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Eliciting Positive Emotion through Strategic Responses to COVID-19 Crisis: Evidence from the Tourism Sector

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Highlights

- Investigate how response strategies and linguistic cues simultaneously combine to evoke positive emotion amid COVID-19 crisis
- Signalling theory and configuration theory are drawn upon to explain the complex formulation of COVID-19 responses
- The synergetic effect of innovating response strategy and assertiveness and argument quality of language elicit consumer positive emotion.
- Taking organisational characteristics into account, tourism organisations can tailor their specific COVID-19 responses.

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Abstract

While social media are effective means of communicating with adverse customer emotions during a crisis, it remains unclear how tourism organisations can respond to pandemic crisis on social media to prevent negative aftermaths. Using a set-theoretical approach, we investigate how COVID-19 response strategies and linguistic cues of responses are intertwined to evoke positive emotions among consumers. This study entails a qualitative content analysis of tourism organisations' COVID-19 announcements and a social media analytics approach that captures consumers' emotional reactions to these announcements via their Twitter replies. Our results extend some well-established findings in the tourism crisis literature by suggesting that combining innovative response strategy, argument quality, and assertive language can reinforce positive emotions during the COVID-19 crisis. Taking organisational characteristics into consideration, we suggest that young established hotels utilize innovative response strategies, whereas retrenchment response strategies for all types of restaurants should be avoided during the COVID-19 crisis.

Keywords: Coronavirus (COVID-19), tourism crisis communication, crisis response, signalling theory, consumer emotion, social media analytics, content analysis, fsQCA

1. Introduction

Coronavirus (COVID-19) has crippled many industries across the globe, especially the tourism industry. Most tourism destinations around the world have imposed restrictions on international travel, while 72% of the destinations put a complete halt to international tourism (UNWTO, 2020). Up to 50 million jobs were lost globally in 2020 as a result of lockdown in various regions (WTTC, 2020). These losses have affected all facets and actors of the tourism value chain, from destinations to service providers (e.g., airlines, hotels, and local restaurants) and from cultural tourism sites (museums) to tourism intermediaries (e.g., online travel agencies).

Following the launch of COVID-19 vaccines, consumer confidence has returned to its pre-COVID-19 level in the spring and summer of 2021 in many countries. As an example, UK consumers have been spending more on tourism and restaurants, with the number of "eating out" and "short holidays" increased by 50% and 24%, respectively, in comparison to the previous quarter (Q1 2021) (Deloitte, 2021). Presently, quick responses to the reopening of the economy following the COVID-19 crisis presents a significant challenge for most tourism organisations. To survive this pandemic and maintain a competitive position, hotels and restaurants must develop effective crisis communication strategies. Although prior research suggests that crisis communication through social media decreases

negative customer reactions toward companies (Utz et al., 2013; Yuan et al., 2020), it remains unclear how tourism organisations can use social media to mitigate the negative outcomes of this global crisis.

Despite the existence of a wide range of literature regarding health-related crises using different theories, research designs, and empirical settings (e.g. Lee & Chen, 2011; Novelli et al., 2018), the complexity of the COVID-19 crisis warrants revisiting crisis response strategies. Coronavirus pandemic has significantly changed service delivery and operation in tourism-related sectors. For instance, several hotel chains are revamping housekeeping operations and frontline service delivery, establishing new policies, and increasing customer trust to ensure that guests' health and safety are prioritised. In order to satisfy customer's expectations, a cohesive crisis response strategy, as well as an appreciation of linguistic cues, is essential. Furthermore, consumers expressing positive emotions can be used as a surrogate measure for managers to measure the success of crisis management (Argenti, 2020; Rocklage & Fazio, 2020; Wang et al., 2021). Consumers often express their emotions during a major crisis at their loved destination to demonstrate their support, closeness and to help its recovery (Filieri et al., 2021b).

In this study, consumer emotion is the primary outcome variable for two reasons. ***First***, based on research on crisis management (Argenti, 2020; Wang et al., 2021), it is more likely that companies who are able to engage their customers on social media will survive during a crisis and remain competitive afterward (Yuan et al., 2020). Thus, it is crucial to understand consumer reaction to firms' crisis responses in times of crisis. ***Second***, marketing literature suggests that consumers naturally express emotion when describing experiences with products, which is an integral part of the consumption experience (Filieri, 2016). ***Third***, the situational crisis communication theory proposed by Coombs (2007) suggests that using effective response strategies can help alleviate the threat to the reputation of an organisation. Research on service failure and recovery on social media suggests that how a company responds (i.e. conversational human tone of voice) is particularly important to influence the perception of social media observers (Javornik et al., 2020), and it enhances consumers' engagement and a more positive post-crisis perception (Yang et al., 2010).

In light of the significance of this topic and the gaps in research, we formulate the following research questions:

What are the most effective response strategies featured in social media posts to evoke positive consumers' emotion during a major public health crisis?

And, ***do some linguistic cues in response strategies induce more positive emotions?*** **If so,** ***what are these combinations?***

To answer these questions, underpinned by the complexity view of signalling theory, we aim to explain how linguistic cues and response strategies are combined to evoke positive consumer emotion regarding firms' responses to the COVID-19 crisis. As per the signalling theory (Connelly et al., 2011), COVID-19 response strategies and linguistic cues are considered as the signal itself which affects the emotional reactions of its receivers. We propose a configurational model with a set of elements,

including the COVID-19 response strategies of retrenchment, persevering, innovating, and exit (Wenzel et al., 2020) and linguistic cues (i.e. concreteness, argument quality, pronouns and assertiveness) that affect the manner in which individuals process COVID-19 responses. Furthermore, to better understand COVID-19 responses under different organisational characteristics such as star rating and firm age, we also consider the organisational characteristic as a contextual variable. This aims to provide tourism organisations with guidelines on crisis responses that best suit their unique organisational characteristics.

2. Theoretical Background

2.1. Signalling theory - configurational effects among signals

Signalling theory posits that signals are observable attributes that can be used by individuals and organisations to communicate (Spence, 1973). Firms often use signals to provide information about the properties of products and services that are generally difficult to evaluate because of information asymmetries (Spence, 2002). Signalling theory defines signaller and receiver as two parties engaged in a signalling process that aims to reduce their information asymmetries (Connelly et al., 2011). Information asymmetry can be reduced by signals in different ways, depending on their signalling environments. Signalling theory provides the grounds to explain the various types of existing signals and the situations in which they are used (Spence, 2002; Filieri et al., 2021a). This theory has been frequently used to study relationship recovery (Kharouf et al., 2020) organisational communication to customers (Wang et al., 2021), and to assess product quality signals in eWOM research (Filieri et al., 2021a). In our study, signalling theory is applied to explain how tourism organisations (as signallers) utilise COVID-19 responses (as signals) posted on social media during the global pandemic crisis (as a signalling environment) to communicate with a wide range of consumers (as receivers). A COVID-19 response is regarded as a method for communicating the management's response to the crisis, such as explaining the causes of the crisis or providing efficient measures to ease consumer anxiety. When formulated properly, these responses can reduce negative feelings among customers following the public health crisis (Sigala, 2020).

Signalling theory research has evolved from focusing on a given signal to paying more attention to complex formulations and variations of the signal (Connelly et al., 2011). There has been little attention paid to the interaction of multiple signals in marketing literature. For instance, earlier work (e.g., Kirmani & Rao, 2000) conjectures that consumers are more likely to perceive a firm's signals as credible when it combines two distinct kinds of signals rather than bearing either of them separately. By empirically examining whether consumers' behaviour is influenced by the credibility and reliability of the combination of various types of signals, Bassuroy et al. (2006) and Cox & Kaimann (2015) confirm Kirmani & Rao's conjecture. Basuroy et al. (2006) find that sales are positively affected by the interaction effect of signals (e.g., advertising expenditures and sequels). Likewise, multiple signals are taken into account by Cox & Kaimann (2015), showing that product reviews and a variety of quality

signals (e.g., sequels, re-releases and mature age ratings) positively influence sales of video games. Recently, Wu & Reuer (2021) further argue that the interaction of signals determines the effectiveness of signals in facilitating desired outcomes.

The interaction of multiple signals can be also explained by configuration theory. A configuration refers to "a multidimensional constellation of the strategic and organisational characteristics of a business" (Vorhies & Morgan, 2003, p. 101). Configuration theory holds that businesses achieve their strategic goals and superior performance through the multiple, interdependent, mutually reinforcing configurations of organisational characteristics and business strategies (Meyer et al., 1993; Vorhies & Morgan, 2003). By extending prior studies examining the interaction effect of signals and configuration theory to our study's context, we explore how tourism organisations manage a portfolio of signals (i.e. a variety of strategies and linguistic cues of COVID-19 responses) and the interplay between different types of signals. More specifically, we develop our research model (see Figure 1) by considering the organisational characteristics of tourism organisations in formulating crisis responses and the ways in which combinations of crisis response strategies and linguistic cues of responses may elicit positive emotions among consumers during the COVID-19 crisis.

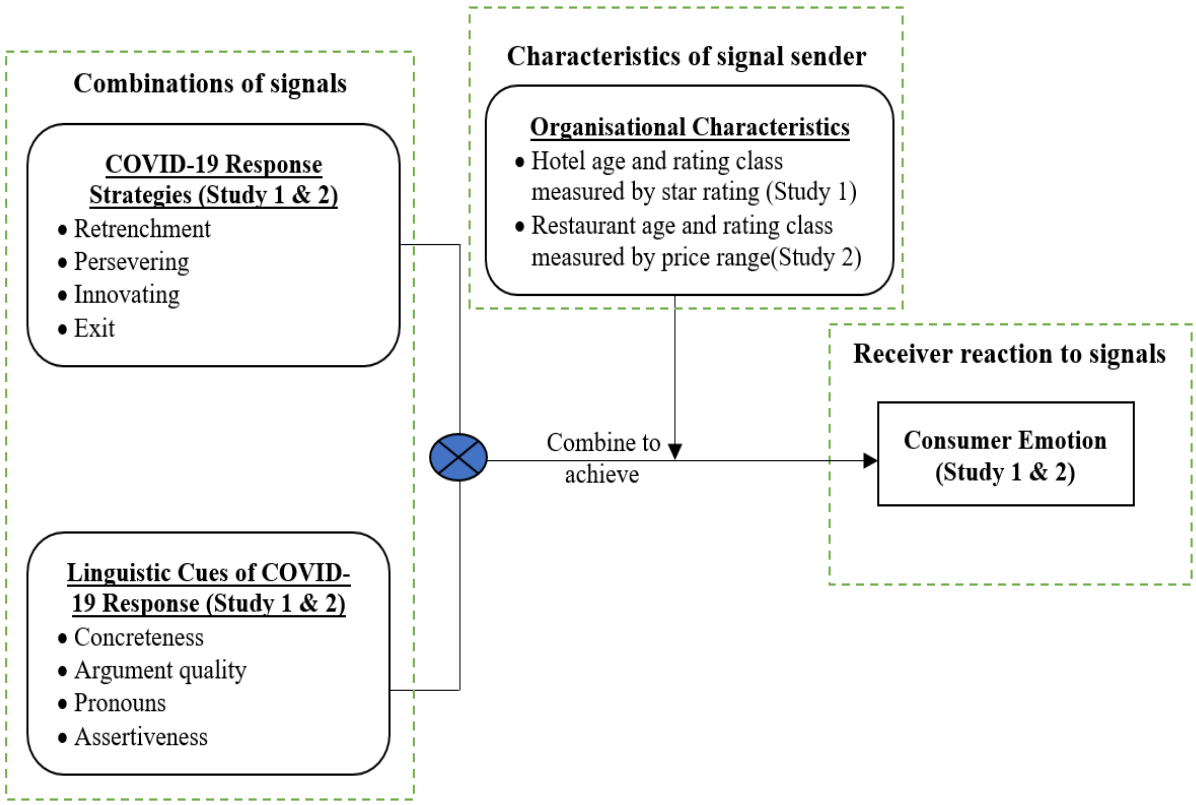

Figure 1. Research model

2.2. Crisis response strategy and positive consumer emotions

A crisis response strategy is crucial for improving a firm's reputation and retaining customers (Coombs, 2007). Various strategies have been proposed in the crisis management literature to prevent, manage, and mitigate the negative effects of crises for firms. For example, research on service failures, such as product recalls and corporate reputation, provides insights into how firms can improve reputations and achieve positive consumer reactions (Hsu & Lawrence, 2016; Kharouf et al., 2020). Among the typology of crisis response strategies (e.g., Coombs, 2007; denial, diminishment, rebuilding, and bolstering), we selected Wenzel et al. (2020)'s four COVID-19 response strategies including retrenchment, preservation, innovation, and exit, as the four strategies are specifically focused on responding to COVID-19, which is the perfect match for our research context.

