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Exploring the effect of Positive and Negative Social Media Themes on Luxury Hotels' Financial Performance

Cornell Hospitality Quarterly
1–24
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DOI: 10.1177/19389655261496881
journals.sagepub.com/home/cqx

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Abstract

This study aims to deepen our understanding of the relationship between social media themes and hotel financial performance. Specifically, we explore the themes of *place, promotion, expectation, quality, intent, availability* and *convenience*, evaluating their underlying positive or negative tones to gain deeper insights into their impact on financial performance. To achieve this, we sourced data from the Infegy Atlas social media database and the Thomson Reuters Asset4 database, encompassing hotel firms worldwide from 2007 to 2021. Our findings reveal that among the seven themes analysed, the positive tones associated with four themes (*place*, *expectation*, *intent* and *convenience*) are positively associated with luxury hotels' return on assets (*ROA*). In contrast, negative themes do not exhibit a significant association with financial performance in the full sample. However, further analysis focusing on these four themes during the COVID-19 period indicates that negative tones exert a detrimental effect on *ROA* under conditions of heightened uncertainty. Importantly, this adverse association is attenuated in firms with high capital expenditure and goodwill, indicating that sustained investment and reputational standing buffer the financial impact of negative social media discourse. Conversely, the positive themes do not exhibit significant interaction effects with the COVID-19 period, capital expenditure, or goodwill. Overall, the results offer important insights into how the tone of social media conversations shapes financial outcomes in the luxury hotel industry.

Keywords

themes, topic modelling, thematic analysis, financial performance, hotel industry, social media

Introduction

Over the past decade, the rapid growth of social media use worldwide, exceeding 5.6 billion users in 2025 (Digital, 2026), has transformed how information about hospitality services is created, shared and interpreted. Platforms such as Facebook, Twitter and Instagram strongly influence consumer sentiment and travel trends (Michopoulou & Moisa, 2019; Nowack, 2022). About one-fifth of online conversations refer to corporations (Jansen et al., 2009), allowing users to publicly express experiences that collectively represent the wisdom of the crowd (Benjamin et al., 2023; X. Luo et al., 2013; Surowiecki, 2004). This constant flow of user-generated content creates both opportunities and risks for hotels, as social media changes market engagement and information dynamics (Garrido-Moreno et al., 2018; Kaplan & Haenlein, 2010) and can considerably affect corporate reputation and financial outcomes (Aral et al., 2013; Shaw, 2018).

Within hospitality, social media has become a major concern for managers (Liu, 2023) and a strong influence on destination and accommodation choices (Hinton, 2023). Online reviews and comments now shape perceptions of lodging experiences and value, and are linked to satisfaction, revisitation and hotel selection (Park et al., 2020; Zhao et al., 2019). Positive and negative online word of mouth can strengthen or weaken performance (W. G. Kim et al., 2015), and research shows that ratings, sentiment and review volume on social media affect revenue and firm value (Benjamin et al., 2022, 2023; Ladhari & Michaud, 2015; Li et al., 2020; Ying et al., 2020).[1] The issue therefore is not whether social media matters, but which parts of online conversation are financially meaningful. Although guests often comment on

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aspects such as location, service, staff attentiveness and promotions, it remains uncertain whether these narratives lead to measurable financial outcomes. For example, praise for convenient location may or may not translate into stronger revenue, while complaints about poor accessibility may or may not reduce demand, despite the recognized importance of location (Ying et al., 2020). Likewise, comments about attentive or poor service raise similar questions about whether such feedback drives customer spending, repeat revenue or profitability, or whether it simply shapes online image without financial effect. Promotion-related discussions also show this uncertainty, as positive reactions to discounts or loyalty benefits may encourage bookings, while negative reactions may erode trust and deter repeat stays. Without clearer evidence, managers cannot judge whether these theme-specific conversations signal financial outcomes or reflect only surface-level sentiment.

Recent advances in text analytics and big data have shifted attention from simple positive–negative sentiment measures towards more granular, theme-based analyses. Topic modelling and related techniques enable researchers to extract recurring themes such as value, rooms, cleanliness, service, facilities, entertainment, staff, food and location from large volumes of hotel reviews (Bian et al., 2022; Li et al., 2020; Olorunsola et al., 2022; Saydam et al., 2022; Ying et al., 2020; Zhang et al., 2021). These studies demonstrate that thematic patterns are highly informative about customer satisfaction and dissatisfaction and highlight the rich semantic structure in online word-of-mouth. However, most existing work stops at the level of customer experience, satisfaction or intention, without tracing how specific thematic orientations in social media discourse translate into firm-level financial outcomes. At the same time, big data social media studies in hospitality are reported to remain relatively sparse (Mehraliyev et al., 2022), and recent work indicates that the use of topic modelling as a core methodological approach is still emerging (Kwon, 2023).

This creates a practical and theoretical problem for hotel managers, particularly in the luxury segment. Managers know that online reviews affect bookings and revenues, yet they face thousands of unstructured comments spanning many attributes of the lodging experience. Without clear evidence on which dimensions of conversation, for example, *place, promotion, expectation, quality, intent, availability* or *convenience*, and which positive or negative orientations are most strongly associated with financial performance, it is difficult to prioritize investments in service design, marketing communication and digital engagement. Existing studies provide detailed knowledge about themes that drive satisfaction, but they offer limited guidance on how those same themes, expressed in everyday social media discourse, map onto financial performance indicators such as revenue or return on assets for luxury hotels operating across different countries (Bian et al., 2022; Lai et al., 2021; Olorunsola et al., 2022; Ying et al., 2020). Put differently, there is a missing bridge between high-volume textual data on what guests talk about and firm-level financial metrics that matter to owners, investors and boards. The present study addresses this gap by treating social media themes as information channels through which established drivers of lodging experiences appear in online conversations and connect to financial outcomes. For the seven themes examined, *place, promotion, expectation, quality, intent, availability* and *convenience*, we draw on three theories defined in the next section – Theory of Lodging, Expectation Disconfirmation Theory and the Theory of Planned Behaviour – to interpret how guests describe, evaluate and act on their experiences.

Empirically, we assemble a global panel dataset that links thematic social media data from the Infegy Atlas platform with financial indicators from the Thomson Reuters Asset4 database for publicly listed luxury hotel firms across 27 countries from 2007 to 2021. Unlike studies that rely on a single source such as Tripadvisor.com, our dataset captures conversations from several social media platforms, including Facebook, Twitter, Instagram, Reddit, Tumblr, TikTok and Pinterest, together with social media shares of Tripadvisor reviews. This broad coverage allows us to observe everyday online discussions at scale and to assess how positive and negative signals within each theme relate to financial outcomes at the firm level. We estimate these relationships using ordinary least squares models with robustness checks and examine whether capital expenditure, goodwill and the COVID-19 pandemic influence the strength of these associations.

This study contributes to the literature by addressing the missing link between large-scale social media conversations and the financial outcomes of luxury hotels. First, we extend work showing that social media shapes reputation and performance (Benjamin et al., 2022, 2023; Dunham & Garcia, 2021; X. Luo et al., 2013; Nguyen et al., 2020) by examining how the positive and negative orientations of seven themes: *place, promotion, expectation, quality, intent, availability* and *convenience*, relate to financial performance. Although prior studies identify these themes as important for satisfaction and experience (Bian et al., 2022; Lai et al., 2021; Li et al., 2020; Olorunsola et al., 2022; Saydam et al., 2022; Ying et al., 2020; Zhang et al., 2021), they have not clarified whether these conversational patterns have financial significance when observed across multiple platforms. Second, we show that these themes can be interpreted through the Theory of Lodging (Li et al., 2020; Ngai et al., 2007; Rhee & Yang, 2015; Tse & Ho, 2009), Expectation Disconfirmation Theory (Oliver, 1980) and the Theory of Planned Behaviour (Ajzen, 1991; Lien et al., 2015), offering a coherent way to understand how online discussions reflect service attributes, evaluative processes and behavioural tendencies. Third, by combining thematic analytics from Infegy Atlas with financial data from Thomson Reuters Asset4 for luxury hotels in 27

countries from 2007 to 2021, we provide empirical scope that extends beyond single platform studies such as those based on Tripadvisor.com. Together, these contributions clarify which aspects of online conversation matter financially for luxury hotels and how these signals can inform managerial decision making.

The next section reviews the literature on social media, topic modelling and hospitality performance and develops theory-driven hypotheses that connect the seven identified themes and their orientations to the financial outcomes of luxury hotels.

Literature Review and Hypotheses

The Theory of Lodging provides a fundamental basis for understanding how travellers evaluate accommodation, highlighting the importance of attributes such as location, service, cleanliness and safety, which are consistently visible in online reviews and social media discussions (Li et al., 2020; Ngai et al., 2007; Rhee & Yang, 2015; Roberts et al., 2019; Roy, 2023; Tse & Ho, 2009). Consumer behaviour theories extend this understanding by explaining why these themes hold influence. Expectation Disconfirmation Theory (EDT) posits that satisfaction arises when the stay meets or fails to meet guest expectations (Oliver, 1980), while the Theory of Planned Behaviour (TPB) emphasizes that attitudes, subjective norms and perceived behavioural control shape intentions expressed in digital conversations (Ajzen, 1991; Lien et al., 2015). Together, these perspectives help in the interpretation of how theme specific discussions signal guest evaluations and behavioural tendencies that may carry financial implications. Prior research supports the proposition that theme-specific social media conversations provide meaningful signals about guest evaluations and behavioural intentions, which can ultimately affect firm performance. Positive online word of mouth is associated with reputational benefits and lower perceived risk, whereas negative word of mouth is associated with reputational challenges and higher perceived risk, with measurable consequences for firm performance (Benjamin et al., 2022, 2023; Dunham & Garcia, 2021; X. Luo et al., 2013; Nguyen et al., 2020). Building on these insights, this study develops hypotheses linking seven themes (*place, promotion, expectation, quality, intent, availability* and *convenience*) to the financial performance of luxury hotels.

