

Economic Impact and Adaptive Responses in the Global Hotel Industry During the COVID-19 Pandemic: A Comparative Analysis

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Abstract. *The COVID-19 pandemic has become a challenge of unprecedented scale for various industries, and the hotel industry has not escaped the waves of economic uncertainty. Economic indicators in the hotel industry, which once reflected growth and prosperity, abruptly turned into indicators of crisis and the need for adaptation. The main aim of the presented article is the evaluation, categorization, and comparison of hotel-type accommodation facilities in selected countries based on their economic indicators in the pandemic period. Comparison and categorization of countries will be carried out using a multivariate statistical method – cluster analysis. All investigated indicators were obtained by the method of sociological inquiry in the form of a questionnaire. The application of cluster analysis identified the economic importance and potential in the countries in question using the investigated economic indicators in the hotel industry. The results showed a significant economic difference between the countries. The analysis divided the requested countries into five clusters – categories from the lowest (Turkey) to the highest impact of the COVID-19 pandemic on the economic situation in the hotel industry (Slovak Republic). Since the prevention of crises in the hotel industry is a key aspect that can minimize negative consequences and ensure the sustainability of operations, at the end of the presented article we have outlined the measures that accommodation establishments should apply in their normal practice.*

Keywords: Economic Impact, Hotel Industry, COVID-19 Pandemic, Crisis, Cluster Analysis.

Introduction

The paper focuses on evaluating, categorizing, and comparing hotel-type accommodation facilities in various countries based on economic indicators during the pandemic. The research emphasizes the significant impact of COVID-19 on the global tourism industry, particularly on hotels, and outlines the methodologies used, including sociological inquiries and cluster analysis. The aim is to understand the pandemic's effect on the hotel industry, highlight the transformation and survival strategies, and assess recovery prospects in a landscape of economic uncertainty.

Literature review

The global tourism industry, impacted by COVID-19, now focuses on crisis management, encompassing disaster and risk management (Wut, 2019; Mair et al., 2016; Aliperti et al., 2019; Ritchie & Jiang, 2019).

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In 2020, the industry faced severe setbacks, including a 70% layoff of hotel employees and 4.6 million job losses in the US (American Hospitality and Lodging Association, 2020). Post-pandemic, new travel and business models are expected to emerge (Farmaki et al., 2020).

In 2021, Scotland's tourism spending decreased by 54.3%, causing a 1.76% GDP decline, a 3.83% fall in labor demand, and a 3.63% increase in unemployment (Allan et al., 2022).

The most affected sectors were food services and accommodations, accounting for 56% of job losses (Allan et al., 2022). Inbound tourism had a greater impact than domestic, challenging the idea of full compensation. Accommodations rely heavily on inbound spending (Allan et al., 2022).

The pandemic shifted hotel selection criteria, emphasizing disinfections, face masks, gloves, and customer behavior (Kim & Han, 2022). Precautionary measures and cleanliness became core attributes (Kim & Han, 2022). IPA assessed attribute changes pre and post-COVID-19, aiding hotel professionals (Kim & Han, 2022).

Hotels must prioritize precautionary measures, innovative technologies, cleanliness, and hygiene (Kim & Han, 2022). Guest origin affects perceptions (Kim & Han, 2022).

Initially, hotels lowered prices, but as the pandemic continued, focus shifted to saving marketing resources (Wong et al., 2020). A shift to proactive management occurred, with measures like temperature checks and employee training (Wong et al., 2020). Strategies like reduced office hours and voluntary unpaid leave were adopted, along with maintenance adjustments (Wong et al., 2020). Government support was crucial (Wong et al., 2020). Marketing practices gained importance during the recovery stage, with promotional plans and discounts recommended (Wong et al., 2020).

Methodology

The main aim of the presented article is the evaluation, categorization, and comparison of hotel-type accommodation facilities in selected countries based on their economic indicators in the pandemic period.

In the presented article, we will focus on the comparison of economic indicators in hotel-type accommodation facilities (all categories and classes according to The Decree of Ministry of Economy of the Slovak Republic No. 277/2008, which establishes the classification features for accommodation facilities when classifying them into categories and classes, and which has lost its effectiveness in February 2021) in selected countries – Croatia, Czech Republic, Hungary, North Macedonia, Slovak Republic, Turkey and Ukraine. All investigated indicators were obtained by the method of sociological inquiry in the form of a questionnaire.