Retrenchment strategies refer to a firm's "reductions in costs, assets, products, product lines, and overhead" in response to a crisis (Pearce & Robbins, 1994, p. 614). Companies use retrenchment strategies primarily to reduce costs through layoffs, product withdrawals, and asset reductions (Ndofor et al., 2013). This strategic response enables firms to focus on existing functions by reducing complexity and increasing transparency of behaviour (Benner & Zenger, 2016). Wenzel et al. (2020) contend that retrenchment strategies can be effective in companies facing crises as narrowing down costs can facilitate strategic renewal.

Preserving strategies refer to sustaining current activities in response to a crisis (Wenzel et al., 2020). When the status quo is maintained, a firm's ability to respond to crisis-related change in circumstances can be stabilised, thereby reducing the negative impact of crisis on the firm (Stieglitz et al., 2016). Prior research has indicated that customers' reactions to firms are greatly influenced by the preserving strategy adopted by firms. For example, in the economic crisis, Chakrabarti (2015) observed that firms with perseverance suffered fewer performance disruptions and were less likely to fail. The COVID-19 pandemic has prompted many tourism organisations to demonstrate their safe and comfortable ambiences, such as social distancing and timely customer services, as preserving responses to the pandemic. A survey conducted by Do et al. (2021) found that 25% tourism organisations had adopted a preserving strategy in response to COVID-19 and asserted this strategy enabled them to continue to build trust with customers while at the same time driving higher performance.

Innovating strategies refer to the "realisation of strategic renewal in response to crisis" (Wenzel et al., 2020, p. 11). Such responses suggest that firms are considering making use of the crisis to open up unthinkable or unfeasible business opportunities (Roy et al., 2018). As a result of the pandemic, firms are exploring new avenues for collaboration with customers, digitalising core competencies, shifting business models, and adding integrated resources to their customer databases (Seetharaman, 2020).

Exit strategies refer to the discontinuation of business activities, such as a temporary closure in the times of crisis (Wenzel et al., 2020). A crisis can cause unexpected devastation and challenges such as disrupted financial balance and untenable business models (Dahles & Susilowati, 2015; Seetharaman, 2020). Businesses that cease operations are able to retain some resources and build a better recovery after the crisis (Carnahan, 2017; Ren et al., 2019). Due to the COVID-19 pandemic, it is inevitable that many firms will close physical stores or discontinue normal services as directed by the government (Song et al., 2021). Besides reducing close contacts, such a response could prevent the spread of the COVID-19 virus.

2.3. Linguistic cues

The way people process messages is influenced by linguistic cues, and the mode in which this processing occurs is what ultimately leads to a change of attitude (Semin et al., 2005). To maximise the persuasive effect of the message, linguistic cues play an important role along with strategies that determine the content of a message (Pogacar et al., 2018). When transmitting a signal, the choice of linguistic cues can have an impact on the receivers' perceptions and emotions. As a result of a crisis, firms' use of linguistic cues may affect how consumers perceive their announcements and their attitudes (Claeys & Cauberghe, 2014).

In framing response strategies, we conceptualise linguistic cues in four dimensions: concreteness (Semin et al., 2005), argument quality (Briñol et al., 2012; Hoeken et al., 2020), pronouns (Sela et al., 2012) and assertiveness (Zemack-Rugar et al., 2017), which are based on a variety of literatures in the consumer behaviour, communication, and psychology fields. These four dimensions represent the dynamics of language use in sending different signals and help to explicate in detail the links between linguistic cues as signal being sent and customers' emotions as reactions towards the received signal. This study sheds light on use of linguistic cues during a global health crisis context, by combining crisis response strategy and response linguistic cues to propose the best communication solutions for achieving positive emotions among consumers.

Concreteness. The linguistic cue can be elaborated through the relative prominence of abstract versus concrete language in a message, differentiating four levels of adjectives, state verbs, interpretive-action verbs and descriptive-action verbs, with a range from the most abstract to the most concrete (Semin et al., 2005). According to the linguistic category model proposed by Semin et al. (2005), interpretive-action verbs, state verbs and adjectives constitute most abstract frames, while descriptive-actions verbs are used to form the most concrete terms. The alternative context availability theory argues that concrete words are easier to process and support memory context more strongly than abstract words (Lydon et al., 2008). During the crisis, concreteness of language in news and public announcements can have an impact on consumer emotions (Borden & Zhang, 2019).

Argument quality. Argument quality refers to the degree to which a given argument persuades the audience that a given position is true. Conceptually, it indicates the extent to which a persuasion process is conducted, and the motivation of the masses to scrutinise the claim (Briñol et al., 2012). The argument quality can be categorised into two types: strong argument and weak argument. Strong arguments were defined as "arguments evoking predominantly favourable thoughts when reflected upon", whereas weak arguments "evoke mainly unfavourable thoughts" (Hoeken et al., 2020). Research has found that the argument quality was shown to be an important linguistic device in determining whether a conclusion would be accepted and the persuasive power of information (Bhattacherjee & Sanford, 2006). Research on social media marketing communication suggests that the quality of arguments in marketing communication can affect customer attitudes toward brands (Chu & Kamal, 2008). Likewise, Chang et al. (2015) find that strong arguments tend to generate favourable consumer responses, whereas weak arguments tend to generate negative consumer responses.

Pronouns. The use of pronouns affects the nature and quality of relationships between firms and customers (Sela et al., 2012). First-person plural pronouns (e.g., "we" and "our") indicate closeness and community-based identity (Simmons et al., 2005), whereas first-person singular pronouns (e.g., "I") indicate individuated identity and self-focus (Pennebaker et al., 2003). Specifically, closeness-implying pronouns can indicate a close relationship and shared identity and thus enhance persuasion, whereas second person and third-person pronouns (e.g., you and the brand) may emphasise consumer-brand separateness (Sela et al., 2012).

Assertiveness. An assertive appeal is a type of linguistic device used for expressing a point of view clearly and directly, as in marketing communication (Zemack-Rugar et al., 2017; Kronrod et al., 2012a). Assertive language directs consumers and creates pressure for consumers to enact specific behaviours (Zemack-Rugar et al., 2017).

2.4. Organisational characteristics

Depending on nature of the business, size and geographic location, the duration and magnitude of the COVID-19 crisis impact may differ. When developing responses to the crisis, organisational characteristics should be considered as contextual variables, in order to understand how to formulate COVID-19 responses in a way that elicits positive consumer emotions under different organisational circumstances.

Firm age reflects brand image and influences firm performance (Li et al., 2020). Falk & Hagsten (2018) point out that young establishments may suffer from inexperience during a crisis, but they learn fast. This provides them with an opportunity to integrate into business practices and solutions. The COVID-19 pandemic has affected the working conditions and service operations of tourism workers, as well as the landscape of tourism. A significant amount of additional workload has been placed on the customer service departments of hotels and catering companies. The additional burden will be

particularly detrimental to those that are relatively new and have little experience in dealing with the crisis.

Rating classification. The situational crisis communication theory proposed by Coombs (2007) suggests that customer perceptions of an organisation's crisis response are shaped by its reputational capital. This implies an organisation with a high prior reputation (e.g., five-star hotels or luxury restaurants) will have a favourable post-crisis reputation (Coombs, 2007). It is therefore important to consider different classes of restaurants and hotels since consumer expectations and perceptions of service quality differ between economy and luxury restaurants and hotels (Kim et al., 2019).

3. Method

3.1. Research setting and data

The purpose of this study is to evaluate the synergistic effects of crisis response strategies and linguistic cues on consumers' positive emotional states. The outcome variable in the study is consumers' sentiment scores, which represent their positive or negative emotions, in response to tourism organisations' COVID-19 announcements posted on social media. The configurational elements, as independent variables, include eight categorical variables reflecting four types of response strategies and four types of linguistic cues in framing the COVID-19 responses. We test the configurational effects of these elements to understand their impacts on consumer emotions through using the Fussy-set Qualitative Comparative Analysis (fsQCA) approach.

We examine both the hotel (Study 1) and restaurant (Study 2) sectors in the UK, to leverage such configurational effects on the consumers' emotional reactions. In Study 1, we firstly identified a list of UK hotels by adopting three criteria: 1) the company has more than 250 employees (i.e. non SMEs); 2) the hotel has an official Twitter account; and 3) hotels have posted at least one COVID-19 related tweets on their official account in the pandemic duration. After employing the selection criteria, a total number of 49 UK hotels were included in the research dataset. The data were collected with a coverage from 1st March 2020 (2 weeks before the official lockdown started on 16th March) to 31st July (before the ease of lock down and the Eat Out to Help Out scheme placed from 3rd to 31st August). A total number of 262 COVID-19 announcements for the UK hotels and 2,953 consumer comments associated with these announcements were collected. We also provide an example below to show what information we have extracted from Twitter in this study (see Figure 2).

The purpose of Study 2 is to complement the results of Study 1 by further including the restaurant sector. In Study 2, we follow the same line of thought, identified a list of UK restaurants from the FAME database, and followed the three criteria as listed in Study 1 in company selection i.e. non-SMEs, with official Twitter accounts, and with COVID-19 tweets on their Twitter accounts. With a coverage from 1st March 2020 to 31st July 2020, a number of 47 companies were included, and their 211 associated Twitter announcements together with 12,252 consumer comments were collected.

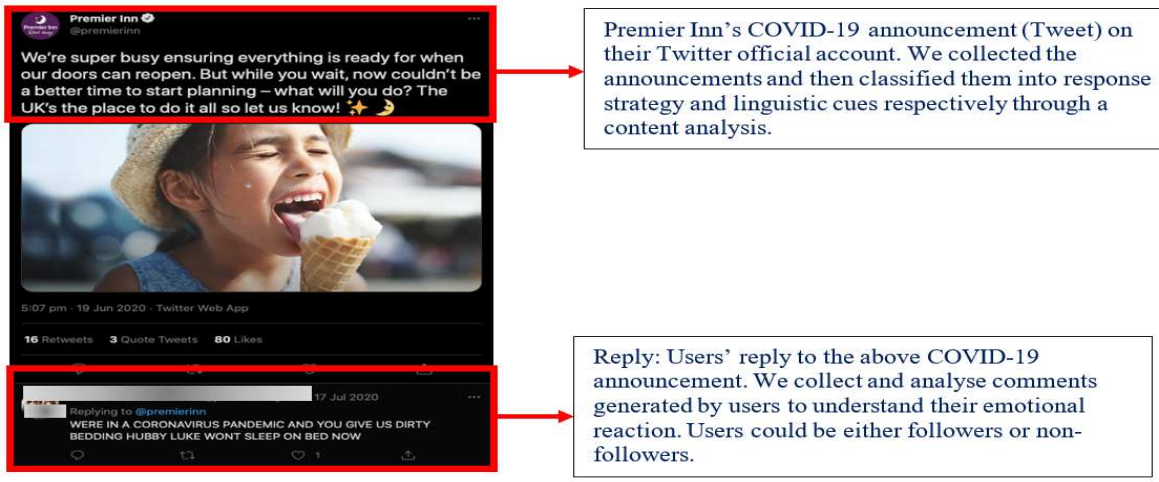

Figure 2. Example of extracting COVID-19 responses (tweets) and corresponding consumer comments (replies)

3.2. Data analysis

Figure 3 demonstrates our data analysis procedures and explains how we integrate content analysis, sentiment analysis, and fsQCA in the analysis. The independent variables were measured through a three-step coding processes of content analysis on the tweets, and the outcome variable was measured using sentiment mining method to calculate the sentiment value of consumers' replies.

