
The Impact of Russian Plane Crash and COVID-19 Pandemic on the Evolution of Hospitality Industry in Egypt since 2013: A case study on applications of Crisis Management

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Abstract

Egyptian hospitality industry is subjected to many challenges and crises throughout the periods after the Egyptian Revolution in 2011. The riots and instability resulted in many incidents that had direct impact on the tourism especially the leisure activities in Sharm El Shiekh. This is in addition to the outbreak of COVID-19 in 2020 and its consequence on transportation and world economy. These challenges require crisis management practices that allow going through the difficult times with minimum damages and to save the investment. The present study analyzes the monthly financial and managing data in two hotels (A and B) that are situated in Sharm El Shiekh in the time period from January 2013 to December 2020. The analysis by constrained single linkage cluster analysis revealed the similarity between the statuses of the successive months and allowed the identification of five stages in studied time interval. These stages are Stage 1: Recovery from Egyptian 2011 Revolution turmoil (2013-2015), Stage 2: Russian Plane Crash (2015-2016), Stage 3: stable recovery from the Chaos (2017-2020), Stage 4: COVID-19 pandemic (2020) and Stage 5: recovery from COVID-19 pandemic. Each of these stages has some financial and administrative characters that affected the paths of both hotels. The analysis indicated that Hotel A kept higher efficiency and better performance than this of Hotel B during and managed to have higher revenue after the strike COVID-19 crisis.

Keyword: Russian Plane Crash; COVID-19; Crisis management; Hotel performance

1. Introduction

Egypt is a country with exceptional potentiality for the touristic activities that represent the base for substantial investment in the hospitality industry and other related business. Egypt has been blessed with diversified types of tourism such as historical tourism, environmental tourism, cultural tourism, leisure tourism and many more. However, this country is also subjected to frequent

political and social events that jeopardize the safety of the tourists and consequently increase risks for the greater loss of the investments. One of these incidents is the Russian Plane Crash that occurred in 2015 and although it is not confirmed up to date, it was considered as a terroristic attack. This led to halt of touristic journeys to Egypt in a number of countries. Add to this, the global events that can affect on the world economy or restrict the transportation like the COVID-19 pandemic that happened early in 2020 (Gossling et al., 2020; Ramkissoon, 2020). The practices of the crisis managements play essential role to reduce the impact of such incidents during and after they strike. The crisis management is one of the most important administrative sciences that reduces the effect of the crisis on the future of the investment in any of the economical fields (DeWit et al., 2020; Wut et al., 2021). Up do the date, there are a few studies dealt with the impacts of both crises on the hospitality industry in Egypt. The crisis management includes many of scientific tools that depend on data analysis and evaluation of size of loss in each of the administrative sectors in the concerned institution. In the present study, the financial data of two hotels (anonymously named Hotel A and Hotel B) were analyzed using time series and cluster analyses for the interval between January 2013 and December 2020. Both hotels are situated in Sharm EL Shiekh that is considered as one of the global favorite leisure destinations on Red Sea and Sinai. The touristic places in Sharm El Shiekh were subjected to the direct impact of riots and terrorism conditions that accompanied the Egyptian Revolution (2011) as well as the crash of the Russian Plane in 2015. This data represents the base for a case study where the practices of the crisis management were actually applied. This analysis provides statistical modeling of loss and gain in each hotel and compares the response behavior to crises throughout the studied time interval. The study aims to compare how the hotel industry in Egypt has responded to both crises including the crisis management practices and how the hospitality industry deteriorated during the both crises. It also aims to understand how the surviving from the crisis impact is related of the general management policy on long run. The comparison of the response within a larger time interval that represent the evolution of the business background indicates if declining of the hotel revenue is resulted directly from crisis or inherited from management policies in general. Consequently, the assessment of success of practices of the crisis management and their application can be achieved. It also helps to understand the depth of the impact of each crisis on

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the hospitality industry. All the data related to this time interval were collected and organized in chronological order and formed the basis for a comprehensive case study. The collected data represents the periods of before, during and after the crises, which gives the present study a vital reliability in application in case of any future crisis. The data include changes in financial situation as well as buildings, equipments and human factor. The evolution of the business was studied with a greater focus on the actual practices of crisis management during Russian Plane Crash and COVID-19 incidents. Moreover, this study provides an actual experiment and tests the plans that target reducing the effect of the crisis on the financial situation of the hotel enterprises and guarantee the speed recovery of the business.

2. Literature review

The researchers have indicated in recent studies of crisis management in the hotel industry, how to develop a successful crisis management model for example El Atiek and Goutte (2021) discussed the crisis impacts on the financial situation of the company A which is one of the top five companies in Egyptian market. They attempted to develop the crisis management model and explained the practices that have been applied by these companies to deal with the crisis to minimize the losses, damages, keep the human factor and promising talents. Salem et al. (2021) focused on crisis management content to explore practices and the theoretical and practical implications during and post the COVID-19 related to government, hotel operations. Elsayed et al. (2021) applied the effect of COVID-19 on the domestic tourists' attitudes in a comparative study between Egypt and Jordan. Salem et al. (2020) described in their study, the COVID-19 pandemic, the mitigating role of government and hotel support of hotel employees in Egypt. Davahli et al. (2020) applied a systematic review of the published research topics relevant to the understanding of the hospitality industry in the time of COVID-19 pandemic. Mohamed et. al. (2011) discussed that the hotel industry in Egypt was severely hit by the political events of 2011 in hotel occupancy and revenues. Helmy (2014) promoted tourism development to solve the country's economic problems. Nasser (2012) applied the impacts of political situation in Egypt on the tourism and differentiated some important terms such as 'political violence' and 'instability. The Political stability and security are key components for both local and international tourism.

Although every crisis is unique, the different crises can be classified in

limited number of domains based on their origin and attributes. The response to the crisis requires understanding for its nature because it controls its time extension, depth of its impact, rate to recover to normal pattern and practices to deal with its consequences (Henderson, 2007). There are several domains of the tourism crisis that has direct impact on hospitality industry such as economic, political, socio-cultural, environmental, commercial and technological (Henderson, 2007; Wut et al., 2021). The Russian Plane Crash is classified in the socio-cultural and political. In the first place, the terrorism attack crises are considered as political; however, the socio-cultural conditions especially in Egypt cannot be ignored. These conditions lead to the occurrences of the Islamic radicals who target the tourism because it is easiest to attack and it has the fastest impact on economy. This impact will create great political instability and will put a greater pressure on the government. This in addition to the publicity the terrorist wants for their attacks in news and media. As a result, the government is fastest to respond to terrorism crises when it happens (Dimanche, 2004; Horner and Swarbrooke, 2004; Henderson, 2007). Egyptian Tourism suffered a major crisis after the crash of the Russian Plane. This accident claimed the lives of 556 people of Russian tourists on the 31 of October 2015 and it received a global uproar and widespread controversy in international politics (Salman et al., 2017; Atiek and Goutte; 2021). Tourism in Egypt with this incident is a severe blow, especially for the hypothesis of a bomb explosion that led to the downing of the Russian plane after taking off from Sharm El-Sheikh. Some countries have decided to stop Tourist trips to Egypt. This crisis led to an economic blow because the tourism sector was contributing about 12% of Egypt's GDP, and it constitutes about 15% of Egypt's resources from foreign currency (Salih, 2016). The losses of Egypt after the crash of the Russian plane were estimated about 4 million dollars per day, which constitutes the revenues of the tourism sector 11.5% of the total national income (Salman et al., 2017). The Russian "TAWAS" agency, quoting the Egyptian Ministry of Tourism stated that the ban on Russian and British flights constitutes about 70% of the total number of tourists (Salman et al., 2017). Russian tourists visited Egypt about 31% of the total tourism in 2014, which had a return of about 1.9 million dollars, and this shows the importance of Russian tourism in Egypt (Salman et al., 2017). The major effect of the Russian Plane Crisis as being a local incident in Sharm El Sheikh is the redirection of tourism toward the safer destination. The drop in the number of the Egyptian tourism

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met 8% rise in the United Arab Emirates occupancy (Salman et al., 2017).

This factor would represent an increase in competitiveness in the after crisis period.

Despite it does sever effects on the Egyptian hospitality industry; the Russian Plane Crash has a limited and local effect only within Egypt or even within in the leisure touristic resorts in Sinai Peninsula. The other touristic activities like historical tourism continue in other areas in Egypt. Based on the nature of the this crisis, the ability to recover from the crisis consequences depends on governmental sectors in the first place to restore security and safety to restore the country reputation. Once this is fulfilled, the touristic activities return to normality. The Egyptian government made the necessary changes to their ways to secure the airport and put additional plans to monitor the terrorists' movement. In addition, they allowed some countries like Great Britain and Russia to review the security plans in the Airport to send the message that Egypt will remain secure for the customers. Fixing and enhancement of security provided the best reason to come back to normal pattern after each of these attacks in general and after Russian plan crisis in particular. As result, crisis effect did not repeat when Egypt Air flight 804 crashed in the Mediterranean near the coasts of Egypt in May 2016 although the many investigators suspects terroristic attack (Timothy, 2017).

