000***|

Main effect (13 message types) 12 9.33 2.84 0.001**
Error 1156 Total 1182 Corrected total 1181

Note: ***p < .001, **p < .01, *p < .05.

### Table 5
Results of ANCOVA to identify the effects of main effect and covariates on willingness not to be sensitive to negative news related to the COVID-19 in deciding international travel.

| Variables                                | d.f. | Mean square | F-value | p-value |
|------------------------------------------|------|-------------|---------|---------|
| Covariate (age)                          | 1    | 1.54        | 0.51    | 0.477   |
| Covariate (gender)                       | 1    | 15.89       | 5.23    | 0.022*  |
| Covariate (income level)                 | 1    | 9.81        | 3.23    | 0.073   |
| Covariate (education level)              | 1    | 9.74        | 3.20    | 0.074   |
| Covariate (travel purpose)               | 1    | 3.82        | 1.26    | 0.263   |
| Covariate (airline membership)           | 1    | 52.15       | 17.16   | 0.000***|
| Covariate (premium card)                 | 1    | 6.39        | 2.10    | 0.147   |
| Covariate (importance of air ticket price) | 1    | 0.27        | 0.09    | 0.766   |
| Covariate (importance of airline brand)  | 1    | 2.96        | 0.97    | 0.324   |
| Covariate (importance of safety)         | 1    | 1.32        | 0.43    | 0.510   |
| Covariate (importance of sanitation)     | 1    | 13.49       | 4.44    | 0.035*  |
| Covariate (importance of service)        | 1    | 0.69        | 0.23    | 0.635   |
| Covariate (perceived risk level of COVID-19 infection) | 1    | 60.31      | 19.84   | 0.000***|

Main effect (13 message types) 12 6.46 2.13 0.013*
Error 1156 Total 1182 Corrected total 1181

Note: ***p < .001, **p < .01, *p < .05.

### Table 6
Results of ANCOVA to identify the effects of main effect and covariates on attractiveness of provided message information.

| Variables                                | d.f. | Mean square | F-value | p-value |
|------------------------------------------|------|-------------|---------|---------|
| Covariate (age)                          | 1    | 1.22        | 0.37    | 0.541   |
| Covariate (gender)                       | 1    | 0.15        | 0.05    | 0.829   |
| Covariate (income level)                 | 1    | 2.19        | 0.67    | 0.414   |
| Covariate (education level)              | 1    | 12.76       | 3.90    | 0.049*  |
| Covariate (travel purpose)               | 1    | 80.97       | 24.72   | 0.000***|
| Covariate (airline membership)           | 1    | 2.21        | 0.68    | 0.411   |
| Covariate (premium card)                 | 1    | 59.04       | 18.03   | 0.000***|
| Covariate (importance of air ticket price) | 1    | 7.42        | 2.27    | 0.133   |
| Covariate (importance of airline brand)  | 1    | 13.13       | 4.01    | 0.046*  |

Note: ***p < .001, **p < .01, *p < .05.

### Table 7
Results of ANCOVA to identify the effects of main effect and covariates on effectiveness of provided message information.

| Variables                                | d.f. | Mean square | F-value | p-value |
|------------------------------------------|------|-------------|---------|---------|
| Covariate (age)                          | 1    | 7.40        | 2.21    | 0.137   |
| Covariate (gender)                       | 1    | 0.66        | 0.20    | 0.656   |
| Covariate (income level)                 | 1    | 3.85        | 1.15    | 0.284   |
| Covariate (education level)              | 1    | 5.99        | 1.79    | 0.181   |
| Covariate (travel purpose)               | 1    | 76.10       | 22.77   | 0.000***|
| Covariate (airline membership)           | 1    | 6.86        | 2.05    | 0.152   |
| Covariate (premium card)                 | 1    | 63.93       | 19.13   | 0.000***|
| Covariate (importance of air ticket price) | 1    | 6.85        | 2.05    | 0.152   |
| Covariate (importance of airline brand)  | 1    | 13.68       | 4.09    | 0.043*  |
| Covariate (importance of safety)         | 1    | 0.01        | 0.00    | 0.955   |
| Covariate (importance of sanitation)     | 1    | 8.05        | 2.41    | 0.121   |
| Covariate (importance of service)        | 1    | 0.90        | 0.27    | 0.604   |
| Covariate (perceived risk level of COVID-19 infection) | 1    | 45.76      | 13.70   | 0.000***|

