The Ratio Analysis for the Impact of COVID-19 Pandemic on the Hotel Industry: Evidence from Hilton

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Abstract: The improvement of the human's life quality has facilitated the growth of tourism, and consequently boomed the hotel industry in the past decades. Nevertheless, the outbreak of COVID-19 pandemic in 2020 has severely struck the tourism as well as the hotel industry, contributing to a large change for hotel companies' financial performance and indicators between the previous and present periods. In order to present the variation of hotel companies' financial performance, this article examines their financial condition by the application of the ratio analysis and also conducts a case study of the research into the Hilton company to show a practical case under this special circumstance. The results illustrate that the profitability became weaker in the whole hotel industry with no significant liquidity issues arising in this period but the industry might have solvency risks in the future.

1. Introduction

1.1 Background

The hotel industry is subdivision of the hospitality industry which specializes in providing guests with lodging service in the short-term [1]. The character of this industry lies in the heterogenization of services, since the services provided could vary drastically from each hotel companies and the hotel's owner could attract their customers by their marketing strategies or the high-quality of services [2]. Simultaneously, the 2020 IHG annual report illustrates that the hotel industry could be categorized into six segments in terms of the price level from economy to luxury. Thus, the accommodation experiences of customers might be positively correlated with these standards [3]. Recently, with the improvement of life quality, there is an increasing number of people willing to travel abroad and regard it as part of their lives. With this tendency, the total travel expenditure is correspondingly increased in the recent years prior to 2020 and the hotel industry market size benefits a lot from the influx of travelers [1]. Nevertheless, as the outbreak of the COVID-19 pandemic occurred at the beginning of 2020, the hotel industry underwent a worsening performance due to the reduction of tourists. Many hotel firms received half of the revenue compared with the previous years and lost its revenue. Therefore, the decline of tourism is significant because of the impact of the pandemic.

In order to compare the financial performance variation before and after the outbreak of the pandemic, the financial ratio analysis could be applied to analyze the hotel industry's financial performance in recent years. There are mainly three ratios in the financial ratio analysis: profitability ratios, liquidity ratios and solvency ratios. The profitability ratios measure the capacity of companies to generate profits; the liquidity ratios are used for the ability to pay off short-term debt and solvency ratios could reflect on their capacity for affording the long-term debt as well as the generated interests [4]. With the integration of these three ratios, the analysts could know about the hotel industry's current financial performance, and thus give certain concrete proposals towards the companies with poor performance.

1.2 Literature review

There are many academic articles and research papers related to the ratio analysis in the hotel industry.

Slisa and Punthumadee use eight hotel firms listed on the Stock Exchange of Thailand as the analytic target for the financial ratio analysis and conclude that those companies have a good performance in their profitability and solvency but are weaker in liquidity [5].

Comparison of the ratio analysis in different companies is conducted by Ma and Zu. They investigate into the financial performance in the Serena Hotel and Marriott Hotel and find that the liquidity ratios and profit margin in Serena Hotel are higher than those in Marriott Hotel, while the relationship reverses in the leverage ratios [6].

Kim researches into the financial ratio analysis in the hotel and restaurant industry and makes comparisons with the financial performance. From its research paper, the liquidity and activity ratios are higher in the hotel industry compared with the restaurant industry, while the liquidity ratio is lesser [7]. A same method for the ratio analysis is also conducted by Kim and Ayoun. They analyze four segments, including hotels, restaurants, amusement and recreational services, and make comparisons. The results show that the return on assets and net profit margin in the profitability ratios are significantly larger [8].

The results of the financial ratio analysis vary from each academic article due to the different choices for the sample subjects, methodologies used and time span. The existent research for the ratio analysis in the hotel level mainly focuses on the variation of the financial ratios in certain companies and the comparisons between different companies or segments. Nevertheless, the ratio analysis for the whole hotel industry level and the conduct of case study analysis are seldom contained in the current research.

