Tourism Management Perspectives 32 (2019) 100578

Contents lists available at ScienceDirect

Tourism Management Perspectives

journal homepage: www.elsevier.com/locate/tmp

# Identification of risk factors in the hospitality industry: Evidence from risk factor disclosure

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ARTICLE INFO

*Keywords:*
Risk factor
Risk disclosure
Risk reporting
Lodging industry
Leximancer

ABSTRACT

This study identifies the main risk concepts and themes reported by U.S. lodging companies in their annual fillings for both 2008, when risk reporting was considered generic and under a financial crisis, and 2016, after the U.S. Securities and Exchange Commission (SEC) push for more specific risk reporting and under an economy recovery environment. The content analysis provided by Leximancer allowed to identify the main themes for 2008: *conditions, debt, subject, gaming, insurance, agreements* and *shares*; and for 2016: *results, subject, debt, certain, shares, information* and *tax* in descending order of relative importance. The results indicate a shift: while in 2008, the emphasis relied on the risks resulting from economic conditions, in 2016, the companies' focus was on results, and on information security risks. Findings also indicate that companies are increasing specific in risk reporting, as the theme *subject* referring to hospitality-related risks became the second largest theme in 2016.

## 1. Introduction

The disclosure of risks that companies face is considered useful for the proper functioning of markets. Therefore, the analysis of the way companies disclose risks, its benefits, its determinants, and the content that is disclosed, have become cornerstone academic topics in corporate reporting research (Elshandidy, Shrives, Bamber, & Abraham, 2018; ICAEW, 2011; Oliveira, Serrasqueiro, & Mota, 2018; Securities and Exchange Commission, 2010a).

In the last decade, the demand for useful risk reporting has increased. The financial crisis of 2007–2009 has revealed a market-wide underestimation of risks and a need for more specific risk-factor disclosures (Hope, Hu, & Lu, 2016). Recent research has showed that companies are communicating the material imminent threats to performance in the risk factor updates, and such information is providing analysts further information to assess fundamental risk (Filzen, 2015; Hope et al., 2016).

In recent years, investors are also paying more and more attention to the lodging stocks (Oak & Dalbor, 2008). However, risk disclosure literature concerning tourism sector has been spare, and mostly focused on equity market risk (Vivel-Búa, Lado-Sestayo, & Otero-González, 2018). Different researchers have even launched a call for research to study more risk management related topics in the lodging industry (Jang & Park, 2011; Park & Jang, 2014; Tsai, Pan, & Lee, 2011). Thus, filling up this gap in the literature is crucial to help investors to gain further insight regarding the risks U.S. lodging companies are facing, and to which they consequently are subject to, when buying such stocks.

Thus, the present study aims to contribute to the literature not only by identifying the main risk concepts and themes in the lodging industry using data provided on risk-factor disclosure, but also by verifying if lodging companies are responding to SEC's push for more specific risk reporting. With that in mind, two distinct years will be analyzed: firstly, the year of 2008, right in the middle of the financial crisis, when risk reporting was considered generic, and when lacking a demanding regulatory environment, secondly, the year of 2016, in an economic recovery business environment, and after the SEC's push for more specific risk reporting. This way, it is possible to verify if differences exist in risk reporting under different business environments, and to compare whether there are differences in the risks reported before and after the regulator intervention. Finally, it also brings attention to the usefulness of Leximancer as an exploratory tool to identify risk concepts and themes, which could later be applied to other industries.

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https://doi.org/10.1016/j.tmp.2019.100578
Received 9 August 2018; Received in revised form 9 September 2019; Accepted 10 September 2019

## 2. Literature review

### 2.1. Risk disclosure regulation

In 2005, the U.S. Securities and Exchange Commission (SEC) required firms to disclose qualitative information in a new section called "Risk factors" in their annual fillings (section 1A) regarding the factors that make the company risky and speculative, and that are relevant for investors and markets (Bao & Datta, 2012; Campbell, Chen, Dhaliwal, Lu, & Steele, 2014; Filzen, 2015; Hope et al., 2016).

Different studies have examined the content of the "Risk factors" section and inspected the relevance of such information. Bao and Datta (2012) is one example of such study analyzing the content of this disclosure. The authors identified different risk types using a variation of Latent Dirichlet Allocation (LDA) topic model called Sent-LDA. Another important study on the relevance of the risk factors content was the one by Kravet and Muslu (2013). The authors found out that an increase in annual risk disclosures is intrinsically associated with an increase in stock return volatility, around and after the filling. Lastly, Campbell et al. (2014) also contributed to this stream of literature by verifying that firms devote a greater proportion of its risk factor disclosure to describe the different types of risks they are facing. That is, the authors concluded that companies are providing meaningful information that reflects the risks they face in their Risk factor reporting.

Nevertheless, the risk-factor disclosures in the 10-K have been critized as being generic and boilerplate (Hope et al., 2016; Johnson, 2010). As a result, recently SEC has been calling for more specific risk reporting, and even sending different comment letters to those firms whose risk-factor disclosures are considered to be generic in order to call for more supplementary information about the risks such companies are really facing (Hope et al., 2016). Therefore, different researchers have been studying and examining if companies have been responding to these requests. Filzen (2015) evaluated if companies answered to the mandated requirement by SEC to provide timely information regarding potential future negative economic events in quarterly reports. Findings suggested that, on average, companies are communicating material imminent threats to performance in the risk factor updates. Adding to it, firms with updates in their disclosures have significantly lower abnormal returns relative to firms without updates. Another recent study was performed by Hope et al. (2016). Here authors aimed to verify if specificity in the risk factors disclosure provides benefits to markets. Evidence shows that companies with more specific information on the risk factor disclosure provide analysts with better information to assess fundamental risk. Thus, risk factor disclosures specific information shows to be relevant for investors and market analysts.