Main effect (13 message types) 12 13.46 4.03 0.000***
Error 1156 Total 1182 Corrected total 1181

Note: ***p < .001, **p < .01, *p < .05.

#### 5.4. Results of two-way ANOVA to identify the effects of covariates on behavioral intentions and evaluations of offered message information

Where a covariate was significant in the ANCOVA model, two-way ANOVA tests were undertaken to identify the relationships between the covariate and message versions in explaining one of the behavioral intention variables or the variables evaluating the messages. With the outcomes displayed as figures, it is easy to discern the differences in patterns among the levels of each covariate. These covariates significantly influenced respondents’ intentions to take a flight. As shown in Fig. 3, those who were business travelers, premium card owners, and who placed importance on airline brand and sanitation showed greater intention to take a flight than the other groups. However, complicated patterns were discovered with relation to income level and perceived risk of the pandemic. For example, respondents with low incomes showed a higher level of intention to take a flight in response to message.
version 4 than those with high incomes. Those who perceived a high pandemic risk showed the lowest mean scores in intention to take a flight on all 13 messages, whereas those who perceived a medium level of risk had a higher level of intention to take a flight in response to message versions 2, 3, 5, and 6 and the other two cohorts.

As Fig. 4 indicates, covariates such as gender, airline membership ownership, importance of sanitation, and perceived risk showed significance at least at the 0.05 level. Male respondents showed a higher level of intention not to be sensitive to negative news related to the COVID-19 in deciding on international travel than females in most message versions. Airline membership owners showed higher mean scores on the intention not to be sensitive to negative news than non-membership owners. Those who did not emphasize the importance of sanitation had higher mean scores on the intention to fly in response to message versions 7, 9, 10, 11, and 13 than the group who did emphasize sanitation. Those who were unafraid of the pandemic showed the highest intentions not to be sensitive to negative news related to the COVID-19 in deciding on international travel in response to message versions 1, 2, 4, 7, 10, 11, 12, and 13.

Fig. 5 shows the role of covariates in explaining the attractiveness of the provided information. Educational level, purpose of travel, premium card ownership, importance of airline brand, and perceived risk were significant at least at the 0.05 level. Interestingly, those who had graduated from high school or less had the highest mean score in evaluating the attractiveness of the provided message information, whereas college students provided a low evaluation score for message version 10. Those who were business travelers, had premium cards, and considered airline brand important had higher mean scores for evaluating the attractiveness of the presented message information than the other groups. Respondents who had a neutral perception of the risk of the pandemic had the highest mean values, with the exception of message versions 10 and 12. Those who reported least risk of the pandemic showed the lowest mean score on message version 9.

Fig. 6 presents the analysis of the effects of covariates on the effectiveness of the provided messages. Those who were business travelers, premium card owners, and regarded airline brands as important had higher mean scores for the effectiveness of the provided message information than their counterparts. With regard to the perceived risk of COVID-19 infection, those who had a neutral perception had the highest mean values for most message versions. Interestingly, those who felt unafraid of the pandemic had the lowest mean score for message version 9, but the highest mean score for message version 12.

Fig. 7 shows the effects of covariates on the convincingness of the provided message information. Similar to the findings of previous analyses, business travelers and premium card owners had higher mean scores on convincingness than pleasure travelers and non-owners of premium cards. However, patterns according to age and education level showed complicated interactions. Seniors (aged 60 or older) had the highest mean scores for the convincingness of the provided message information, whereas college students showed a relatively low mean score on other message versions except for 5 and 12. Those who had a
Fig. 3. Effects of covariates on intention to take a flight.