1.3 Research objective

Because financial ratio analysis could measure the company's financial situation and discover the existent issues in the whole industry or a company, thus this method could be applied to a certain industry analysis. As the outbreak of the COVID-19 pandemic has severe impacts on the hotel industry performance, the financial condition of this industry might become worse. Thus, it is important for the investors or managers to know about that industry performance during this period and make effective measures or decisions to cope with the current situation. Therefore, financial ratio analysis would help understand the change in the hotel industry. This paper will examine the financial ratios in the hotel industry level and illustrate the whole financial position in the current period. It will also conduct a case study for the practical objective in order to know about a specific hotel company's financial condition.

1.4 Contribution

There is less case study for the ratio analysis in the hotel industry in the current scholarly articles. Therefore, this paper will complement this blank of the current research and the case study will be the Hilton company.

1.5 Remaining structure

The article will proceed as follows. Section 2 will investigate the research of the ratio analysis at the hotel industry level. Section 3 will examine the case study which is the ratio analysis for Hilton. Section 4 will conclude this essay's findings and show the relevant suggestions. Section 5 will discuss the defects of this paper and the future expectation for the financial ratio research.

2. Research for the hotel industry level

2.1 The data of the research

In order to measure the financial ratios of the hotel industry, a benchmark of the financial data is required. In this study, the six hotels with valuable brands are selected as the samples. Table 1 shows the 2020 ranking list of the hotels in accordance with their brand value [9]. As the brand value is a financial gauge of a company's brand, it could represent a company's scale, position and reputation in the industry level. Based on the data availability, the six companies will be used in this research including Hilton, Marriott, Hyatt, Shangri-La, Wyndham and Intercontinental.

Table.1. The ranking list of the hotel's brand value in 2020

Ranking	Hotel name	Country	Brand value (in millions)
1	Hilton	America	$10833
2	Marriott	America	$6028
3	Hyatt	America	$4532
4	Holiday Inn	America	$4496
5	Hampton Inn	America	$3871
6	Shangri-La	China	$2468
7	Double Tree	America	$2399
8	Mercure	France	$2333
9	Wyndham	America	$1879
10	Courtyard	America	$1768
11	Intercontinental	United Kingdom	$1747

2.2 Methodology

The first step is to collect each sample company's financial data found in their annual reports. Since the horizontal analysis could demonstrate the variation of the ratios throughout the period of years and also shows a tendency to forecast the circumstances in the future, the recent three years data would be used in this study. Subsequently, the financial ratios in each company will be calculated by the acquired data according to the formulae in the profitability, liquidity and solvency analysis. Ultimately, average each ratio into mean value, which will be applied to this study's industry ratio analysis.

2.3 The ratio analysis in the hotel industry level

Table 2 below illustrates the results of the financial ratios at the average hotel industry level.

Table.2. The financial ratios for the hotel industry level

	2018	2019	2020
Profit margin	9.85%	8.95%	20.63%
ROCE	0.22	0.26	-0.06
Current ratio	0.96	0.95	1.60
Operation cash ratio	0.41	0.34	0.94
Days accounts receivable outstanding	140	132	248
Liabilities to assets ratio	0.81	0.86	0.90
Interest coverage	4.43	4.43	-1.50

Profitability ratios measure how well the companies in that industry generate profit from their current capital. In this study, the profit margin and return on capital employed (ROCE) are used to reflect on the hotel industry's profitability. During these years, the profit margin underwent a decrease trend from 9.85% into -20.63%, which represents that the occupancy of the net profit attributable to the shareholders in the total revenue reduced and even reached at a negative level in 2020. This significant change arose on account of the outbreak of COVID-19, which directly has a severe impact on tourism. According to the 2020 annual report, a large proportion of hotels receive half of the revenue compared with the previous years. Simultaneously, with the higher needless expenses used during this period, such as the staff expense, the rental of properties, the remaining profit for the shareholders from the sales lessened. A similar variation could be found in ROCE, which refers to the operating profit generated by every capital employed in the industry. In this year, the hotel industry cannot generate profits from its capital. These ratios illustrate that the hotel industry is subjected to the COVID-19 which significantly influence the whole industry's profitability.

