

# Price Determinants in Upscale Hotels During Covid-19 Crisis

---

**Martinović, Mara**

**Undergraduate thesis / Završni rad**

**2021**

*Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj:* **RIT Croatia / RIT Croatia**

*Permanent link / Trajna poveznica:* <https://um.nsk.hr/um:nbn:hr:229:557522>

*Rights / Prava:* [In copyright](#)

*Download date / Datum preuzimanja:* **2021-10-21**

# RIT

---

*Repository / Repozitorij:*

[RIT Croatia Digital repository - Rochester Institute of Technology](#)

# Croatia



Price Determinants in Upscale Hotels During Covid-19 Crisis

Mara Martinović

Senior Capstone Project – HSPT490700.2205CRO

Prof. Domagoj Nikolić

Prof. Rebecca Charry

May 3rd. 2021.

## **Abstract**

This research paper examines how much up-scale hotels decreased prices as a result of the Covid-19 pandemic and how much other hotel attributes influenced price reductions. Analysis of TripAdvisor data on 29 hotels in each of the six global destinations was performed. The linlog regression analysis determined there is a significant relationship between prices and hedonic attributes, such as cleanliness, location, and property amenities in certain destinations. The analysis also showed that prices have not fallen equally everywhere and there are differences in price predictors.

**Keywords:** hotel pricing, price predictors, upscale hotels, luxury hotels, Covid-19

### *COVID-19 impact on global travel & hospitality*

At the end of 2019 in late December, the outbreak of coronavirus was identified and confirmed in Wuhan, China. Already in February of 2020, two months after the onset of the virus, COVID-19 was spread all over the world and the World Health Organization officially declared a coronavirus pandemic (Wu, Chen, & Chan, 2020). Apart from the devastating health impact, the global economy was hit by one of the severest recessions ever (Güliz Uğur & Akbıyık, 2020). How devastating the COVID-19 crisis was, proves the fact that global poverty will increase by 0.7 billion, and that is approximately 8% of the global population. Therefore, each country, despite its socio-economic situation, needs to balance between health safety and livelihood requirements (Buhej, et al., 2020).

The global tourism industry is one of the most vulnerable industries in the COVID-19 crisis; in the first quartile of 2020, tourism was faced with a more than 90% reduction of activities. Since the pandemic erupted before the high season when tourism is unstable, industry's liquidity position became even more vulnerable (Kukanja, Planinc, & Sikošek, 2020). With the advent of vaccines, there is hope that COVID-19 pandemic will slowly get under control, but the consequences will be quite catastrophic and the impacts will be felt for a long time. Due to numerous government regulations, border closures, travel restrictions, social distancing, restaurant closings, event cancellations, mask wearing obligations and many other factors, massive trip cancellations occurred. A huge reduction of demand resulted in diminished occupancies and revenues in the hotel industry, which in turn resulted in a shrunken workforce. The negative impact of COVID-19 on hotel performances both on occupancy and revenue per available room affected the entire world, but the most significant level of the negative impact was confirmed at the European level (Napierala, Leniewska-Napierala, & Burski, 2020). The instability increased the perceived risks and, as a consequence, investments in the hotel industry have decreased significantly (Sukharev, 2020).

The hotel industry is one of the largest employers and generally one of the most important elements of the global travel industry. But, one of the main problems in the industry is the fact that it is not properly prepared for disaster situations (Abo-Murad, Al-Khrabsheh, & Jamil, 2019). It has been proven that customer behavior and tourism demand are symmetrical, therefore a fall in consumption of tourist services will be significant given the decline in customer income and the decline in employment overall. Hence, it is inevitable that service providers should adjust to this "new normal" to maintain the loyalty of customers, and bring them back. As it was estimated, global recovery will take more time for international travel, while domestic should be recovered much earlier (Napierala, Leniewska-Napierala, & Burski, 2020). This can also be an opportunity for service providers to focus more on domestic markets. Therefore, it is easier to understand the domestic market niche, to predict customer behavior and their preferences, and overall marketing costs are lower.