The COVID-19 crisis is classified in the environmental domain that includes natural disasters like volcanoes and earthquakes and health issues such as pandemics and hygiene problems that occur locally in the touristic region. However, the COVID-19 struck the whole world at the same time despite that it was originated in the beginning in China. The COVID-19 pandemic has affected all countries in an unprecedented way with more than 14.5 million confirmed cases as of July 21, 2020 worldwide; including more than 607,000 reported deaths (Abu Baker, 2020; Khim-Sen Liew, 2020). The global extension of consequences is first obvious difference where the impact includes complete worldwide halt of the transportation for prolonged and repeated episodes. The global precautions against disease and infection spread made many countries seal their borders and put travel restrictions. In 2019 the Egyptian hospitality industry contributed to 8.8% of the national GDP totaling 505 billion Egyptian pounds while in 2020 the contribution dropped to 3.8% with only 227.5 billion Egyptian pounds which resulted in

55% drop in total GDP between 2019 and 2020. The tourism contribution in total employment in Egypt in 2019 was 9.2% then dropping to 6.2% in 2020 which resulted in 35% drop in the total tourism contribution to total employment (Salem et al., 2021). The international tourists has spent 248 million EGP in 2019 compared to only 63.3 million EGP in 2020 dropping by 74.5%, at the same years domestic tourist has spent 175 million EGP compared to 118.4 million EGP in 2020 dropping by 32.3%. In this stage, efforts of the government and institutional managers remain hopeless waiting the infection waves to cease (Abu Baker, 2020). Another additional difference that adds to complexity of the situation is the worsening of the economic conditions worldwide as a result of the halt in the business that will last even for longer time after the pandemic. The effect of the pandemic reaches to all aspects of commerce, industry and hospitality industry as the consumers avoid gathering places. It has disrupted lives, livelihoods, communities and businesses, affecting communities and economies essentially. In addition, it is reversed the social and economic progress that has been made towards the Sustainable Development Goals (SDGs). The pandemic has created a health and economic crisis extraordinary in scale. It also exposed and amplified existing social and economic inequalities. The losses in the Air transportation only reaches to \$113 billion as the booking keep falling in China and Asia according to International Air Transport Association where 82% of total air traffic stopped (Abu Baker, 2020). The major stock markets lost 30 to 35% percent of their values and 100% of the restaurant booking were cancelled by March 2020. This is in addition to great losses gold and petroleum prices (Abu Baker, 2020). Accordingly, the recovery from the COVID-19 crisis will prolonged until world economy recover to previous situation that enable people to travel. However, the governmental efforts include the tightening the precautionary measures and equipping hospitals with necessary medical equipments would reassure the customers for their safety during their stay in hotels. One similar governmental practice between both crises is the increasing the awareness of the citizens and employees with safety precautions to face either terrorism or to avoid infection and spread of the diseases.

3. Governmental crisis management protocols

It is important to understand the effort of the Egyptian government before the evaluation of the hotel performance can be accomplished. Combating the effects of the crisis begins at the highest level of the Egyptian government

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and it is also the first to respond to the crisis when it occurs. In the following, a brief statement on the governmental crisis management is presented to clarify the background effort that both hotels (A and B) started their crisis management from. The governmental practices are greatly similar in management of both crises. These practices are divided into dealing with security issues, risk management, international publicity and financial support. Dealing with security issues is specific for the crises resulted from terrorism and mostly include tightening security measures around the tourism facilities and, increasing awareness of the people against the suspicious activity, reviewing of security measures in airports by concerned countries. The risk management focuses on the recognition, evaluation, avoidance and threat reduction (Thackrah, 2004). The Egyptian government as has been demonstrated took several measures to secure the airports and roads to the touristic destination, which helped a lot to prevent the risk of similar incident from happening in years to come and until now. The government also increased the travel insurance and hospitals to be able to respond fast enough to any similar incident saving the lives and to pay suitable compensation to the victims. All the procedures to prevent similar crisis from happening in the future is very vital in restoring the confidence of the tourists. The efforts of the Egyptian government in this subject were successful in reducing or even terminating the large terroristic attacks. This is because the repetition of the violent events has bigger influence than the first incident (Pizam and Fleisher, 2002). In addition, the repetition of this incident interrupts the crisis management efforts and will cause cycles of crises. It is also a practical demonstration of commitment of Egyptian authorities to the tourist's safety. The stricter security plans confuse the terrorists and make them hopeless to conduct any successful attacks. Similar procedures were carried out during the COVID-19 crisis where the government made strict precautionary measures and monitor their execution in all touristic facilities (Salem et al., 2022). These precautionary measures include sterilization and disinfection all the hotel and tourist establishments. The government panned entrance to Egypt without prior PCR test within 72 hour before the flight departure time or certificate of second doze of vaccination. This is in addition to providing all medical supplies in hospitals. One of the most important roles of the government in the crises management is the promotional campaigns and participation in international tourism exhibitions about Egypt. In addition

they invited for large scale events and carnivals in all touristic destinations. The international publicity comprises the restoration of the country image in the international market after incident especially if it is resulted from terrorism like the Russian Plane Crash or to assure the procedures to prevent disease spreading like in COVID -19. One of the most successful methods in publicity is making the documentaries about the archeological discoveries that are broadcasted worldwide. The anticipated ceremonial opening of the grand Egyptian museum represents the best chance that will end of Russian plan crisis impact on the Egyptian tourism in general. In addition, Authorities made months of discount prices on transport and accommodation in the last five years. They made very attractive promotional offers in new markets of Asia. The developing of the domestic tourism is very important to transmit positive and reassuring message to outside markets.

Financial support is the most fundamental practice conducted by Egyptian government. This financial support include for example exempting all hotels establishments from real estate taxes and postponing all hotel debts, collection of electricity, water and gas, social insurances contributions and payment of income or value added throughout most of critical time of the crisis (El Kattan, 2021). It also includes extending the deadlines for cancelling administrative reservation for another year and direct financial support to workers and reduced benefit on lending. These procedures were carried out during Russian Plane and COVID-19 crises. However, the best of the financial support was the payment of hotel bills for the stranded tourist in the time of COVID-19 Crisis.

4. Materials and method

The major target of the present research is to conduct a performance analysis of the hospitality industry during the Russian Plane Crash and COVID-19 crises. To fulfill this target, Data was collected on a monthly basis of both crises from 2013 and for the next nine years to 2022. Data collected including room nights for different markets and agencies, Gross revenue, selling rate, Top countries (number of rooms), Quality data, Induction training, on job training, off job training, and Turnover in two Hotels (anonymously called A and B). The data was analyzed using time series analysis by autocorrelation technique (Mech, 1993). Autocorrelation is a mathematical degree of similarity between specific time series. It measures the relationship between two variables if both have sampled at the same time interval that is every month in the present study. The lag between the revenue of both hotels is

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measured by autocorrelation to indicate the similarity or difference and which hotel would have the lead in profit. Measuring similarity in addition helps to determine cyclic changes in the business. The occupancy as variable in time series from each hotel is subjected to constrained single linkage cluster analysis. The constraining is made for monthly arrangement. The greater similarity in occupancy is expected between months that affected by the same crisis conditions and consequently the duration of the crisis impact is measured. The analysis is conducted using statistical package for social sciences (SPSS). Both techniques are regularly used in the performance analysis of the financial status in the institution in certain period of time (Wut et al., 2021). The sample data used in the analysis is selected to cover the time span from the January 2013 to December 2021. This time period included the most important events that affected on the hospitality industry in the last decade.

To assess the reasons of different performance, a list of the most important crisis management practices is distributed over the managers and employees in important position using the electronic way (Google survey forms in the present research). The crisis management practices were compiled from different studies (e.g. Israeli and Reichel, 2003; Israeli et al., 2011; Salem et al., 2021; Atiek and Goutte, 2021). In Addition, the Google survey was tested before being published and the results were checked and verified. The surveys were conducted in recovery stage from each crisis. Survey 1 was conducted in December 2015 (Russian Plane Crash) and in January 2022 (COVID-19 pandemic). Each of the practices has to be evaluated for importance and usage separately by the survey participants on a scale from zero (lowest) and 100 (highest) (Israeli and Reichel, 2003; Israeli et al., 2011). The Simple Additive Weighting (SAW) model is used to in data analysis through the following equation:

$$V(A) = \sum_j w_j v_j (X_{ij})$$

Where i is the alternative, each characterized by j attributes, $V(A_i)$ is the value function of alternative A_i and w_j and $v_j(X_{ij})$ are weight and value functions of attribute X_j , respectively. The data of each questionnaire was collected during or shortly after the crisis. The questionnaires were introduced for managers and other staff members in various departments in each round of data collection (Table 1). The first questionnaire is presented

after the Russian Plane Crash and included 25 practices. The practices covered different aspects of performance elements like marketing, human resources and training, quality and development and financial. Same questions were used in the second questionnaire that belong to practices during the COVID-19 crisis (Table 2), however, additional questions were added to suit the precautionary measures to prohibit the spread of the infection.

The collected data structure is composed of two items importance and usage that can be quantitatively analyzed (Table 2). Each staff member evaluates the importance and usage practice by a number from 1 (lowest to 5). The importance and usage of the crisis management practices determine the efficiency of the managers during the critical time to absorb the shock and return back to normal condition after the crisis (Israeli and Reichel, 2003; Israeli et al., 2011). Each group of questions explains one aspect of performance and indicates the path of hotel during normal and crisis times. This is because crisis management is a reflection of the main beliefs of the managers and their plans to develop the investments.

The data was collected to draw a conclusion about certain questions on performance level showing the overall trends along the seven years. The questions are focused on defining the important crisis management practices and the participant's ability to respond to these problems and how to deal and interact with both crises.