Hypotheses

Place refers to the physical setting of a hotel, including its proximity to attractions, transport access and surrounding environment. Prior studies show that *place* or location is one of the most frequently cited and influential factors in guest evaluations and hotel choice (Li et al., 2020; Rhee & Yang, 2015). Within the Theory of Lodging, *place* is a core element of the service bundle that shapes guest satisfaction, while Expectation Disconfirmation Theory suggests that positive assessments of location, such as attractive scenery or convenient access, signal that expectations have been met and can enhance satisfaction and financial outcomes (Oliver, 1980). Negative comments that highlight issues such as noise, poor accessibility or an unattractive surrounding environment represent disconfirmation and can discourage potential guests from booking. Consistent with the Theory of Planned Behaviour, recent evidence shows that location and accessibility influence guest attitudes and intentions in ways that affect actual behaviour and satisfaction (Marandi et al., 2024; Olorunsola et al., 2022). For luxury hotels, such perceptions can carry direct financial consequences, as favourable *place*-related discussions on social media may attract high-value guests, while unfavourable narratives may reduce demand and weaken revenues. Hence, we propose the following hypotheses:

Hypothesis 1a (H1a): Positive social media themes about place increase the financial performance of luxury hotels.

Hypothesis 1b (H1b): Negative social media themes about place decrease the financial performance of luxury hotels.

Expectation refers to the beliefs guests form before a hotel stay, shaped by online descriptions, images, ratings and the experiences of other customers (Li et al., 2020). Word of mouth has long been recognized as a key antecedent of expected service quality, together with marketing communication, company image, price and customer values (Grönroos, 1982). Within the Theory of Lodging, *expectations* arise from both objective service attributes and subjective impressions shaped by situational and environmental factors across private and public hotel spaces (Becker & Jaakkola, 2020; Roberts et al., 2019; Roy, 2023). Expectation Disconfirmation Theory suggests that when actual performance meets or exceeds these *expectations*, satisfaction increases and favourable reviews encourage bookings, while unmet *expectations* lead to dissatisfaction and critical online evaluations. In line with the Theory of Planned Behaviour, reviews that highlight exceeded or unmet *expectations* influence attitudes and directly affect purchase intentions and booking behaviour (Park et al., 2020). For luxury hotels, *expectation*-related discourse on social media therefore has potential financial consequences, as positive comments can strengthen reputation and demand, whereas negative comments may weaken confidence, reduce bookings and depress financial performance. Therefore, we propose the following hypotheses:

Hypothesis 2a (H2a): Positive social media themes about expectations increase the financial performance of luxury hotels.

Hypothesis 2b (H2b): Negative social media themes about expectation decrease the financial performance of luxury hotels.

Intent refers to the willingness of guests to book, revisit or recommend a hotel, a dimension that appears clearly in many reviews and social media posts (Kandampully & Suhartanto, 2000; Lien et al., 2015). Within the Theory of Lodging, such expressions represent behavioural outcomes that stem from how well core and supplementary services meet guest needs. Expectation Disconfirmation Theory further suggests that when a stay meets or exceeds expectations, guests are more inclined to express *intentions* to return or recommend, whereas unmet expectations often produce signals of avoidance or switching. The Theory of Planned Behaviour adds that these *intention* statements are shaped by attitudes, perceived social norms and perceived control, all of which are visible in online conversations (Lien et al., 2015). Empirical work shows that electronic word of mouth strongly affects booking *intentions*, with positive comments increasing willingness to book and negative comments reducing it (Ladhari & Michaud, 2015). Moreover, *intention* related expressions frequently emerge as central themes in hotel reviews, underscoring their importance in shaping guest evaluations and future demand (Olorunsola et al., 2022). For luxury hotels, such forward looking statements provide meaningful signals for financial performance, as positive *intent* can support revenue growth while negative *intent* can depress future bookings. Thus, we propose the following hypotheses:

Hypothesis 3a (H3a): Positive social media themes about intent increase the financial performance of luxury hotels.

Hypothesis 3b (H3b): Negative social media themes about intent decrease the financial performance of luxury hotels.

Convenience reflects the degree to which hotels reduce the time, effort and uncertainty involved in a guest stay, including ease of booking, check in, wayfinding and access to on-site services and local transport (Y. W. Chang & Polonsky, 2012). Within the Theory of Lodging, *convenience* supports both location and service quality by simplifying the guest experience and enhancing perceived value, which can contribute to satisfaction and repeat patronage. Expectation Disconfirmation Theory further suggests that when hotels deliver the expected level of ease, such as smooth booking or efficient check in, guests experience confirmation that fosters satisfaction and favourable reviews, whereas difficulties with queues or transport access are likely to produce dissatisfaction and more critical online comments. The Theory of Planned Behaviour also highlights how attitudes towards effortless service, perceived social expectations and perceived control shape hotel booking or revisiting preferences, patterns that appear across *convenience* related conversations on social media (Lien et al., 2015). Empirical work based on customer reviews shows that *convenience* factors, including transport access and proximity to key destinations, are important drivers of hotel satisfaction (Li et al., 2013, 2020). For luxury hotels, positive online discussions about *convenience* can support repeat stays and strengthen financial performance, while negative commentary about inconvenience may deter potential guests and weaken performance. Accordingly, we propose the following hypotheses:

Hypothesis 4a (H4a): Positive social media themes about convenience increase the financial performance of luxury hotels.

Hypothesis 4b (H4b): Negative social media themes about convenience decrease the financial performance of luxury hotels.

Quality in hospitality is a multidimensional concept that includes the service product, the delivery of that service and the service environment, all of which shape guests' evaluations of their stay (Rauch et al., 2015). Within the Theory of Lodging, these elements represent core touchpoints that inform judgments about the hotel experience. Inference from the Expectation Disconfirmation Theory suggests that when the level of quality meets or exceeds what guests anticipate, satisfaction and favourable electronic word of mouth follow, while shortfalls produce dissatisfaction. The Theory of Planned Behaviour further explains why *quality* discussions matter, as beliefs about staff reliability, cleanliness and service efficiency influence attitudes, align with social norms expressed in reviews and support preferences to book or revisit. Empirical studies show that *quality* is a central theme in hotel-related online discourse (Bian et al., 2022) and that satisfaction about accommodation is driven by *quality* factors such as facility service, host service and website responsiveness (Ju et al., 2019). More recent work in the hospitality sector also confirms that *quality* continues to dominate contemporary social media commentary (Roy, 2023). Overall, when social media conversations highlight strong product standards and reliable service delivery, luxury hotels are more likely to achieve stronger financial performance, whereas negative quality-related discourse can signal risks to future demand and revenue. Hence, we propose the following hypotheses:

Hypothesis 5a (H5a): Positive social media themes about quality increase the financial performance of luxury hotels.

Hypothesis 5b (H5b): Negative social media themes about quality decrease the financial performance of luxury hotels.

Promotion refers to offers, discounts, bundles and loyalty incentives discussed online, together with guests' reactions to the value and fairness of these deals (Chandon et al., 2000; Subramanian et al., 2016). Within the Theory of Lodging, *promotional* value enhances the overall service bundle by increasing perceptions of value for money. Inference from the Expectation Disconfirmation Theory would suggests that when *promotional* promises are delivered as expected, satisfaction and favourable evaluations follow, whereas misleading or low value offers lead to dissatisfaction and complaints. The Theory of Planned Behaviour also indicates that positive *promotional* cues can strengthen attitudes and preferences to book, while negative perceptions weaken both. Research shows that *promotions* can stimulate demand (Yang et al., 2016) and that positive online comments about added value or enjoyment support satisfaction and bookings, benefiting financial performance (Christou, 2011). In contrast, negative comments about unfair or misleading *promotions* reduce trust, heighten deal sensitivity and weaken loyalty, creating risks for long term profitability (C. Chang, 2009; Suri et al., 2000). For luxury hotels, favourable online discussion of *promotions* can therefore support revenue, while negative discourse may erode brand reputation and financial outcomes. Consequently, we propose the following hypotheses:

Hypothesis 6a (H6a): Positive social media themes about promotion increase the financial performance of luxury hotels.

Hypothesis 6b (H6b): Negative social media themes about promotion decrease the financial performance of luxury hotels.

Availability refers to the adequacy and reliability of room supply, facilities and desired packages at the time guests wish to book (Thompson & Failmezger, 2005). It is linked to service reliability and satisfaction, as shortages or overbooking often lead to frustration. Within the Theory of Lodging, capacity and room mix are core elements of the service bundle, and when guests can obtain what they expect, the experience aligns with the property's promise. Inference from the Expectation Disconfirmation Theory further suggests that confirmed *availability* at booking and check in strengthens satisfaction, while stock outs or forced substitutions represent disconfirmation that weakens evaluations. The Theory of Planned Behaviour also indicates that attitudes towards a hotel's reliability, perceived norms formed from others' comments about *availability* and perceived control over securing the desired option shape willingness to book or recommend. Empirical research shows that *availability* influences value perceptions and booking decisions (Castro & Ferreira, 2015), and that availability of facilities such as pools, spas, restaurants and free WiFi features prominently in guest ratings (Soifer et al., 2021). Certain availability related attributes operate as basic expectations; securing the desired room type or facility does not create additional satisfaction when available, but unavailability results in prompt dissatisfaction (Ying et al., 2020). For luxury hotels, positive reviews about the *availability* of rooms and facilities can support demand and financial performance, while negative comments may discourage potential guests and reduce revenue. Accordingly, we propose the following hypotheses:

Hypothesis 7a (H7a): Positive social media themes about availability increase the financial performance of luxury hotels.