In the aims to understand the level of how the hotel industry handle with its short-term bills, the liquidity ratios could be applied, including the current ratio, operation cash ratio and outstanding days of the receivables. The current ratio shows the average capacity of the hotels industry to pay off its current liability by using their current asset. In these three years, the current ratio is high, with 0.96, 0.95 and 1.60 respectively. The levels of the value throughout the years illustrate that the current asset could approximately cover its short-term liability. While the operation cash ratio removed the low-liquidity accounts such as receivable and prepaid expense and only remained the cash and cash equivalent which could directly pay off the bills. This ratio could better reflect the liquidity abilities in this industry. From the table, although it went through a slight decrease in 2019, it significantly increased to 0.94 in 2020 which is a high-level value. These two ratios illuminate that there are no significant liquidity issues in the average level of hotels. Simultaneously, during the pandemic period, many hotels might hold more current assets or cash to pay off the precipitate problems incurred at that moment. The days accounts receivable outstanding shows the length of period for the hotel industry to collect back the cash from its receivables. The ratios of the previous two years remain at 130, while it underwent an increase in 2020 with the value at 247. There were more than 100 days to withdraw cash from the receivables in 2020 compared with the 2018 and 2019. Although some capital is tied up in receivables for a long period in this year, it could not certify a low liquidity in that year because receivables is just a part of the current asset. Therefore, the liquidity for the hotel industry is well in these three years, and could be present stronger in the 2020.

The ratios in the last two rows are measured for the solvency of the hotel industry. These ratios could reflect on whether the average of the companies in that industry can remain solvent in long haul. The liabilities-to-assets ratio is a financial leverage ratio to measure the capital structure of the whole industry level. The value of this ratio is larger than 0.80, indicating that the capital used in the hotel industry is dominated by the liability. As the assets of companies in hotel industry are mainly the properties, there would be a large pool of capital borrowed for the buildings purchase and rental expense. The change for the value demonstrates that the occupancy of the liability in the whole capital employed became larger which would burden the pressure for the whole industry to pay off the liabilities. The last row is about the interest coverage ratio which measures the capacity of the average companies to afford for the financial cost generated by the long-term debt from its operating income. From the table 2, the ratios decreased throughout the three years which is a worse signal for the industry. The two values prior to 2020 are more than 3 which means the average companies in that industry could pay off the interest by the operating income more than three times, while the ratio underwent into negative in 2020 because of the negative operating income in that year. Therefore, there might be certain solvency issues for the hotel industry recently.

3. Case study

3.1 Objective and function of case study

According to Heale and Twycross, case study is an intensive and systematic research of a single person, group or entity in which investigators evaluate the specific data from multiple variables [10]. It could illuminate the characters of an extensive set of units, thus could deepen the researchers' perceptions toward the industry level. In order to enhance the practicality of this research, a case study of 'Hilton' will be employed to provide with evidence in the ratio analysis of the hotel industry [11].

3.2 Overview of the Hilton company

Figure 1. Brand portfolio

Hilton is one of the leading hospitality companies in the world known as its luxury as well as the superior and satisfying service. It is also a fast-growing company. According to Hilton's 2020 annual report, it has 6,478 properties comprising 1,019,287 rooms in 119 countries and territories by December, 2020 [12]. Hilton also has its brand portfolio, containing 18 brands from different levels. The objective of each brand is to deliver exceptional customer experiences and superior operating performance. Figure 1 above shows Hilton's 18 brands. Since the COVID-19 pandemic has a significant influence on the hotel industry, the managers of Hilton also formulated relevant measures to cope with the difficulties incurred during that period and maintain its service quality. To handle with the impact of the pandemic in 2020, the company launched 'Hilton CleanStay' and 'Hilton EventReady' to provide a standard of cleanliness and customer service to the properties worldwide aiming to ensure the customer's safety and security [12].

3.3 The financial ratio analysis for the Hilton company

The result of the financial ratios for the Hilton company is shown in Table 3 below.

Table.3. The financial ratios of the Hilton company

	2018	2019	2020
Profit margin	8.58%	9.37%	-16.72%
ROCE	0.18	0.22	-0.05
Current ratio	0.76	0.73	1.73
Operation cash ratio	0.15	0.19	1.32
Days accounts receivable outstanding	44	47	86
Liabilities to assets ratio	0.96	1.03	1.09
Interest coverage	3.86	4.00	-0.97

In order to show the comparison of the financial ratios from the Hilton and the hotel industry level, seven bar charts from Figure 2 to Figure 8 regarding to the financial ratios are graphed below.