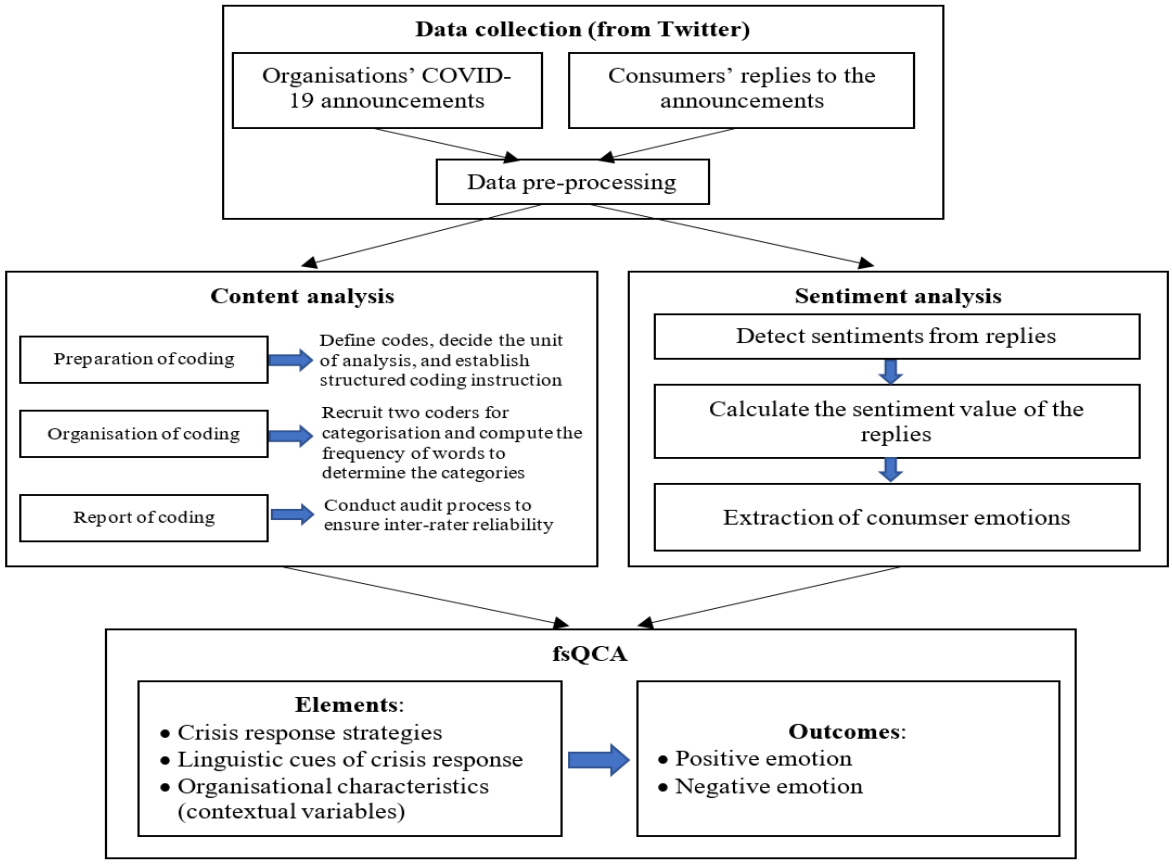

Figure 3. Proposed framework integrating content analysis, sentiment analysis, and fsQCA

3.2.1. Measurements

Crisis response strategy. Strategies in responding to crisis can be categorised into retrenchment, preserving, innovating and exit (Wenzel et al., 2020). We identify and categorise the strategies rom the COVID-19 announcement through a rigours content analysis. Content analysis is considered as an appropriate approach to analyse documents or announcements with clear structures and flows, such as gaining insights from companies' social media contents (Thomaz et al., 2017). Following the guidelines in the literature (Elo & Kyngäs, 2008), we use a three-step coding practice of preparing, organising and reporting to measure the four categories of response strategy.

The coding started with deciding the unit of analysis, the level of analysis and the purpose of evaluation (Elo & Kyngäs, 2008). We selected themes as the unit of analysis, looking primarily for the explanation or expression of a concept, which is tweet related to COVID-19 posted by tourism organisations. The level of analysis in this study is the restaurants and hotels who post the announcements on Twitter. The purpose of this coding process was to evaluate the different type of response strategy for each announcement.

As aforementioned, the conceptualisation of response strategy is adopted from Wenzel et al. (2020). We then established a structured coding instruction which guided and trained coders until reaching specific reliability requirements. Following suggestions from Krippendorff (2018), the coding instruction contains an outline, examples of the coding procedures, a general standard for data sheets administration and usage, and the definitions and examples of different type of response strategy (Krippendorff, 2018). Some confusions of classification were clarified and addressed by offering detailed descriptions and examples (see Appendix 1).

In the second step, we recruited two coders whom each have substantial research experience to categorise the firms' responses to COVID-19 as relevant strategy category by using the dictionary of words related to the four types of strategies determined in the first step. We then computed the frequency proportion of words belonging to each strategy category divided by the total words of responses by using Kim and Kumar's (2018) classification approach. An Excel table was provided to the coders to manage the responses extracted from Twitter.

In the final step, we conducted an audit process in order to improve the accuracy of classification (Krippendorff, 2018). Specifically, the two coders read the responses to COVID-19, computed and coded them by following the same coding process. Coding results from the two coders were compared against each other. Initially, the two coders agreed on 89.5% of the classifications, which exceeds recommended rate of 0.70 (Miles & Huberman, 1994). Further assessment was performed on particular responses where agreement could not be reached between the two coders. After much discussion and debate, all the response classifications were accepted, and then inter-rater reliability was ensured.

Linguistic cues of crisis response. Linguistic cues of crisis response can be categorised into concreteness, argument quality, pronouns and assertiveness. We used a similar three-step coding approach, as presented for response strategy, to categorise each announcement into concreteness (0 as high concreteness; 1 as low concreteness), argument quality (1 as strong argument provided; 0 as weak argument provided), pronouns (1 as community identity; 0 as individuated identity), and assertiveness (1 as assertive language used; 0 as non-assertive language used).

Concreteness. Abstraction and concreteness of language can be distinguished by four categories of interpersonal terms: descriptive-action verbs (DAV), interpretive-action verbs (IAV), state verbs (SV), and adjectives (AD). We examined how abstract versus concrete language evolved in COVID-19 announcements using a Linguistic Abstraction Index (LAI) (Semin et al., 2005; the equation is shown below). We first identify linguistic categories automatically by using IBM's Natural Language Processing. Two coders used the Classification Criteria for the Verb Classes (Semin & Fiedler, 1988) to distinguish DAV and IAV, and further used the Stative Verbs List[1] to identify state verbs from other verb types. The index ranges from 1 to 4. Low concreteness is defined as an index score above 2, while high concreteness is defined as an index score below but including 2.

$$\textit{Linguistic Abstraction Index (LAI)} = \frac{n_1+2n_2+3n_3+4n_4}{N}$$

Where n_1 = the number of DAV; n_2 = the number of IAV; n_3 = the number of SV; n_4 = the number of AD

$N = n_1 + n_2 + n_3 + n_4$

Argument quality. To assess the quality of argument, we first learn from the previous studies that manipulate argument quality in their experiments (e.g., Raju et al., 2009). We then analyse argument quality using three criteria based on Toulmin's Model of Argument: evidence grounds, authority, and probability (Toulmin et al., 1984; Hoeken et al., 2020). An argument's ***ground*** refers to specific fact or evidence supporting a claim (Toulmin et al., 1984). Arguments that meet this criterion provide desirable outcomes or attributes that are supported by clear evidence. Argument ***authority*** is determined by how well a rational connection is made between argument and claim (Toulmin et al., 1984). This criterion helped us identify the weak arguments if the arguments failed to become relevant due to their lack of rational and logical connection to COVID-19 response strategies or because they had no effect on consumers' decisions (Chu & Kamal, 2008). ***Probability*** refers to the degree to which the argument's content can be accepted as true (Toulmin et al., 1984; Hoken et al., 2020). If an argument meets probability criteria, qualifiers and rebuttals are used to a greater extent, while words such as "may" and

[1] A list of 56 stative verbs can be found at https://www.perfect-english-grammar.com/stative-verbs.html.

"probably" are used less (Boller et al., 1990). If a COVID-19 announcement has more high performance in three components (grounds, authority, probability), it is viewed as a strong argument.

Pronoun. In terms of pronoun, the two coders marked each COVID-19 announcement as community identity or individuated identity. The categorisations were based on the definitions and the following criterion: to identify community identity, we asked "does the announcement use plural pronouns or not?" and "does we, us, our, or ourselves present in the announcement?"

Assertiveness. The determination of assertive language is based on previous research and considering announcements as assertive when they 1) direct receivers to engage in specific behaviours (such as "Come and join us"); 2) use certain features in the communication to show confidence such as exclamatory mark and bold language; 3) use directional language (Zemack-Rugar et al., 2017). Based on the conceptual understanding, the two coders followed an audit process, as presented earlier in this section, to analyse the announcements. Specifically, the coders categorised each announcement on an individual basis to decide whether it belongs to assertive or non-assertive language usage. An Excel table was used to map the tweet responses and their categorisation into assertiveness/ non-assertiveness. After completion of individual coding, the results were compared with an agreement on 92% of the classifications, higher than the recommended rate of 0.70 (Miles & Huberman, 1994). Regarding the disagreed responses, further assessment and discussion were performed among the research team until reaching an acceptance among all the classifications.

Consumer emotion. Emotion is defined as "internal and subjective experience by an individual of a complex behaviour of physical and mental changes in reaction to some situation" (Batey, 2008, p. 25). A sentiment analysis of consumer comments on each COVID-19 announcement on Twitter conducted using IBM Natural Language Processing was used to identify consumer emotion based on how positive or negative a consumer comment was. IBM Natural Language Processing could provide overall sentiment score on specific sentences (e.g., posts or replies on Twitter) ranging from 1 (extremely positive) to -1 (extremely negative) with a score of 0 representing neutral (Carvalho et al., 2019). As suggested in the product recall crisis literature (Hsu & Lawrence, 2016), the most market reaction occurs within six days after the product recall announcement date. We thus chose a 6-day as the time length to collect customer emotion to examine the combined effects of response strategy and linguistic cue within this time length. In total, the dataset of Study 1 contains 2,953 online user comments regarding 262 COVID-19 announcements within 6 days were collected.

Organisational characteristics. Hotel and restaurant age is measured by the difference between the year of observation and year of business opening (Madanoglu & Ozdemir, 2016). In addition to firm age, we select hotel and restaurant characteristics as a contextual variable and classified them into economy and luxury. Hotel class is measured by star rating (i.e. luxury hotels: 4/5 star and economy hotel: 1/2/3 star) (Kim et al., 2019). Restaurant class is measured by price range that can be found on

the restaurant listings on Google review. Restaurants who are classified in the "£" and "££" pricing categories are assigned as Economy restaurants, while restaurants featured in the "£££" and "££££" are assigned as Luxury restaurants. In Table 1, we summarise the variables used in the study and their calibrations for fsQCA analysis.