Hypothesis 7b (H7b): Negative social media themes about availability decrease the financial performance of luxury hotels.

Methodology and Data

The study draws its financial data from the Refinitiv ESG (formerly known as the Thomson Reuters Asset4) database, encompassing profitability, firm size, liquidity, cash and capital expenditure variables. This database experiences considerable popularity and widespread adoption within academic studies (Benjamin et al., 2022, 2023; Kılıç et al., 2021; Koseoglu et al., 2021). Refinitiv ESG provides comprehensive coverage of publicly traded companies in over 150 countries, facilitating the retrieval of financial and market data (Thomson Reuters, 2017). Utilizing the Thomson Reuters Business Classification (TRBC), a globally recognized industry classification system owned and operated by Thomson Reuters and the foundation of Thomson Reuters Indices, our study draws its sample from firms categorized under the sub-category '53301010 Hotels, Motels & Cruiselines' within the TRBC indices, which primarily consists of luxury hotels worldwide (Equidam, 2012). Subsequently, we verify the availability of social media data for these luxury hotels in the Infegy Atlas database. The final dataset comprises firms from 27 countries with available social media data in Infegy Atlas, predominantly consisting of luxury hotels, except for select entities like the Viking Line Group, which operates cruise lines, and Genting Group, which operates both luxury hotels and cruise lines (see Appendix); the cross-country distribution reflects the availability of matching firm-level social media coverage in Infegy Atlas for TRBC-classified hotel firms. After excluding observations with missing data, the final sample comprises 617 firm-year observations from 47 unique firms. Of

these, 45 firms operate primarily in the luxury hotel industry, one firm operates in both luxury hotels and cruise lines, and one firm operates in the cruise line industry. A detailed list of sample firms is provided in the Appendix.

We utilize the Infegy Atlas social media database to collect data on diverse themes (*place, promotion, expectation, quality, intent, availability* and *convenience*). The Infegy Atlas database employs Natural Language Processing to collect and analyse billions of social media conversations and comments across platforms like Facebook, Twitter, Instagram, Reddit, Tumblr, TikTok and Pinterest. The utilization of the Infegy database in scholarly research is on the rise, as evidenced by recent studies (e.g., Benjamin et al., 2022, 2023, 2024; Nguyen et al., 2020). The accuracy of Infegy's database consistently surpasses 90%, as evaluated through metrics such as precision and recall rates (Infegy, 2022).

Dependent Variable

The dependent variable for our study is financial performance, measured as *ROA*. *ROA* is a commonly utilized metric for assessing firm performance in the realm of hospitality and tourism studies (Chambers & Cifter, 2022; W. G. Kim & Ayoun, 2005; Menicucci, 2018; Mun & Jang, 2015). In addition, *ROA* offers a comprehensive gauge of financial performance by capturing both profitability and asset productivity.

Independent Variables

Thematic analysis, which is also called topic modelling, serve to create categorizations for organizing prevalent conversational topics on social media. Infegy Atlas employs a meticulous process for extracting and categorizing themes, delving into verbs, nouns and other parts of speech associated with specific subjects or themes. The utilization of themes or topic modelling as a methodology in hospitality research, it stands out as one of the most powerful text-mining techniques for discovering semantic topics in textual documents. This approach holds significant potential due to its ability to effectively retrieve multifaceted concepts embedded within text (Jelodar et al., 2019; Kwon, 2023; Kwon et al., 2020). Infegy's Themes function thoroughly examines linguistic components linked to a given theme. Infegy's pre-built Themes filter includes popular social media themes like *place, promotion, expectation, quality, intent, availability* and *convenience*. Recent research examining social media themes in the hotel industry, based on self-collected data, has found that themes such as *place* or *location*, *convenience, quality, promotion, intention, expectation* and *room availability* are among the most frequent topics discussed (Olorunsola et al., 2022; Saydam et al., 2022; Ying et al., 2020).[2]

Infegy utilizes Natural Language Understanding (NLU) and Lexicon analysis based on machine learning and artificial intelligence (AI) methodologies to extract data on negative and positive themes from social media. Through this process, each theme's data undergoes filtration and cleaning to eliminate nonfunctional terms like spaces and URLs. The lexicon analysis involves maintaining a word dictionary, where each word or phrase that falls within a particular theme is attributed to a sentiment, categorizing them as positive or negative. For instance, expressions found on social media containing words like 'it is awful', or 'I like it' within each defined theme exemplify negatively and positively toned themes, respectively. Infegy further refines more complicated word patterns into positive and negative themes. For instance, it can differentiate between sentiments in phrases like 'I don't like the taste of this donut' and 'Donuts come in different flavors', where the former carries a negative tone while the latter does not. Through data mining techniques and association rules, Infegy identifies these patterns and utilizes natural language processing to detect simple negations and intricate word arrangements within text. Likewise, Infegy uses natural language processing techniques to identify simple negation words (such as phrases like 'not excited' or 'not pleased', which include the words 'excited' and 'pleased' but are not positive in tone), as well as more intricate word patterns within the text. For instance, the phrase 'It is impossible to feel good from using this service', where the term 'good' does not express a feel-good sense (i.e., it is negative in orientation). Conversely, a sentence like 'It is impossible to not feel good from using this service' conveys a 'feel-good' (positive) tone but introduces a negation element ('not' and 'good' within the same sentence). For more complex texts, Infegy applies Bayesian topic modelling to identify commonalities and differences among documents.

Infegy groups social media discussions into several predefined themes. Within each theme, the comments and posts are further classified according to whether the tone is positive or negative. Table 1 summarizes the seven themes used in this study, provides examples of the language captured under each theme and shows the corresponding variables used in the analysis.

In this study, the values of each of the independent variables above are divided by 100 to enhance comparability and facilitate a more straightforward interpretation concerning their relationship with the dependent variable (*ROA*).

Controls

In line with previous studies (e.g., Benjamin et al., 2022; Chambers & Cifter, 2022), we consider several factors commonly used in research on financial performance and social media constructs. Table 1 presents the definitions of each variable, encompassing company size (*SIZE*), leverage

Table 1. Infegy Themes, Examples and Study Variables.

Theme	Description	Positive example(s)	Positive variable	Negative example(s)	Negative variable
Place	Comments about cleanliness, ambience, comfort, access and restrooms.	'The room was spotless'	*PLACE POS*	'I could not locate the entrance'	*PLACE NEG*
Convenience	Comments about location convenience and the delivery of products or services.	'I got my food in record time by room service'; 'Your waffle & crepe the way you like it. Only at Hilton'	*CONVN POS*	'Had to wait so long for my meal to arrive at the coffee house'	*CONVN NEG*
Expectation	Comments expressing anticipation or expectations about an experience or whether a product or service meets its intended purpose.	'I have just arrived home safely from the weekend at Marriott–full of memories and gratitude that can never fill any suitcase. Super excited for the experience and opportunity'	*EXPCTN POS*	'The bathtub was too small; I could hardly fit in'	*EXPCTN NEG*
Quality	Comments about the standard or presentation of a product or service, including taste, temperature, durability and craftsmanship.	'Rib-eye steak at Wyndham is the most delicious ever'	*QUALITY POS*	'Cold french fries are the worst!'	*QUALITY NEG*
Promotion	Comments relating to price, advertising, discounts and value for money.	'The room rate was value for money for me'	*PROMO POS*	'Why there is no promotion going on during this time of the year as previous years had it!'	*PROMO NEG*
Availability	Comments about whether products or services are available and the range of choices offered.	'I was happy to find that rooms were still available for booking during the Christmas season'	*AVAIL POS*	'There weren't much choice of dishes to choose from'	*AVAIL NEG*
Intent	Comments showing purchase intention, loyalty or an intention to stop using the brand.	'Can't wait to book my dinner-date at the Taj tomorrow'	*INTENT POS*	'I'm never staying here again'	*INTENT NEG*

Note. PLACE POS, CONVN POS, EXPCTN POS, QUALITY POS, PROMO POS, AVAIL POS and INTENT POS refer to the number of positively toned comments and posts recorded for each theme. The corresponding negative variables refer to the number of negatively toned comments and posts. All variables are measured for firm *i* in year *t*.

(*LEV*), cash holdings (*CASH*), firm growth (*GROWTH*) and capital expenditure (*CAPEX*). Definitions for all variables can be found in Table 2.

Regression Model

We examine the impact of positive and negative themes (*place, promotion, expectation, quality, intent, availability* and *convenience*) on the financial performance of luxury hotels using the following regression model:

$$ROA_{it} = \beta_0 + \boldsymbol{\beta_1 THEMES\ POS_{it}} + \boldsymbol{\beta_2 THEMES\ NEG_{it}} + \beta_i X_{it} + \varepsilon_{it} \quad (1)$$

where ROA_{it} represents the financial performance of hotel *i* at year *t*; $THEMES\ POS_{it}$ *and* $THEMES\ NEG_{it}$ for hotel *i* at year *t* each represent positive and negative themes of *place, promotion, expectation, quality, intent, availability* and *convenience* in posts and comments on social media, respectively; X_{it} is the set of control variables that includes year and country effects (country of headquarter of each hotel); and ε_{it} is the error term. We examine each pair of corresponding positive and negative theme in individual regressions as per Equation 1. Equation 1 is estimated based on the pooled ordinary least squares (OLS) regression with robust standard errors. Accordingly, this study assesses how the positive and negative orientations of seven themes, *namely place, promotion, expectation, quality, intent, availability* and *convenience*, affect the financial performance of luxury hotels, as estimated through the regressions specified in Equation 1.