On April 13, 2016, a new concept release - *Business and Financial Disclosure Required by Regulation S-K* - was launched by SEC to seek public comment on improving its disclosure requirements. In this document, SEC recognizes its concerns regarding the current risk factor disclosure, and one of the comments even stated that "risk factors should be more entity-specific and connected to financial results" (Securities and Exchange Commission, 2016). Finally, SEC also recognized that the risk profile in a public company is constantly changing, and that the risks companies faced before, when the original risk factor disclosure was being developed, are different from the ones facing today, such as cybersecurity or climate change.

### 2.2. Lodging context

Risk factor disclosure can vary across industries since each industry shows different characteristics and are subject to different business environments (Kim, Kim, & Gu, 2012). According to Oak and Dalbor (2008), the lodging industry in particular, may require special attention in this context, due to its unique nature. First, hotel companies are tied up to intensive fixed assets, mainly building and equipment, and normaly require investiments in capital expenditures on a regular basis. And second, the intensive use of debt and the large amount of fixed costs makes this industry more prone to suffer from leverage problems. Thus, the risks associated with hotel investments can turn out to be much higher. Additionally, Kim et al. (2012) have found that lodging firms suffer from a high magnitude of unsystematic risk, to be precise, the risks caused by firm-specific events. Hence, research on the risks faced by this industry is adviced as shareholders aim to understand the risks they face when selecting an investment.

Research on lodging risk factors is spare. However, there are some examples of studies that analyze risk in the lodging setting from different perspectives. For example, Lee and Jang (2010) have analyzed the exposure of lodging firms to foreign currency risk that the internationalization process can potentiate. Results indicate that entering into foreign markets does not necessarily introduce new risks to the firms in the lodging context. Kim et al. (2012) has examined the risk features of hotel firms and their determinants of systematic risk to better understand the nature of risks associated with hotel investments. Chen (2013) also studied the determinants of systematic and unsystematic risk, though in the Chinese hotel industry. Findings suggest that debt leverage, size and state ownership are three important risk determinants for the Chinese hotel industry. Finally, from a different perspective, the research of Vivel-Búa et al. (2018) analyzed the determinants of credit risk in the Spanish hotel sector. The research highlights the importance of location to evaluate the credit risk of a lodging company.

Nevertheless, there is limited research on risk disclosure in this industry. Although, investors are paying more attention to the lodging stocks (Oak & Dalbor, 2008), there is limited information on the risks reported by companies in this industry. Thus, there is a gap in the literature that needs to be filled in.

This study has two goals in mind. Firstly, it aims to profile risks in the lodging industry in two moments in time, right in the middle of a financial crisis with an increasing turbulent environment, and compare it with a period of time of economic recovery in which more positivism is expected (Kosová & Enz, 2012). Secondly, as the financial crisis of 2007–2009 has brought attention to a wide market underestimation of risks, SEC launched a push for companies to disclose more specific risk-factors (Hope et al., 2016). As a result, this study is proposed to analyze if lodging companies are responding to this recent request by reporting the "risks they are really facing" (Johnson, 2010).

The years chosen were 2008 and 2016 (Fig. 1). The year 2008, because it was right in the middle of the financial crisis, risk reporting was considered generic, and it was also lacking a demanding regulatory environment. Then, the year 2016, in the current business environment, in the context of economic recovery, and after the SEC's new push for specific risk reporting (Hope et al., 2016; Securities and Exchange Commission, 2016).

## 3. Methodology

### 3.1. Data collection and preparation

This research is aimed to identify the main risk concepts and themes in the lodging industry. As aforementioned, after SEC required firms to

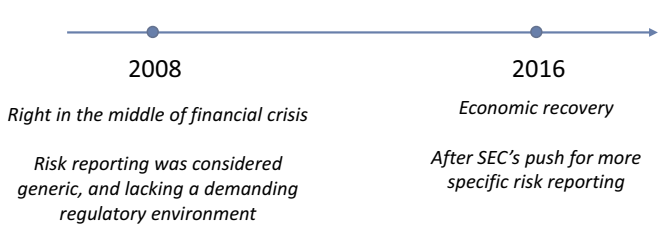



**Fig. 1.** Sampled time periods.

report their risk factors in section 1A of their company fillings, the information on companies's risk factors became available. Thus, the annual reports (or 10-K) were collected from the Electronic Data Gathering and Retrieval (EDGAR) database run by SEC. This database includes data of all the companies *who are required by law to file forms with the U.S. Securities and Exchange Commission* (Securities and Exchange Commission, 2010b). In order to select only companies in the lodging industry, the Standard Industrial Classification (SIC) codes were used. The code 7011 – *Hotels and Motels* was selected as commonly used in this industry (Kim et al., 2012).

Additionally, the annual reports of two distinct years were selected. First, the annual reports filled in 2009, regarding the information on the year of 2008, which comprises the risk reporting information in the middle of the U.S. financial crisis. According to several authors, the crisis spread rapidly through the U.S. starting in the late summer of 2008 (Chang, Stuckler, Yip, & Gunnell, 2013; Kosová & Enz, 2012; Kotz, 2009). Then, the annual report filled in 2017, comprising the information on 2016. This way, it is possible to compare both periods in time to verify if companies are responding to the SEC's push for specific reporting after the 2007–2009 financial crisis (Hope et al., 2016).

To conclude, the sample used in this study is composed of firms which are required to fill their annual report to the U.S. Securities and Exchange Commission (SEC), that are under the SIC code 7011, and that have information available for the years of 2008 and 2016. In total, 20 firms provided all the relevant data.