5. Results and discussion

5. 1. Evolution of marketing throughout the study interval time

The evolution of the marketing in both Hotel A and Hotel B is tracked throughout the time span of 84 months from January 2015 to December 2020 (Figs. 1-4). The understanding of this evolution is essential to construct the marketing plan during crisis and non-crisis times. Understanding of the pleasure of the costumers, times they like to visit Sharm El Sheikh and the influence of nationality derived cultural motives to visit Sharm El Sheikh is principal in non-crisis times to know where and how to advertize during the crisis times. This strategy aims to define the allies and partners who can help after the crisis. The markets of the hospitality industry in Egypt depend greatly on the type of the tourism activity. For example Japan (Hotel A; 20 customers in one month), and China (Hotel A 1090 customers in 13 month; Hotel B 50 customers in 5 months), have very low contribution to the leisure tourism in both of the studied hotels (Figs.2 and 4). This is because both of

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these countries have many islands with long beaches on the Pacific Ocean and in same time, they are near to countries that have shores on the great barrier reefs. This increases the competition with Sharm El Shiekh in terms of transportation cost. However, both countries contribute larger number of customers in other areas in Egypt like Aswan and Luxor that have spectacular historical places. Other countries in northern and eastern Europe like Germany, France, Switzerland, Denmark, Ukraine, Russia, Kazakhstan and Belarus contributed significantly in both hotels (<200 customers in every month) (Figs. 1 and 3). Ukraine and Russia are specifically on the top of all countries in both hotels (Figs. 1-4). These countries have cold weather and they seek the warm climate in most of the year in the Sharm El Shiekh. Other countries in the southern Europe have smaller numbers because they have warmer climate and long shores on the Mediterranean. The situation of the North America is compared to the European countries specifically the United States (Figs. 1-4). Arabian and other countries in the Middle East are highly contrasted. Saudi Arabia, Kuwait, Yemen, Jordan and Israel are among the main markets because of very low cost of transportation and cultural reasons (Figs. 1-4). However, Bahrain, Qatar and United Arab Emirates have very low markets where people have higher incomes and preferences to travel to Europe or stay home along beaches of Arabian Gulf like in UAE (Figs. 1-4). The other Arabian nationalities have medium markets like Palestine, Syria, Lebanon and Iraq (Figs. 2 and 4). The Arabian countries in North Africa including Algeria and Morocco are low compared to Libya that is the nearer country (Figs. 1-4). The distribution patterns of customers from major markets like Ukraine, Israel and Germany shows regular periodical increase in specific months (Figs. 1-4). In Ukraine, the favorable months are March and December, in Israel the favorable months are July and August, and in Germany, the most favorable months are October and November (Figs. 1 and 3). The Egyptian market is the highest in all markets with more favorable months in summer months July and August (Fig.1-4).

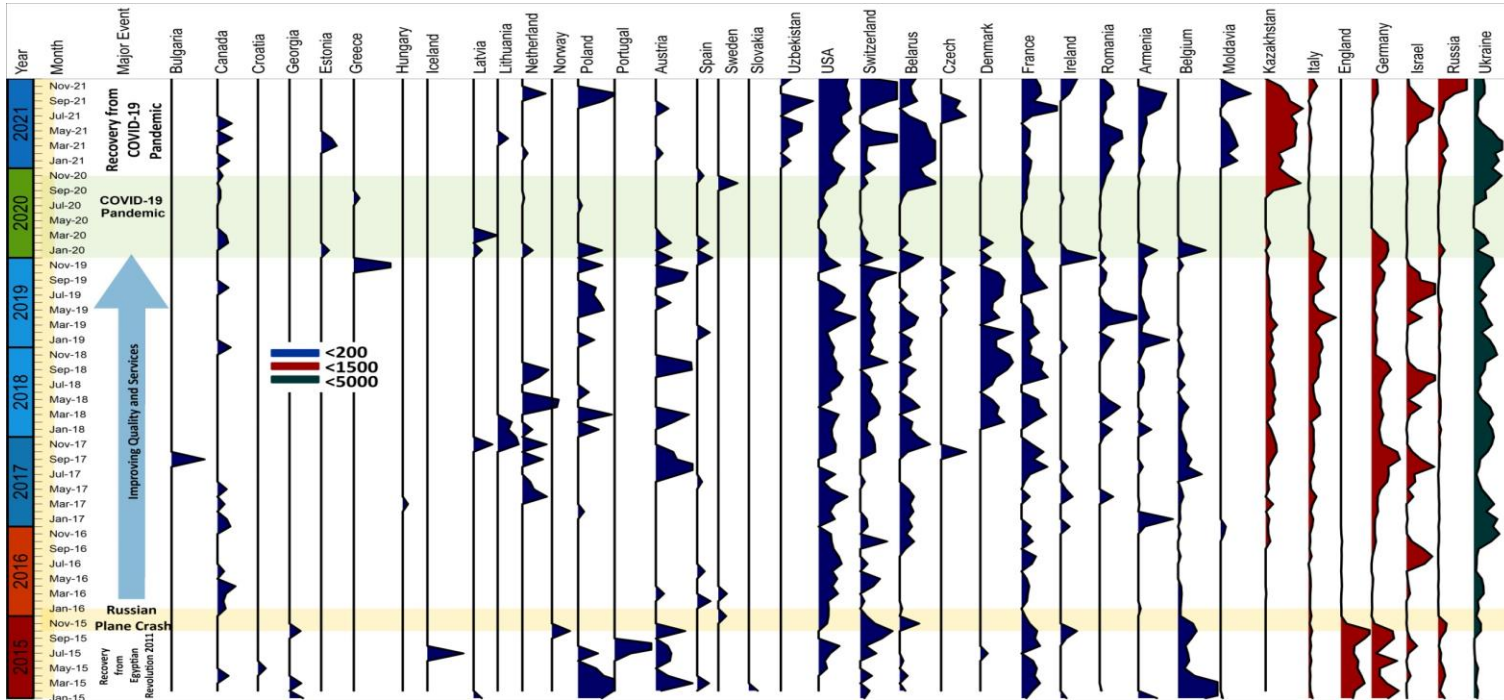


Fig. 1: Changes in the sales from European and North America countries from 2015 to 2021 in Hotel A.

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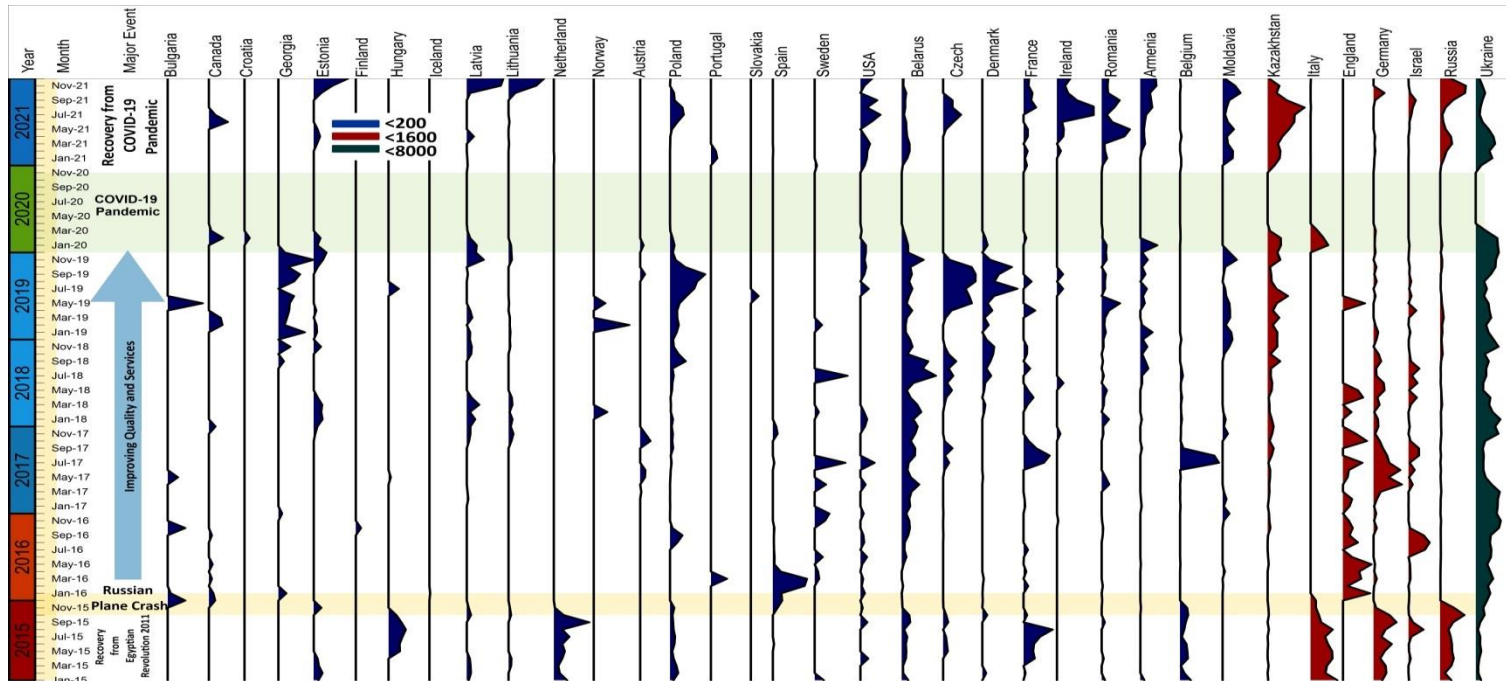


Fig. 2: Changes in the sales from European and North America countries from 2015 to 2021 in Hotel B.