Fig. 4. Effects of covariates on willingness not to be sensitive to negative news related to COVID-19 in deciding international travel.
Fig. 5. Effects of covariates on attractiveness of provided message information.

Fig. 6. Effects of covariates on effectiveness of provided message information.
Fig. 7. Effects of covariates on convincibility of provided message information.

Fig. 8. Effects of covariates on trustworthiness of provided message information.
neutral perception of pandemic risk had the highest mean scores for message versions other than 6 and 11. Those who were unafraid of the pandemic showed the lowest mean values on message versions 5, 8, and 9.

With regard to the trustworthiness of the message information, educational level, purpose of travel, premium card ownership, and perceived risk were significant at least at the 0.01 level. Business travelers and premium card owners had higher mean scores than pleasure travelers and those who owned no premium cards. In terms of a pattern demonstrating the relationship between the trustworthiness of the message and the 13 message versions according to educational level, those with a high school education or less showed the lowest mean scores on message versions 3 and 8, and the highest mean values on message versions 6 and 10. With regard to the effect of perceived pandemic risk on the trustworthiness of the presented messages, those who were unafraid had the highest mean scores for message versions 10, 11, and 12, and the lowest mean values for message version 9. Fig. 8 presents the results.

In Fig. 9, purpose of travel, premium card ownership, importance of airline brand, and perceived risk are shown to be significant covariates in evaluating the informativeness of the presented messages at least at the 0.05 level. Business travelers, premium card owners, and those who considered airline brand important had higher mean scores on all message versions than their counterparts. Interestingly, those who were unafraid of the pandemic showed the lowest mean score on message version 9.

6. Discussion

The significant findings of this study are as follows. First, the control message scored far lower than all other 12 experimental message versions. The finding is consistent with most previous studies, which found that the provision of messages is an effective way to alter customer perceptions. The finding is consistent with most previous studies, which found the enhancement of cabin services and amenities fosters the intention to take an international flight. The results are consistent with those of many studies that have found the enhancement of cabin amenities helps the perception of price fairness and creates virtuous cycles.

Second, a “loss” message relating to the provision of a coupon (USD100) was the most effective or one of the most effective in changing intentions to take an international flight and obtaining cogent reactions to the message information. This finding indicates that consumers do not like to lose the chance to redeem a coupon for cash when buying a ticket if they do not take a flight. Theoretically, the results can be explained using prospect theory: the pain from losing a certain amount is larger than the pleasure sought from gains (Tversky & Kahneman, 1992). That is, the results stem from an asymmetric perception of risk aversion between potential loss and gain options (Chen, de Groote, Petrick, Lu, & Nijkamp, 2020). Interestingly, “loss” framing to obtain a monetary benefit by taking a flight enhanced the strength of the stimulus more than a “gain” message in increasing behavioral intention to take a flight.

Third, a “gain” message guaranteeing additional mileage provisions was more effective than a “loss” message that described missing a chance to receive extra mileage by not purchasing an air ticket. The finding is different from the cash back redemption case where the “loss” message was more influential than the “gain” message in heightening intentions and favorably assessing the message information. It indicates a difference between an extra mileage provision and a cash back coupon provision. Consumers are likely to prefer gaining extra airline mileage, but they do not feel very sad about not receiving additional free mileage by buying an air ticket. However, losing a chance to enjoy a cash back redemption is likely to cause a feeling of unfairness and relative deprivation.

Fourth, a “gain” message related to upgrading cabin service was most effective in increasing the intention to take an international flight and not spreading negative news related to international travel. Substantial efforts relating to the improvement of cabin services and amenities fostered the intention to take an international flight. The results are consistent with those of many studies that have found the enhancement of cabin amenities helps the perception of price fairness and creates virtuous cycles (Chung & Petrick, 2013; Davis & Nag, 2020; Han, 2013; Kim & Park, 2017; Loureiro & Filho, 2017; Narangajavana et al., 2014). Therefore, an airline company should use this “gain” promotional message containing upgraded cabin services.