Figure 2 shows the change of profit margin ratios in these years. The profit margin of the Hilton decreased to -16.73% in 2020 though there was a slight increase in 2019 from 8.58% to 9.37%. As a hotel company, Hilton is also adversely influenced by the COVID-19 pandemic with the total revenue reduced from 9452 million dollars in 2019 to 4307 million dollars. With the comparison to the industry level, Hilton's profit margin is approximately equal to the industry level. The ratio of Hilton's ROCE representing the return on capital employed could be found in Figure 3. The results show that Hilton's efficiency in generating operating profit from its capital employed enhanced prior to 2020 in terms of the increase of ROCE in these years. Nevertheless, Hilton's operating turned into negative value which contribute to the negative ROCE in 2020. Compared with the hotel industry level, the value of Hilton prior to 2020 is lesser than the industry level. Therefore, Hilton also underwent a loss on its profit due to the pandemic and its profitability was slightly weaker than the industry level.

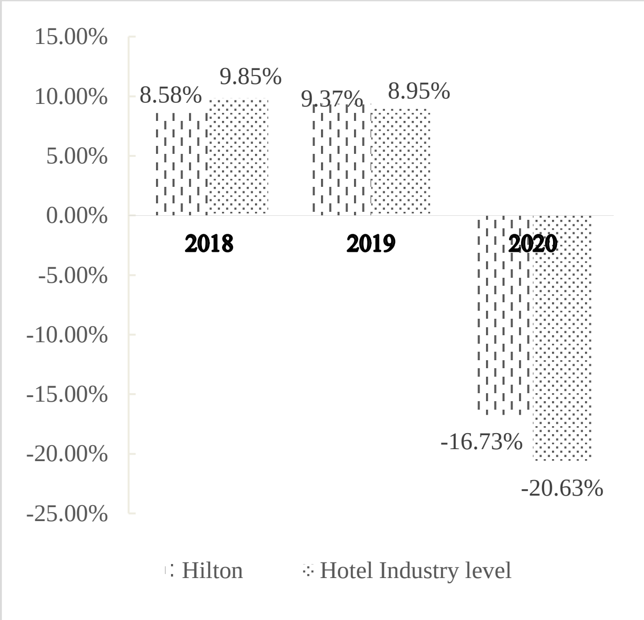

Figure 2. Profit margin

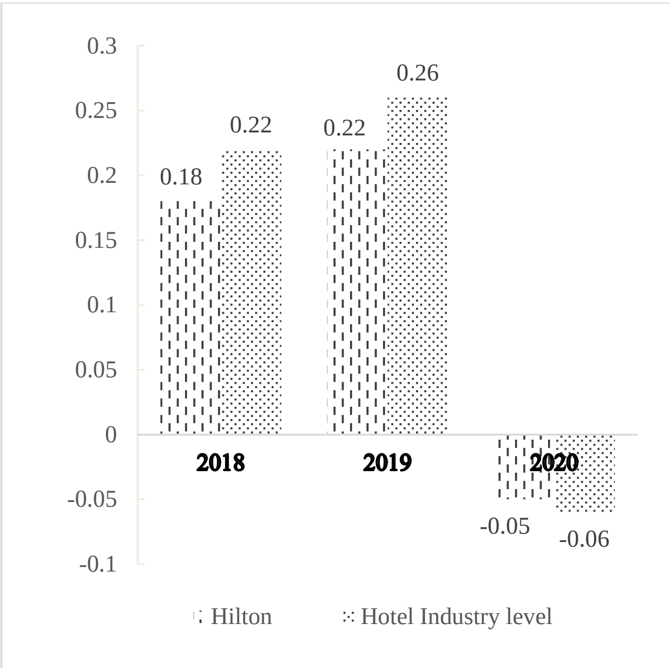

Figure 3. Return on capital employed

The Figure5 and Figure 6 are the current ratio and operating cash ratio respectively which indicate the company's liquidity in these years. In these three years, these two ratios underwent increases though there was a slight decrease in the current ratio in 2019. This tendency indicates that Hilton's liquidity was becoming better and also reached 1.73 and 1.32 in 2020 which was a significant increase. Compared with the industry level, the values were lesser prior to 2020, but increased to higher values in 2020. According to Hilton's annual report, the companies had suspended