To prepare the dataset, the textual risk factors in section 1A of each 10-K form were extracted to an individual word document per company and per year. That is to say, 40 different word documents were created in order to allow further analysis. After that, all the documents were uploaded in the chosen content analysis tool explained in the next section.

### 3.2. Data analysis

This study aims to conduct a content analysis on the risk factors of lodging companies. According to Li, Ye, and Law (2013), the content analysis is a credible and frequently used method that allows researchers to make replicable and valid inferences from texts, and facilitates the categorization of themes or characteristics. For that, different computer-assisted qualitative data analysis (CAQDA) tools are being applied, such as NVivo, Leximancer, ATLAS.ti (Lu & Stepchenkova, 2015; Ryan, 2018). However, it is important to distinguish two types of tools: one that requires manual handling of data (e.g., NVivo and Atlas.ti), and other, the case of Leximancer, in which analysis is provided based on statistical properties of text, and without the need of data manual handling (Jones & Diment, 2010).

Although, the most commonly used software is NVivo (Jones & Diment, 2010), for the purposes of this research, Leximancer was considered the most appropriated and complementary software to handle the data. First, Sotiriadou, Brouwers, and Le (2014) findings indicate that NVivo is subject to a lot of bias, as the researchers have tendency to incur in particular fixations on anecdotal evidence when handling the data (Smith & Humphreys, 2006). Second, when applying both NVivo and Leximancer in the same data, Leximancer was able to identify concepts that NVivo neglected. Finally, as the aim of this study is to conduct an exploratory study on the profile of risks in the lodging sector, Leximancer allows the list of risk concepts and themes to emerge automatically from text, without the need to previously know them (Cretchley, Rooney, & Gallois, 2010).

Leximancer is a relatively new method that has been growing in popularity, mainly, for projects that involve large amounts of qualitative data (Smith & Humphreys, 2006; Sotiriadou et al., 2014). This technology was developed at the University of Queensland by Dr. Andrew Smith, and it is based on Bayesian statistical theory. Essentially, this software tool performs two steps of lexical co-occurrence information extraction, one semantic and other relational. It applies different algorithms for each stage, such as nonlinear dynamics and machine learning (Smith & Humphreys, 2006). The first step uses word occurrence and co-occurrence frequency to identify the main concepts. In the second stage, the groups of concepts are combined into themes based on how often they were used together in the text. The main outputs of the tool are concept maps, network clouds and concept thesauruses, which visually allow the researcher to analyze text "from words to meaning to insight" (Wu, Wall, & Pearce, 2014). Basically, this tool conducts qualitative analysis using a quantitative approach (Indulska, Hovorka, & Recker, 2012).

Finally, this software has already been applied in the area of risk profiling, an example is the work of Martin and Rice (2007). The authors show that Leximancer allows the identification of the risk themes and concepts in the computer industry. In the tourism literature, this software is also growing in usage, and it is being applied in different settings, such as employee empowerment (Kele, Mohsin, & Lengler, 2017), medical tourism (Malhi, 2016), tourism humor (Pabel & Pearce, 2015), and sponsorship alliance risk (Johnston, 2015).

## 4. Results

### 4.1. Main risk concepts in 2008 and 2016

The identification of main concepts is the first step of Leximancer. The tool is able to generate a ranked concept list according to the number of occurrences of the concept in the text. From all companies' risk factor disclosure in the year of 2008, 45 different concepts were identified (Table 1). As it can be observed in Table 1, the most relevant concept is *conditions*, with 100% relevance. Given that the year of observation is 2008, it is interesting to verify that the concept *conditions* is the foremost concept in the list, mentioned 1806 times among the 20 lodging companies' risk factors disclosure. The second and third concept of the list are *operations* and *results* with 50% and 48% relevance, respectively. Finally, in the top 5, it is also the concept of *adverse* (43%) and *financial* (39%).

Regarding the year of 2016, a ranked list of concepts was also generated. Table 2 shows the 49 different concepts that were identified from all companies' risk factor disclosure in the year of 2016. The top five concepts are quite similar to the risk concepts of 2008. Yet, the relevance of each concept has changed. The foremost concept is now *results* with 100% relevance and with a count of 2132 occurrences in the text. It is followed by the concept *adversely* with 83% relevance, and *operations* with 76%. The concept *condition* dropped from 1st in rank to 4th with 71% relevance, and a count of 1506 times. Finally, the concept *financial* remains also in the top 5 risk concepts for the year of 2016, but it significantly increased its relevance when comparing to 2008 (from 39% to 60%).

### 4.2. Identification of main risk themes in 2008

After the preliminary analysis based purely on the count of concepts used in text, Leximancer also allows a statistical-based relational analysis where concepts are combined into main themes based on how often they are used together in the text. Using validity parameters such as stability, reproducibility, and correlative validity, Leximancer develops the concepts and themes using the semantic and relational information latent in the text (Johnston, 2015). The main output is the concept map in which each theme is identified by a large colored circle, which additionally contains associated concepts written inside. The research has no interference in this output, decreasing possible bias of researcher when handling the data. Fig. 2 shows the concept map developed by Leximancer based on companies' risk factor disclosure in the year of 2008. As it can be observed, 7 main risk themes were identified: *conditions, debt, subject, gaming, insurance, agreements* and *shares* in descending order of relative importance.