Empirical Results

Descriptive and Correlation Statistics

Table 3 provides a comprehensive overview of the descriptive statistics for the variables employed in this study. *ROA* exhibits a mean of 2.219, a median of 2.382 and a range between −22.001 and 32.547 over the entire period. The means for the independent variables – *PLACE POS, PLACE*

Table 2. List of Variables.

Variable name	Label	Description
Positive *place*	*PLACE POS*	The number of positive *place*-related comments and posts on social media divided by 100
Negative *place*	*PLACE NEG*	The number of negative *place*-related comments and posts on social media divided by 100
Positive *expectation*	*EXPCTN POS*	The number of positive *expectation*-related comments and posts on social media divided by 100
Negative *expectation*	*EXPCTN NEG*	The number of negative *expectation*-related comments and posts on social media divided by 100
Positive *intent*	*INTENT POS*	The number of positive *intent*-related comments and posts on social media divided by 100
Negative *intent*	*INTENT NEG*	The number of negative *intent*-related comments and posts on social media divided by 100
Positive *convenience*	*CONVN POS*	The number of positive *convenience*-related comments and posts on social media divided by 100
Negative convenience	*CONVN NEG*	The number of negative *convenience*-related comments and posts on social media divided by 100
Positive *quality*	*QUALITY POS*	The number of positive *quality*-related comments and posts on social media divided by 100
Negative *quality*	*QUALITY NEG*	The number of negative *quality*-related comments and posts on social media divided by 100
Positive *promotion*	*PROMO POS*	The number of positive *promotion*-related comments and posts on social media divided by 100
Negative *promotion*	*PROMO NEG*	The number of negative *promotion*-related comments and posts on social media divided by 100
Positive *availability*	*AVAIL POS*	The number of positive *availability*-related comments and posts on social media divided by 100
Negative *availability*	*AVAIL NEG*	The number of negative *availability*-related comments and posts on social media divided by 100
Return on assets	*ROA*	Net income before extraordinary items divided by total assets
Firm size	*SIZE*	Natural logarithm of total assets
Leverage	*LEV*	Total debt divided by total assets
Cash holdings	*CASH*	Cash and marketable securities divided by total assets
Growth	*GROWTH*	(revenue of year t − revenue of year $t-1$)/revenue of year t
Capital expenditure	*CAPEX*	The ratio of capital expenditure to total assets

Table 3. Descriptive Statistics.

Variable	*N*	*M*	*SD*	p25	p50	p75	Min	Max
PLACE POS	617	5.636	13.020	0.090	0.620	5.570	0.000	169.030
PLACE NEG	617	1.075	1.892	0.010	0.140	1.340	0.000	14.630
EXPCTN POS	617	3.175	5.699	0.080	0.440	3.970	0.000	56.840
EXPCTN NEG	617	0.432	0.943	0.000	0.060	0.510	0.000	15.400
INTENT POS	617	3.183	5.850	0.080	0.440	3.940	0.000	56.510
INTENT NEG	617	1.732	3.269	0.020	0.290	2.030	0.000	23.990
CONVN POS	617	3.021	6.897	0.060	0.360	2.730	0.000	88.880
CONVN NEG	617	0.976	1.792	0.010	0.170	1.270	0.000	24.320
QUALITY POS	617	6.032	11.895	0.100	0.850	7.160	0.000	129.540
QUALITY NEG	617	1.856	4.205	0.010	0.200	1.990	0.000	41.870
PROMO POS	617	8.402	17.426	0.180	1.410	10.670	0.000	259.740
PROMO NEG	617	5.074	11.486	0.050	0.750	6.460	0.000	189.470
AVAIL POS	617	1.054	2.372	0.020	0.120	1.180	0.000	36.550
AVAIL NEG	617	0.509	1.114	0.000	0.070	0.580	0.000	17.080
ROA	617	2.219	7.354	−0.553	2.382	5.017	−22.001	32.547
SIZE	617	13.519	1.925	12.059	13.726	15.058	8.612	17.139
LEV	617	59.328	38.403	38.358	56.424	72.712	1.163	250.332
CAPEX	617	5.018	5.644	1.324	3.047	6.413	0.000	31.449
GROWTH	617	4.181	32.871	−7.685	3.403	14.069	−75.259	153.303
CASH	617	9.977	11.228	2.203	6.243	13.228	0.088	52.860

Note. p25, p50 and p75 = 25th, 50th and 75th percentile of the variables, respectively. *SD*, *N*, Min and Max denote standard deviation, number of observations, minimum and maximum, respectively.

NEG, EXPCTN POS, EXPCTN NEG, INTENT POS, INTENT NEG, CONVN POS, CONVN NEG, QUALITY POS, QUALITY NEG, PROMO POS, PROMO NEG, AVAIL POS and *AVAIL NEG* – stand at 5.363, 1.075, 3.175, 0.432, 3.183, 1.732, 3.021, 0.976, 6.032, 1.856, 8.402, 5.074, 1.054 and 0.509, respectively. Table 4 presents the Pearson correlation estimates, indicating that no pairs of corresponding positive and negative themes (independent variables) exhibit correlations above the critical value of 0.8, suggesting a low likelihood of multicollinearity.[3]

Table 4. Correlations Analysis.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) ROA	1.00																			
(2) PLACE POS	.32*	1.00																		
(3) PLACE NEG	.27*	.77*	1.00																	
(4) EXPCTN POS	.18*	.84*	.72*	1.00																
(5) EXPCTN NEG	.16*	.51*	.79*	.53*	1.00															
(6) INTENT POS	.16*	.83*	.72*	.95*	.53*	1.00														
(7) INTENT NEG	.06	.49*	.79*	.56*	.75*	.58*	1.00													
(8) CONVN POS	.27*	.94*	.74*	.79*	.48*	.78*	.44*	1.00												
(9) CONVN NEG	.20*	.62*	.87*	.62*	.88*	.62*	.77*	.62*	1.00											
(10) QUALITY POS	.11*	.70*	.66*	.90*	.52*	.87*	.62*	.61*	.56*	1.00										
(11) QUALITY NEG	.07	.40*	.71*	.43*	.77*	.42*	.87*	.35*	.74*	.53*	1.00									
(12) PROMO POS	.11*	.69*	.62*	.70*	.47*	.72*	.50*	.73*	.54*	.66*	.42*	1.00								
(13) PROMO NEG	.03	.37*	.55*	.36*	.57*	.37*	.72*	.33*	.53*	.40*	.80*	.44*	1.00							
(14) AVAIL POS	.14*	.74*	.59*	.91*	.44*	.86*	.50*	.66*	.51*	.84*	.35*	.58*	.29*	1.00						
(15) AVAIL NEG	.14*	.49*	.74*	.54*	.88*	.51*	.74*	.45*	.84*	.49*	.75*	.40*	.60*	.48*	1.00					
(16) SIZE	.06	.20*	.24*	.26*	.18*	.27*	.15*	.24*	.21*	.23*	.11*	.27*	.11*	.22*	.15*	1.00				
(17) LEV	−.05	.24*	.20*	.16*	.09*	.16*	.08*	.22*	.14*	.11*	.06	.16*	.05	.10*	.09*	.07	1.00			
(18) CAPEX	.07	−.06	−.01	−.07	−.01	−.07	−.01	−.06	−.03	−.06	−.02	−.05	−.07	−.03	−.03	−.06	−.01	1.00		
(19) GROWTH	.19*	.00	.01	.01	.00	.02	.02	−.02	−.01	.00	.04	−.00	.03	−.00	.01	.01	.01	.14*	1.00	
(20) CASH	.12*	.16*	.13*	.13*	.11*	.14*	.07	.12*	.13*	.11*	.07	.09*	.04	.15*	.09*	−.04	−.00	−.05	.02	1.00

*Indicates significance at the 5% level or better.

Table 5. Baseline Regression – Positive and Negative Themes on Social Media and Financial Performance.

Dependent variable	*ROA*						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PLACE POS	0.124***						
	(3.09)						
PLACE NEG	0.417						
	(1.20)						
EXPCTN POS		0.140**					
		(2.14)					
EXPCTN NEG		0.640					
		(1.49)					
INTENT POS			0.130*				
			(1.86)				
INTENT NEG			0.065				
			(0.31)				
CONVN POS				0.210***			
				(3.40)			
CONVN NEG				0.276			
				(1.17)			
QUALITY POS					0.039		
					(1.53)		
QUALITY NEG					0.172		
					(1.32)		
PROMO POS						0.038	
						(1.61)	
PROMO NEG						0.034	
						(0.85)	
AVAIL POS							0.153
							(1.08)
AVAIL NEG							0.699
							(1.45)
SIZE	−0.224	−0.188	−0.163	−0.244	−0.098	−0.134	−0.142
	(−0.76)	(−0.59)	(−0.50)	(−0.80)	(−0.31)	(−0.42)	(−0.45)
LEV	−0.037***	−0.032**	−0.032**	−0.034**	−0.032**	−0.032**	−0.032**
	(−2.77)	(−2.19)	(−2.11)	(−2.37)	(−2.14)	(−2.13)	(−2.13)
CAPEX	0.007	0.007	0.005	0.013	0.010	0.010	0.006
	(0.12)	(0.12)	(0.08)	(0.21)	(0.16)	(0.16)	(0.10)
GROWTH	0.026**	0.026**	0.025**	0.028**	0.025**	0.025**	0.026**
	(2.30)	(2.19)	(2.07)	(2.38)	(2.08)	(2.08)	(2.24)
CASH	0.088**	0.111***	0.112***	0.100**	0.120***	0.122***	0.119***
	(2.17)	(2.67)	(2.70)	(2.46)	(2.84)	(2.92)	(2.83)
Constant	9.765**	8.675*	8.682*	4.933	7.616	3.606	7.943
	(2.10)	(1.76)	(1.73)	(1.09)	(1.54)	(0.76)	(1.60)
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	.334	.282	.271	.306	.272	.270	.275
N	617	617	617	617	617	617	617