#### *Hotel policies in the Covid-19 era*

Massive restrictions and volatilities forced hotels to become more flexible in terms of their cancellation policies, because travelers are seeking flexibility more than ever. Therefore, cancellation policies evolve from restrictive to nonrestrictive at all which includes full refunds, late cancellations, etc. (Ranasinghe, et al., 2020). Consequently, a non-refundable rate is not a viable policy during this crisis. The last crisis of 2008 also forced hotels to downgrade their rates in the hope to increase occupancies, but the discounts also had a significant influence on their weak performances (Chih-Chien, 2009). The performances can be improved by retraining staff to multitask and by that means reduce labor cost and achieve the necessary flexibility. The COVID-19 crisis can be an incentive for other new competitive advantages: staff development through online training is an opportunity for the overall service (Hao, Xiao, & Chon, 2020).

Advanced technology enabled a lot of businesses to maintain a relationship with their customers. It has additionally helped in suppressing the pandemic through the introduction of

new procedures and protocols that should be followed. New procedures as online check-in and check-out, information papers in rooms are replaced with QR codes, mobile room keys, payments, and many other procedures are now focused on "touch-free" solutions. Implementing and recognizing emerging travel technology trends, as contactless service, will help companies in the advancement of customer experience and the efficiency of business operations (Rahimizhian & Irani, 2020).

### *Hotel pricing strategies*

In hospitality, pricing is more than a tool for optimizing revenue. For example, pricing communicates value, is directed towards specific customer demographics and thus has a major role in the accommodation selection decision. By expansion and evolvement of the revenue management discipline, pricing became very dynamic and an effective tool for increasing revenues (Noone & Mcguire, 2013). Pricing strategies depend on many factors like seasonality, hotel facilities, and price regimes; therefore, when comparing other marketing strategies, pricing is more flexible and easily adjusted to changing environment. There is a large number of price determinants such as location, hotel category, branding, amenities, and many others. All of the above can play a significant role in customer decisions, and it can be a potential differentiator (Hung, Shang, & Wang, 2010).

Brand recognition is considered an important part of customer decisions. More often, customers will stay loyal to a particular brand, and therefore it is also considered as an advantage in this complex decision process. A brand is made up of all the tangible and intangible characteristics that customers associate with it and that can influence their opinions (Su & Reynolds, 2017). Strong brand can influence customer perception and behavior related to a particular brand; it can be an important intangible company asset that can successfully affect financial performance (Carvell, Canina, & Sturman, 2016). According to Alonso-Almeida & Bremser (2013), branded

luxury hotels were abler to retain their room rates, during the 2008 recession following the financial crisis, than other hotels.

According to Becerra, Santaló, & Silva ( 2013) high-end hotels can set a higher price, because of their differentiation, quality and market recognition. Consequently, their particular market niche protects them from the pressure of price reduction. Large discounts in high-end hotels and branded chains can lead to compromising reputations and can question their quality. While in the low-quality hotels discounting can have a positive effect, but they will have more difficulties while competing on prices among their competition.

However, it is logical that this model works in a normal “ceteris paribus” situation, but it questionable whether it remains so in a time of crisis.

#### *Hotel pricing in crisis (SARS, recession)*

Hospitality as one of the most vulnerable industries was hit by numerous crises, both internal and external, in the past two decades; natural disasters, terrorist attacks, competition, global economic crisis, and many others. The negative consequences of the recession include lower revenues, increased inequality, layoffs, and, ultimately, bankruptcy. Therefore, effective pricing strategies should be developed to survive a crisis. Hotels that prioritize high quality, brand value and loyal customer base are better prepared to deal with the crisis. Increased marketing spending also tends to mitigate the crises' impact ( Alonso-Almeida & Bremsera, 2013). In 2003, the severe acute respiratory syndrome SARS epidemic outbreak occurred and started in South Asia. It was the first epidemic outbreak in the era of globalization and the internet (Güliz Uğur & Akbıyık, 2020). According to Ming-Hsiang, Jang & Woo Gon (2007), SARS resulted in significant economic losses, and it had the tourism industry sector was heavily affected by the outbreak. The average occupancy rate of five-star hotels in the Taiwan region

declined from 70% to less than 30%; therefore, hotels resorted to a price reduction system to attract more visitors, but that resulted in an even greater loss of revenue.