**Table 1**
List of concepts for the year of 2008.

| | Word-Like | Count | Relevance |
|---|---|---|---|
| 1 | conditions | 1806 | 100% |
| 2 | operations | 907 | 50% |
| 3 | results | 870 | 48% |
| 4 | adverse | 769 | 43% |
| 5 | financial | 700 | 39% |
| 6 | effect | 607 | 34% |
| 7 | business | 533 | 30% |
| 8 | adversely | 424 | 23% |
| 9 | material | 416 | 23% |
| 10 | economic | 407 | 23% |
| 11 | gaming | 363 | 20% |
| 12 | debt | 341 | 19% |
| 13 | future | 330 | 18% |
| 14 | subject | 326 | 18% |
| 15 | ability | 318 | 18% |
| 16 | including | 314 | 17% |
| 17 | cash | 296 | 16% |
| 18 | addition | 266 | 15% |
| 19 | credit | 259 | 14% |
| 20 | certain | 244 | 14% |
| 21 | impact | 239 | 13% |
| 22 | shares | 238 | 13% |
| 23 | additional | 228 | 13% |
| 24 | costs | 224 | 12% |
| 25 | agreements | 210 | 12% |
| 26 | changes | 191 | 11% |
| 27 | market | 188 | 10% |
| 28 | risks | 186 | 10% |
| 29 | tax | 172 | 10% |
| 30 | income | 168 | 09% |
| 31 | facilities | 163 | 09% |
| 32 | management | 162 | 09% |
| 33 | assets | 154 | 09% |
| 34 | price | 144 | 08% |
| 35 | number | 141 | 08% |
| 36 | federal | 141 | 08% |
| 37 | regulations | 133 | 07% |
| 38 | time | 131 | 07% |
| 39 | insurance | 127 | 07% |
| 40 | casino | 122 | 07% |
| 41 | currently | 105 | 06% |
| 42 | various | 100 | 06% |
| 43 | use | 100 | 06% |
| 44 | stockholders | 99 | 05% |
| 45 | directors | 98 | 05% |

**Table 2**
List of concepts for the year of 2016.

| | Word-Like | Count | Relevance |
|---|---|---|---|
| 1 | results | 2132 | 100% |
| 2 | adversely | 1762 | 83% |
| 3 | operations | 1629 | 76% |
| 4 | condition | 1506 | 71% |
| 5 | financial | 1272 | 60% |
| 6 | effect | 1250 | 59% |
| 7 | material | 1193 | 56% |
| 8 | business | 1078 | 51% |
| 9 | including | 599 | 28% |
| 10 | subject | 549 | 26% |
| 11 | gaming | 545 | 26% |
| 12 | future | 528 | 25% |
| 13 | ability | 526 | 25% |
| 14 | laws | 484 | 23% |
| 15 | cash | 482 | 23% |
| 16 | regulations | 474 | 22% |
| 17 | certain | 450 | 21% |
| 18 | debt | 443 | 21% |
| 19 | costs | 401 | 19% |
| 20 | significant | 394 | 18% |
| 21 | capital | 394 | 18% |
| 22 | impact | 388 | 18% |
| 23 | economic | 388 | 18% |
| 24 | shares | 315 | 15% |
| 25 | changes | 310 | 15% |
| 26 | risks | 310 | 15% |
| 27 | customers | 290 | 14% |
| 28 | information | 246 | 12% |
| 29 | market | 240 | 11% |
| 30 | assets | 236 | 11% |
| 31 | management | 233 | 11% |
| 32 | use | 231 | 11% |
| 33 | number | 225 | 11% |
| 34 | tax | 214 | 10% |
| 35 | systems | 212 | 10% |
| 36 | security | 205 | 10% |
| 37 | time | 193 | 09% |
| 38 | various | 185 | 09% |
| 39 | casino | 176 | 08% |
| 40 | interest | 167 | 08% |
| 41 | events | 165 | 08% |
| 42 | travel | 162 | 08% |
| 43 | federal | 162 | 08% |
| 44 | potential | 159 | 07% |
| 45 | environmental | 140 | 07% |
| 46 | vote | 139 | 07% |
| 47 | ownership | 133 | 06% |
| 49 | limited | 112 | 05% |

#### 4.2.1. Conditions

The most important theme is *conditions,* and it is also the richer theme, as according to Tseng, Wu, Morrison, Zhang, and Chen (2015), the theme is richer the more concepts are placed within it. The concepts associated with the theme *conditions* are: *operations, results, adverse, financial, effect, material, business, adversely, economic, future, including, impact, facilities* (Appendix A). An initial interpretation might suggest that it reflects the risks connected with uncertainties of future economic and financial adverse conditions that may impact the companies' business, and its operations and results. To yield further insights, some text excerpts were observed. According to Leximancer, the most illustrative examples of this theme are:

> 2008:*"However, if economic conditions continue or worsen, they could decrease OEH's future revenue, profitability and cash flow from operations which could adversely impact OEH's liquidity and financial condition, including its ability to comply with financial covenants in its loan facilities."*

> 2008:*"The potential for future terrorist attacks, the national and international responses, and other acts of war or hostility, including the ongoing conflicts in Iraq and Afghanistan, have created economic and political uncertainties that could materially adversely affect our business, results of operations and financial condition in ways we cannot predict."*

> 2008: "*Furthermore, other uncertainties, including national and global economic conditions, terrorist attacks or other global events, could adversely affect consumer spending and adversely affect our operations.*"

Considering the aforementioned examples, it becomes clear, that lodging companies in 2008 have often recognized in their risk factors' disclosure a major risk theme concerning the uncertainties of future conditions.

#### 4.2.2. Debt

The second major theme is *debt*, and it includes the concepts of *debt, cash, ability, credit, additional, market, assets,* and *number*. Some illustrative quotes are:

> 2008:*"If we are unable to finance our current or future expansion projects, we will have to adopt one or more alternatives, such as reducing or delaying planned expansion, development and renovation projects and capital expenditures, selling assets, restructuring debt, obtaining additional equity financing or joint venture partners, or modifying our bank credit facility*".