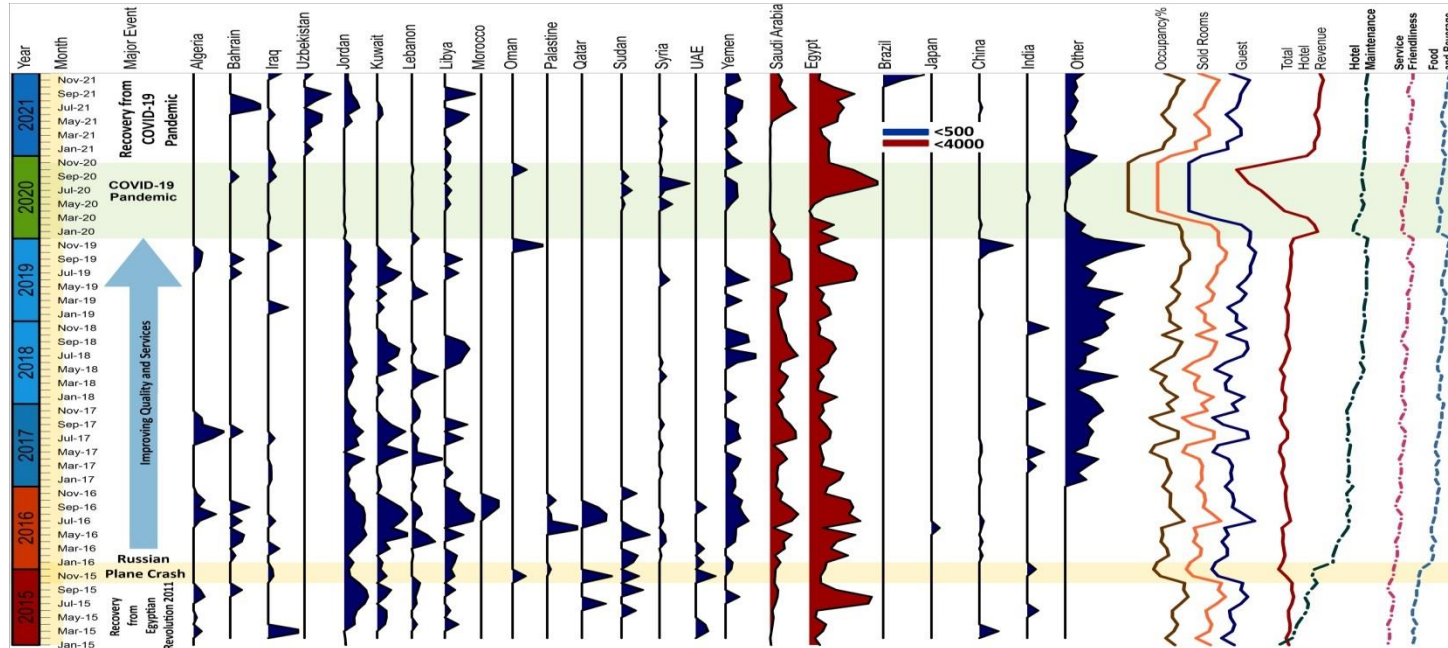


Fig. 3: Changes in the sales from Arabian, Asian and African countries from 2015 to 2021 in Hotel A.

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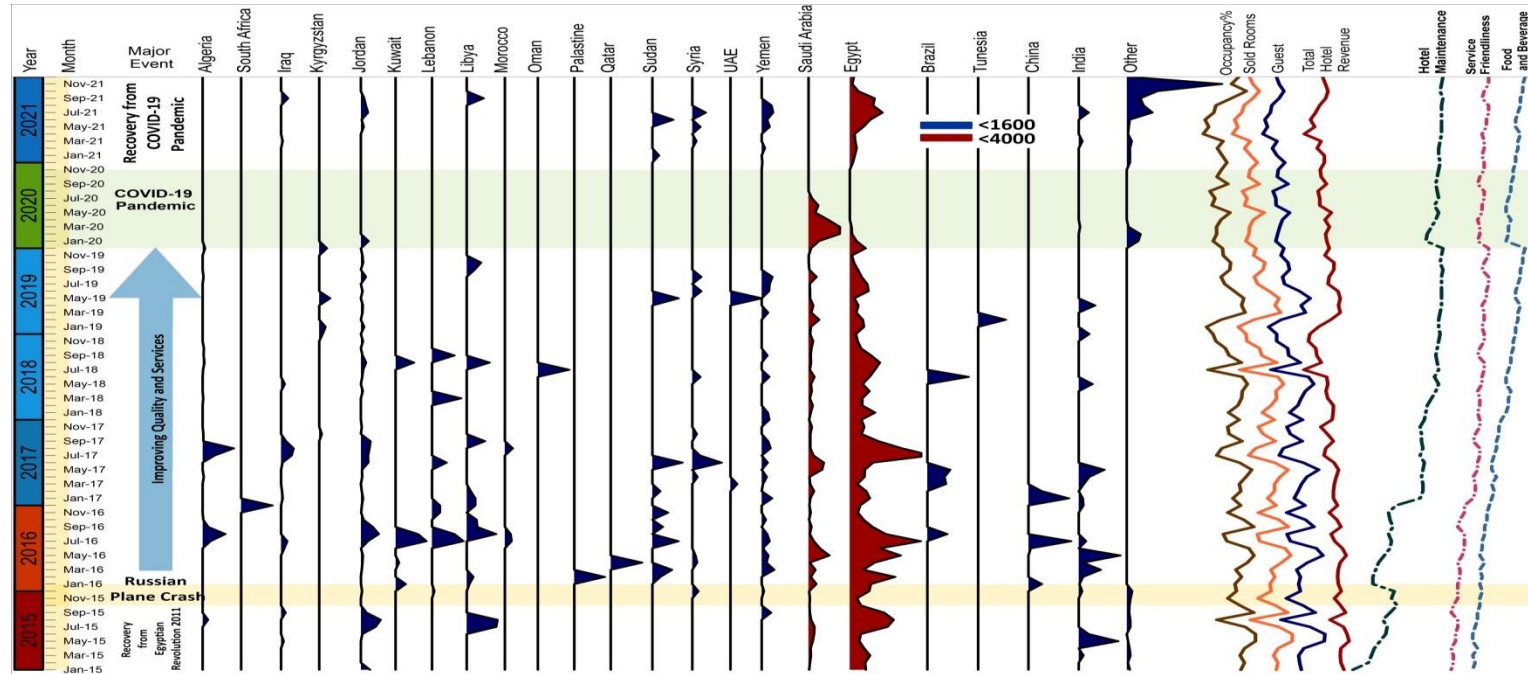


Fig. 4: Changes in the sales from Arabian, Asian and African countries from 2015 to 2021 in Hotel B

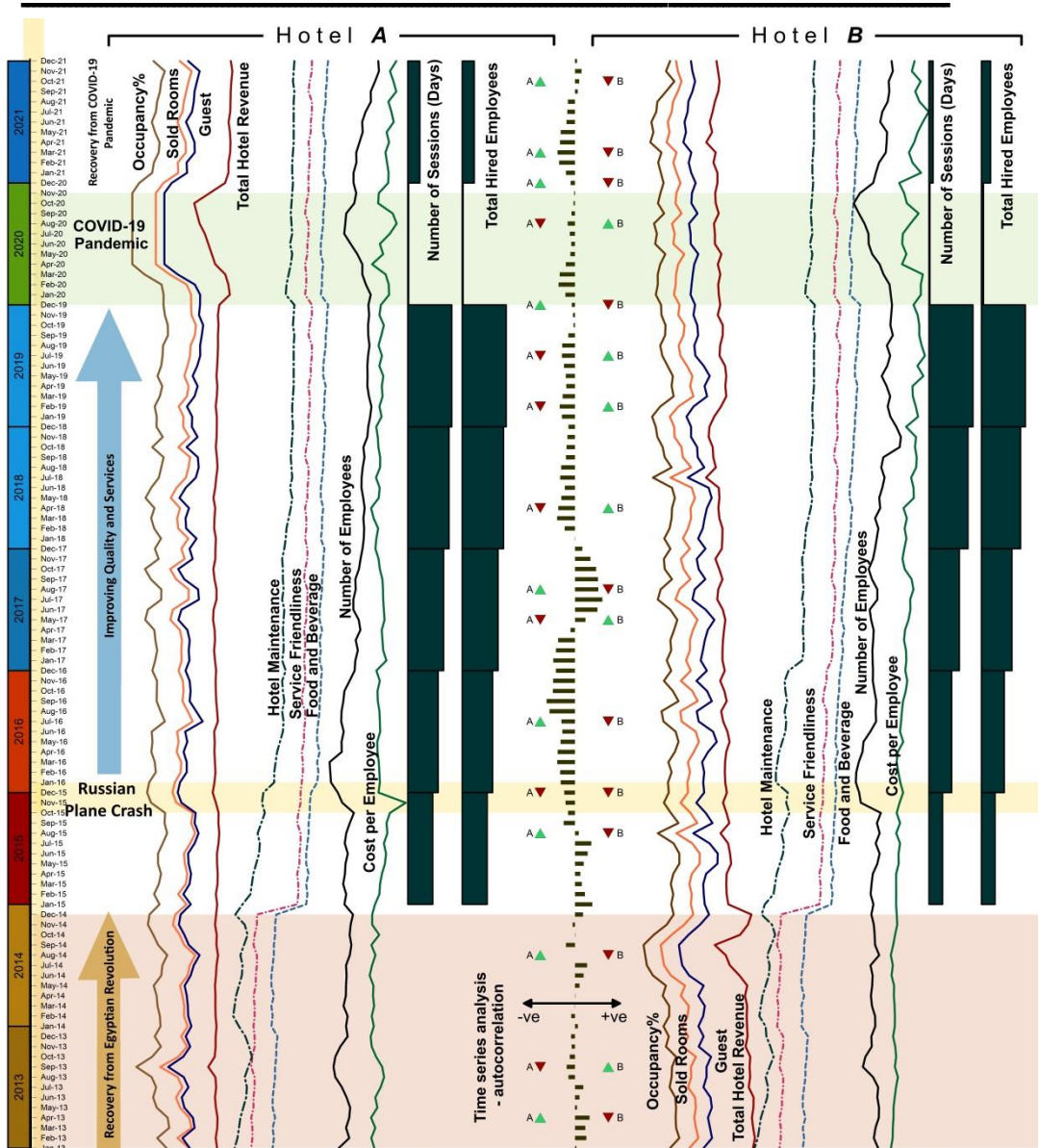


Fig. 5: Time series analysis in Hotel A and Hotel B. The financial are correlated with the quality and human resources data.