Table 1. Variables and their coding for fsQCA

Variables	Definition for coding	Role in theoretical model	Fuzzy set calibrations		
			Full membership	Crossover	Nonmembership
Consumer Emotion	Internal and subjective experience by an individual of a complex behaviour of physical and mental changes in reaction to some situation	Outcome variable	Sentiment value above 0.3	Sentiment value between -0.3 to 0.3	Sentiment value below -0.3
Retrenchment	A COVID-19 announcement indicating a reduction in products or services	Relates to organisational level of the COVID-19 response strategy	1	-	0
Preserving	Firms announce that they will maintain as usual during COVID-19 crisis.		1	-	0
Innovating	During COVID-19 crisis times, a firm's creative ways of displaying its products/services, or its new social practices that come along with it.		1	-	0
Exit	Closing down or temporary closing of a business due to COVID-19 crisis.		1	-	0
Concreteness	COVID-19 announcements with emphasis on particular activity that in general do not have positive or negative semantic valence.	Relates to organisational level of the linguistic cues of response	1 (LAI score below but including 2)	-	0 (LAI score above 2)
Argument Quality	Strong argument refers to firms' COVID-19 announcements with premised or evidence-based reasoning, while weak argument refers to those with absence of reasoning.		1	-	0
Pronouns	The use of Pronoun is distinguished from firms' COVID-19 announcements with the use of plural pronouns to the use of singular pronouns.		1	-	0
Assertiveness	Assertive language refers to firms' COVID-19 announcements that are confidence, forceful, or bold.		1	-	0
Hotel age	Time difference between the year the hotel was founded and the year of retrieval (i.e. 2021)	Contextual variable (Study 1)	Determined by median split Young: <=25; Old: > 25		
Star rating	Hotels are rated from Star 1 to Star 5		Economy: 1/2/3 star; luxury: 4/5 star		
Restaurant age	Time difference between the year the hotel was founded and the year of retrieval (i.e. 2021)	Contextual variable (Study 2)	Determined by median split Young: <=23; Old: > 23		
Price range	Price are rated from £ to £££££		Economy: £ and ££; luxury: £££ and ££££		

3.2.2. fsQCA analysis

In model testing of complex phenomena (e.g., complexity of COVID-19 response), the fsQCA represents a powerful tool (Pappas, 2021). Based on Boolean algebra, this analytical approach uses an asymmetric method of thinking rather than a symmetric method (Park et al., 2020). FsQCA overcomes many of the drawbacks of conventional research, such as non-multicollinearity issues and normality issues arising from data. FsQCA uses a combination of indicators as causal recipes to predict the score

of the desired outcome. Unlike the regression-based methods, fsQCA enable researchers to explain the existence of heterogeneity by considering the views of contrarian cases in the model testing of complex social phenomena that were overlooked in regression-based methods.

FsQCA approach is particularly suitable for this study since it allows for exploration of how various strategies and response framings can work together to produce more positive emotions as fussy-set outcomes (Fiss, 2011). In this study, fsQCA can help answer 1) Which of the theoretically possible configurations of COVID-19 response strategy and linguistic cues can be found in our data, and which cannot, 2) Which configurations are most or least frequent in our data, and how often do cases from our data appear in those configurations, and 3) What COVID-19 response strategies or combinations of response strategies and linguistic cues must exist in order for positive emotion to occur?

We followed Fiss (2011)'s three stages in the fsQCA analysis. We firstly calibrated measurements using membership scores in the first stage. Since all causal conditions are categorical data, they are transformed into crisp datasets in this study. For response strategies, the presence of all strategy-related conditions (retrenchment, preserving, innovating, and exit) is assigned a membership score ("1"), whereas the absence of these conditions is assigned a non-membership score ("0"). For linguistic cues, related conditions are categorical data, and membership or non-membership does not imply the condition's existence or absence, but rather its affiliation to respective categories. Specifically, for abstract/concrete response framing (noted as "AbsCon"), abstract frame is calibrated as 1 indicating the data is aligned with the use of abstract language frame, while concrete frame is calibrated as 0 indicating the data is aligned with the use of concrete language frame. Similarly, for argument quality framing (noted as "AQ"), strong argument frame is calibrated as 1 while weak argument frame is calibrated as 0. For the use of Pronoun (noted as "Pronoun"), frame with community identity is calibrated as 1 while frame with individuated identity is calibrated as 0. For the use of assertive language (noted as "Assertive"), assertive language frame is calibrated as 1 while non-assertive language frame is calibrated as 0. The outcome measurement of consumer emotion is regarded as fuzzy dataset, since it shows a varying degree to which consumers' emotional change towards the crisis response. We used Pineiro-Chousa et al. (2016)'s recommendations to assign full membership score to sentiment values above 0.3, full non-membership score to sentiment values below -0.3, and the crossover point to sentiment values around 0 (between -0.3 and 0.3).

The second stage consisted of reducing truth table rows according to conditions of 1) minimum number of cases required for an outcome (i.e. frequency threshold) and 2) minimum consistency level that represents that outcome (i.e. consistency threshold) (Ragin, 2008). Fiss (2007) notes that configuration with at least one case is considered as empirically pertinent, and Ragin (2008) argues that frequency threshold set as 1 is appropriate in small-N settings but should be set higher in large-N settings, e.g. Pappas et al. (2016) set 3 for a large dataset. Consistency indicates the degree to which cases under each combination of causal conditions are corresponded to the set theoretic relations in a solution (Rihoux & Ragin, 2008). As Ragin (2008) recommended, the minimum threshold as the lowest

acceptable consistency for solutions is 0.75. For our large dataset, we set a frequency threshold of 3 and a consistency threshold of 0.8.

To address the problem of limited diversity in configurational analysis, the third stage involved reducing the truth table to a simplified combination through counterfactual analysis. (Ragin, 2008). In this study, both parsimonious and intermediated solutions are generated, and robustness analyses for the configurational results are conducted as detailed in the results sections.

4. Results of study 1 – the hotel sector

4.1. Configurations in the hotel sector

We firstly conducted a necessary condition test for the causal factors of response strategies and linguistic cues. A condition with its consistency that is above the typically used threshold (i.e. 0.75), is considered as a necessary condition (Ragin, 2008). According to the consistency value, non-retrenchment (0.81), non-exit (0.80), strong arguments (0.88), identity-based pronoun use (0.71), and assertive language usage in framing (0.91) qualify as necessary conditions. Therefore, these conditions are empirically valid and necessary for positive customer emotions in the hotel sector. In Appendix 2 we provide detailed results of the necessary condition tests.

Configurational solutions are presented in Table 2 in order to explicate multiple causal elements that lead to a high score of consumers' positive emotions. We adopt the notation system established by Ragin and Fiss (2008) to express the configurations graphically, which allows to interpret the configuration structures, examine the simultaneous and systemically combination of elements, and explain the particular roles that each element plays in resulting positive consumer emotion (Park et al., 2017). Four configurations of response strategies and linguistic cues that consistently generate consumer positive emotions are depicted in the table, with each column representing a configuration of the eight elements. These configurations are also mapped into an ecology of configurations (Park et al., 2017) by using consistency, raw coverage and unique coverage. An explanation of detailed intermediate and parsimonious solutions is provided in Appendix 3.

Table 2. Configurations sufficient for achieving positive emotion in the hotel sector

	Solutions			
Configuration	1	2	3	4
Response Strategy				
Retrenchment	⊗	⊗	⊗	●
Persevering	⊗	●	⊗	⊗
Innovating	●	⊗	⊗	●
Exit	⊗	⊗	●	⊗
Linguistic Cues				
AbsCon	●	⊗	⊗	⊗
AQ	●	●	●	●
Pronoun	⊗	●	●	●

Assertive	●	●	●	●
Consistency	0.930	0.950	0.905	0.940
Raw coverage	0.215	0.244	0.122	0.151
Unique coverage	0.215	0.244	0.122	0.151
Overall solution consistency	0.934			
Overall solution coverage	0.733			
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".				

S1 and S4 consist of innovating strategy, strong argument quality and assertive language cues as core elements, together with abstract language usage and pronoun of community identity as a peripheral element, respectively. However, innovating strategy is shown as absence in S2 and S3; these two solutions emphasise on concrete and assertive language usage. The change of core conditions potentially implies that all strategies, apart from innovating, could reduce consumer's positive emotions. However, such concerns can be addressed via different pathways that emphasise the significance of linguistic cues. Concrete language (i.e. non-abstract language) is a core element in S2 and S3 to substitute abstract language usage in S1, which implies that consumers' positive emotion can be achieved through providing a clear explanation to their strategy when they either operate as usual, exit the market or retrench the services.

S2 and S3 present pathways without innovating strategy, but instead, adopting preserving and exit strategies as substitutive factors with the same structural configuration of linguistic cues. They both suggest the use of concrete and assertive language as core conditions, together with strong argument quality and pronoun of social identity as peripheral conditions. This indicates that either adopting the strategy of retaining firms' status quo and their usual performance, or the strategy of leaving the market, using concrete and emotionally assertive language that express the firms' confidence in their decisions is essential in gaining consumers' understanding and positive emotions.

Among the four configurations, S1, S2, and S3 demonstrate solutions for response strategy and linguistic cues when an organisation requires to adopt a single strategy (i.e. innovating, preserving or exit), which reflects these three strategies are incompatible against others in the given framing strategies. S1 indicates that innovating strategy such as novel activities should be announced to consumers by using strong argument quality and assertive language cues, and S2 and S3 present solutions for companies when they either operate as usual or exit the market and meanwhile gaining positive emotions among their consumers. Comparatively, S4 presents a combination of retrenchment and innovating strategies in coping with the COVID-19 situation, indicating that retrenchment approach – which usually result in negative consumer reactions – should be applied together with innovative activities and framed in strong argument quality with assertive language, to diminish negative impact of retrenching activities, maintain firm reputations and gain positive emotions from consumers. Furthermore, high argument quality plays a core role in S1 and S4, whilst in S2 and S3 assertive language usage takes over the core role, showing substitutive relations. Particularly, there are two clear

trade-offs between S1 and S2, with the use of innovating strategy and persevering strategy substituting to each other in strategy, and with the use of abstract/concrete language and identity-based pronoun substituting to each other in language.

We further followed Douglas et al.'s (2020) approach to conduct analysis for negative emotions (i.e. ~positive emotions or the absence of positive emotions). Five pathways are found that lead to consumers' negative emotions and results are shown in Appendix 4. As demonstrated from the results, four out of the five solutions include ~innovating strategy and ~assertive language as core elements leading to negative emotions among consumers, which is consistent with results in Table 2 that innovating strategy and assertive language are essential to achieve positive consumers' emotions. Furthermore, as Appendix 4 illustrates, retrenchment in S2 and S5 is an essential element that results in negative emotions, thus meaning that practitioners should avoid using retrenchment strategy in responding to the crisis if they are to retain high sentiment value among customers.

The robustness of the fsQCA results was checked using three approaches including consistency threshold adjustment (Juntunen et al., 2019), sensitivity analysis for the crossover point (Park et al., 2020) and alternative measures (Lewellyn & Muller-Kahle, 2021). A detailed report of the results is presented in Appendix 5. The three analyses confirmed the robustness of the results.

4.2. Theoretical configurational propositions for particular hotel conditions

This study further develops an understanding of consumer emotion toward COVID-19 responses by using the contextual variables. To differentiate hotels, two contextual variables are selected: firm age and star rating. Via fsQCA analysis, we examine how all the causing elements combine together under the particular hotel conditions (i.e. old and economic hotels, young and economic hotels, old and luxury hotels, young and luxury hotels). We map configurations by using the Boolean expression (Ragin & Fiss, 2008) to explicate combinations between strategies and linguistic cues that lead to a high score of consumers' positive emotions, as shown in Table 3.

Table 3. Solutions for achieving positive emotion in the hotel sector when considering contextual variables

		Hotel Characteristics (Measured by star rating)	
		Economy (n = 25)	Luxury (n = 35)
Hotel Age	Old (n = 29)	**Solution 1**: ~Retrenchment*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive **Solution 2:** ~Retrenchment*Preserving*Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive	**Solution 1**: ~Retrenchment*Preserving*~Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 2**: ~Retrenchment*~Preserving*~Innovating*Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 3**: Retrenchment*~Preserving*Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive
	Young (n = 31)	**Solution 1**: ~Retrenchment*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive	**Solution 1**: ~Retrenchment*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive

		Solution 2: ~Retrenchment*Preserving*~Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 3:** ~Preserving*Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 4**: ~Retrenchment*~Preserving*~Innovating*Exit*~AbsCon*AQ*Pronoun*Assertive	**Solution 2**: ~Retrenchment*Preserving*~Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 3**: ~Retrenchment*~Preserving*Innovating*~Exit*AQ*Pronoun*Assertive **Solution 4**: ~Retrenchment*~Preserving*~Innovating*Exit*~AbsCon*AQ*Pronoun*Assertive

Note: * means AND; ~ means negation.