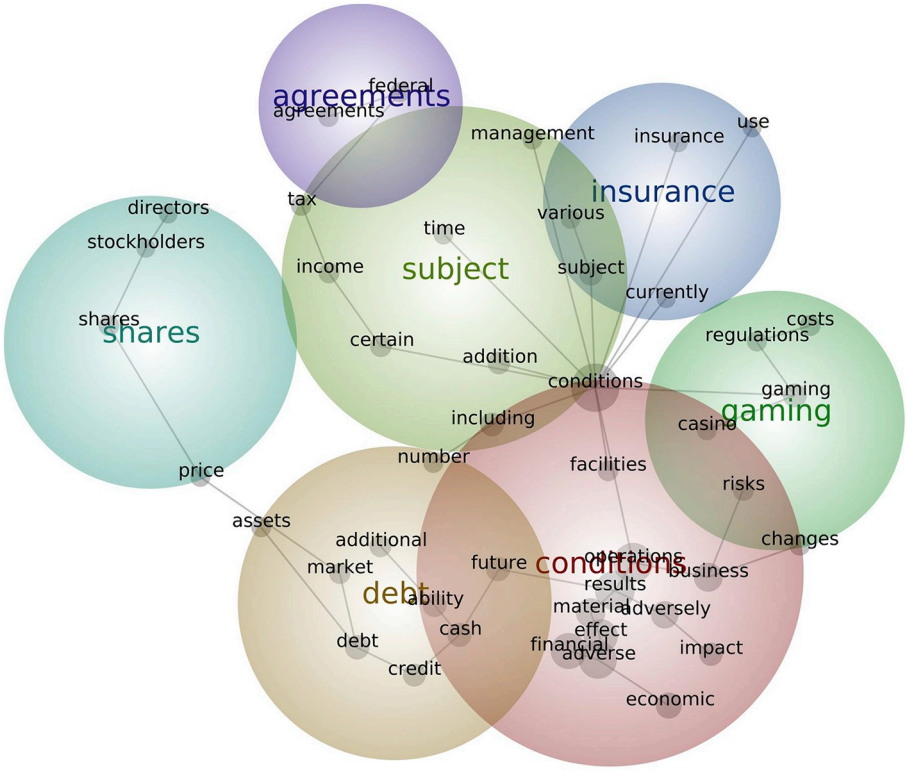



**Fig. 2.** Concept map with risk themes of 2008.

2008:*"Our existing debt agreements contain covenants that limit our ability to, among other things, borrow additional money, sell assets or engage in mergers. If we do not comply with these covenants, or do not repay our debt on time, we would be in default under our debt agreement".*

Hence, this theme refers to the risks of not complying with debt obligations, and the risk of not being able to finance additional investments. The debt-related risk factors were already identified by other authors, as being a major concern for companies with higher leverage (Campbell et al., 2014; Hope et al., 2016; Kravet & Muslu, 2013). According to these results, for lodging companies, the theme debt is also considered relevant.

#### 4.2.3. Subject

The third theme is entitled *subject.* The term *subject* is expected to be found when referring to risks. That is, companies often refer they are *subject to* something (Kravet & Muslu, 2013). After further analysis, it was possible to verify that this theme is quite diverse. The statements comprised in this theme include:

2008:*"We own primarily upper upscale and upscale hotels, and the upper upscale and upscale segments of the lodging market are highly competitive and generally* ***subject to greater volatility than other segments of the market****, which could negatively affect our profitability.*

2008:*"Our business is subject to numerous operating or other risks common to the hospitality industry including: changes in operating costs, including energy, labor costs (including minimum wage increases and unionization), workers' compensation and health-care related costs and insurance; changes in desirability of geographic regions of the hotels or resorts in our business; changes in the supply and demand for hotel rooms, vacation exchange and rental services and vacation ownership products and services; seasonality in our businesses may cause fluctuations in our operating results; geographic concentrations of our operations and customers; increases in costs due to inflation that may not be fully offset by price and fee increases in our business[…]".*

Accordingly, this theme refers to the specific hospitality-risks. That is, it supports the idea that risk factors disclosure provides specific information on the risks each company is facing.

#### 4.2.4. Gaming

Both gaming and non-gaming lodging industries are included in this study sample. Therefore, it is expected to also find gaming-related risks. This theme includes the concepts of: *gaming, risks, costs, changes, regulations, and casino*. Some examples of excerpts connected to this theme are:

2008:*"Under the Pennsylvania Gaming Act, the PGCB has broad authority to regulate gaming activities. Slot machine gaming is still a new industry in Pennsylvania and many of the rules and regulations governing gaming are still evolving."*

2008: "Regulatory *authorities have input into our operations, for instance, hours of operation, location or relocation of a facility, numbers and types of machines and loss limits.* Regulators *may also levy substantial fines against or seize our assets or the assets of our subsidiaries or the people involved in violating gaming laws or regulations".*

#### 4.2.5. Insurance

The *insurance* theme comprises the concepts of *insurance, currently, various,* and *use.* The identification of insurance as a theme indicates that lodging companies often mention risks connected to this concept. To better illustrate this theme the following quotes were selected:

2008:*"The lack of sufficient insurance for these types of acts could expose us to heavy losses in the event that any damages occur, directly or indirectly, as a result of terrorist attacks or otherwise, which could have a significant negative impact on our operations".*

2008:*"Uninsured and underinsured losses could harm our financial condition, results of operations and ability to make distributions to our stockholders. Various types of catastrophic losses, such as losses due to*

*wars, terrorist acts, earthquakes, floods, hurricanes, pollution or environmental matters, generally are either uninsurable or not economically insurable, or may be subject to insurance coverage limitations, such as large deductibles or co-payments".*

These statements indicate that lodging companies were apprehensive about the coverage of their insurance, as the lack of insurance of various risks may give them exposure to certain losses. Hence, this theme also illustrates the lodging companies' worries regarding the external future occurrences, similar to the concerns presented in the theme *conditions*.