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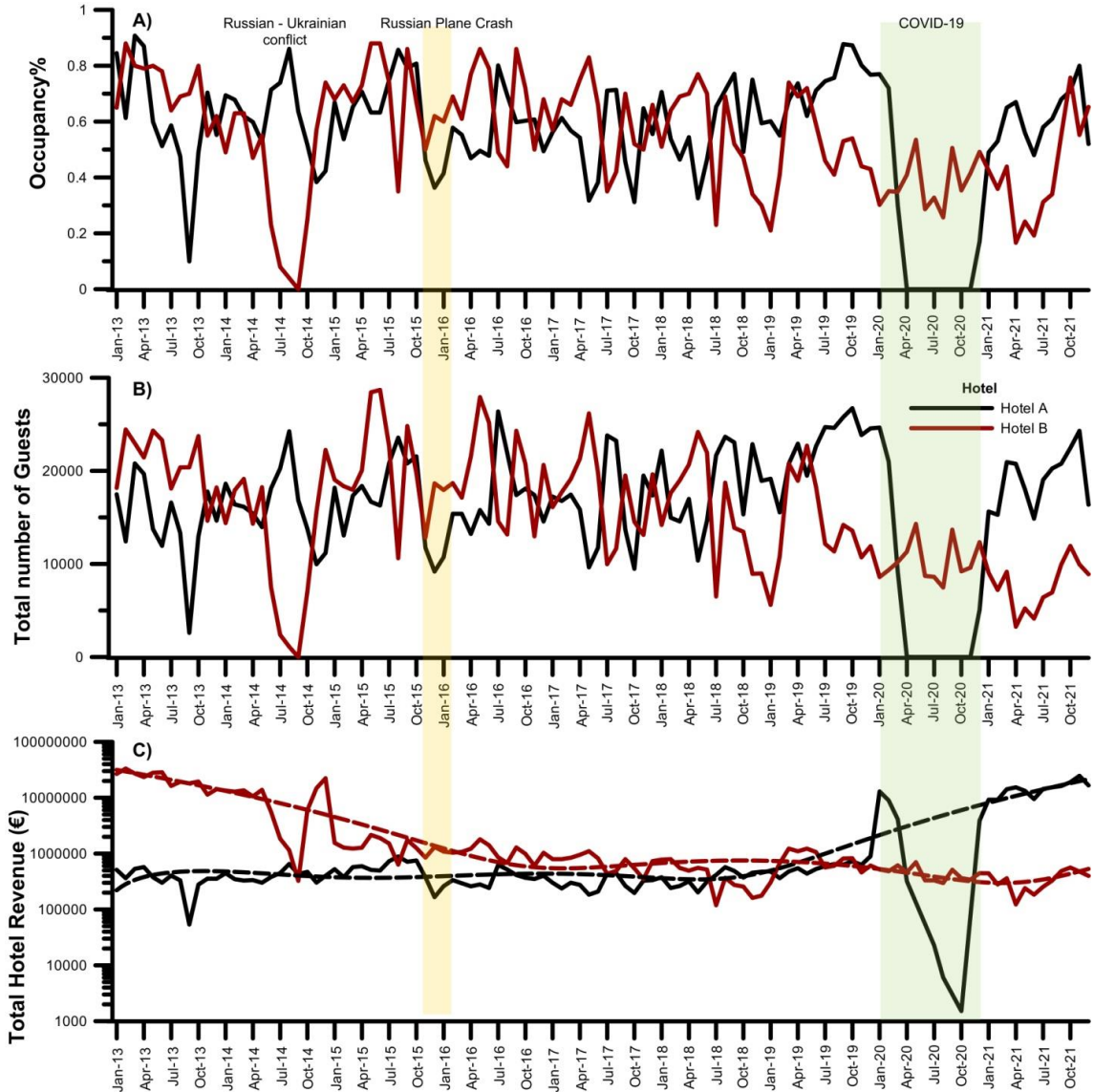


Fig. 6: Correlation between the financial data in the studied hotels. A) Occupancy B) total number of guests, C) Total hotel revenue, polynomial fit is presented in the same color of the plot.

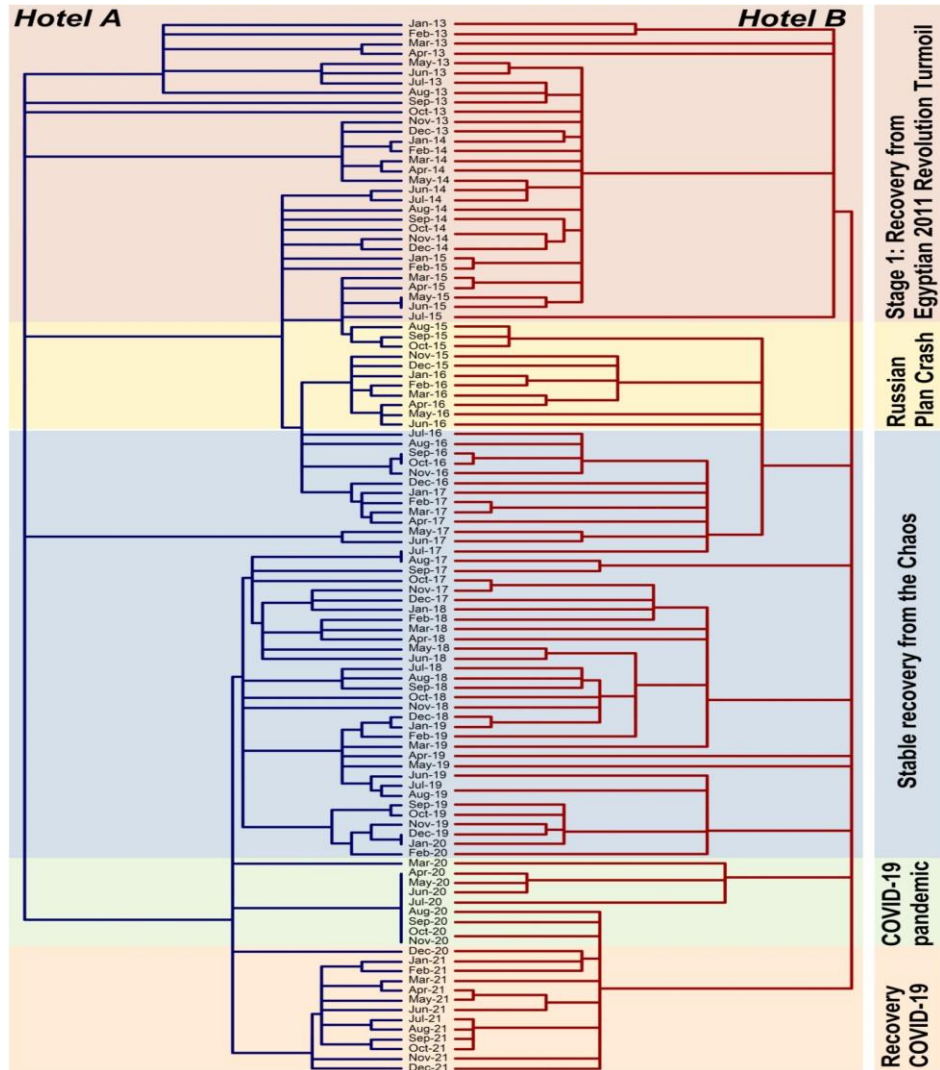


Fig. 7: Constrained single linkage cluster analysis showing the similarity between the successive months in the studied time interval. Evolution stages throughout the time series are indicated

In general, the diversity of the countries that occupied the top 20 in Hotel B

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(79 countries) is higher than this in Hotel A (67 countries). However, the number of countries recorded under the other in Hotel A (12653 customer in 57 months) has higher record than this in hotel B (4257 customer in 26 months) (Figs. 2 and 4). This higher market diversification is perhaps one of the most successful strategies to survive the crisis (Abu and Baker, 2020). It is also clear that European countries especially the most important market like Ukraine (Hotel A 159282 customers in 79 months; Hotel B 267861 customers in 75 month), Russia (Hotel A 25644 customers in 74 months; Hotel B 51684 customers in 75 month) and Belarus (Hotel A 4300 customers in 50 months; Hotel B 22109 customers in 75 month) prefer Residence in Hotel B (Figs. 1 and 3). While the countries in Middle East like Saudi Arabia (Hotel A 108472 customers in 79 months; Hotel B 6650 customers in 67 month), Jordan (Hotel A 10156 customers in 68 months; Hotel B 3081 customers in 45 month), Israel (Hotel A 35904 customers in 65 months; Hotel B 13879 customers in 57 month) and even Egypt (Hotel A 110922 customers in 83 months; Hotel B 77165 customers in 75 month) prefer Hotel A (Figs. 1-4). Only German market (Hotel A 42487 customers in 76 months; Hotel B 6506 customers in 58 month) shows preferentiality to Hotel A.