Based on an analysis of the patterns of structures and constellations among old, young, luxury, and economic hotels, we propose an overarching proposition that applies to all types of hotels and emphasises the importance of argument quality as a type of linguistic cue in a crisis response. Across all four firm types, argument quality plays a key role in generating positive emotions, and different strategies can be employed according to the type of organisation. For instance, strong argument quality combined with a preserving strategy may suffice for old firms, whilst strong argument quality coupled with an innovative strategy is effective for young companies. This is consistent with marketing and communication literature regarding the impact of argument quality on consumers (Bhattacherjee & Sanford, 2006; Chang et al., 2015). When presented with a message, strong arguments indicate higher persuasive power embedded in the message and can impact higher perceived usefulness and positive emotions toward the message and the brand.

Furthermore, the configurational approach implies that use of assertive language and strong argument quality when announcing strategies can generate more positive consumer reactions. During COVID-19, the hotel sector is one of those that is experiencing the most uncertainty and restrictions. Clear communication of the company's adopted strategy, backed by assertive and persuasive arguments, can help demonstrate the firm's proactive approach and ad hoc solutions during a crisis (Wong et al., 2021), which is crucial to improving consumer confidence and positive emotion towards the firm. Following this line of thought and based on the empirical results, we propose:

Proposition 1: For all hotels, regardless of the response strategy employed during a public health crisis, argument quality and assertiveness are sufficient to achieve more positive consumer emotions.

Our study shows that young hotels are often more likely to innovate if they do not exit the market (i.e. temporarily close). Young established hotels have a distinct disadvantage over older hotels that have already established routines and processes. New establishments may lack experience; however, they are more likely to learn quickly, which means they have a greater chance of incorporating novel practices and solutions (Falk & Hagsten, 2018). Therefore, innovative approaches in responding to the

crisis demonstrate the young hotels' ability to adapt their learning process and respond rapidly to various challenging situations. Therefore, we suggest:

Proposition 2: An innovative response strategy should be emphasised by young establishments in order to respond to public health crises more effectively.

5. Results of Study 2 – the restaurant sector

5.1. Configurations in the restaurant sector

A necessary condition analysis is firstly conducted, with detailed results shown in Appendix 2. Non-retrenchment (0.86), innovating (0.77), non-exit (0.84), concrete information (0.77), strong argument quality (0.86), community-based identity use of pronoun (0.81), and assertive language in framing (0.91) are qualified for necessary conditions (above consistency threshold of 0.75).

Table 4. Configurations for achieving positive emotion in the restaurant sector

	Solutions			
Configuration	1	2	3	4
Response Strategy				
Retrenchment	⊗	⊗		⊗
Persevering			⊗	⊗
Innovating	●	●		
Exit	⊗	⊗	⊗	
Linguistic Cues				
AbsCon	⊗	•	⊗	⊗
AQ	●	●	•	•
Pronoun	•	⊗	•	•
Assertive	•	•	●	●
Consistency	0.943	0.917	0.980	0.971
Raw coverage	0.403	0.107	0.238	0.320
Unique coverage	0.223	0.107	0.058	0.141
Overall solution consistency	0.948			
Overall solution coverage	0.709			

*Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".

The configuration results of four solutions are presented in Table 4. There are four configurations to achieve consumer positive emotions in the restaurant sector. The structure of the first two configurations is similar to that of S1 in the hotel sector. For S1 and S2, they both rely on an innovating crisis response strategy with avoidance of retrenchment and exit, and with a combination of strong argument and assertive language use. This demonstrates that during the pandemic, when firms decide neither retrench business nor exit the market, announcing an innovating strategy, together with strong argument and assertive language to emphasise the creative activities, can be useful in obtaining positive emotions among customers. Furthermore, S1 and S2 have a clear trade-off, with the use of

abstract/concrete language and identity-based pronoun substituting for each other. This implies that when adopting an innovating strategy, a community-based identity is more useful to explain firms' specific actions for their innovative strategies, whereas an individual-based identity is more suitable in communicating abstract and innovative strategies.

Both S3 and S4 rely on a combination of non-preserving crisis strategy and assertive language, together with concrete information presentation, strong argument and a community identity-based assertive language use. Core conditions in these solutions indicate an avoidance of preserving strategy and the usage of assertive language. This demonstrates that consumers could be concerned about restaurants when they operate as usual, which can only be addressed by emphasising on restaurants' innovative strategies together with high argument quality as presented in S1 and S2. However, S3 and S4 demonstrate opportunities for organisations to announce and adopt retrenchment and exit strategies respectively (presented as "don't care") together with relevant linguistic cues, which is incompatible to S1 and S2. Further, compared to all four solutions, causal conditions in all solutions embrace the usage of high argument quality and assertiveness. This indicates that these two conditions are more significant to explain response strategies during the pandemic.

We also run the analysis for negative emotions (i.e. ~positive emotions or the absence of positive emotions) for the restaurant sector, and identified five pathways as shown in Appendix 3. It is notable that in S1 and S2 in Appendix 3, ~ innovating strategy and ~ argument quality (i.e. weak argument) are core elements to lead to negative emotions. In comparison with the S1 and S2 in Table 4 - a combination between innovating strategy and strong argument quality contributing to positive consumers' emotions – results between the positive and negative emotion analyses are consistent. Furthermore, as Appendix 3 illustrates, ~assertive language is an essential element in resulting negative emotions, and reaffirms that respondance using assertive language are more likely to receive positive consumers' emotions.

Similar to Study 1, we performed three robustness tests to confirm the robustness of configuration results, with results shown in Appendix 5. The results from both study 1 (the hotel sector) and study 2 (the restaurant sector) demonstrate that innovating strategy is essential in resulting positive consumer reactions. The two studies also reveal the synergistic effects of innovating strategy, strong argument quality and assertive emotion in achieving positive consumer reactions.

5.2. Theoretical configurational propositions for particular restaurant conditions

We have divided restaurant cases into four groups based on two contextual factors (firm age and price range): Old and Economy, Old and Luxury, Young and Economy, and Young and Luxury. Four truth table analyses are conducted with results presented in Table 5.

Table 5. Solutions for achieving positive emotion in the restaurant sector when considering contextual variables

		Restaurant Characteristics (measured by price range)	
		Economy (n = 29)	Luxury (n = 7)
Restaurant Age	Old (n = 19)	**Solution 1**: ~Retrenchment*~Preserving*~AbsCon*AQ *Pronoun*Assertive **Solution 2**: ~Retrenchment*Innovating*~Exit*~AbsCon *AQ*Pronoun*Assertive **Solution 3**: ~Retrenchment*Preserving*Innovating*~Ex it*AbsCon*AQ*~Pronoun*Assertive	**Solution 1:** ~Retrenchment*Innovating*~Exit*~AbsCon* ~Pronoun*Assertive **Solution 2:** ~Retrenchment*Innovating*~Exit*~AbsCon* AQ*Pronoun **Solution 3:** ~Retrenchment*Innovating*~AbsCon*AQ*Pr onoun*Assertive **Solution 4:** ~Retrenchment*Preserving*Innovating*~Exit *AbsCon *Pronoun*Assertive
	Young (n = 17)	**Solution 1**: ~Exit*~AbsCon*AQ*Pronoun*Assertive **Solution 2:** ~Retrenchment*Innovating*~AbsCon*Pron oun*Assertive	**Solution 1:** ~Retrenchment*Innovating*~AbsCon*AQ*Pr onoun*Assertive **Solution 2:** Preserving*~Exit *AbsCon*AQ*Pronoun*Assertive **Solution 3:** *~Retrenchment*Preserving*Innovating*~Ex ot*AbsCon*~Pronoun*Assertive

Note: * means AND; ~ means negation.

Two propositions are proposed to achieve positive consumer emotions across four types of organisations in the restaurant sector. First, an innovative response strategy appears to be an enabling condition for positive emotions, along with strong argument quality and assertiveness in linguistic cues. An innovative strategy seeks to engage in a new strategic renewal (Wenzel et al., 2020). In spite of the continuing uncertainty and complexity associated with the COVID-19 pandemic, there are also opportunities for restaurants to incorporate creative business strategies and activities, such as in-home recipes and a variety of delivery channels, to better adapt to the situation. It is evident from studies on crisis management that innovative strategies such as adopting new technologies can positively influence consumers' emotions. (e.g., Crick & Crick, 2020).

Along with innovative response strategies, we have found that strong arguments and assertive language serve as conditions for reinforcing the impact of responses on consumer positive emotions. Nevertheless, in some consumer behaviour studies, assertive language appears to negatively influence consumer compliance (e.g. Zemack-Rugar et al., 2017). A possible explanation is that the effect of assertive language on consumer behaviour might be context dependent (Kronrod et al., 2012a). For example, Kronrod et al. (2012b) demonstrated that assertiveness appeal can be effective in resulting in customer satisfaction when involving hedonistic products or activities. During the pandemic, an announcement of innovative strategies in an assertive manner and with a clear focus by restaurants can be helpful to enhancing consumer confidence. Therefore, we propose:

Proposition 3: For all restaurants, using linguistic cues of argument quality and assertiveness to enhance an innovating response strategy can assist them in achieving positive consumer emotions during a public health crisis.

Secondly, the analysis reveals that retrenchment strategies, such as reduction of costs and narrowing of service channels, should be excluded from the configurational solutions. Despite the fact that literature suggests that during times of crisis, retrenchment strategies contribute to remain profitability (Wenzel et al., 2021), enable the company to rebound from recessions (Barker et al., 2001) and reduce work complexity (Benner & Zenger, 2016), downsizing and cost-saving initiatives can leave customers feeling uncertain (Habel & Klarmann, 2015; Homburg et al., 2012). For example, restaurants may reduce costs on business activities and menu choices, and limit serving lines to only allow take-away orders, but this can result in a decline in consumer satisfaction and an increase in anxiety towards the firm and the pandemic situation. Therefore, we suggest:

Proposition 4: A retrenchment response strategy should be avoided for all restaurants during a public health crisis.

6. General Discussion

Using real-world data from the UK restaurant and hotel industries, this study empirically examines how response strategy, linguistic cues, and organisational characteristics interact to create positive emotional reactions. Our study is among the first to use the fsQCA method for offering new insights into the complicated formulation of crisis responses. Our results extend some well-established findings in the tourism crisis literature by suggesting that combining innovative response strategy, argument quality, and assertive language can reinforce positive emotions. Consistent results are found between the hotel dataset and the restaurant dataset. In the following sections, we discuss the theoretical and practical implications.

6.1. Theoretical implications

This research contributes to the tourism crisis management in several ways. First, tourism organisations' crisis management initiatives involve readiness, response, and recovery (3Rs). The 3Rs are crucial in mitigating the negative consequences of the crisis for travel & tourism businesses, stakeholders and tourists' well-being (Ritchie, 2008). Since it is likely that consumers will pay more attention to the actions tourism organisations take during a crisis, our study emphasises the importance of tourism organisations responding quickly in crisis situations. Thus, our results contribute to the understanding of how to craft crisis responses to achieve a positive consumer reaction.

Second, while conventional wisdom suggests that tourism crisis responses should define the crisis responsibly, explain its causes, provide appropriate warnings to tourists, and suggest how market

uncertainty and consumer anxiety can be mitigated (Millar & Heath, 2003), we explain how this can be accomplished in a more nuanced way. For instance, our findings suggest that argument quality is sufficient for achieving more positive consumer emotions regardless which response strategy is adopted during a public health crisis. However, for young hotels, they should formulate responses in an innovating manner to facilitate consumers' positive emotions when responding to a public health crisis on social media platforms,

Moreover, some solutions from fsQCA analysis suggest that response strategy merely plays a marginal role in achieving consumer positive emotion, especially for retrenchment and reserving strategies. For instance, our findings reveal that retrenchment response strategy should be avoided for all restaurants during a public health crisis. We suspect that this is due to COVID-19 information given from various sources (e.g., government authorities) are overwhelmed. Thus, providing tedious responses may lead to the perception of information overload or possibly create anxiety or stress for tourism consumers. As a result, we provide novel findings, compared to the findings of prior research (e.g., Novelli et al., 2018), suggesting that when formulating tourism crisis response, tourism practitioners should consider a shift in emphasis away from a response strategy per se towards focusing on linguistic cues and response framing. This is evident by a recent study undertaken by Wang et al. (2021) where it was found that consumer trustworthiness could significantly recover when firms frame their COVID-19 related tweets in an emotional way, regardless of what response strategy is used.