Note. This table shows the results of the relationship between positive and negative themes with financial performance (*ROA*). *t*-statistics are based on robust standard errors and are in parentheses.
*, ** and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

Baseline Regression Results

Table 5 presents the empirical findings regarding the impact of positive and negative themes on financial performance. In Column (1) of Table 5, the positive coefficient estimate of *PLACE POS* exhibits statistical significance at the 1% level, indicating that an increase in positive online commentary and posts pertaining to the theme of *place* corresponds to a rise in financial performance. Furthermore, the coefficients of *EXPCTN POS, INTENT POS* and *CONVN POS*, in Columns

(2), (3) and (4), respectively, are positively signed and statistically significant (5%, 10% and 1%). These results suggest that heightened levels of positive online discourse surrounding themes such as *place*, *expectation*, *intent* and *convenience* correspond to improved financial performance among luxury hotels. In terms of economic significance, for instance, a one standard deviation increase in *CONVN POS* leads to a 0.653 unit increase in *ROA* at the mean level (= 0.210*6.897/2.219). However, the remaining positive themes investigated, namely *QUALITY POS*, *PROMO POS* and *AVAIL POS*, do not exhibit statistically significant implications for financial performance. The observed positive and statistically significant relationships between the majority of positive themes (*H1a*, *H2a*, *H3a* and *H4a*) and financial performance substantiate our conjecture that higher frequencies of positive conversational topics or themes on social media correspond to improved financial performance of luxury hotels.

Upon examination of the results pertaining to (*H1b*, *H2b, H3b, H4b, H5b, H6b* and *H7b*), it is evident that none of the negative themes (*PLACE NEG, EXPCTN NEG, INTENT NEG, CONVN NEG, QUALITY POS NEG, PROMO NEG* and *AVAIL NEG*) demonstrates a statistically negative and significant coefficient, thereby failing to substantiate these hypotheses empirically. In light of these findings, hotels can strategically leverage positive themes identified in social media discourse, such as *place*, *expectation*, *intent* and *convenience*, to bolster their financial performance. Understanding the impact of positive themes can guide hotels in tailoring their marketing strategies and service offerings to align with customer preferences, thereby enhancing their attractiveness to potential guests. Moreover, while negative themes may not directly impact financial performance, hotels should remain vigilant in addressing customer concerns and fostering positive guest experiences to maintain a favourable online reputation, contributing to long-term success in the competitive hospitality industry. Also, the findings for both the positive-based hypotheses and negative-based hypotheses appear to bear some resemblance to prior research (Benjamin et al., 2022; Dunham & Garcia, 2021), which found that, unlike negative sentiments, positive sentiments expressed on social media exert a significant influence on financial performance.

Robustness Tests

In this section, we perform two additional analyses for robustness purposes. First, to examine whether the results are sensitive to the use of current-year independent and control variables, we repeated all regressions reported in Table 5 by replacing these variables with their one-year-lagged values, while retaining current-year *ROA* as the dependent variable. Although the results are not tabulated in the manuscript, the principal findings remain broadly consistent with the earlier analysis. Specifically, the lagged positive themes of *place*, *expectation*, *intent* and *convenience* remain positively and significantly associated with current-year *ROA*, whereas none of the lagged negative themes is statistically significant. The lagged positive *promotion* theme also becomes statistically significant, suggesting that the financial implications of favourable *promotion*-related discussions may emerge with some delay. Nevertheless, this additional finding does not alter the earlier findings that positive thematic conversations exhibit a more consistent association with hotel financial performance than negative thematic conversations. Second, we address potential endogeneity issues of our main findings by employing the two-stage least squares (2SLS) regression analysis, with the outcomes presented in Table 6. Recall that four positive themes (*PLACE POS*, *EXPCTN POS, INTENT POS* and *CONVN POS*) exhibit significant positive association with financial performance (*ROA*). We utilize the overall sentiments subject document positivity provided by Infegy (denoted as *SENTIMENT POS*) as the instrumental variable (IV) for each of our four statistically significant explanatory variables (*PLACE POS, EXPCTN POS, INTENT POS* and *CONVN POS*). *SENTIMENT POS* is the total number of all comments and posts with positive sentiment from social media analysed for a given luxury hotel in a year (Infegy, 2021). We first show the 2SLS estimations for *PLACE POS* in Columns (1) and (2) and subsequently the 2SLS estimations for *EXPCTN POS* in Columns (3) and (4). In the initial stage of the 2SLS (Column (1)), we conduct a regression of *PLACE POS* on the instrumental variable (IV), *SENTIMENT POS* and other control variables, estimating the fitted value of the positive *place* theme, denoted as *PLACE POS PRED*. Subsequently, this first-stage fitted value of *PLACE POS PRED* is employed in the second stage of the 2SLS regressions. Examining Table 5, the first-stage regression indicates a positive association (significant at the 1% level) between the IV (*SENTIMENT POS*) and *PLACE POS* (Column (1)). Moving to the second-stage regression in Column (2), the coefficient of *PLACE POS PRED* is significant and positive at the 10% level in explaining *ROA*. We follow a similar 2SLS estimation approach for *EXPCTN POS* in Columns (3) and (4). The second-stage regression in Column (4) shows that the coefficient of *EXPCTN POS PRED* is significant and positive at the 5% level in explaining *ROA*. In the untabulated 2SLS analysis using *SENTIMENT POS* as the IV, we continue to find significant coefficients for *INTENT POS PRED* and *CONVN POS PRED* at the 5% level in explaining ROA in our second-stage regressions. In essence, the outcomes from the 2SLS regression approach align with and support our primary finding, demonstrating a favourable association between positive *place*, *expectation*, *intent* and *convenience* and *ROA*.

Further Analysis

Recall that four positive themes (*PLACE POS, EXPCTN POS, INTENT POS* and *CONVN POS*) demonstrate a

Table 6. Two-Stage Least-Squares (2SLS) Results.

	PLACE POS	*ROA*	*EXPCTN POS*	*ROA*
	First-stage	Second-stage	First-stage	Second-stage
Dependent variable	(1)	(2)	(3)	(4)
SENTIMENT POS	4.410***		3.399***	
	(3.33)		(3.77)	
PLACE POS PRED		0.502*		
		(1.75)		
EXPCTN POS PRED				0.805**
				(2.04)
PLACE NEG	5.724***	−1.759		
	(7.32)	(−1.02)		
EXPCTN NEG			2.892**	−1.281
			(2.42)	(−0.91)
SIZE	−0.064	−0.238	0.607***	−0.646
	(−0.16)	(−0.77)	(3.64)	(−1.52)
LEV	0.018	−0.045***	0.005	−0.037**
	(1.51)	(−3.24)	(0.87)	(−2.53)
CAPEX	0.032	−0.006	−0.007	0.011
	(0.56)	(−0.10)	(−0.28)	(0.19)
GROWTH	0.003	0.024**	0.006	0.021
	(0.33)	(2.13)	(0.70)	(1.54)
CASH	0.060*	0.062	0.050**	0.072
	(1.71)	(1.41)	(2.24)	(1.42)
Constant	−3.516	3.105	−8.572***	6.979
	(−0.56)	(0.58)	(−3.11)	(1.10)
Year effect	Yes	Yes	Yes	Yes
Country effect	Yes	Yes	Yes	Yes
Underidentification test	12.833		14.999***	
Weak identification test	11.082		14.210	
Adjusted R^2		.180		.118
N	617	617	617	617

Note. This table presents the estimation results of our instrumental variable (2SLS) specification. In Column (1), *SENTIMENT POS* serves as the excluded instrument to generate *PLACE POST PRED*, which is used in Column (2). In Column (3), *SENTIMENT POS* serves as the excluded instrument to generate *EXPCTN POST PRED*, which is used in Column (4). *t*-statistics are in parentheses.
***, **, * represents significance at the 1%, 5% and 10% level, respectively.

notable positive relationship with *ROA*. To deepen our understanding of our main findings, we further investigate cross-sectional variations (COVID-19, capital expenditure and goodwill) in the reported relationship to identify conditions under which the impact of the four positive themes mentioned above on *ROA* varies.

COVID-19. Tourism has long been regarded as particularly susceptible to health-related crises (Yu et al., 2020). Thus, it is imperative to examine the ramifications of such crises on various facets of the tourism industry, including tourism revenues, financial performance, hotel management, tourism demand, online customer evaluations, etc. (Lee et al., 2012; Nilashi et al., 2022; Novelli et al., 2018). COVID-19 is a once-in-a-lifetime pandemic that caused major implications for corporations and has had a largely negative effect on hotels, harming their profitability and survivability (UNWTO, 2021). Recent studies have suggested a shift in customers' online review patterns in the hospitality sector due to COVID-19, amid mixed findings (Zibarzani et al., 2022). For example, some studies find that customers provide a higher number of negative reviews and lower ratings during the COVID-19 pandemic (Jia, 2021; Kutlubay et al., 2023), while others (Sun et al., 2022) suggest that customers have a higher tolerance and are more inclined to give higher ratings under certain conditions. The COVID-19 epidemic has prompted businesses in the hospitality sector to offer lower prices and enhanced value-for-money experiences. This shift potentially raises customer expectations positively. However, it has also raised customer concerns regarding the adequacy of epidemic prevention measures and the provision of anti-epidemic materials. These concerns make

negative reviews more impactful and challenge the sector's survival (Y. Luo & Xu, 2021; Sun et al., 2022). Given the discussions above, it is unclear how the COVID-19 pandemic would influence the implications of positive and negative themes on luxury hotels' financial performance.