Evolution in the time line in the period from January 2013 to December 2020 showed many fluctuations in both density and diversification of the markets especially (Figs. 1-4). This time period can be differentiated into five stages that are Stage 1: Recovery from Egyptian 2011 Revolution turmoil (2013-2015), Stage 2: Russian Plan Crash (2015-2016), Stage 3: stable recovery from the Chaos (2017-2020), Stage 4: COVID-19 pandemic (2020) and Stage 5: recovery from COVID-19 pandemic (Fig. 5). Each of these stages is characterized by different activity in each particular market. Stage 1 is not covered by data. In stage 2, the European markets especially in Italy, Germany, England Netherland and Poland were important in both hotels (Figs. 1 and 3). In Stage 3, large drop in all markets are witnessed especially the European in both hotels. However, Hotel A with has better situation because of its attracting advantage to Arabian countries like Jordan, Libya, Syria, Kuwait, Qatar, Sudan and Yemen (Figs. 2 and 4). In Stage 4, both hotels slowly restore their reputation and recover the majority of the European markets and open new markets in North America. The Arabian countries in addition to domestic market become more important in Hotel A, while Ukraine and Russia become more important in Hotel B. This stage is in general witnessed stability in the markets and services and represents a promising period to recover the losses during the earlier stages. In stage 4,

the COVID-19 pandemic travel restrictions lead to complete cease of business. Only the Egyptian market has noticeable contribution in Hotel A (Fig. 2). In stage 5, Hotel A starts to receive customers from European (especially Russia and Ukraine) and Arabian (Egypt and Saudi Arabia) countries earlier than Hotel B (Figs. 1-5).

5. 2. Evolution of service quality throughout the study interval time

Service is the product that is provided for the customers before and during their residence in the hotel. The service includes all the physical materials that customers enjoy with during the accommodation including the building, facilities, entertainment, food and beverage, internet and Wi-Fi, and most important service friendliness. The quality of the provided services is best factor that can be used to restore the business and the same time is the first element affect with the crisis (Henderson, 2007; Salman et al., 2017). While the managers on one hand work to improve the quality of the provided services in their institution to develop a reputation of their brand name, they limit or replace the materials with lower quality alternatives during the crisis on the other hand. The provided services are considered in the costs of the business including all the consumed materials. The service quality is usually tested and evaluated by professional institutes. In the present study the service quality is evaluated by Trust You Sentiment performance (<https://www.trustyouth.com/products/reputation-management>). The evaluation is based on five elements including the service friendliness, food and beverage, cleanliness, entertainment, hotel maintenance and Wi-Fi. The factors of service friendliness, food and beverage and hotel maintenance are presented in figure 5. The scores distribution patterns remain more or less equal in both hotels since the 2013 with (Fig. 5). However, the quality scores of Hotel A improve in higher rates than the Hotel B throughout the whole studied interval. In stage 1, the quality remained very low for the entire range. In stage 2, the main striking feature of the quality evolution is the significant rise after in 2014 and just before the Russian Plane Crash (Fig. 5). The hotel maintenance has the highest reduction by the event in both hotels and this is even continued in 2016 in hotel B. In stage 3, the quality continues to improve in all elements and these because of the main strategies to restore the hotel reputation. In stage 4, the outbreak of COVID-19 pandemic leads to reduction in quality in both hotels and it increases again in stage 5 (Fig. 5). The reduction of hotel maintenance at the time of crises in stage 2 and 4 in relative to other quality element is explained by the reduction of the cost as one of the common and direct practices of crisis management.

5.3. Evolution of occupancy and total hotel revenue throughout the study interval time

The ultimate target of the hospitality industry is to increase the occupancy and to maintain its rate at the highest levels. In the studied time intervals in both hotels, the market show significant preferential differences, however, the quality is almost similar in both hotels with slight increase in Hotel A. These two facts are strongly reflected on the occupancy and total revenue of both hotels in the studied time interval as well as during and after the crisis. To understand the variation/similarity of the occupancy over time the constrained single linkage cluster analysis was conducted. The resulted dendrogram is confined to the values per each month for each hotel (Fig. 6). To compare the changes between the studied hotels, the occupancy of both hotels is trace in the same bi-plot (7a and b). In addition, time series analysis by autocorrelation is used to express the relative changes (loss and gain) (Fig. 5). The polynomial fit is used for the total revenue to track the changes over time for each hotel (Fig. 7c). In stage 1, the occupancy in Hotel B was more stable than in Hotel A in the beginning (Figs. 5-7). However, the occupancy in Hotel B is subjected to sudden decrease between July and November 2014. This decrease is associated with the outbreak of the Russian – Ukrainian conflict in Crimea and an economic crisis during this time (Timothy, 2019). The Russian – Ukrainian market is essential in Hotel B sales and it was affected significantly by this war. In this stage, the total revenue of Hotel B is much superior to Hotel A and decline only during the time of Russian – Ukrainian conflict but regain the normal occupancy rates soon after until the Russian Plane Crash Crisis (Figs. 5 and 7). Hotel B leads the business in this stage in general in terms of occupancy and revenue (Figs. 5 -6). In stage 2, the Russian Plane Crash Crisis leads to sudden decrease in the occupancy (Fig. 5 and 7). Both Hotels have the same pattern of similarity in the months of the crisis as represented by two sub-clusters in the dendrogram (Fig. 6). The rate of recovery in both hotels in the later stage 3 is higher in Hotel B (Fig. 7). The main notice on the periodicity of the occupancy in both hotels is the presence of High-May/Low-July-August cycle in Hotel B. Despite of higher rate of the occupancy, the total revenue in Hotel B did not recover to the previous values. The total revenue was still higher than Hotel A until the 2018/2019 where it declined beyond the values of this Hotel (Fig. 7c). This is because the Hotel A managed to get higher occupancy at this time from high diversity markets especially the European countries (Figs. 1 and 3). In stage 4, the strike of COVID-19 effect on Hotel A was harder leading to great

decline in the occupancy and total revenue (Figs. 5 and 7). In the stage 5, the rate of recovery from the impact of the crisis was higher in Hotel A and for the first time Hotel A gain constantly higher occupancy and total revenue than Hotel B. This is because the higher diversity in the markets that leads to achieve more sales. As has been discussed earlier, the two hotels survived both crisis and Hotel B managed to survive an additional crisis. Hotel A managed to obtain higher occupancy, total revenue and faster rates of recovery after COVID-19 Crisis. The reason for this is the better application of crisis management practices.

5.4. Evolution of human resources and training

The employee is most important element in the investment and management system especially in the hospitality industry where every process is carried out with one or a group of the staff. The interaction between the employees and customers in the hotel facility is the principal element in its success in business in the present and future. The number of employees is first concern for the management during the crisis time to cut the service cost. This includes either cutting of the employee's benefits or reduces their number. This is by nature has a demoralizing effect on the employees and results in postponing the recovery from crisis impact. Both of Hotel A and Hotel B went over period of staff reduction in number and benefits as it seems as unavoidable policy (Fig. 7). In stage 1, both hotels have one cycle of staff reduction and in September-November 2013 that meets large decrease in the occupancy that affected relatively larger in Hotel A (Fig. 7). However, Hotel A kept with high cost per employee and did not significantly reduce employee's benefit. In stage 2, there were large reductions in employee's number at the time of the Russian Plane Crash and Hotel A reached to minimum (260 employees) in the whole of the studied time interval (Fig. 7) but kept their policy to maintain the employee's benefits (reached maximum 3900 €). In stage 3, both hotels increased their staff numbers and Hotel B reached its maximum (500 employees) at October 2018 (Fig. 7). Nevertheless, Hotel A maintained a balanced policy of increasing staff number and costs and tended to increase their efficiency by constant increase in training budget in rates higher than in Hotel A (Fig. 7). Training is one of the forms of investing in the staff because well trained employees are expected to carry out his in most professional way. The training is added to the costs and is usually is reduced in the time of crisis. In stage 4, both hotels significantly reduced their staff number. Hotel A, in this stage showed remarkable crisis management practices during the COVID-19 crisis. When Hotel B reduced the number of staff, their benefit, and training hours to

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minimum (reached to zero by September 2020), Hotel A kept its balanced policy that did not affect on the staff benefits and morals. In Addition, it invested in the staff training in significant rates (Fig. 7). In stage 5, Hotel A reached the maximum staff number (560 employees) associating maximum occupancy in the after COVID-19 crisis (Fig. 7).

5. 5. Practices of crisis management and successful protocols

The statistical performance analysis indicates initial high performance and revenue in Hotel B that decline throughout time. The occurrence of several crises maybe increased the rate deterioration; however, there is an obvious problem in Hotel B. On the contrary, Hotel A managed to increase its performance and revenue in steady and constant rate until it overcomes these of Hotel B at the end of the studied time interval. The occurrence of crises was an opportunity for this hotel to gain share in the market while the competitors are in their weaken time, in accordance with Kotler (2009) statement 'crisis time can be the best for business'. The mangers of Hotel A achieve better performance in this critical time. To understand the better performance of Hotel A in general and during the crisis time in particular, the data were gathered from two time separated questionnaires (Table 2).

Table 1: Number of participants in hotel and guest surveys from each hotel and their administrative level.

Survey 1: hotel staff		
Administrative level	Hotel	
	A	Hotel B
Executive	8	7
Manager	16	13
Supervisor	47	41
General staff	108	91

Survey 2: Geust							
N:576				Hotel A			
Nationality	Age		Gender		Opinion		
Uzbekistan	67	less than 18	43	Male	298	Very Calm	278
USA	89	18-30	168	Female	278	Calm	202
Switzerland	41	31-40	161			Mixed Feelings	56
Belarus	23	41-50	79			Concerned	17
Kazakhstan	52	Above 50	125			Very Concerned	23
Ukraine	142						
Russia	48						
Czech Republic	73						
Germany	19						
Netherland	22						
N:422				Hotel B			
Nationality	Age		Gender		Opinion		
Lithuania	31	less than 18	21	Male	225	Very Calm	152
USA	74	18-30	111	Female	197	Calm	132
Ireland	50	31-40	125			Mixed Feelings	98
Belarus	18	41-50	57			Concerned	22
Kazakhstan	42	Above 50	108			Very Concerned	18
Ukraine	89						
Russia	68						
Czech Republic	32						
Germany	18						

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Table 2: Practices of crisis management in each questionnaire.