#### 4.2.6. Agreements

The theme *agreements* includes the concepts *agreements,* and *federal.* After analyzing passages from text, it is possible to verify that this theme refers to the risks raised from different fixed agreements that lodging companies enter into, and that they are bound to. Some examples are:

2008:" *Unless another law is specified, contracts with the tribes are governed by tribal law (and not state or federal law). In our agreements with these tribes, we generally have agreed that state law will govern the rights and obligations under these agreements."*

2008:*Our hotel management and franchise agreements may also be subject to premature termination in certain circumstances, such as the bankruptcy of a hotel owner or franchisee, or a failure under some agreements to meet specified financial or performance criteria".*

2008:*"Our various credit agreements require us, among other obligations, to maintain specified financial ratios and satisfy certain financial tests, including leverage ratios, total fixed charge coverages and minimum annualized EBITDA".*

#### 4.2.7. Shares

The last theme is *shares*, and it encompasses the concepts of *shares, price, stockholders,* and *directors.* Some excerpts from text illustrating this theme are:

2008: "*Our stockholders may be deprived of an opportunity to receive a premium for their shares as part of a sale of our company and it may negatively affect the market price of our common stock."*

2008: "*Our common stock price may fluctuate substantially, and a shareholder's investment could decline in value. The market price of our common stock may fluctuate substantially due to many factors, including: actual or anticipated fluctuations in our results of operations; announcements of significant acquisitions or other agreements by us or by our competitors […]."*

This finding shows clearly that lodging companies, similar to other industries, are subject to the so-called market-risks. As stated by other authors, companies are exposed to different market-risks, such as market price volatility, or related stockholder matters (Hope et al., 2016; Kravet & Muslu, 2013).

### 4.3. Identification of main risk themes in 2016

In order to compare the main risk themes in 2008 with the ones in 2016, a concept map based on companies' risk factor disclosure in the year of 2016 was also generated (Fig. 3). According to Fig. 3, the main risk themes for 2016 are: *results, subject, debt, certain, shares, information* and *tax* in descending order of relative importance.

#### 4.3.1. Results

Whilst in 2008 the theme *conditions* was the most important and the richest, in 2016 the theme and concept that assumes greater importance is *results.* Apart from being the concept with more relevance (100%), it gives the name to richest theme with 3198 hits (Appendix B). The concepts included in this theme are: *results, adversely, operations, financial, effect, material, condition, business, including, cash, future, ability, impact, economic, significant, customers, changes, risks, number, events, travel, casino,* and *potential.* This finding indicates that this theme is richer in meaning (Tseng et al., 2015), and that the majority of the companies refer these concepts within their risk factors disclosure. Some examples of passages illustrating this theme are:

2016: "*Our business is particularly sensitive to the willingness of our customers to travel. Acts or the threat of acts of terrorism, regional political events and developments in certain countries could cause severe disruptions in air travel that reduce the number of visitors to our facilities, resulting in a material adverse effect on our business and financial condition, results of operations or cash flows."*

2016: "*We cannot assure you that adverse changes in the general economy or other circumstances that affect the lodging industry will not have an adverse effect on the hotel revenue or earnings at our properties. A reduction in our revenue or earnings as a result of the above risks may reduce our working capital and revenue, impact our long-term business strategy and impact the value of our assets and our ability to meet certain covenants in our existing debt agreements."*

To conclude, these examples indicate that the focus of risk factors disclosure of lodging companies has changed from 2008 to 2016. In 2008, companies refer the financial and economic *conditions* as the main concept of risk, and in 2016, companies express more concern regarding their results and the risks that could affect their results.

#### 4.3.2. Subject, debt, and shares

Three of the risk themes found in 2008 were also found in 2016. Such themes are: *subject, debt,* and *shares.* Regarding the *subject* theme, it was likely to remain, as lodging companies are expected to continue to report hospitality-specific risks that they are subject to. However, an interesting finding is that this theme increased its relevance, being in the second place as the theme with the higher number of hits (Appendix B). Hence, it can be said that lodging companies have responded to recent SEC's requests to provide more specific information in their risk factors section of annual reports.

The last two themes: *debt,* and *shares* refer to the debt-related risks and market-related risk, respectively. Both seem to continue to be relevant for lodging companies no matter the year of observation.

#### 4.3.3. Certain

The theme *certain* was not found in 2008, constituting a new risk theme in 2016. This theme includes the concepts of *certain, management, time,* and *limited*, but it is the concept of *certain* that shows higher relevance and that gives the name to this theme. After analyzing the statements behind this theme, it was possible to verify that the concept *certain* was used to mention a variety of specific risks and uncertainties inherent to the company. Thus, this theme supports the notion that lodging companies increased their specificity in the risk factors disclosure. Some examples of these statements are:

2016: "*We may face risks related to our ability to receive regulatory approvals required to complete, or other delays or impediments to completing* ***certain of our acquisitions****."*

2016: "*Under the terms of the documents governing our debt facilities, subject to* ***certain limitations****, we are permitted to incur indebtedness. If we incur additional indebtedness, the risks described above will be exacerbated."*

2016: "*We draw a significant percentage of our customers from* ***certain geographic regions.*** *Events adversely impacting the economy or these regions, including public health outbreaks and man-made or natural disasters, may adversely impact our business."*