In addition, this study contributes to the signalling theory by exploring the configurational effects among signals and how they impact on signal receivers' emotions. In this regard, we confirm Kirmani & Rao's (2000) conjecture of signalling theory by suggesting that consumers' positive emotion during the COVID-19 crisis may result from a combination of various types of crisis responses. We also theorise how the signallers' characteristics influence the synergetic effectiveness of the signal on a specific signalling environment (i.e. social media environment). Considering the characteristics of signallers, we suggest specific combinations of signals to different types of signallers (such as young establishments and economic hotels) in order to formulate crisis responses. Thus, the configurational effect of signals advances our understanding of tourism crisis response as it not only investigate the direct impact of crisis response but also the conjunctural causation and the interaction effect of crisis response on consumer reactions

6.2. Practical implications

Crisis management teams need to prepare to communicate in ways which ensure all consumers, and other stakeholders, fully understand the emerging situation. At the same time, further actions to return to normal operation start to take place at the recovery stage. Actions include minimising current damage and future risks to the organisation and its stakeholders, promulgating a well-structured recovery plan, implementing recovery strategies and monitoring their effectiveness on any functional aspect of the business. Outlining these actions with the appropriate response strategies will not only

safeguard the health of customers and employees but also, help restore consumer confidence and reduce perceived risk. We suggest a crisis management team to develop the crisis communication by using bucket testing or scenario planning that allows them to better understand the effectiveness of potential crisis communication, and what will be happening and which actions to take next.

Derived from the fsQCA results, we summarise the managerial implication for hotels and restaurants and this guidance can be applied at the crisis recovery stage, shown in Table 6.

Table 6. A summary of managerial implications on COVID-19 responses for hotels and restaurants

Sectors	Managerial implications
Hotels	• Create announcements to highlight a hotel's capability against COVID-19 related challenges in a confident way that will bond with customers (Evidence shown in four solutions of Study 1) • Educate tourists about contamination when they travel in an innovative way (Evidence shown in Solution 1 and Solution 4 of Study 1) • Demonstrate the innovation approach to elevate hygiene standards (e.g., Hilton is working with the Mayo Clinic's infection prevention and control team and RB (the company producing Lysol and Dettol) (Evidence shown in Solution 1 and Solution 4 of Study 1) • Demonstrate how firms have been fighting the pandemic by telling an uplifting story of a frontline employee who is fighting it from the front. (Evidence shown in Solution 1 and 4 of Study 1) • Respond to customers' concerns by ensuring that crisis communication is done accurately and efficiently across all social media platforms [Evidence shown in Solution 1 and 4 of Study 1; supported by Utz et al. (2013) who suggest crisis communication via social media is more effective than other channels]
Restaurants	• Develop an innovative crisis response that is tailored to a restaurant's brand image, to emphasise sufficient experience in handling crises (Evidence shown in Solution 1 and 2 of Study 2) • Ensure that messages include authoritative sources of crisis information and travel advice, such as government authorities or reputable non-profit organisations (Evidence shown in Solution 1 and 2 of Study 2) • Create a sense of empathy and social responsibility in crisis response rather than focusing on commercial interests (Evidence shown in Solution 3 and 4 of Study 2; supported by Schoofs et al. (2019) who suggest stakeholders' empathy and corporate apologies reduces reputational damage) • Communication efforts should be intensified to make sure the COVID-19 support and guidance is adhered to by employees (Evidence shown in Solution 3 and 4 of Study 2)

7. Conclusion

Tourism practitioners have been rethinking the communication strategies for the post-COVID-19 period as adequate and relevant responses to customer concerns could stimulate their revisit intentions. In the global pandemic crisis context, this study provides actionable solutions to tourism organisations on how to formulate the announcements related to the pandemic crisis via social media platforms to

elicit customers' positive emotions. We further identify some promising research directions worthy of scholarly investigation.

First, tourism researchers are encouraged to further study what the effective communication methods (e.g., visual and audio communications) are which offer proper responses to reduce tourism consumers' concerns and provide corrective and restorative guidance following a crisis. The exemplar research questions specific to this research direction are "*How crisis response formulated in a visual or audio format can generate positive consumer reactions*?", "*How can visualisation of crisis response ideally be implemented to benefit from consumer trust?*" and "*What are the visual or audio mechanisms in the marketing communication process that can induce tourism consumers' revisit intention following a crisis event?"*

Second, risk perception will vary towards different destinations (most versus less affected). Scholars could consider perception of risk to travel across most, and least, affected countries to disentangle the impact of crisis response on travellers' behavioural and emotional reactions. Furthermore, research could investigate other contextual variables for the crisis response-consumer reactions link, considering, for example, tourists' risk aversion, or other destination level factors, such as destination brand attachment, destination brand love and the like. The inclusion of these factors could improve understanding of the conditions that would mitigate, or heighten, travellers' reactions toward crisis responses.

Third, responding rapidly to, and bouncing back from, such a large-scale crisis requires to involve tourism stakeholders such as online travel agents (OTAs). OTAs can speed up the recovery to help tourism organisations circulate crisis responses or marketing messages following a crisis. Thus, future research is encouraged to explore what the role of OTAs can play in response to global pandemic, and how tourism organisations cope with crisis with OTAs through coordination mechanisms.

Finally, the use of Twitter data alone may create limitations since Twitter may provide different insights from other social media platforms. Online reviews may not capture all corporate communication signals. Although some researchers have claimed that brand-related sentiment in user-generated content does not differ across social networking sites (Smith et al., 2012), future studies which investigate the effect of responses to public health crises on consumer sentiment across different social media platforms would be beneficial.

References

Argenti, P. A. (2020). Communicating through the coronavirus crisis. *Harvard Business Review*, Available at: https://hbr.org/2020/03/communicating-through-the-coronavirus-crisis.

Barker, V., Patterson, P., & Mueller, G. (2001). Organizational Causes and Strategic Consequences of the Extent of Top Management Team Replacement During Turnaround Attempts. *Journal of Management Studies, 38(2),* 235–270.

Basuroy, S., Desai, K. K., & Talukdar, D. (2006). An empirical investigation of signalling in the motion picture industry. *Journal of Marketing Research*, 43(2), 287-295.

Batey, M. (2008), Brand meaning, Routledge, London.

Benner, M. J., & Zenger, T. (2016). The lemons problem in markets for strategy. *Strategy Science*, 1(2), 71-89.

Bhattacherjee, A. & Sanford, C. (2006). Influence processes for information technology acceptance: An elaboration likelihood model. *MIS Quarterly, 30(4),* 805-825.

Boller, G. W., Swasy, J. L., & Munch, J. M. (1990). Conceptualizing argument quality via argument structure. ACR North American Advances.

Borden, J. & Zhang, X. (2019). Linguistic crisis prediction: An integration of the linguistic category model in crisis communication. *Journal of Language and Social Psychology*, *38(5-6),* 650-679.

Briñol, P., McCaslin, M. J., & Petty, R. E. (2012). Self-generated persuasion: effects of the target and direction of arguments. *Journal of Personality and Social Psychology*, 102(5), 925-940.

Carnahan, S. (2017). Blocked but not tackled: who founds new firms when rivals dissolve?. *Strategic Management Journal*, 38(11), 2189-2212.

Carvalho, A., Levitt, A., Levitt, S., Khaddam, E. & Benamati, J. (2019). Off-the-shelf artificial intelligence technologies for sentiment and emotion analysis: a tutorial on using IBM natural language processing. *Communications of the Association for Information Systems, 44(1),* 43.

Chakrabarti, A. (2015). Organizational adaptation in an economic shock: The role of growth reconfiguration. *Strategic Management Journal, 36(11*), 1717-1738.

Chang, Y. T., Yu, H., & Lu, H. P. (2015). Persuasive messages, popularity cohesion, and message diffusion in social media marketing. *Journal of Business Research*, 68(4), 777-782.

Chu, S. C., & Kamal, S. (2008). The effect of perceived blogger credibility and argument quality on message elaboration and brand attitudes: An exploratory study. *Journal of Interactive Advertising*, 8(2), 26-37.

Claeys, A. S. & Cauberghe, V. (2014). What makes crisis response strategies work? The impact of crisis involvement and message framing. *Journal of Business Research, 67(2),* 182-189.

Connelly, B.L., Certo, S.T., Ireland, R.D., & Reutzel, C.R. (2011). Signalling theory: A review and assessment. *Journal of Management*, *37(1),* 39-67.

Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review*, *10(3),* 163-176.

Cox, J., & Kaimann, D. (2015). How do reviews from professional critics interact with other signals of product quality? Evidence from the video game industry. *Journal of Consumer Behaviour,* 14(6), 366-377.

Crick, J., & Crick, D. (2020). Coopetition and COVID-19: Collaborative business-to-business marketing strategies in a pandemic crisis. *Industrial Marketing Management, 88,* 206–213.

Dahles, H., & Susilowati, T. P. (2015). Business resilience in times of growth and crisis. *Annals of Tourism Research, 51,* 34–50.

Do, B., Nguyen, N., D'Souza, C., Bui, H. D., & Nguyen, T. N. H. (2021). Strategic responses to COVID-19: The case of tour operators in Vietnam. *Tourism and Hospitality Research*, 1467358421993902.

Elo, S. & H. Kyngäs (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*,107-115.

Falk, M., & Hagsten, E. (2018). Influence of local environment on exit of accommodation establishments*. Tourism Management*, *68,* 401-411.

Filieri, R. (2016). What makes an online consumer review trustworthy?. *Annals of Tourism Research*, 58, 46-64.

Filieri, R., Raguseo, E., & Vitari, C. (2021a). Extremely negative ratings and online consumer review helpfulness: the moderating role of product quality signals. *Journal of Travel Research*, 60(4), 699-717.

Filieri, R., Yen, D. A., & Yu, Q. (2021b). # ILoveLondon: An exploration of the declaration of love towards a destination on Instagram. *Tourism Management*, 85, 104291.

Fiss, P. (2011). Building better causal theories: A fuzzy set approach to typologies in organization research. *Academy of Management Journal, 54(2),* 393-420.

Habel, J., & Klarmann, M. (2015). Customer reactions to downsizing: When and how is satisfaction affected? *Journal of the Academy of Marketing Science, 43(6),* 768–789.

Hoeken, H., Hornikx, J., & Linders, Y. (2020). The importance and use of normative criteria to manipulate argument quality. *Journal of Advertising*, 49(2), 195-201.

Homburg, C., Klarmann, M., & Staritz, S. (2012). Customer Uncertainty following Downsizing: The Effects of Extent of Downsizing and Open Communication. *Journal of Marketing*, *76(3),* 112–129.

Hsu, L. & B. Lawrence (2016). The role of social media and brand equity during a product recall crisis: A shareholder value perspective. *International Journal of Research in Marketing, 33,* 59-77.

Javornik, A., Filieri, R., & Gumann, R. (2020). “Don't forget that others are watching, too!” the effect of conversational human voice and reply length on observers' perceptions of complaint handling in social media. *Journal of Interactive Marketing*, 50, 100-119.

Juntunen, J. K., Halme, M., Korsunova, A., & Rajala, R. (2019). Strategies for integrating stakeholders into sustainability innovation: a configurational perspective. *Journal of Product Innovation Management*, 36(3), 331-355.

Kharouf, H., D. J. Lund, A. Krallman & C. Pullig (2020). A signalling theory approach to relationship recovery’, *European Journal of Marketing*, *54*, 2139-2170

Kim, B., Kim, S., King, B., & Heo, C. Y. (2019). Luxurious or economical? An identification of tourists’ preferred hotel attributes using best–worst scaling (BWS). *Journal of Vacation Marketing, 25(2),* 162-175.

Kim, K. H., & Kumar, V. (2018). The relative influence of economic and relational direct marketing communications on buying behavior in business-to-business markets. *Journal of Marketing Research*, 55(1), 48-68.

Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signalling unobservable product quality. *Journal of Marketing*, 64(2), 66-79.

Kronrod, A., Grinstein, A., & Wathieu, L. (2012a). Go green! Should environmental messages be so assertive?. *Journal of Marketing, 76(1),* 95-102.

Kronrod, A., Grinstein, A., & Wathieu, L. (2012b). Enjoy! Hedonic consumption and compliance with assertive messages. *Journal of Consumer Research, 39(1),* 51-61.

Lee, C. C., & Chen, C. J. (2011). The reaction of elderly Asian tourists to avian influenza and SARS. *Tourism Management*, 32(6), 1421-1422.

Lee, G., Jeong, J., Seo, S., Kim, C., & Kang, P. (2018). Sentiment classification with word localization based on weakly supervised learning with a convolutional neural network. *Knowledge-Based Systems*, 152, 70-82.

Lewellyn, K. B., & Muller-Kahle, M. I. (2021). A Configurational Exploration of How Female and Male CEOs Influence Their Compensation. *Journal of Management*, 01492063211027225.

Li, H., Liu, Y. F., Liang, S., & Zhou, Q. (2020). Tourism firm restructuring: Does the attention of individual investor matter?. *Tourism Management, 80,* 104126.

Lydon, J. E., Menzies-Toman, D., Burton, K., & Bell, C. (2008). If-then contingencies and the differential effects of the availability of an attractive alternative on relationship maintenance for men and women. *Journal of personality and social psychology, 95(1),* 50.

Madanoglu, M., & Ozdemir, O. (2016). Is more better? The relationship between meeting space capacity and hotel operating performance. *Tourism Management, 52,* 74-81.

Meyer, A. D., Tsui, A. S., & Hinings, C. R. (1993). Configurational approaches to organizational analysis. *Academy of Management Journal*, 36(6), 1175-1195.

Miles, M. & A. Huberman (1994). *Qualitative Data Analysis: An Expanded Sourcebook (2nd edition)*. Thousand Oaks CA: Sage.

Millar, D. P., & Heath, R. L. (2003). Responding to crisis: A rhetorical approach to crisis communication. Routledge.

Ndofor, H., Vanevenhoven, J. & Barker III, V. (2013). Software firm turnarounds in the 1990s: An analysis of reversing decline in a growing, dynamic industry. *Strategic Management Journal, 34(9),* 1123-1133.

Novelli, M., Burgess, L. G., Jones, A., & Ritchie, B. W. (2018). 'No Ebola… still doomed'–The Ebola-induced tourism crisis. *Annals of Tourism Research, 70*, 76-87.

Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N. and Chrissikopoulos, V. (2016). Explaining online shopping behavior with fsQCA: The role of cognitive and affective perceptions. *Journal of Business Research*, 69(2), 794-803.

Pappas, N. (2021). COVID19: Holiday intentions during a pandemic. *Tourism Management*, 84, 104287.

Park, Y., El Sawy, O.A. & Fiss, P., (2017). The role of business intelligence and communication technologies in organizational agility: a configurational approach. *Journal of the Association for Information Systems, 18(9),*1.

Park, Y., Pavlou, P. A., & Saraf, N. (2020). Configurations for achieving organizational ambidexterity with digitization. *Information Systems Research*, 31(4), 1376-1397.

Pearce, J. A., & Robbins, D. K. (1994). Retrenchment remains the foundation of business turnaround. *Strategic Management Journal*, 15(5), 407-417.

Pineiro-Chousa, J., López-Cabarcos, M., & Pérez-Pico, A. (2016). Examining the influence of stock market variables on microblogging sentiment. *Journal of Business Research, 69(6),* 2087-2092.

Pogacar, R., Shrum, L. J., & Lowrey, T. M. (2018). The effects of linguistic devices on consumer information processing and persuasion: a language complexity× processing mode framework. *Journal of Consumer Psychology, 28(4),* 689-711.

Ragin, C. C. (2008). Redesigning Social Inquiry: Fuzzy Sets and Beyond. Chicago, IL: University of Chicago Press.

Ragin, C., & Fiss, P. (2008). Net effects analysis versus configurational analysis: An empirical demonstration. *Redesigning social inquiry: Fuzzy sets and beyond, 240,* 190-212.

Raju, S., Unnava, H. R., & Montgomery, N. V. (2009). The moderating effect of brand commitment on the evaluation of competitive brands. *Journal of Advertising*, 38(2), 21-36.

Ren, C., Hu, Y., & Cui, T. (2019). Responses to rival exit: Product variety, market expansion, and preexisting market structure. *Strategic Management Journal, 40(2),* 253–276.

Rihoux, B., & Ragin, C. C. (2008). Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques. Sage Publications.

Rocklage, M., & Fazio, R. (2020). The enhancing versus backfiring effects of positive emotion in consumer reviews. *Journal of Marketing Research, 57(2),* 332-352.

Roy, R., Lampert, C. M., & Stoyneva, I. (2018). When dinosaurs fly: The role of firm capabilities in the 'avianization'of incumbents during disruptive technological change. *Strategic Entrepreneurship Journal*, 12(2), 261-284.

Schoofs, L., Claeys, A. S., De Waele, A., & Cauberghe, V. (2019). The role of empathy in crisis communication: Providing a deeper understanding of how organizational crises and crisis communication affect reputation. *Public Relations Review*, 45(5), 101851.

Seetharaman, P. (2020). Business models shifts: Impact of Covid-19. *International Journal of Information Management, 54,* 102173.

Sela, A., Wheeler, S. C. & Sarial-Abi, G. (2012). We Are Not the Same as You and I: Causal Effects of Minor Language Variations on Consumers' Attitudes toward Brands. *Journal of Consumer Research, 39(3),* 644-661.

Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology*, 54(4), 558-568.

Semin, G. R., Higgins, T., de Montes, L. G., Estourget, Y., & Valencia, J. F. (2005). Linguistic signatures of regulatory focus: how abstraction fits promotion more than prevention. *Journal of Personality and Social Psychology*, 89(1), 36-45.

Sigala, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. *Journal of Business Research*, 117, 312-321.

Smith, A. N., Fischer, E., & Yongjian, C. (2012). How does brand-related user-generated content differ across YouTube, Facebook, and Twitter?. *Journal of Interactive Marketing*, 26(2), 102-113.

Song, H. J., Yeon, J., & Lee, S. (2021). Impact of the COVID-19 pandemic: Evidence from the U.S. restaurant industry. *International Journal of Hospitality Management, 92,* 102702.

Spence, A. M. (1973). Time and communication in economic and social interaction. *The Quarterly Journal of Economics*, 87(4), 651-660.

Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American Economic Review*, 92(3), 434-459.

Stieglitz, N., Knudsen, T., & Becker, M. C. (2016). Adaptation and inertia in dynamic environments. *Strategic Management Journal*, 37(9), 1854-1864.

Taboada, M., Brooke, J., Tofiloski, M., Voll, K., & Stede, M. (2011). Lexicon-based methods for sentiment analysis. *Computational Linguistics*, 37(2), 267-307.

The Deloitte Consumer Tracker (2021). The Deloitte Consumer Tracker Q2 2021: Confidence returns to pre-Covid-19 levels. Deloitte LLP.

Thomaz, G. M., Biz, A. A., Bettoni, E. M., Mendes-Filho, L., & Buhalis, D. (2017). Content mining framework in social media: A FIFA world cup 2014 case analysis. *Information & Management, 54(6),* 786-801.

Toulmin, S. E., Reike, R., & Janik, A. (1984). Introduction to Reasoning, New York, NY: Macmillan.

UNWTO (2020). World tourism remains at a standstill as 100% of countries impose restrictions on travel. 4 MAY 2021. Available at: https://www.unwto.org/news/covid-19-world-tourism-remains-at-a-standstill-as-100-of-countries-impose-restrictions-on-travel.

Utz, S., Schultz, F., & Glocka, S. (2013). Crisis communication online: How medium, crisis type and emotions affected public reactions in the Fukushima Daiichi nuclear disaster. *Public Relations Review*, 39(1), 40-46.

Vorhies, D. W., & Morgan, N. A. (2003). A configuration theory assessment of marketing organization fit with business strategy and its relationship with marketing performance. *Journal of Marketing*, 67(1), 100-115.

Wang, Y., Zhang, M., Li, S., McLeay, F., & Gupta, S. (2021). Corporate Responses to the Coronavirus Crisis and their Impact on Electronic-Word-of-Mouth and Trust Recovery: Evidence from Social Media. *British Journal of Management.* 32(4), 1184-1202

Wenzel, M., Stanske, S., & Lieberman, M. (2020). Strategic responses to crisis. *Strategic Management Journal*, 41, V7–V18

Wong, I., Ou, J. & Wilson, A. (2021). Evolution of hoteliers' organizational crisis communication in the time of mega disruption. *Tourism Management, 84,* 104257.

World Travel and Tourism Council (2020). Coronavirus puts up to 50 million Travel and Tourism jobs at risk says WTTC. Available at: https://www.wttc.org/about/media-centre/press-releases/press-releases/2020/coronavirus-puts-up-to-50-million-travel-and-tourism-jobs-at-risk-says-wttc/

Wu, C. W., & Reuer, J. J. (2021). Acquirers' reception of signals in M&A markets: Effects of acquirer experiences on target selection. *Journal of Management Studies*, 58(5), 1237-1266.

Yuan, D., Lin, Z., Filieri, R., Liu, R., & Zheng, M. (2020). Managing the product-harm crisis in the digital era: The role of consumer online brand community engagement. *Journal of Business Research*, *115*, 38-47.

Zemack-Rugar, Y., Moore, S., & Fitzsimons, G. (2017). Just do it! Why committed consumers react negatively to assertive ads. *Journal of Consumer Psychology, 27(3),* 287-301.

Appendices

Appendix 1. Measurement for COVID-19 response strategy and linguistic cues

	Retrenchment	Preserving	Innovating	Exit
Examples of Phrases and Keywords	Reducing, selected restaurants only, delivery only, cutting down	Still open; maintain; keep preserving	New; creative; innovative ideas; new practices	Temporally close; close; leave; not open until; Bye
Examples of Crisis responses	*We're coming soon! 💙We can't wait to reopen our doors and see you all again 😍We're working hard to get everything ready and we will start opening some of our restaurant doors at the end of July.* *Following our operational test, we have reviewed our limited menu and will add the Vegetable Deluxe to the menu and Veggie Dippers to both our main menu and Happy Meal.*	*Under Government advice, we're still open.* *During these trying times, it's important that we support those who are working hard to keep our nation safe. While we are still able to have our stores open, we are offering 50% off to all NHS staff. 💚From the bottom of our hearts, thank you for your hard work.*	*We're so excited to be back, we really missed you. As a thank you for sticking with us we're giving away 75,000 gifts to our first customers when we begin to re-open* *To say THANK YOU to our hardworking emergency services, we're giving all Blue Light Card holders 50% off food, 7 days a week*	*In line with the latest government advice regarding Covid-19, we have decided to close all bars and restaurants until further notice, cancelling all reservations.* *Big thanks to @PizzaHutDeliver, @Deliveroo and our amazing Hut teams for helping us to donate over 40K hot meals to NHS workers and homeless shelters across the UK.*