Fifth, message information about rigorous sanitation services, regardless of “gain” or “loss” framing, contributed to raised intentions not to be sensitive to negative news related to COVID-19 in deciding on
international travel and acceptance of the trustworthiness of the message information. The results are not surprising because safety messages are crucial in determining decisions to travel (Fleischer et al., 2015; Kim et al., 2016; Liu et al., 2016; Saunders et al., 2019; Squalli, 2009; Walters & Mair, 2012), and pandemic-related security matters are relevant to all passengers moving between countries (Mariolis et al., 2020; Serrano & Kazda, 2020).

Sixth, difficult business environment messages interestingly showed the lowest efficacy among the experimental message versions in promoting intentions to take an international flight or in favorably evaluating the message information. Without implanting “gain” or “loss” wordings, the message describing the difficult business environment was the least impactful. Passengers apparently lacked sympathy for airline company financial hardships resulting from the pandemic. This result corresponds to those of previous studies: customers are less supportive of messages containing financial risk statements because previous dissatisfaction existed with offered services or price (Etemad-Sajjadi et al., 2016; Koopmans & Lieshout, 2016; Narangajavana et al., 2014). Therefore, an airline company must develop a tangible plan to support customers directly rather than attempting an empathy-evoking message.

Seventh, both “gain”- and “loss”-framed messages pertinent to CSR were assessed as least effective after the difficult business environment message. Although an airline company’s image of social contribution was assumed to help induce behavioral intentions and favorable attitudes toward the message content, passengers tended to prefer financial returns rather than halo effects accrued from corporate image enhancement. These results differ from those of previous studies, which emphasized the positive influence of airline company contributions to society on perceptions of good image and trust (Daub & Ergenzerger, 2005; Hwang & Choi, 2018; Luo & Bhattacharya, 2006) and further price fairness (Koschate-Fischer, Huber, & Hoyer, 2016; Matute-Vallejo, Bravo, & Pina, 2011). Therefore, airline management must plan to offer direct benefits rather than their company self-promotional messages.

Eighth, compared with pleasure travelers, business travelers showed higher intentions to take flights and evaluation of the message information. Similarly, premium card owners showed a higher level of intention and evaluation than non-owners. The pattern indicates that given that business travel is required, and premium card owners are usually frequent travelers, they have a strong pent-up motivation to travel internationally. Therefore, airline companies should target them soon after the pandemic dissipates.

Ninth, the perceived risk of COVID-19 infection was a significant covariate in explaining all seven dependent variables. Those who were afraid of the pandemic tended to have a lower level of intention to travel and lower evaluations of the presented message information, although small discrepancies existed among the graphic patterns. However, groups who were unafraid of the pandemic or who took a neutral stance showed mixed patterns. For example, those who were unafraid of the pandemic showed a higher level of intention to take an international flight and not to be sensitive to negative news related to the COVID-19 in deciding upon international travel after they were exposed to message versions 10, 11, and 12, than those who were neutrally sensitive to the pandemic. Messages that illustrate the provision of upgraded cabin services and good sanitation services will help to promote international travel to those who are undaunted by the pandemic.

Tenth, those who perceived the risk of the pandemic at a neutral level gave more positive evaluations of most presented message versions than groups who were either unafraid or afraid of the pandemic, although there were message versions for which those unafraid of the pandemic showed a higher level of favorability than the neutral group. This result is interesting because those with a neutral stance showed favorable assessments of these message contents. The findings indicate that message versions 2, 3, 4, 5 were particularly effective in motivating those less sensitive to the risk of disease to undertake international flights.