Aspect	Practice number	Practice No.
Marketing	Practice 1	Creating new marketing activities to attract new markets
	Practice 2	Set promotions to all markets to attract business
	Practice 3	Utilize the online booking to maximize revenue
Human resources	Practice 4	Finish the vacation balance
	Practice 5	Focus on the team activities to increase the spirits
	Practice 6	Increase and monitor the training hours and cross training to improve the skills and services
	Practice 7	Share future plans with the teams for motivation and sharing ideas
	Practice 8	Stop hiring new staff/reduce current staff number and benefits
Quality and development	Practice 9	Arrange with the FO& HK the rooms will be under the Ken Fix to ensure guest satisfaction
	Practice 10	Cancel the buffets and run the restaurants by set menus according to the occupancy
	Practice 11	Ensure all services quality
	Practice 12	Ensure effective service recovery pertaining to guests' feedback
	Practice 13	Ensure efficiency of all tasks of the team to avoid guest complaints
	Practice 14	Maintain the hotel image despite the severe consequences
	Practice 15	Check the Expire dates of the products and take action to avoid loss of cost
Financial	Practice 16	Ensure that all sections to follow the maintenance schedule to maintain all equipment
	Practice 17	Ensure the preventive maintenance is as per the schedule
	Practice 18	Minimize the deals with annual maintenance without affecting the operation
	Practice 19	Monitor the consumption of all departments and communicate for solutions to cut waste
	Practice 20	Monitor the operated areas and the using of electricity
	Practice 21	Proper closing of all areas with Engineering team
	Practice 22	Proper closure to all outlets
	Practice 23	Reduce the consumption of electricity by switching off the non needed ACs
	Practice 24	Reduce the consumption of Energy considering the occupancy
	Practice 25	Set up the contingency plan for all sections
Precautionary measures	Practice 26	Strong follow up on the debits of all TO and collect it on time
	Practice 27	Install COVID-19 related items and update websites with safety procedures
	Practice 28	Strict application of Health and hygiene procedures and upgrading based on current situation

Table 3: Results of the questionnaires indicating the importance-usage of crisis management practices in Russian Pane Crash and COVID-19 incidents.

Practice number	Russian Plane Crash Crisis						COVID-19 Crisis					
	Hotel A			Hotel B			Hotel A			Hotel B		
	IMP	Usage	EF.	IMP	Usage	EF.	IMP	Usage	EF.	IMP	Usage	EF.
Practice 1	4.6	4.3	19.6	4.2	4.0	16.8	4.8	4.4	21.1	3.5	3.0	10.2
Practice 2	4.3	4.1	17.4	4.1	3.6	14.8	4.8	4.5	21.1	3.7	3.1	11.5
Practice 3	3.9	3.6	14.0	4.3	4.1	17.6	4.0	3.7	14.6	3.5	3.1	10.5
	85.3	79.3		84.0	78.0		90.3	83.3		70.7	60.7	
Practice 4	4.1	3.5	14.1	4.3	4.1	17.2	4.3	3.6	15.5	4.2	3.7	15.3
Practice 5	4.5	4.3	19.1	2.6	2.0	5.2	4.4	4.0	17.2	3.1	2.6	7.9
Practice 6	4.7	4.4	20.2	2.6	2.5	6.5	4.5	4.1	18.5	3.7	3.3	12.0
Practice 7	4.6	4.2	19.1	2.7	2.4	6.4	4.5	4.3	18.9	2.3	2.2	5.1
Practice 8	3.8	3.5	13.1	4.3	4.0	17.2	3.8	3.1	11.6	4.3	3.7	15.7
	86.4	78.8		65.6	59.8		85.4	76.0		70.0	61.6	
Practice 9	4.2	4.0	16.6	3.5	3.0	10.5	4.4	3.8	16.3	3.8	3.2	11.8
Practice 10	3.6	2.6	9.2	4.5	4.0	17.8	3.7	3.3	12.0	4.2	3.6	14.9
Practice 11	4.7	4.5	20.9	3.5	2.8	9.6	4.7	4.4	20.2	4.0	3.7	14.6
Practice 12	4.2	4.0	16.6	3.1	2.4	7.4	4.6	4.1	18.9	2.9	2.6	7.5
Practice 13	4.4	4.1	18.0	4.2	4.0	16.6	4.5	4.3	19.1	3.7	3.4	12.2
Practice 14	4.5	4.2	18.7	3.8	2.8	10.5	4.1	3.6	14.8	3.4	3.0	10.2
	84.8	77.7		75.0	63.0		86.2	77.8		72.7	64.7	
Practice 15	4.4	4.1	17.8	3.3	2.6	8.6	3.7	3.5	12.8	3.6	3.3	11.5
Practice 16	4.1	3.8	15.4	3.6	3.1	11.0	4.5	3.9	17.4	3.4	2.3	7.7
Practice 17	4.3	3.6	15.3	3.8	3.3	12.4	4.5	3.9	17.4	2.9	2.5	7.0
Practice 18	4.4	3.9	17.2	4.2	4.0	16.6	4.0	3.6	14.2	3.4	2.9	9.9
Practice 19	4.1	3.8	15.6	3.7	3.6	13.3	3.2	2.0	6.3	3.8	3.5	13.1
Practice 20	3.1	2.9	9.0	4.0	3.6	14.4	3.5	3.1	10.7	3.1	2.5	7.6
Practice 21	3.5	3.2	10.9	2.6	2.1	5.5	3.6	3.0	10.8	2.2	1.8	3.8

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Table 3: Continue.

Practice 22	3.7	3.5	12.8	3.4	2.6	8.7	3.2	2.6	8.2	1.9	1.6	2.9
Practice 23	4.1	3.7	15.0	3.8	3.3	12.5	3.8	3.5	13.1	2.6	2.4	6.2
Practice 24	3.8	3.5	12.9	3.3	3.0	9.6	3.7	3.5	13.0	3.2	2.6	8.2
Practice 25	3.7	3.5	12.6	4.0	3.7	14.6	4.2	0.4	1.5	2.9	2.4	6.7
Practice 26	4.1	3.7	15.0	4.1	3.7	15.0	4.1	3.7	15.2	3.8	3.4	12.9
	78.3	71.5		72.6	64.1		76.3	60.8		60.8	51.4	
Practice 27							4.3	3.5	15.1	4.2	3.6	15.1
Practice 28							3.7	3.4	12.6	2.6	2.1	5.5
							80.0	69.0		68.0	57.0	
	Iden.	Perf.		Iden.	Perf.		Iden.	Perf.		Iden.	Perf.	
	82.2	75.2	406.1	73.1	64.6	316.2	81.8	70.2	407.8	66.6	57.5	277.7
T-test	-0.0003	-0.0004	0.0003	-0.0002	0.00006	-0.37013	0.0002	-0.0002	0	-0.0003	0.0002	0
ANOVA	Hotel A											
	IMP.	Usage	E.F.				IMP.	Usage	E.F.			
F test=	10.89	11.74	11.3				25.93	10.63	18.01			
df=	44.41	43.93	47.25				49.13	49.17	51.64			
p=	0.002	0.001	0.002				0.0005	0.002	0.0009			

The results indicate that Hotel A outperformed Hotel B in most of the aspects (Table 3). The difference in awareness with the importance of the crisis management practices is not large between both hotels but is higher in Hotel A than Hotel B (Table 3). The awareness is in higher in case of the Russian Plane Crash than in case of COVID-19, maybe because of the first had a direct effect on Egyptian tourism. Hotel A has 82% identification of practices and Hotel B has 73% during the Russian Plane C rash but the performance is 75% in Hotel A and only 64 % in Hotel B (Table 3). This resulted in higher total efficiency in Hotel A (406) than this in Hotel B (300). From the distribution of the identification and performance throughout the different aspects, the highest difference is in quality and development where it is 86 and 78 % in Hotel A and 65% and 59% in Hotel B as well as human resources and training where it reached 84% and 77% in Hotel A and 75% and 63% in Hotel B (Table 3). These differences continue throughout the COVID-19 crisis (Table 3). This indicates the beliefs of Hotel A managers who were keen to develop the skills and capabilities of their staff and supporting their morals during and after the crisis. The gap in the identification (Hotel A 81% and Hotel B 66%) and performance (Hotel A 70% and Hotel B 57%) increases largely and the efficiency still in the favor of Hotel A (407) more than Hotel B (277). The differences in the human resources and training (Hotel A 85% and Hotel B 70%) and quality and development (Hotel A 86% and Hotel B 72%) (Table 3). In addition, Hotel A reached to higher level in marketing (identification 90%, performance 83) more than Hotel B (identification 70 % and performance 60%) (Table 3). In the precautionary measures relate to COVID-19, Hotel A is also has higher identification (80%) and performance (69%) than Hotel B (68% and 57%).

Guest survey is conducted to measure their satisfaction with their visit in both hotels (Table 1). The survey contained one essential question is to determine the degree of satisfaction from very concerned to very calm in five categories scale. The survey is conducted in stage 5 (recovery from COVID-19 crisis. This period represent the highest performance of Hotel A. The survey covers most of the customer ages, genders and nationalities (Table 1). The survey shows large satisfaction

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percentage in Hotel A (very calm 48%), while in Hotel the frequency in very cal category decline to 36% with larger increase in the category of mixed filings (23%) (Fig. 8). This indicates the general higher satisfaction in Hotel A. This is because of the better services, cleanness and higher level of professional employees achieved in Hotel A.