In 2008, when the global economy was hit by one of the heaviest recessions ever, the lodging industry reported the biggest decrease in demand and revenue. Various measures were applied in order to deal with the crisis: they were focusing more on domestic customers, investing in marketing and promotion, but the price discount tool was proved to be predominant (Minsun, Wesley, & Lee, October 2019). Since rate manipulation has the potential to harm a hotel's long-term reputation, luxury or upscale properties should proceed with caution. Budget or economy hotels, on the other hand, will be less impacted by a price war, because they profit from customers downsizing from more upscale or high-end hotels. When comparing the COVID-19 crisis and economic downturn back in 2008, strategies remain the same; hotels are avoiding rack rate by offering a discounted price and bundling rates with other hotel amenities (Kimes, 2009).

### *Price attributes*

A hotel room is a composite and heterogeneous product in the hedonic price system. The hedonic price model implies that a marketed price is associated with a set of attributes or characteristics. Also, it is considered to be a linear function of several site and situation variables. Situation attributes refer to a hotel's exterior environmental characteristics, such as accessibility to airports and attractions, whereas site attributes refer to a hotel's physical factors, age of the hotel, size, and service excellence (Jinwon, Seongsoo, Sanghoon, & SeungHyun, 2020). The star rating, location, age, and the number of rooms are all main predictors of the hotel room price, according to previous studies using various pricing approaches. The location has been described as one of the main determinants of the hotel room price. Moreover, the only feature of a lodging product that has been proven and accepted is its location (Honglei, Zhang, Shaojing, Shaowen, & Jinhe, 2011). In addition to the importance of location, the hotel star



rating and seasonality also play a significant role in the customer's decision process and price structure (Soler & German, 2018). All of these attributes are followed by the customer rating that indicates customer satisfaction, the higher the rating, the higher it is the willingness to pay more (Castro, Ferreira, & Ferreira, 2016). There is a lack of systematic studies to classify key determinants from listing attributes and model their nonlinear impact on price-determinant variables in current studies. Due to a lack of understanding of the generalizability of the relationships between determinants of listing attributes and room pricing, interest in this research gap is growing (Chattopadhyay & Subrata, 2019).

### *Research Goal*

Since we established from the above literature review that economic crises have a significant negative impact on lodging industry and that, if outcomes of the previous crises can serve as any predictors, high-end hotels could end up in a tailspin by drastically reducing prices, we wanted to check to what degree they reduced prices due to pressures of Covid-19 and to what degree other attributes (such as hotel amenities, location, brand, ratings) influence price reductions.

### **Method**

Since the COVID-19 pandemic severely affected the hospitality industry, the main focus of this research is attempting to discover determinants of price reduction in upscale hotels. The research was conducted through TripAdvisor, one of the world's largest online travel platforms. From the collective data, we analyzed the difference in prices before and after the COVID-19 crisis. The main focus was on the international market; for the analysis of price and attribute determinants, we selected seven different cities Dubai, Vienna, London, New York, Tokyo, Bangkok, and Hong Kong. Moreover, only high-end hotels were included in the analysis, to be more specific, 29 hotels per city were chosen.

Data used for the research were the hotel room prices, rating of the hotel, location, cleanliness, service, and value, number of property amenities, room features, room types, whether it has personalized COVID-note, and the number of languages spoken within the hotel. Prices were chosen from 2019 and compared to the prices of 2020 since throughout this period we can make the best comparison of price decrease. All of the 203 hotels had all the necessary data needed for the research. The instrument used for data collection was the Excel spreadsheet, where all the prices and attributes were listed. Statistical analysis, including average, median, and standard deviation formulas, as well as linear regression analysis, were used in the study. To evaluate the relationships between variables, relational analyses were used. Moreover, if the hotel had the COVID-19 note in their profile, we would have marked it with number 1; in case the note was not shown in the hotel profile, we would mark it with number 0.