7. Implications

7.1. Theoretical implications

This research makes an important theoretical contribution because it drew upon diverse theories. Attribute theory proposes that consumer decisions are due to internal and external factors which influence an individual’s decision making or action (Heider, 1958). The factors can be extended to efforts of marketing including the framing of messages or newly emerging situations (Levin & Gaeth, 1988; Levin, Schneider, & Gaeth, 1998). Interestingly, although this study was carried out under special conditions – a disastrous pandemic – the analysis of respondent reactions to the message contents showed consistency in patterns of relationships. The findings also support the utility and prospective theories in that participant preferences for the given message options led to rational decision making to reduce the risks associated with wrong choices and to maximize latent utility (Chen et al., 2020; Karl, 2018). From the perspective of adaption level theory (Helson, 1964), the findings helped ascertain the comparative magnitude of the stimuli in different message contents and between “gain” and “loss” messages. According to situational crisis communication theory, a company should establish communication strategies during an unexpected crisis to prepare for the brand’s reputational degradation.

However, since few studies have attempted to explore the role of the content of information messages in explaining airline customer cognitive assessments after the pandemic outbreak, the results of this empirical study chart a new route for future research. In addition, there has been little investigation of the efficacy of messages involving diverse “gain” and “loss” messages. Since this study ascertained the functions of various covariates, it provides a good understanding of their roles as moderating variables between message types and customer psychological interpretations. Therefore, this research represents a useful initial attempt to compare the effectiveness of 13 information messages in determining customer reactions during a pandemic situation.

7.2. Practical implications

The findings showed that messages offering direct monetary benefits were more effective in increasing behavioral intentions and favorable beliefs in message content than abstract messages indicating less direct benefits for customers. Similarly, customers were not particularly influenced by messages addressing airline company difficulties or by company image-enhancing cues. Therefore, airline companies must provide messages offering direct incentives such as coupon redemption, lucky draws, vouchers, and package prices, which may enhance perceptions of price fairness and attract international travel demand as the pandemic risk declines.

Previous studies identified discrepancies in the effectiveness of “gain” and “loss” framing according to the message presented (Chi et al., 2021; Grazzini et al., 2018; Meyerowitz & Chaiken, 1987; O’Keefe & Jensen, 2007; Rothman et al., 2006) or given business settings (e.g., Bloise et al., 2015; Lee & Oh, 2014; Yoon et al., 2019). These respondents reported that perceiving a loss from not receiving a cash-redeemable coupon was greater than perceiving pleasure obtained from receiving the coupon. Thus, if a company uses a message type emphasizing the loss of an opportunity to seek monetary profit, customers are likely to accept the message content because the level of regret for not taking up the opportunity outweighs the happiness gained from taking advantage of the opportunity.

As this study has established the effects of diverse covariates, airline companies may need to initiate different strategies to foster airline demand by segmenting customers according to their sociodemographic and travel-related profiles and psychological factors. Although identifying customer psychological stance is difficult, classifying big data containing previous customer records is easy. An airline can use different message types according to customer sociodemographic and travel-
related profiles. For example, with those lower income showed a higher level of acceptance of message 4 (the “gain” extra mileage message) in raising intentions to take an international flight than those having a higher income. Therefore, extra mileage tactic-containing messages, such as addition of extra mileage, mileage redemptions for seat or meal upgrades, and hotel/rental car bookings, may be helpful for lower income-earning passengers such as students, early-career workers, and rural residents.

Those who had membership cards and a business purpose showed a higher level of intention to take a flight and favorable perceptions of the offered message versions. Those who were unafraid of the pandemic displayed favorable responses to message versions manifesting corporate social responsibility, upgraded service, and sanitation services, although message versions specifying monetary benefits were generally more highly rated than those relevant to non-monetary benefits. Therefore, message variations can be cost-effectively used to evoke latent travel intentions in frequent flyers with membership cards.

As the news shock model proves, tourists react more sensitively to negative news than positive news, which influences the volatility of tourism demand (Coshall & Charlesworth, 2011; Kim & Wong, 2006). Potential tourists have no desire to take a flight after hearing apocalyptic tourism demand (Coshall & Banks, S. M., Salovey, P., Greener, S., Rothman, A. J., Moyer, A., Beauvais, J., et al. (2015). Message framing in green advertising: The effect of construal level and consumer environmental concern. International Journal of Advertising, 34(1), 158-176.

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