To explore these possibilities, we first construct a dichotomous variable called '*TIME*' to capture the COVID-19 period. '*TIME*' is defined as '1' if the years are 2020 or 2021, and 0 otherwise. We then include *TIME* and its interaction with the four positive and negative themes (*place*, *expectation*, *intent* and *convenience*) in our regressions. The results are presented in Table 7. The coefficients of *PLACE POS*TIME*, *INTENT POS*TIME*, and *CONVN POS*TIME* in Columns (1), (3) and (4), respectively, are not statistically significant in explaining *ROA*. However, the coefficient of *EXPCTN POS*TIME* in Column (2) is positive and significant at the 5% level in explaining *ROA*. This indicates that positive commentary and posts on social media regarding the theme of *expectation* during the COVID-19 period augmented the financial performance of hotels, potentially attributable to enhanced value-for-money experiences provided by the hotels during this timeframe. Consequently, our overall inference, with the exception of *expectation*, is that COVID-19 did not influence the impact of the majority of the positive themes on financial performance. The outcomes concerning the negative themes indicate that the interaction terms between '*TIME*' and each of the themes (*PLACE NEG*TIME, EXPCTN NEG*TIME, INTENT NEG*TIME*, and *CONVN NEG*TIME*) are negative and statistically significant in explaining *ROA*. These results suggest that negative themes exerted a heightened impact on reducing financial performance during the COVID-19 period. As a whole, these findings imply that while COVID-19 did not spur an increase in customers' positive themes contributing to financial performance, the influence of negative themes on reducing financial performance gained prominence. Hence, hotels should therefore prioritize addressing negative themes during health crises to mitigate their adverse effects on financial performance and customer perceptions.

Capital Expenditure. Capital expenditure refers to investments made by businesses in fixed assets such as buildings, equipment, and land (Dang, 2007). Owing to the real estate-centred nature of the hotel industry, these expenditures are crucial for maintaining and enhancing a hotel's infrastructure and operational capabilities, where physical assets play a pivotal role in service delivery and customer satisfaction (H. S. Kim & Jang, 2018). Likewise, hotels heavily rely on capital expenditure to renovate/refurbish/upgrade facilities and amenities to improve guest experiences (Elphick, 2023). Such investments bolster a hotel's reputation and contribute significantly to its financial performance in the competitive market (O'Connor, 2023; Soni et al., 2023). Hence, the ongoing investments in infrastructure and guest experience enhancements signal a commitment to quality and service excellence, attracting more patrons and improving revenue streams. In addition, the emphasis on regular capital expenditure underscores the proactive efforts to stay abreast of evolving guest preferences and technological advancements (Hotel Magazine, 2019). Conversely, the implications of negative themes on financial performance could be less pronounced in firms with high capital expenditure. The substantial investments in physical assets serve as a robust foundation for operations and guest service, buffering against adverse fluctuations and adverse impacts on financial performance (Andrew et al., 2007; Harris, 1988). The capital intensity of the hospitality industry underscores the necessity of these investments, which form a significant portion of a hotel's assets, thereby reducing susceptibility to financial setbacks arising from negative themes. Thus, positive themes could amplify the financial performance of luxury hotels with high capital expenditure. Meanwhile, hotels' ability to withstand or bounce back from negative themes could be strengthened by their substantial investment in physical assets, mitigating the adverse impact of negative themes on financial performance.

To examine whether capital expenditure moderates the relationship between social media themes and hotels' financial performance, we classify hotels into high- and low-capital-expenditure groups using the median split of CAPEX and interact this indicator with the positive and negative thematic measures. We first create a dichotomous variable called '*H.CAPEX*'. '*H.CAPEX*' is designated as '1' when the value of *CAPEX* surpasses the sample median, and '0' when the value of *CAPEX* falls below the sample median. We then interact *H.CAPEX* with the four positive and negative themes (*place*, *expectation*, *intent* and *convenience*), which were analysed in the preceding section in the regressions. The results are reported in Table 8. The coefficients of the interaction terms between *H.CAPEX* and each of the positive themes (*H.CAPEX*PLACE POS* in Column (1), *H.CAPEX*EXPCTN POS* in Column (2), *H.CAPEX*INTENT POS* in Column (3), and *H.CAPEX*CONVN POS* in Column (4)) are all statistically insignificant. This finding indicates that the positive association between favourable social media themes and financial performance does not differ materially between hotels with high and low levels of capital expenditure. This suggests that the benefits derived from positive customer perceptions are broadly similar regardless of capital intensity. In contrast, the results for the corresponding interactions between *H.CAPEX* and the four negative themes reveal that three of the interactions–*H.CAPEX*PLACE NEG*, *H.CAPEX*EXPCTN NEG*, and *H.CAPEX*CONVN NEG* exhibit positive and significant coefficients at the 1%, 10% and 5% levels, respectively. The interaction term *H.CAPEX*INTENT NEG* is not statistically significant. Importantly, these findings should be interpreted as evidence that high capital expenditure attenuates the

Table 7. Positive and Negative Themes on Social Media and Financial Performance: The Interaction Effects of COVID-19.

	ROA			
Dependent variable	(1)	(2)	(3)	(4)
TIME	−4.420***	−3.845***	−4.118***	−3.749***
	(−4.46)	(−3.92)	(−4.22)	(−3.72)
PLACE POS	0.111***			
	(2.97)			
*TIME*PLACE POS*	0.062			
	(0.25)			
PLACE NEG	0.449			
	(1.33)			
*TIME*PLACE NEG*	−3.085**			
	(−2.20)			
EXPCTN POS		0.120*		
		(1.96)		
*TIME*EXPCTN POS*		0.514**		
		(2.38)		
EXPCTN NEG		0.810**		
		(2.26)		
TIME EXPCTN NEG*		−16.991***		
		(−5.94)		
INTENT POS			0.166**	
			(2.15)	
*TIME*INTENT POS*			−0.144	
			(−0.58)	
INTENT NEG			0.077	
			(0.37)	
*TIME*INTENT NEG*			−1.865***	
			(−3.23)	
CONVN POS				0.180***
				(3.13)
*TIME*CONVN POS*				0.296
				(0.77)
CONVN NEG				0.388*
				(1.74)
*TIME*CONVN NEG*				−5.095***
				(−3.52)
SIZE	−0.235	−0.143	−0.178	−0.233
	(−0.81)	(−0.49)	(−0.60)	(−0.80)
LEV	−0.041***	−0.037***	−0.036***	−0.039***
	(−3.23)	(−2.84)	(−2.66)	(−2.98)
CAPEX	−0.007	0.000	0.002	−0.005
	(−0.13)	(0.01)	(0.04)	(−0.09)
GROWTH	0.032***	0.027***	0.028***	0.030***
	(3.27)	(2.96)	(2.91)	(3.19)
CASH	0.103***	0.139***	0.127***	0.123***
	(2.70)	(3.92)	(3.44)	(3.36)
Constant	10.164**	9.455*	9.956*	10.103**
	(2.05)	(1.92)	(1.96)	(2.04)
Country effect	Yes	Yes	Yes	Yes
Adjusted R^2	.336	.339	.311	.331
N	617	617	617	617

Note. This table presents the estimation results of the interacting effects of COVID-19 on the relationship between positive and negative themes and financial performance (*ROA*). *t*-statistics are based on robust standard errors and are in parentheses.
*, ** and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

Table 8. Positive and Negative Themes on Social Media and Financial Performance: The Interaction Effects of Capital Expenditure.

	ROA			
Dependent variable	(1)	(2)	(3)	(4)
H.CAPEX	−0.065	0.258	0.682	−0.178
	(−0.08)	(0.30)	(0.79)	(−0.21)
PLACE POS	0.105			
	(1.50)			
*H.CAPEX*PLACE POS*	0.001			
	(0.01)			
PLACE NEG	−0.280			
	(−0.78)			
*H.CAPEX*PLACE NEG*	1.401***			
	(2.80)			
EXPCTN POS		0.043		
		(0.76)		
*H.CAPEX*EXPCTN POS*		0.115		
		(0.78)		
EXPCTN NEG		0.188		
		(0.64)		
*H.CAPEX*EXPCTN NEG*		2.499*		
		(1.89)		
INTENT POS			0.096	
			(1.32)	
*HCAPEX*INTENT POS*			0.125	
			(0.76)	
INTENT NEG			−0.192	
			(−0.84)	
*H.CAPEX*INTENT NEG*			0.331	
			(1.21)	
CONVN POS				0.083
				(1.06)
*H.CAPEX*CONVN POS*				0.123
				(1.22)
CONVN NEG				−0.083
				(−0.36)
*H.CAPEX*CONVN NEG*				1.348**
				(2.55)
SIZE	0.050	0.001	−0.045	0.068
	(0.16)	(0.00)	(−0.14)	(0.21)
LEV	−0.040***	−0.036**	−0.033**	−0.037***
	(−3.00)	(−2.47)	(−2.20)	(−2.69)
CAPEX	−0.051	−0.063	−0.073	−0.048
	(−0.78)	(−0.93)	(−1.06)	(−0.72)
GROWTH	0.028**	0.027**	0.026**	0.028**
	(2.43)	(2.29)	(2.20)	(2.42)
CASH	0.081**	0.100**	0.102**	0.090**
	(1.98)	(2.38)	(2.42)	(2.20)
Constant	−0.364	0.182	0.884	−0.882
	(−0.07)	(0.03)	(0.16)	(−0.16)
Year effect	Yes	Yes	Yes	Yes
Country effect	Yes	Yes	Yes	Yes
Adjusted R^2	.364	.311	.285	.344
N	617	617	617	617

Note. This table presents the estimation results of the interacting effects of capital expenditure on the relationship between positive and negative themes and financial performance (*ROA*). *t*-statistics are based on robust standard errors and are in parentheses.
*, ** and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

adverse impact of negative social media themes on financial performance, rather than implying that negative themes directly enhance performance. Specifically, the positive interaction coefficients indicate that the marginal negative effect of unfavourable themes on *ROA* is substantially weaker for hotels with high capital expenditure compared to their low-capital-expenditure counterparts. Consistent with this interpretation, the interaction effects indicate that while negative social media themes are associated with lower *ROA* overall, the magnitude of this negative association is substantially reduced for hotels with high capital expenditure.