## **Results**

Linear regression was used to see whether the variables were related and if the connection was significant. In the regression analysis table, it is presented the relationship between hotel attributes and prices from 2019 and 2020. Following attributes were mentioned hotel rating, location, cleanliness, service, value, property amenities, room feature, COVID-19 note, and the number of languages.

For the city of Dubai, the first linear regression for 2019 and 2020 shows there is no significant relationship between hotel prices and attributes. Vienna hotels in 2019, had a significant relationship for location and room type (corr. coeff. = 0.840, 0.403), while in 2020 the location only affected price (corr. coeff. = 0.386). In New York City, both in 2019 and 2020, we have a similarity which is the effect of the property amenities on price (corr. coeff. = 0.0479, 0.030), whereas in 2019 we have an addition of location attribute, and in 2020 we have cleanliness as a significant characteristic. Furthermore, in Hong Kong city, we noticed that there is a remarkable relationship both in 2019 and 2020 between the location and prices (corr. coeff. =

1.099, 0.736), while in 2020 there is an addition of cleanliness attribute (corr. coeff. = 0,744). For Bangkok, there is no significant relationship between hotel prices and attributes. In the last linear regression analyses, in Tokyo, it is determined that attributes that are related to price are cleanliness in 2019 (corr. coeff. = 0,880), while in 2020, there is a significant connection between cleanliness, room features, and room type to some extent, with prices (corr. coeff. = 0.828, 0.133).

In table 1, we can see price averages prior to the COVID-19 crisis and discounted prices after it, for each city separately. Furthermore, in the last column, we can see the average price differentiation.

**Table 1: Price averages before and after the COVID-19 crisis.**

CITY NAME	PRICE AVERAGE 2019	PRICE AVERAGE 2020	PRICE DIFFERENCE AVERAGE
<b>DUBAI</b>	227,3793103	122,3448276	105,5517241
<b>VIENNA</b>	445,8846154	209,7586207	211,6896552
<b>NEW YORK</b>	519,2758621	327,2068966	192,8965517
<b>LONDON</b>	457,9655172	300,8275862	156,6551724
<b>HONG KONG</b>	284,2413793	193,3793103	99,10344828
<b>BANGKOK</b>	151,8275862	75,24137931	78,55172414
<b>TOKYO</b>	409,2857143	240,75	168,5357143

## Discussion

In this research, we examined a significant drop in prices in the global luxury hotel market; where, why, and for how much the prices have dropped. Moreover, we observed whether the hedonic attributes had an impact on hotel room pricing. From the comparison of prices before and after the COVID-19, we can conclude that prices have decreased significantly in each of all seven cities, we included in the survey.

Moreover, we noticed there is an increase in the correlation between cleanliness attribute and prices in 2020, so after the COVID-19 outbreak happen. This is not surprising, given the fact that hygiene standards have increased, and guests have started to pay more attention to cleanliness due to the spread of the virus.

Through analyzing the results, I noticed that both in Vienna and Hong Kong, there is a notable relationship between the prices and location attribute, before and after the COVID-19 crisis. Considering the fact that both Vienna and Hong Kong are one of the most popular business destinations, and the fact that location attribute is on the top while choosing a hotel for a business trip, I would say that it is not surprising that the connection between price and location in these cities turned out to be very important. Furthermore, these results are also affirmed by our literature review, meaning that location is considered as a main predictor of the hotel room price.

Regarding the limitations, I would say that the first limitation is that we selected 29 upscale hotels per city, which are obviously not all the upscale hotels on the International market. Also, there are probably other price determinants that are not captured by our observational research, since in some of the cities there was no significant relationship between the price reduction and hedonic attributes. Potentially that could be the psychology of the customer, brands, destination perception, cultural influence, and many others.