its dividend to secure their liquidity in that period. Thus, there were no such significant liquidity issues in 2020 [12]. Figure 4 shows that although there was an increase of days outstanding for receivables in 2020, the number was lesser than the industry level. Thus, Hilton collected back its receivables quickly than average hotel companies in that industry. Therefore, there were no significant liquidity issues in 2020.

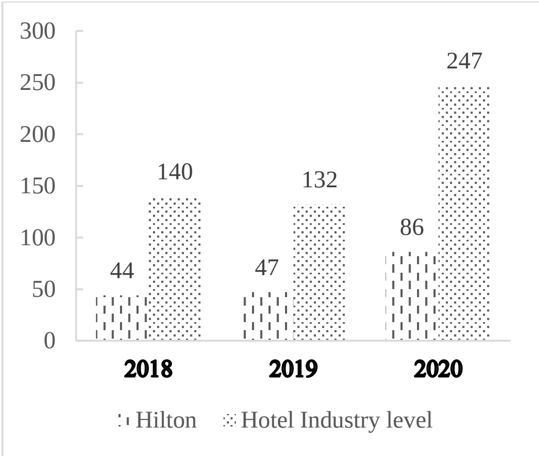

Figure 4. Days account receivables outstanding

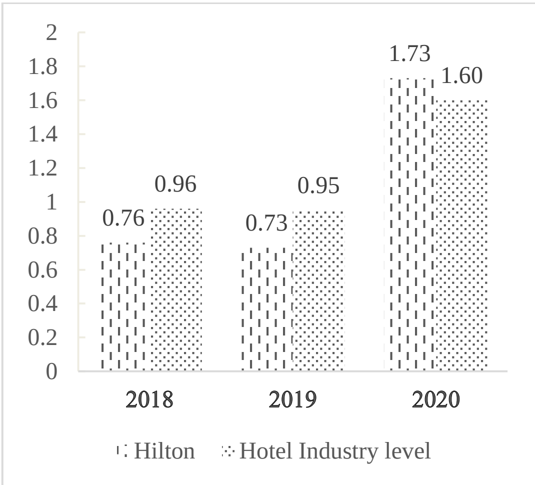

Figure 5. Current ratio

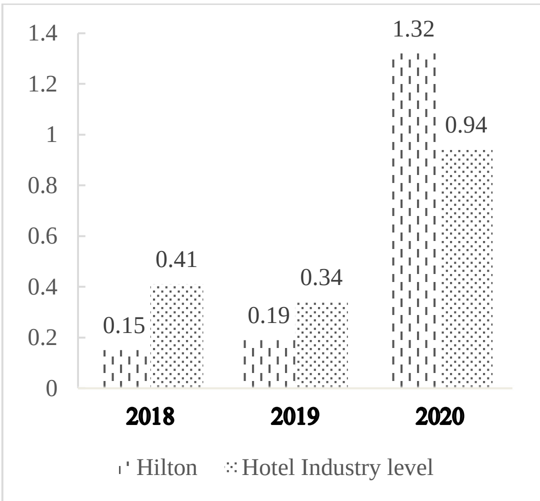

Figure 6. Operation cash ratio

Figure 7 and Figure 8 are relative to the solvency ratios. Figure 7 illuminates the value of the liabilities to assets ratio in these years. It shows that this ratio rose from 0.96 to 1.09 and simultaneously reached at the point that are larger than 1.0 in the recent given years. The values show that Hilton's capital is mainly from the liability and its equity became deficit in these two years. Therefore, Hilton has been burdening large pressure on its liability recently since the capital is dominated by its liability. Figure 8 is about interest solvency. From this ratio, the company managers could know whether the company can pay off its interest from its loan. The bars from the chart show that there were no issues for the company to afford its financial cost by its operating income before the pandemic outbreak, but it became negative in 2020 because of the deficit profit could be used. In comparison to the industry level, the magnitude of this ratio is approximately equal. Therefore, based on these two ratios analyses, Hilton might have solvency problems in the future. Thus, the hotel managers should enact relevant measures to overcome this challenge.