This attenuation effect is consistent with the notion that substantial investments in physical assets, facilities and infrastructure enhance service recovery capacity and operational resilience. Hotels with higher capital expenditure are better positioned to absorb reputational shocks associated with negative customer feedback, thereby limiting the extent to which such unfavourable perceptions translate into deteriorating financial outcomes. Consequently, while negative social media themes are generally expected to exert downward pressure on performance, their impact appears to be significantly moderated in capital-intensive hotels, reflecting the buffering role of sustained investment in tangible assets and service quality.

Goodwill. Goodwill, encompassing aspects like reputation, customer loyalty and stakeholder connections (Mushafiq et al., 2023; Satt & Chetioui, 2017), serves as a crucial intangible asset that can bolster a hotel's competitive edge. From an economic standpoint, goodwill is the surplus beyond a hotel's net asset value, reflecting the net present value of an investment and encapsulating the company's reputation (Ellis, 2001; Ivancevich et al., 1995; Mushafiq et al., 2023; Schwaiger, 2004). Companies with strong goodwill often enjoy benefits such as a loyal client base, revenue stability and risk mitigation, which directly contribute to enhanced financial performance (Bennett & Kottasz, 2000; Bontis et al., 2000; Helm, 2007). High goodwill in hotels could amplify the implications of positive themes on financial performance. Positive themes, such as favourable customer experiences and engagement, are likely to resonate more profoundly in hotels with high goodwill, as they reinforce and further elevate the hotel's reputation and stakeholder relationships. Conversely, the implications of negative themes on hotels' financial performance could be anticipated to be less pronounced in firms with high goodwill. Since strong reputation and favourable connections associated with high goodwill act as a protective buffer against adverse events (Mushafiq et al., 2023), they could aid hotels in navigating challenges and mitigating their impact. In addition, the resilient client base and stakeholder trust fostered by high goodwill can help hotels weather negative themes with greater ease, maintaining revenue streams and market standing despite temporary setbacks. Thus, the presence of high goodwill could not only amplify the positive implications of themes but also mitigate the adverse effects of negative themes on luxury hotels' financial performance.

To assess whether goodwill moderates the relationship between social media themes and hotels' financial performance, we construct a dichotomous variable named '*H.GOOD*'. This variable is assigned a value of '1' when the value of goodwill (*GOOD*) exceeds the sample median, and '0' when it falls below the median.[4] Subsequently, we examine the interaction of *H.GOOD* with the four positive and negative themes (*place, expectation, intent and convenience*) discussed earlier in the regressions. The outcomes of these analyses are detailed in Table 9. The statistical analysis reveals that the coefficients of the interaction terms between *H.GOOD* and each positive theme (*H.GOOD*PLACE POS* in Column (1), *H.GOOD*EXPCTN POS* in Column (2), *H.GOOD*INTENT POS* in Column (3), and *H.GOOD*CONVN POS* in Column (4)) do not reach statistical significance. This indicates that the positive association between favourable social media themes and *ROA* does not differ systematically between hotels with high and low levels of goodwill. In other words, while positive customer perceptions are generally associated with improved financial performance, their effects do not appear to be materially amplified by the level of goodwill. Conversely, the results regarding the interactions between *H.GOOD* and the four negative themes indicate significant coefficients for the interactions–*H.GOOD*PLACE NEG*, *H.GOOD*EXPCTN NEG*, *H.GOOD*INTENT POS* and *H.GOOD*CONVN NEG*–at the 1% level, highlighting a positive association. Importantly, these results should be interpreted as evidence that high levels of goodwill attenuate the adverse impact of negative social media themes on financial performance, rather than suggesting that negative themes directly enhance performance. The positive interaction coefficients indicate that the marginal negative effect of unfavourable social media themes on *ROA* is substantially weaker for hotels with high goodwill relative to those with low goodwill. In marginal terms, although negative social media themes exert a detrimental effect on *ROA*, this effect is considerably weaker for hotels with high goodwill, reflecting the buffering role of reputational assets rather than a direct performance gain from negative feedback.

This attenuation effect is consistent with the role of goodwill as a reputational and relational buffer. Hotels with stronger reputations, established customer loyalty, and deeper stakeholder trust are better positioned to absorb and manage negative feedback without experiencing a proportional deterioration in financial outcomes. Consequently, while negative social media themes are generally associated with poorer performance, their detrimental effects appear to be significantly moderated in hotels with high goodwill, reflecting the buffering role of intangible reputational assets in sustaining financial resilience.

Table 9. Positive and Negative Themes on Social Media and Financial Performance: The Interaction Effects of Goodwill.

	ROA			
Dependent variable	(1)	(2)	(3)	(4)
H.GOOD	−0.929	−0.330	−0.165	−0.365
	(−0.89)	(−0.33)	(−0.17)	(−0.39)
PLACE+VE	0.330**			
	(2.16)			
*H.GOOD*PLACE POS*	−0.202			
	(−1.28)			
PLACE NEG	−3.691***			
	(−2.64)			
*H.GOOD*PLACE NEG*	4.159***			
	(2.92)			
EXPCTN POS		0.314**		
		(2.15)		
*H.GOOD*EXPCTN POS*		−0.146		
		(−0.82)		
EXPCTN NEG		−10.066***		
		(−3.63)		
*H.GOOD*EXPCTN NEG*		10.699***		
		(3.85)		
INTENT POS			0.192	
			(1.12)	
*H.GOOD*INTENT POS*			−0.044	
			(−0.22)	
INTENT NEG			−2.167***	
			(−4.89)	
*H.GOOD*INTENT NEG*			2.334***	
			(4.80)	
CONVN POS				0.167
				(1.32)
*H.GOOD*CONVN POS*				0.046
				(0.31)
CONVN NEG				−2.682***
				(−2.70)
*H.GOOD*CONVN NEG*				3.012***
				(2.99)
SIZE	−0.014	−0.048	−0.032	−0.096
	(−0.04)	(−0.15)	(−0.10)	(−0.30)
LEV	−0.037***	−0.034**	−0.033**	−0.035**
	(−2.83)	(−2.49)	(−2.38)	(−2.54)
CAPEX	−0.047	−0.038	−0.021	−0.052
	(−0.78)	(−0.62)	(−0.33)	(−0.86)
GROWTH	0.029**	0.026**	0.025**	0.029**
	(2.49)	(2.21)	(2.09)	(2.41)
CASH	0.118***	0.165***	0.164***	0.150***
	(3.03)	(4.26)	(4.24)	(3.80)
Constant	0.538	1.400	1.331	1.219
	(0.10)	(0.26)	(0.24)	(0.22)
Year effect	Yes	Yes	Yes	Yes
Country effect	Yes	Yes	Yes	Yes
Adjusted R^2	.353	.322	.322	.330
N	567	567	567	567

Note. This table presents the estimation results of the interacting effects of goodwill on the relationship between positive and negative themes and financial performance (*ROA*). *t*-statistics are based on robust standard errors and are in parentheses.
*, ** and *** denote statistical significance at the 10%, 5% and 1% level, respectively.

Discussion and Conclusion

Conclusion

Our study delves into the impact of positive and negative tones of themes expressed on social media on the financial performance of luxury hotels worldwide. Specifically, the study aims to assess the influence of positive and negative themes related to *place*, *expectation*, *intent*, *convenience*, *quality*, *promotion* and *availability* on the financial performance of luxury hotels worldwide. As outlined earlier, there is a notable absence of prior research exploring how social media themes impact the financial performance of hotels. We utilize a vast and distinctive dataset comprising 617 firm-year observations from 27 countries globally and spanning from 2007 to 2021. Our analytical approach employs pooled ordinary least squares (OLS) regression. Our findings reveal that of the seven themes examined, the positive tones of four themes (*place*, *expectation*, *intent* and *convenience*) significantly explain an increase in the financial performance of luxury hotels. None of the negative themes examined are found to reduce financial performance. In addition, these findings are robust using a 2SLS regression approach.

We then delve deeper into our investigation of the four themes above (*place*, *expectation*, *intent* and *convenience*). More specifically, we examine the implications of the COVID-19 pandemic, capital expenditure, and goodwill on the relationship between positive and negative tones of these identified social media themes and financial performance. The findings suggest that during the COVID-19 period, negative themes exert a detrimental impact on financial performance, whereas positive themes do not exhibit a corresponding amplification in their effects. Importantly, the results indicate that the adverse impact of negative themes is attenuated rather than reversed in hotels with high capital expenditure, suggesting that sustained investment buffers the transmission of negative social media discourse into financial performance. In contrast, the favourable implications of positive themes on financial performance do not appear to be more pronounced in luxury hotels with high capital expenditure. Similarly, the findings highlight the role of goodwill in weakening the marginal negative effect of unfavourable social media themes on hotel financial performance, reflecting a buffering mechanism rather than a direct performance gain from negative discourse. They also indicate that while positive themes may generally contribute to financial success, their influence does not appear to be significantly augmented in luxury hotels with high levels of goodwill.

Implications

The study's findings offer valuable theoretical implications, practical insights and actionable strategies for hotels aiming to navigate the dynamic landscape of social media and optimize their financial performance.