## References:

1. Alonso-Almeida, M., & Bremsera, K. (2013). Strategic responses of the Spanish hospitality sector to the financial crisis.
2. Abo-Murad, M., Al-Khrabsheh, A., & Jamil, R. (2019). EFFECT OF THE ORGANISATIONAL CULTURE ON CRISIS MANAGEMENT IN HOTEL INDUSTRY: A QUALITATIVE EXPLORATION.
3. Becerra, M., Santaló, J., & Silva, R. (2013). *Being better vs. being different: Differentiation, competition, and pricing strategies in the Spanish hotel industry.*
4. Buhej, M., Costa Cunha, K., Beka, G., Mavrić, B., Carmo de Souza, Y., Costa Silva, S., . . . Yein, T. (2020). The Extent of COVID-19 Pandemic Socio-Economic Impact on Global Poverty.. A Global Integrative Multidisciplinary Review.
5. Carvell, S., Canina, L., & Sturman, M. (2016). A Comparison of the Performance of Brand-Affiliated and Unaffiliated Hotel Properties.
6. Castro, C., Ferreira, F., & Ferreira, F. (2016). Trends in hotel pricing: Identifying guest value hotel attributes using the cases of Lisbon and Porto.
7. Chattopadhyay, M., & Subrata, K. (2019). Do airbnb host listing attributes influence room pricing homogenously? *International Journal of Hospitality Management.*
8. Chih-Chien, C. (2009). What revenue-optimizing firms can do about their deal-seeking consumers: The role of price patterns, timing and cancellation policies in travelers' advanced booking decisions.
9. Güliz Uğur, N., & Akbıyık, A. (2020). Impacts of COVID-19 on global tourism industry: A cross-regional comparison.
10. Hao, F., Xiao, Q., & Chon, K. (2020). COVID-19 and China's Hotel Industry: Impacts, a Disaster Management Framework, and Post-Pandemic Agenda.
11. Honglei, Z., Zhang, J., Shaojing, L., Shaowen, C., & Jinhe, Z. (2011). Modeling hotel room price with geographically weighted regression. *International Journal of Hospitality Management.*
12. Hung, W.-T., Shang, J.-K., & Wang, F.-C. (2010). Pricing determinants in the hotel industry: Quantile regression analysis.
13. Jinwon, K., Seongsoo, J., Sanghoon, K., & SeungHyun, K. (2020). Why are hotel room prices different? Exploring spatially varying relationships between room price and hotel attributes.
14. Kimes, S. (2009). Hotel Revenue Management in an Economic Downturn: Results from an International Study.
15. Kukanja, M., Planinc, T., & Sikošek, M. (2020). Crisis Management Practices in Tourims SMEs During the Covid-19 Pandemic. *Organizacija*, 53(4), 346-361. doi:<https://doi.org/10.2478/orga-2020-0023>

16. Ming-Hsiang, C., Jang, S., & Woo Gon, K. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach.
17. Minsun, K., Wesley, R., & Lee, S. K. (October 2019). Effect of hotels' price discounts on performance recovery after a crisis.
18. Napierala, T., Leniewska-Napierala, K., & Burski, R. (2020). Impact of Geographic Distribution of COVID-19 Cases on Hotels Performances: Case of Polish Cities.
19. Noone, B., & McGuire, K. (2013). Pricing in a social world: The influence of non-price information on hotel choice.
20. Rahimzhanian, S., & Irani, F. (2020). Contactless hospitality in a post-Covid-19 world.
21. Ranasinghe, R., Damunupola, A., Wijesundara, S., Karunarathna, C., Nawarathna, D., Gamage, S., . . . Idroos, A. (2020). TOURISM AFTER CORONA: IMPACTS OF COVID 19 PANDEMIC AND WAY FORWARD FOR TOURISM, HOTEL AND MICEINDUSTRY IN SRI LANKA.
22. Soler, I., & German, G. (2018). Hedonic price models with geographically weighted regression: An application to hospitality. *Journal of Destination Marketing & Management*.
23. Su, N., & Reynolds, D. (2017). Effects of brand personality dimensions on consumers' perceived self-image congruity and functional congruity with hotel brands.
24. Sukharev, O. (2020). Economic crisis as a consequence COVID-19 virus attack: risk and damage assessment. *Quantitative Finance and Economics*.
25. Wu, Y.-C., Chen, C.-S., & Chan, Y.-J. (2020). The outbreak of COVID-19: An overview.