	Abstract/Concrete	Argument Quality	Pronouns	Assertiveness
Examples of Phrases and Keywords	***Abstract words***: Hate, thank, help, difficult, concern ***Concrete words***: can, 50%, facility, stop, follow, guidance	***Strong arguments***: Because, we ensure, accredited for ***Weak arguments***: not sure about, it might be, probably	***Pronoun use for Community identity***: We, us, our, ourselves ***Pronoun use for individuated identity***: I, me, myself, it, a specific name	***Assertive language***: Phrases with confidence, forcefulness or bold. Directional, clear language use ***Non-assertive language***: Phrases with helpless, thoughtless, or anxious, Undirectional, fussy language use
Examples of Crisis responses	***Abstract***: *Great news! More of our amazing hotels are ready to welcome you back safely* (Abstraction index score is 3.6) ***Concrete:*** *Meetings!* *Putting your safety first.* *Currently hosting meetings and conferences for up to 30 delegates and following government guidance to control the virus.* (Abstraction index score is 1.25)	***Strong argument***: *We are very pleased to say that we have been independently accredited for our Covid-19 cleaning protocols .* *#qualityintourism* *Molly our Reception Manager is getting very excited to be welcoming everyone back to the hotel from Saturday.* ***Weak argument***: *Ola, amigos! Our restaurants are closed for now, but we'll be back with tacos and margaritas quicker than you can say "ay caramba"!* *Our hotels can't wait to start welcoming you back in just a couple of days, so it's time to book your escape.*	***Community identity***: *We are absolutely heartbroken to announce that all our restaurants are closed until further notice - including those offering home delivery. We want to thank all our incredible teams and guests that made Chiquito such a fun and happy place to spend time at.* ***Individual identity***: *The best fine dining deliveries in London, including @HakkasanMayfair and Le Comptoir Robuchon*	***Assertive language***: *We. Are. Open! It feels like forever since we last saw you but the day has finally arrived and we couldn't be more excited! Come and join us for stacks of pancakes, seasonal dishes, delicious desserts, or maybe just a cocktail in the sunshine* ***Non-assertive language***: *We didn't have our best day today, and we've written a short note to our customers who felt disappointed*

Appendix 2. Necessary condition analysis for Study 1 and Study 2

Necessary condition analysis for consumers' positive emotions in the hotel sector (Study 1)

Outcome variable: positive emotion (measured by sentiment value)		
Conditions	Consistency	Coverage
Retrenchment	0.186495	0.617021
~Retrenchment	0.813505	0.672872
Persevering	0.369775	0.611702
~Persevering	0.630225	0.695035
Innovating	0.466238	0.677570
~Innovating	0.533762	0.648438
Exit	0.196141	0.693182
~Exit	0.803859	0.654450
AbsCon	0.363344	0.559406
~AbsCon	0.636656	0.738806
AQ	0.881029	0.756906
~AQ	0.118971	0.342593
Pronoun	0.707395	0.625000
~Pronoun	0.292605	0.771186
Assertive	0.906752	0.774725
~Assertive	0.093248	0.273585

Necessary condition analysis for consumers' positive emotions in the restaurant sector (Study 2)

Outcome variable: Positive emotion		
Conditions (Condition variables *)	Consistency	Coverage
Retrenchment	0.135922	0.191781
~Retrenchment	0.864078	0.700787
Persevering	0.524272	0.556701
~Persevering	0.475728	0.475728
Innovating	0.776699	0.761905
~Innovating	0.223301	0.242105
Exit	0.160194	0.445946
~Exit	0.839806	0.530675
AbsCon	0.233010	0.266667
~AbsCon	0.766990	0.718182
AQ	0.864078	0.816514
~AQ	0.135922	0.153846
Pronoun	0.805825	0.482558
~Pronoun	0.194175	0.714286
Assertive	0.907767	0.820175
~Assertive	0.092233	0.110465
*In condition variables, AbsCon/~AbsCon indicates Abstract Language/Concrete Language; AQ/~AQ indicates Strong Argument/Weak Argument; Pronoun/~Pronoun indicates "we"/ "it"; Assertive/ ~Assertive indicates Assertive Language/Non-assertive Language.		

Appendix 3. Intermediate and parsimonious solutions for Study 1 and Study 2

The intermediate and parsimonious solutions based on the fsQCA analysis is presented in the following table. The elements in parsimonious solution are considered as core elements in resulting the expected outcome and are embedded in the intermediate solutions. According to the results in this study 1, a combination of innovating and non-exit strategy, strong argument quality and assertiveness in language usage has a strong causal relationship with positive emotion. However, elements such as assertiveness and pronoun appear in intermediate solutions are peripheral factors that have a comparatively weaker causal relationship with the outcome of positive emotion. These peripheral factors complement core elements (i.e. factors shown in parsimonious solutions) in achieving the outcome.

Configurations of elements sufficient for positive emotion in the hotel sector (Study 1)

	Parsimonious solutions	Intermediate solutions
Positive emotion	• Innovating*~Exit*AQ*Assertive • ~Retrenchment*~Innovating*~AbsCon*Assertive	• ~Retrenchment*~Preserving*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive • ~Retrenchment*Preserving*~Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive • ~Retrenchment*~Preserving*~Innovating*Exit*~AbsCon*AQ*Pronoun*Assertive • Retrenchment*~Preserving*Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive
Note: * means AND; ~ means negation.		

A combination of innovating strategy and the argument quality in language usage has a strong causal relationship with positive emotion. Whilst on the other hand, elements appear only in intermediate solutions are peripheral factors that have a comparatively weaker causal relationship with the outcome of positive emotion. These peripheral factors complement core elements (i.e. innovating strategy and argument quality) in achieving the outcome.

Configurations of elements sufficient for positive emotion in the restaurant sector (Study 2)

	Parsimonious solution	Intermediate solution
Positive emotion	~Persevering*Assertive	~Retrenchment*Innovating*~Exit*~AbsCon*AQ*Pronoun*Assertive
	Innovating*AQ	~Retrenchment*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive
		~Persevering*~Exit*~AbsCon*AQ*Pronoun*Assertive
		~Retrenchment*~Persevering*~AbsCon*AQ*Pronoun*Assertive
Note: * means AND; ~ means negation.		

Appendix 4. Configurations Sufficient for the Absence of Positive Emotions for Study 1 and Study 2

Configurations Sufficient for the Absence of Positive Emotions in the Hotel Sector (Study 1)

	Solutions				
Configuration	S1	S 2	S3	S4	S5
Response Strategy					
Retrenchment	⊗	●	⊗	⊗	●
Persevering	●	⊗	•	⊗	•
Innovating	●	⊗	⊗	•	⊗
Exit	⊗	⊗	⊗	⊗	⊗
Linguistic Cues					
AbsCon	⊗	⊗	⊗	⊗	⊗
AQ	⊗	●	●	●	●
Pronoun	•	●	●	●	●
Assertive	⊗	⊗	⊗	⊗	⊗
Consistency	0.910	0.846	0.889	0.800	0.923
Raw coverage	0.031	0.035	0.050	0.050	0.038
Unique coverage	0.0314	0.0346	0.050	0.050	0.038
Overall solution consistency	0.866				
Overall solution coverage	0.204				
*Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".					

Configurations Sufficient for the Absence of Positive Emotions in the Restaurant Sector (Study 2)

	Solutions				
Configuration	S1	S2	S3	S4	S5
Response Strategy					
Retrenchment	•	⊗	⊗	⊗	•
Persevering		•	⊗	⊗	⊗
Innovating	⊗	⊗	•	⊗	
Exit	⊗	⊗	⊗	•	⊗
Linguistic Cues					
AbsCon					⊗
AQ	⊗	⊗	⊗	⊗	⊗
Pronoun	•	•	•	•	•
Assertive	⊗	⊗	⊗	⊗	⊗
Consistency	0.933	0.976	0.938	1.000	0.981
Raw coverage	0.144	0.211	0.773	0.085	0.137
Unique coverage	0.036	0.211	0.077	0.082	0.028
Overall solution consistency	0.963				
Overall solution coverage	0.544				
*Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".					

Appendix 5. Robustness analysis for Study 1 and Study 2

We conducted robustness check for the fsQCA results by three approaches including consistency threshold adjustment (Juntunen et al., 2019) and sensitivity analysis for the crossover point (Park et al., 2020), and alternative measures (Lewellyn & Muller-Kahle, 2021). The analyses were performed for the overall solutions for both Study 1 and Study 2 (i.e. presented in Table 2 and Table 4 respectively).

First, we used different consistency thresholds with adjustment from 0.8 to a lower level of 0.75 and a higher level of 0.85, to construct configuration solutions (Juntunen et al., 2019). For the hotel sector (i.e. Study 1), with either the lower threshold or higher threshold, the configurations remain the same. In terms of the restaurant sector, when the threshold is changed to 0.85, only one solution (S2) is slightly changed to *~Retrenchment*Preserving*Innovating*~Exit*AbsCon*AQ*~Pronoun*Assertive*, with preserving added as a core element and other elements remaining the same.

Second, we introduce an alternative outcome variable to ensure the robustness of fsQCA results. We replace the sentiment value provided by IBM's Natural Language Processing by conducting a lexicon-based sentiment analysis (Taboada et al., 2011; Lee et al., 2018) to calculate the average sentiment value of the consumer comments. Compared to the results reported in both Study 1 and Study 2, the new configurational solutions still exhibit similar patterns with previous solutions.

Third, we conducted a sensitivity analysis by changing the construct of 'abstraction and concreteness' from a crisp set to a fuzzy set. We used IBM's Natural Language Processing tool to calculate the linguistic abstraction index (LAI), and calibrated the LAI to a fuzzy set ("1" indicated full membership of abstraction, "0.75" indicated towards abstraction, "0.25" indicated towards concreteness, "0" indicated concreteness). To add robustness to our configurational results, we conducted sensitivity analysis (Park et al., 2020) by altering the calibration of concreteness from a crisp set ("0" indicating abstraction and "1" indicating concreteness) to a fuzzy set ("1" indicated full membership of abstraction, "0.75" indicated towards abstraction, "0.25" indicated towards concreteness, "0" indicated concreteness), for both the data in the hotel sector and the restaurant sector.

In the first step, we calculated the LAI score for each case (i.e. COVID-19 announcement) by following steps detailed in 3.2.1 where we explained LAI. As the higher LAI score, the more abstraction the announcement demonstrates, we calibrated the LAI score as: 1 <= LAI <1.75, calibrated as 0, indicating high concreteness; 1.75 <= LAI <= 2.5, calibrated as 0.25, indicating towards concreteness; 2.5 < LAI <= 3.25, calibrated as 0.75, indicating towards abstraction; 3.25 < LAI < 4, calibrated as 1, indicating high abstration.

In the second step, we ran fsQCA with the changed calibration of concreteness as a fuzzy set while keeping all other original elements, and results are shown in Table 1. Compared to the configurations between two calibration approaches, the results below have nearly the same structure and pattern – innovating strategy, argument quality and assertive language remain as the core elements, and different patterns for using innovating strategy and using assertive linguistic cues.

Sensitivity Analysis for results for hotel sector

	Solutions			
Configurational conditions	1	2	3	4
Response Strategy				
Retrenchment	⊗	⊗	⊗	•
Persevering	⊗	•	⊗	⊗
Innovating	●	⊗	⊗	●
Exit	⊗	⊗	•	⊗
Linguistic Cues				
AbsCon	•	⊗	⊗	⊗
AQ	●	•	●	●
Pronoun	⊗	•	•	•
Assertive	●	●	•	●
Consistency	0.930	0.917	0.905	0.940
Raw coverage	0.215	0.247	0.122	0.151
Unique coverage	0.215	0.247	0.122	0.151
Overall solution consistency	0.923			
Overall solution coverage	0.736			
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".				

In the third step, following the same procedure in step 2, we ran another fsQCA for data in the restaruant sector (i.e. Study 2) and results are shown below. Patterns of configurations are largely similar between two calibration approaches .

Sensitivity Analysis for results for restaurant sector

	Solutions			
Configurational conditions	1	2	3	4
Response Strategy				
Retrenchment	⊗	⊗	•	⊗
Persevering			⊗	⊗
Innovating	●	●		
Exit	⊗	⊗	⊗	•
Linguistic Cues				
AbsCon	⊗		⊗	⊗
AQ	●	●	●	●
Pronoun		•	•	•
Assertive	•	•	•	•
Consistency	0.945	0.946	1.000	0.979
Raw coverage	0.374	0.422	0.044	0.114
Unique coverage	0.027	0.046	0.044	0.114
Overall solution consistency	0.953			
Overall solution coverage	0.684			
Note: Black circles indicate the presence of a condition, and circles with "X" indicate its absence. Large circles indicate core conditions; small ones, peripheral conditions. Blank spaces indicate "don't care".				

Configuration solutions remain similar apart from abstraction and concreteness changing to a non-necessary condition from a peripheral condition. Therefore, the sensitivity analysis has also confirmed the robustness of the findings. Based on these three analyses, the configuration results of this study are therefore robust.