That is, companies often refer certain "things" that may cause

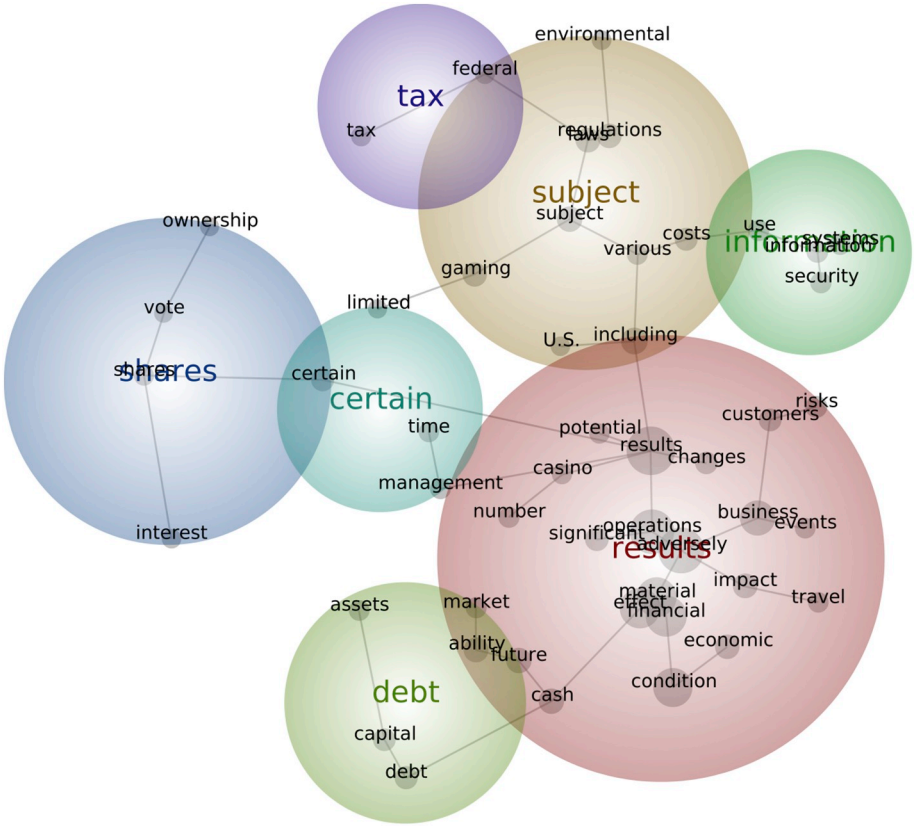



**Fig. 3.** Concept map with risk themes of 2016.

losses, but they are not sure how or when. Other authors have already identified that companies often use their risk disclosure to describe not only future risks, but also uncertainties that they may face (Kravet & Muslu, 2013). Accordingly, this theme is considered the uncertainties-related theme, as it comprises the description of specific companies' uncertainties.

#### 4.3.4. Information

Another new theme that appeared in 2016 is entitled *information*, and comprises the concepts of *information, use, security* and *systems.* Two examples of statements included in this theme are:

> 2016: "*Any loss, disclosure or misappropriation of, or access to, customers' or other proprietary information, or other breach of our information security could result in legal claims or legal proceedings, including regulatory investigations and actions, or liability for failure to comply with privacy and information security laws, including for failure to protect personal information or for misusing personal information, which could disrupt our operations, damage our reputation and expose us to claims from customers (…).*"

> 2016: "*Our customers and employees also have a high expectation that we, as well as our owners, franchisees, licensees, and service providers, will adequately protect their personal information. The information, security, and privacy requirements imposed by governmental regulation and the requirements of the payment card industry are also increasingly demanding, in both the United States and other jurisdictions where we operate.*"

In view of the aforementioned statements, it can be understood that lodging companies consider such risks important for their business, and relevant enough to be disclosed in the risk factors. This finding is consistent with contemporary literature indicating that the number of firms disclosing information security items has increased in recent years, (Gordon, Loeb, & Sohail, 2010; Wang, Kannan, & Ulmer, 2013). Additionally, according to Gordon et al. (2010), the disclosures concerning information security are value-relevant, that is, they are positively and significantly related to the firm's stock price. SEC is also considering such disclosures as relevant, as in the last few years, they have provided guidance in preparing disclosures about cybersecurity risks and incidents disclosure (Securities and Exchange Commission, 2011, 2018).

#### 4.3.5. Tax

Finally, the last theme is *tax* and it includes the concepts of *tax*, and *federal*. Both concepts were already identified in 2008, as risk concepts in the lodging industry. However, in 2016, these concepts increased their relevance, which lead to the emersion of this new theme. Some excerpts from text illustrating this theme are:

> 2016: "*Additionally, as a result of the 2016 U.S. elections and ongoing activity in the U.S. Congress relating to tax reform proposals, there is a heightened possibility of significant changes to U.S. federal tax laws, including the possibility of lower corporate tax rates, which may make investments in REITs relatively less attractive than they currently are.*"

> 2016: "*Finally, changes in U.S. tax law under consideration as part of broader corporate tax reform, namely a change from a worldwide to a territorial tax system, could eliminate our ability to utilize some portion or all of our foreign tax credits in future periods and such change could result in a material change in the valuation allowance, or elimination of the foreign tax credit.*"

According to the above examples, the identification of *tax* as a relevant risk concept, and a new risk theme in 2016 results from the companies' concerns regarding the U.S. elections in 2016. That is, such political change could lead to changes in U.S. tax law, and as consequence new risks could arise.