Theoretical Implications. This study offers several theoretical implications for understanding how social media discourse translates into financial performance in the luxury hotel context. First, by analysing positive and negative orientations within seven distinct social media themes, the findings extend the Theory of Lodging by showing that core lodging attributes such as *place, quality, convenience, promotion, availability*, *expectation* and *intent* do not merely shape guest experience and satisfaction, but also carry differentiated financial relevance when expressed through large-scale online conversations. While prior lodging research emphasizes these attributes as determinants of perceived service quality and satisfaction, our results demonstrate that the tone embedded within these attributes is central to whether they transmit financially meaningful signals to firm-level outcomes. This advances the Theory of Lodging by linking its service-attribute foundations directly to accounting-based performance measures rather than remaining confined to perceptual or behavioural outcomes.

Second, the results provide important refinements to Expectation Disconfirmation Theory (EDT) in a digital, firm-level setting. EDT traditionally explains satisfaction and dissatisfaction as outcomes of confirmation or disconfirmation of expectations at the individual consumer level. Our findings show that this logic scales up to the firm level through social media discourse: positive thematic narratives signal expectation confirmation and are associated with stronger financial performance, whereas negative narratives represent expectation disconfirmation and are associated with weaker performance, particularly under conditions of heightened uncertainty. Importantly, the crisis-period analysis reveals that the financial consequences of negative disconfirmation intensify during external shocks such as COVID-19, suggesting that EDT operates in a state-dependent manner when applied to aggregated online narratives and firm performance.

Third, the study contributes to the Theory of Planned Behaviour (TPB) by demonstrating that attitudes and intentions expressed collectively in social media conversations have observable financial implications. Themes related to intent, convenience and promotion reflect behavioural predispositions that align closely with TPB constructs such as attitudes and perceived behavioural control. The results indicate that when these constructs are articulated positively in online discourse, they are associated with improved financial outcomes, whereas negative expressions weaken performance, particularly during periods of uncertainty. This extends TPB beyond individual intention–behaviour relationships by showing that aggregated intention signals embedded in social media content are informative for predicting firm-level financial outcomes.

Finally, the moderating roles of capital expenditure and goodwill contribute to theory by identifying boundary conditions under which these theoretical mechanisms operate. Consistent with the proposed framework, the attenuation of negative thematic effects in high-capex and high-goodwill firms suggests that tangible service investments and established reputational standing buffer the transmission of negative disconfirmation and adverse behavioural signals into financial outcomes. This insight integrates the three theoretical lenses by showing that while lodging attributes, expectation disconfirmation and behavioural intentions shape social media narratives, the strength of their financial impact depends on firms' underlying resource endowments. Together, these findings provide a more coherent and theoretically grounded explanation of how and when social media discourse matters for luxury hotel performance.

Practical Implications. The findings offer several practical implications for managers, investors and analysts in the luxury hotel sector. First, the results suggest that hotels should move beyond aggregate sentiment measures and adopt theme-specific social media monitoring. Because not all themes carry equal financial relevance, managers should prioritize tracking and managing online discourse related to *place*, *expectation*, *intent* and *convenience*, particularly the negative orientations of these themes. In normal operating conditions, the presence of negative commentary should not be assumed to mechanically depress performance; instead, hotels can benefit from amplifying and sustaining positive tone within financially salient themes, such as through expectation management, experience curation and frictionless service design. Embedding these insights into routine social listening dashboards and 'theme-to-action' playbooks can help translate online feedback into targeted operational responses.

Second, the crisis-contingent results underscore the importance of adaptive and escalation-based response strategies. During periods of heightened uncertainty, such as the COVID-19 pandemic, negative social media narratives become significantly more damaging to financial performance. Hotels should therefore implement crisis-triggered escalation protocols that intensify monitoring thresholds and accelerate service recovery and communication efforts when external shocks occur. Rather than attempting to suppress negative sentiment broadly, managers should focus on addressing the specific sources of dissatisfaction highlighted in negative thematic discourse, such as unmet expectations, perceived inconvenience or safety-related concerns.

Third, the moderating effects of capital expenditure and goodwill highlight the strategic value of long-term investment as a form of financial resilience. Sustained investment in physical assets, service systems and reputational capital reduces hotels' exposure to the downside effects of negative online narratives. From a practical perspective, this suggests that capital expenditure and goodwill-building initiatives should be viewed not only as growth-oriented strategies, but also as mechanisms that mitigate the transmission of reputational shocks into financial outcomes, particularly during crisis periods.

Finally, for investors and analysts, the findings indicate that theme-based social media indicators can complement traditional financial metrics when assessing hotel performance and risk. Firms with stronger goodwill and sustained capital investment appear better positioned to withstand adverse online sentiment under stress. Incorporating such indicators into performance evaluation frameworks may therefore enhance assessments of both operational resilience and downside risk in the luxury hospitality sector.

Limitations and Future Research

While this study offers valuable insights into the relationship between social media themes and luxury hotels' financial performance, several limitations should be acknowledged. The analysis relies primarily on quantitative social media measures, which may overlook qualitative dimensions in customer perceptions. In addition, the study focuses on a specific timeframe and industry context, potentially limiting its ability to capture the dynamic evolution of online themes over time and its generalisability beyond the hotel sector. Future research could integrate qualitative approaches alongside quantitative analysis, adopt longitudinal designs across different periods, and extend the investigation to other hospitality segments such as smaller hotels, restaurants or travel services. Further, examining additional contextual moderators, including cultural and market-specific factors, may enhance understanding of how online discourse shapes financial outcomes across settings.

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Funding

The authors received no financial support for the research, authorship, or publication of this article.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Notes

1. Social media sentiment or polarity is the classification of comments, posts, etc. on social media into positive, negative or neutral sentiments (Benjamin et al., 2022; Nguyen et al., 2020; Roy, 2023). For example, words or phrases expressed on social media containing words such as 'cheerful' and 'I enjoy it' are positive in tone, and expressions containing words such as 'enraged' and 'I dislike it' are negative in tone.
2. Additional details regarding Infegy Atlas and its social media analytics data are available on their website: https://www.infegy.com/. The website was last accessed on January 10, 2026.
3. All variance inflation factors (VIFs) in our estimates are below 4.00, well under the rule-of-thumb threshold of 10 for possible multicollinearity concerns.
4. *GOOD* is measured as goodwill on the balance sheet divided by total assets.

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Appendix. The Number of Firm-Year Observations and Country of Headquarters of the Included Firms.

No	Firm	Industry	Country of headquarter	*N*
1	Abu Dhabi National Hotels Co PJSC	Luxury hotels	United Arab Emirates	15
2	Accor SA	Luxury hotels	France	15
3	Agora Hospitality Group Co Ltd	Luxury hotels	Japan	15
4	Al Sharq Investment Projects Co PSC	Luxury hotels	Jordan	12
5	Banyan Tree Holdings Ltd	Luxury hotels	Singapore	15
6	Choice Hotels International Inc	Luxury hotels	United States	15
7	Dalata Hotel Group PLC	Luxury hotels	Ireland	10
8	Erawan Group PCL	Luxury hotels	Thailand	15
9	Genting Hong Kong Ltd	Luxury hotels and Cruise lines	Hong Kong	14
10	Grupo Posadas SAB de CV	Luxury hotels	Mexico	15
11	HLV Ltd	Luxury hotels	India	13
12	Hilton Grand Vacations Inc	Luxury hotels	United States	8
13	Hilton Worldwide Holdings Inc	Luxury hotels	United States	12
14	Hongkong and Shanghai Hotels Ltd	Luxury hotels	Hong Kong	15
15	Huazhu Group Ltd	Luxury hotels	China	14
16	Imperial Hotel Ltd	Luxury hotels	Japan	15
17	India Tourism Development Corp Ltd	Luxury hotels	India	11
18	Indian Hotels Company Ltd	Luxury hotels	India	15
19	Isrotel Ltd	Luxury hotels	Israel	15
20	John Keells Hotels PLC	Luxury hotels	Sri Lanka	14
21	Kamat Hotels (India) Ltd	Luxury hotels	India	15
22	Kingsbury PLC	Luxury hotels	Sri Lanka	15
23	Lemon Tree Hotels Ltd	Luxury hotels	India	6
24	Lighthouse Hotel PLC	Luxury hotels	Sri Lanka	15
25	Mandarin Oriental International Ltd	Luxury hotels	Hong Kong	15
26	Marriott International Inc	Luxury hotels	United States	15
27	Marriott Vacations Worldwide Corp	Luxury hotels	United States	11
28	Melia Hotels International SA	Luxury hotels	Spain	15
29	NH Hotel Group SA	Luxury hotels	Spain	15
30	Norwegian Cruise Line Holdings Ltd	Luxury hotels	United States	13
31	PPHE Hotel Group Ltd	Luxury hotels	Netherlands	14
32	Parken Sport & Entertainment A/S	Luxury hotels	Denmark	15
33	Portsmouth Square Inc	Luxury hotels	United States	15
34	Regal Hotels International Holdings Ltd	Luxury hotels	Hong Kong	15
35	Royal Orchid Hotels Ltd	Luxury hotels	India	15
36	Scandic Hotels Group AB	Luxury hotels	Sweden	12
37	Sino Hotels (Holdings) Ltd	Luxury hotels	Hong Kong	15
38	Sonder Holdings Inc	Luxury hotels	United States	2
39	Sunny Day AD	Luxury hotels	Bulgaria	9
40	TAJ GVK Hotels and Resorts Ltd	Luxury hotels	India	15
41	Transcorp Hotels PLC	Luxury hotels	Nigeria	8
42	Transmetro Corporation Ltd	Luxury hotels	Australia	15
43	Travel + Leisure Co	Luxury hotels	United States	15
44	Tsogo Sun Hotels Ltd	Luxury hotels	South Africa	4
45	Viking Line Abp	Cruise lines	Finland	15
46	Whitbread PLC	Luxury hotels	United Kingdom	15
47	Wyndham Hotels and Resorts Inc	Luxury hotels	United States	10
	Total			617