The questions were formulated in order to obtain a balanced ratio of quantitative and qualitative information from the respondents. The survey consisted of closed-ended and open-ended questions divided into two sections that focused on key accommodation performance metrics – number of occupied rooms, average daily rate, revenue per available room, average occupancy rate, average length of stay, gross operating profit per available room. In the case of closed questions, percentage or numerical ranges were created to preserve the unity of the answers of all respondents. In the first section, respondents had the opportunity to quantify the mentioned economic indicators of the accommodation facility before the onset of the COVID-19 pandemic. The following second section evaluated the impact of the COVID-19 pandemic on the economic activity of the accommodation facility. The questionnaire was distributed between April and September 2022 in each European country to the same number of accommodation facilities (=

520). The selective selection of the investigated countries in the paper was carried out on the basis of establishing a minimum threshold of return, which represented 75% of the sample of respondents (= 390 accommodation facilities).

Comparison and categorization of countries will be carried out using a multivariate statistical method – cluster analysis. The principle of cluster analysis is to track similarities between variables and then classify objects into clusters with similar characteristics. Using the created clusters, it will be easier to compare countries with each other in a group with similar characteristics, but also between groups (Trebuňa & Halčinová, 2010).

We processed the obtained data and datasets in the Microsoft Excel program and used the statistical software program R (2024) to apply correlation analysis and cluster analysis.

Results and discussions

The COVID-19 pandemic has become a challenge of unprecedented scale for various industries, and the hotel industry has not escaped the waves of economic uncertainty. Economic indicators in the hotel industry, which once reflected growth and prosperity, abruptly turned into indicators of crisis and the need for adaptation. This analysis aims to evaluate the impact of the pandemic on the economic aspects of hotels and examines how key indicators reflect the dynamics of transformation, survival strategies and prospects for recovery in an uncertain world.

We applied all the standardized data necessary for cluster analysis in the application of correlation analysis, which is necessary before creating individual clusters. The data required for the cluster analysis represented the basic economic indicators of hotel-type accommodation facilities in the individual investigated countries. A significant dependence between the affected indicators could produce distorted results in the cluster analysis, however, in our case, a significant degree of dependence between the individual indicators was not indicated. Subsequently, we applied the procedure of cluster analysis. Using the statistical software program R, a dendrogram was created using the Average linkage clustering method. The average distance method works on the principle of distance evaluation, where the distance between two clusters is the average of all subjects (or objects) of the samples from each cluster. The surveyed countries were divided into clusters, the number of which depended on the Euclidean distance. We divided the dendrogram into 5 clusters – we determined the specified number of clusters based on a substantial increase in the distance values, which indicates a marked heterogeneity of the clusters. Based on the verification of the methods through the results of the cophenetic correlation coefficient, according to which Average linkage is the most suitable clustering method, the dendrogram interpreted by us is illustrated in Figure 1.

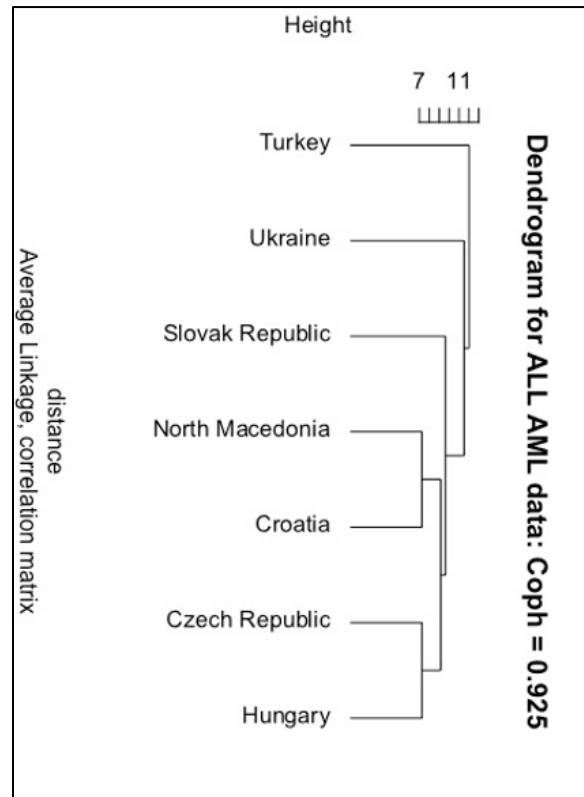


Figure 1. Average linkage – Dendrogram of clusters of countries according to selected parameters

Source: Authors' own research results using statistical software program R.

Using hierarchical clustering, five main groups of countries showing similar characteristics within the analyzed economic indicators were identified. The distance of the connection of individual clusters is the Euclidean distance characterized as the air distance between two statistical units, which does not indicate the variability within the cluster, but the variability of the clusters. The higher the distance of the cluster connection, the greater the similarity of the statistical units, in our case already created clusters in the sphere of analyzed economic indicators.