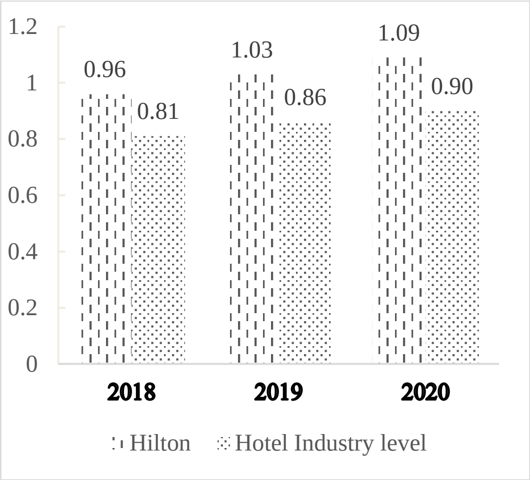

Figure 7. Liabilities to assets ratio

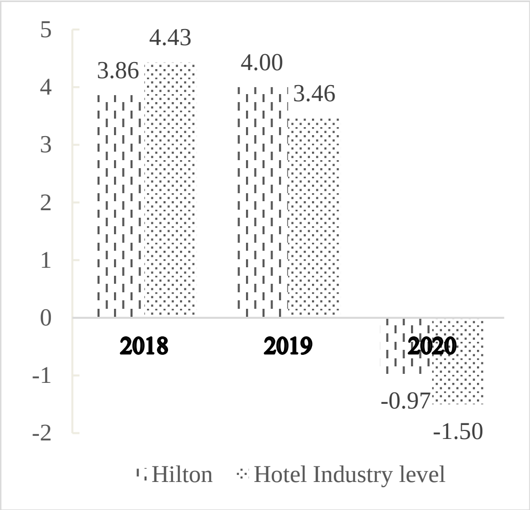

Figure 8. Interest coverage

4. Conclusion

This paper has investigated (1) the research of ratio analysis at the hotel industry level. (2) the Hilton company's ratio analysis as the case study. The results show that either the Hilton or the hotel industry level underwent execrable profitability due to the pandemic influence. Since the profitability reduced recently, many hotels took steps to shut down certain businesses to save extra costs. To handle with the current circumstances and make further measures, in the aim to attract more customers into their own hotels, the precaution of epidemic could be formulated and improved such as the regularly sanitization of the rooms and lobby to largely reduce the infection risks. With regard to the liquidity, many corporations in the hotel industry hold more cash and cash equivalents to handle with the short-term debt. Thus, both ones were getting better for paying off the short-term debt in this period and there were no liquidity issues in 2020. The solvency issues are both existent in the industry level as well as the Hilton company in recent years, with more significant in Hilton. The solutions could be the enhancement of the sales and profits which are related to the profitability. As the revenue and operating income are improved in the current and ulterior periods, the interests can be largely covered. There would be fewer concerns of insolvent interests generated by the long-term debt. Simultaneously, improving the gearings such as the increase of the occupancy for the shareholders' equity in its total capital could be another measure to solve the existent solvency issues.

5. Limitation and discussion

There are some limitations of this study. Because the hotel industry level is based on the selected samples, thus the selection of the samples might ignore the companies with small scale which are without the disclosure of the annual reports. Therefore, there might be a bias between the actual hotel industry level and the experimental hotel industry level.

The future study of the ratio analysis for the hotel industry could be based on the hotels' stars or pricing level. As there are different segments such as luxury hotel, economy hotel and cheap hotel and also different levels of hotel's stars from one to five, the financial ratio analysis could be divided into the analysis in different hotel levels and research whether there is a significant difference between them. Besides, as the popularization of vaccines and the sound policies being enacted, the pandemic situation will be ameliorated in the future and thus the tourism will be recovered into the normality. Therefore, the additional research for the recovery of hotel industry could be conducted to make comparison to the previous and current situation to detect any variation of the financial condition throughout the whole period.

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