Despite that Hotel B achieved better revenue than hotel over early and middle stages of the studied time period, there was constant decline that amplified with occurrences of crisis. The management policy in this Hotel was always keen to maintain revenue at high levels by reduction in staff number (practice 8) and cutting their benefits leading to decrease of their staff training and morals. They also have lesser efficiency in maintaining the quality and development of their services (practices 9-14) also to lower the costs of operation. On the other hand, managers of Hotel A achieved lower revenue and occupancy than Hotel B in the early stages. Afterward, their revenue became constant over middle stages because they improved the quality (practices 9-14) as well as training and morals (practices 4-7) of their staff. The lower revenue even during COVID-19 crisis is not a reliable indicator for their performance as they were preparing for the after crisis stage and kept going with supporting their staff and improving their quality. Managers of Hotel A executed a long term plan for branding their services. The brand was a very successful strategy in the Egyptian hospitality industry due to its cultural heritage that is a blend of pharaonic, Arabic and Middle Eastern. This brand is unbeatable privilege in attracting tourist (Parnell and Hatem, 1999). Managers of Hotel A managed to re-establish their brand especially after the crisis and reintroduced themselves to the market by providing higher quality services. This gave them the marketing advantage to accomplish sales in higher diversity markets and fulfill the needs of different customer taste. Despite that the branding process continued for 8 years, at the end of the studied interval, the sum of high management efficiency in normal and crisis times lead outperformance of Hotel A over Hotel B.

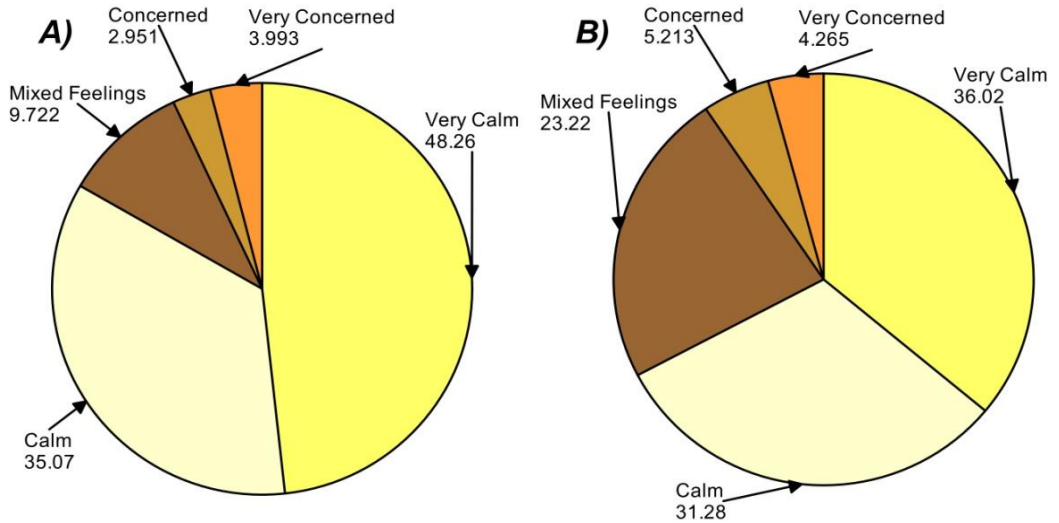


Fig. 8: Distribution of the frequencies of guest opinions in both hotels. A) Hotel A, B) Hotel B.

5.6. Implications of the future crisis management studies

The future studies must include the developing of statistical models for the evolution of the crisis management practices. The statistical modeling will be based on the time series different variables including the occupancy and total revenue with the quality and staff parameters. Such studies will increase the ability to forecast the relative long run changes in the business to decrease its effect on the investments.

Conclusions and recommendations

The financial and administrative data from two of hotels (A and B) has been collected between January 2013 and December 2021 and statistically analyzed by time series/autocorrelation and constrained single linkage algorithms. The autocorrelation is used to differentiate the evolution of both hotels throughout time. The analysis is used to discriminate the studied time interval into five stages that included

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Stage 1: Recovery from Egyptian 2011 Revolution turmoil (2013-2015), Stage 2: Russian Plane Crash (2015-2016), Stage 3: stable recovery from the Chaos (2017-2020), Stage 4: COVID-19 pandemic (2020) and Stage 5: recovery from COVID-19 pandemic. Each of these stages is characterized by a group of financial features and challenges that affected the path of the investment in both hotels. The analysis indicated that Hotel A kept higher efficiency and better performance than this of Hotel B during and managed to have higher revenue after the strike COVID-19 crisis. The importance-usage questionnaires that were collected from managers and staff members of both hotels about the crisis management practices during and after the incidents of Russian Plane Crash and COVID-19, explained the analysis of the financial data and revealed better efficiency and performance of Hotel A in practices of quality and development, marketing and human resources and training. This indicates that managers of Hotel A had a long-term plan to brand their hotel name that helped them to recover in a faster rate than Hotel B in more diverse markets. A number of recommendations can be configured from these study cases that can help managers to run their business in any of the future crises.

- 1) Diversity of the markets is one essential practice that guarantees speed recovery from the effect of the crisis and in general to the business
- 2) It is vital to the business to analyze the chronological changes in number of the customers and sales to predict the times for their potential increase and decrease. In addition to understand the customers' taste and their favorite times to visit the hotels.
- 3) Continuous development of the staff skill by training is fundamental to fulfill higher levels of quality and performance during the normal and crisis times. The training is a must even during the crisis time to keep the quality standard and to recover quickly after the crisis.
- 4) Although the reduction of employee number is unavoidable during the crisis time, it is necessary to keep their benefits during the crisis time to maintain their high morals.
- 5) Quality and development are priority during normal and crisis time

and they are vital to recover from the crisis and to advance in the business on the long term.

6) Long term plans for building up a brand name for the hotels should not be affected by the lower revenues in the beginning and the most important is to have a permanent relation with customers.

7) More comparative studies are required to emphasize the importance to incorporate the crisis management practices in the long term executive plans.

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تأثير سقوط الطائرة الروسية ووباء كوفيد-19 على تطور صناعة الفنادق في مصر منذ عام 2013: دراسة واقعية على تطبيقات ادارة الازمات

المستخلص

تعرضت صناعة الضيافة المصرية للعديد من التحديات والأزمات طوال فترات ما بعد الثورة المصرية عام 2011. أدت أعمال الشغب وعدم الاستقرار إلى العديد من الحوادث التي كان لها تأثير مباشر على السياحة وخاصة الأنشطة الترفيهية في شرم الشيخ. هذا بالإضافة إلى تفشي مرض كوفيد-19 في عام 2020 وما ترتب عليه من تداعيات على النقل والاقتصاد العالمي. تتطلب هذه التحديات ممارسات إدارة الأزمات التي تسمح بمرور الأوقات الصعبة مع الحد الأدنى من الأضرار وانقاذ الاستثمار. تحلل هذه الدراسة البيانات المالية والإدارية الشهرية في فندقين (A و B) يقعان في شرم الشيخ في الفترة الزمنية من يناير 2013 إلى ديسمبر 2020. وكشف التحليل عن طريق التحليل العنقودي المقيد للربط الفردي (Constrained single linkage cluster analysis) عن التشابه بين الحالات في الأشهر المتتالية وسمح بالتعرف على خمس مراحل في الفترة الزمنية المدروسة. هذه المراحل هي المرحلة 1: التعافي من اضطرابات ثورة يناير 2011 المصرية (2013-2015)، المرحلة 2: سقوط الطائرة الروسية (2015-2016)، المرحلة 3: التعافي المستقر من الفوضى (2017-2020)، المرحلة 4: COVID-19 الوباء (2020) والمرحلة 5: التعافي من جائحة COVID-19. كل مرحلة م هذه المراحل لها بعض الخصائص المالية والإدارية التي أثرت على مسارات كلا الفندقين. أشار التحليل إلى أن الفندق A حافظ على كفاءة أعلى وأداء أفضل من فندق B أثناء ذلك وتمكن من تحقيق إيرادات أعلى بعد أزمة COVID-19. يتم استخدام الارتباط التلقائي (Autocorrelation) للتمييز بين تطور كلا الفندقين على مدار الوقت. كشف التحليل عن قيادة الفندق B في المراحل المبكرة من الإشغال وإجمالي الإيرادات والانخفاض المستمر في المرحلة اللاحقة بدءًا من تحطم الطائرة الروسية في المرحلة 2. على العكس من ذلك، حقق الفندق A إيرادات أقل باستمرار في المراحل المبكرة وأخيراً يتفوق على الفندق B بعد المرحلة 5. حدث هذا لأن مديري الفندق A التزموا بممارسات الإدارة بما في ذلك الحفاظ على جودة وتطوير فنادقهم بالإضافة إلى زيادة مهارات الموظفين في خطة طويلة الأجل لعمل اسم العلامة التجارية. وقد منحهم ذلك ميزة تحقيق مبيعات في أسواق ذات تنوع أعلى. تم تأكيد هذا الأداء من خلال استبيان أهمية الاستخدام لممارسات إدارة الأزمات في كلا الفندقين والذي أشار إلى كفاءة أعلى في الفندق A. وكشفت الدراسة أن نجاح تطبيقات إدارة الأزمات هو انعكاس لخطة الإدارة طويلة المدى وأهدافها بشكل عام.