Group 1. is made up of Turkey, which is the clear leader from an economic point of view. According to the results, the impact of the COVID-19 pandemic on the hotel industry was stronger in 2020 compared to 2021. In 2020, most respondents chose the possibility of -69% to -30% of the impact of the pandemic in all investigated indicators. In 2021, the intensity of the COVID-19 pandemic on the hotel industry was largely at a value of 21% to 31%. Which is the best achieved result compared to the values of other countries. In Group 2. there are two countries North Macedonia and Croatia. The interviewed representatives of both countries rated the impact of the COVID-19 pandemic on the hotel industry (like Turkey) significantly stronger in 2020 compared to 2021. In the case of Croatia, most respondents rated the impact of the pandemic as 0% intensity. In North Macedonia, the most frequently measured values were in the interval -29% to 0% of the impact of the pandemic on economic indicators in the hotel industry. Group 3. is again made up of two countries, which in this case are the Czech Republic and Hungary. With this cluster, we can evaluate from the data obtained that the COVID-19 pandemic affected the hotel industry in 2021 more strongly than in the case of the first two clusters. In the Czech Republic, the values range from -69% to -30% and in Hungary from -100% to -30%. In both cases, the year 2020 was

evaluated with positive intervals. Ukraine is in Group 4. The impact of the COVID-19 pandemic is strong in both examined periods. In 2021, the measured values ranged from 0% to 20% intensity. In 2020, the detected values were fragmented in the interval from -29% to 20%. There is also only one country in Group 5., the Slovak Republic. From the point of view of categorization, this cluster is considered the most affected by the COVID-19 pandemic on economic indicators in the hotel industry. The respondents we asked in both reference years evaluated the impact of the pandemic with an intensity ranging in negative values. In a comparison of years, the year 2021 represented a very strong impact of the pandemic for the hotel industry at the level of -100% to -70%. In 2020, the respondents' answers were more „positive“ – and therefore fragmented in the interval of values from -100% to 30%.

From the point of view of economic indicators in the hotel industry and their change during the COVID-19 pandemic, we can say that the most favorable results – the examined economic indicators are achieved by Group 1., where Turkey is located. The hotel industry of Turkey was (compared to other surveyed countries) the least affected by the pandemic. – This fact is also supported by the results of an applied cluster analysis focused on innovative processes and procedures, where even during the COVID-19 pandemic, hotel enterprises largely developed new products (new services), communicated with customers, employees, state administration and local government at the level region, city, municipality and developed digitization in the hotel industry. It is followed by the groups formed by the countries of North Macedonia, Croatia (Group 2.), the Czech Republic, Hungary (Group 3.), Ukraine (Group 4.) and the Slovak Republic (Group 5.).

It is likely that similar crises will be repeated in the future. Therefore, we recommend that hotels take a range of measures that will help them mitigate the negative consequences of the crisis. By diversifying the hotel's product to provide part of the capacity for long-term rental, they can secure income that will have a stable and long-term nature. Many hotels in practice during the COVID-19 pandemic were able to secure at least a partial income in this way. Introducing the process of identification, evaluation and analysis of risks into business processes can help predict the negative economic impact caused by the impact of risks/crises in practice. Hotels should also take care to design a crisis plan that would include measures for quick response in case of pandemics or other extraordinary events. Identify critical threat areas and create corresponding strategies for each of them. Regularly revise and update this plan based on experience from real crisis situations.

According Bie (2023) the hotel industry needs to adopt the strategy of diversified income sources and reduce its dependence on the traditional tourism market. Secondly, the hotel industry should formulate more flexible cancellation policies to meet customer needs. In addition, digital technology plays a key role in crisis management. Finally, staff training is the key link to deal with the crisis.

Hotels in the study of Chanyasak et al. (2021) adapted their business models by cutting costs through stopping non-essential operations, increasing non-room revenues and adding new revenue channels, bringing in cash from advance bookings, securing financial support from creditors, leveraging government support and training staff for the “new normal”.

The practical implication of the research of Wira et al. (2022) is that it can be a consideration for hotel entrepreneurs in determining the most appropriate strategy in maintaining their business during the pandemic. Other recommendations can be made in different locations to compare the crisis management strategies and provide more comprehensive input for business actors, destination managers, and the government.

The findings of Jafaar et al. (2023) suggest a transformational leadership style and crisis management experience are the most important attributes for a leader to sustain hotel performance during a crisis. Leaders with a transactional leadership style need crisis management skills to sustain hotel performance rather than experience which is not as important in their case. Different leadership styles have a different influence on a hotel's survivability during a crisis. Therefore, a hotel's management group must ensure that a leader with an appropriate leadership style takes control during these situations.

Conclusion

The conclusion of the paper synthesizes the impact of COVID-19 on the hotel industry, highlighting the economic challenges and transformation strategies adopted. It emphasizes the varied effects across different countries, as determined by cluster analysis. The research underscores the resilience and adaptability of the hotel sector in the face of the pandemic, while also pointing out its vulnerabilities with an emphasis on recommendations for future practice. The conclusion acknowledges the limitations of the research, including the scope of countries analyzed and the reliance on available economic data, suggesting potential areas for further study.

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