## 5. Discussion

This study was able to identify the main risk concepts and themes, lodging companies report in their 10-K for two different periods in time. For 2008, 45 different risk concepts were identified, while for 2016, there were 49. Adding to that, and after a relational analysis where concepts were combined into main themes, 7 main risk themes were identified for each year. For 2008, the themes were *conditions, debt, subject, gaming, insurance, agreements* and *shares*; while for 2016, the themes were *results, subject, debt, certain, shares, information* and *tax* in descending order of relative importance.

In 2008, findings indicate that companies focus their risk reporting more on the economic and financial *conditions*. That is, right in the middle of the financial crisis of 2007–2009, companies reported in their risk factors' disclosure a major risk theme: the uncertainties of future conditions. This was already expected, as the majority of industries have suffered from this crisis. On the other side, in 2016 the focus was on the results, as the concept *results* was by far the most relevant concept, and the richest theme. These results indicate that companies have shifted their focus, from the crisis to their results.

Findings of this research also suggest that lodging companies are responding to recent SEC's requests to provide more specific information in their risk factors section. The results show that the theme *subject*, which refers to the specific hospitality-risks, have increased its relevance between 2008 and 2016 becoming the second major theme in 2016. Further, in 2016, a new theme named *certain* was also identified. This theme comprises the description of specific companies' uncertainties. That is, results show that lodging companies are reporting more hospitality and company specific risks, which has shown to be relevant for investors and market analysts (Hope et al., 2016).

Another interesting finding regards the theme *information* identified in 2016. This theme refers to the information security risks. Lodging companies seem to be concerned about breaches in their information security systems that can result in failure to protect personal information. Previous literature has already identified information security risks as critical for this industry. For example, according to Berezina, Cobanoglu, Miller, and Kwansa (2012), hotel operators must continually strive to keep guest information secure, as failure to do so can have significant negative impacts in terms of satisfaction, likelihood of recommending the hotel, and revisit intentions.

To conclude, by providing the first-ever risk profile for the lodging industry, this paper serves as a basis for manager's risk management strategies. In order words, it provides helpful information necessary for managers to identify, evaluate, and prioritize risks.

## 6. Conclusion

Lodging stocks are subject to a variety of risks. Some of them may not be applied to other industries, as the lodging industry is known by its unique characteristics. Investors strive to understand all the risks they face when selecting an investment. Because of that, profiling the main risk concepts and themes in the lodging sector becomes crucial. Thus, the findings of this research have not only important managerial implications, but also provide great contributions to the lodging risk literature.

Furthermore, it serves as a basis for further research in this area, as risk profiling remains a significant task for investors and researchers. Finally, it provides evidence on the usefulness of Leximancer in risk identification, as already suggested by Martin and Rice (2007). Thus, future research may also apply this tool in risk identification in other tourism segments, or even in other industries.

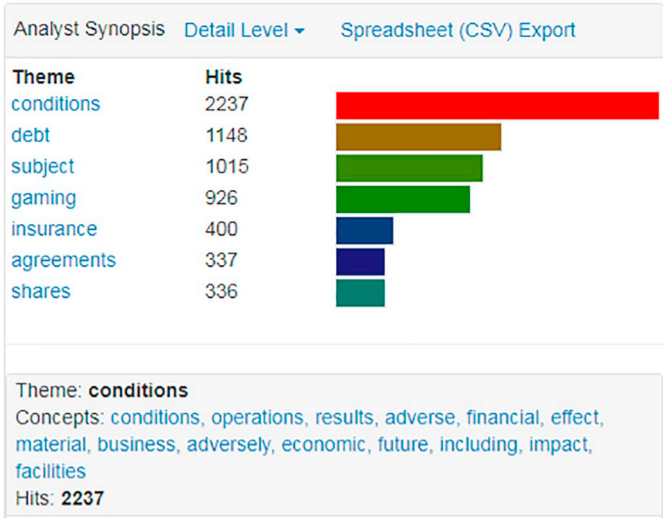
Although this study carries relevant results, it is not free from limitations. The first being the limited sample of companies that filled their forms according to SEC requirements. As a result, the analysis is mostly limited to the U.S. industry. Nevertheless, further research is suggested, as the replication of this study can be done for more companies and for other markets.

## Acknowledgements

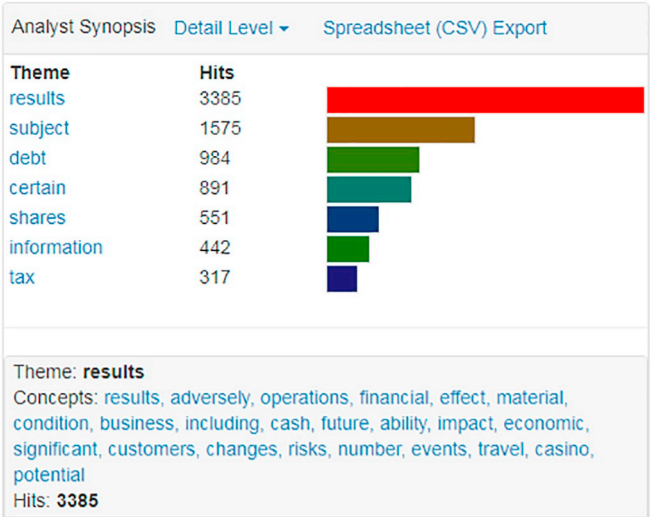
Daniela Penela gratefully acknowledges financial support from FCT-Fundação para a Ciência e Tecnologia (Portugal), national funding through research grant UID/SOC/04521/2019.

## Apendix

*Appendix A – Analyst Synopsis of themes for the year of 2008*



*Appendix B – Analyst Synopsis for the year of 2016*

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