The influence of Service Quality on Quests in Hotel during Covid-19 outbreak.

Abstract:

The current study aimed to identify the factors affects guests to book the hotel during Covid-19 outbreak. The model was constructed through a two stage of qualitative and quantitative process. The expert panel was selected to identify the health service factors in hotel. 362 questionnaires were collected from the quests of 4- and 5-star hotels in Mashhad. Data were analysis by SPSS and Amos. The results showed that disinfected room, proper ventilation, uncrowded place, food hygiene, checking the guests, speeding up the process, and hygienic staff were affect quests to visit and stay in the hotel. These dimensions called as HEL_SERV model.

Keywords: Service Quality, COVID 19, Hotel, Quests, HEL-SERV

- **Introduction**

As a massive category of viruses, Coronavirus was primarily discovered in the 1960s when influencing the human being (Layqah & Eissa, 2019). It is acknowledged that a certain new kind of coronavirus is the cause of COVID-19 which is known as a respiratory infection. The disease results on such symptoms as temperature, cough, problematic breathing, respiratory problems, as well as pneumonia after 2–14 days as a latent period. Moreover, scarcely does it happen as an asymptomatic infection (CDC, 2020; Naseer et al., 2023).

Having caught the disease, the ones who would suffer severe problems include the ageing ones as well as the individuals with principal medical conditions. These include cardiovascular diseases, chronic respiratory diseases, diabetes, and cancer (WHO, 2020a). The other COVID-19-related health problems experienced by the individuals are (1) insomnia, (2) anxiety and anger, (3) headaches, as well as indigestion, nausea and palpitations, and finally (4) recalling undesirable memories (KCDC, 2020). The first case of COVID-19 was admitted to be in China in 2019. By August 20th 2021, a sum of 209,876,613 cases had been confirmed, together with 4,400,284 deaths globally (WHO, 2020b).

Nevertheless, certain protocols have been suggested to prevent the COVID-19 outbreak, as follows: the hands need to be washed with soap in running water, one's mouth and nose need to be covered using clothing in case of cough or sneeze, contacts with the ones having the symptoms such as fever and respiratory symptoms need to be avoided as much as possible, gauze masks are to be worn, and finally the people need to avoid places abundant with individuals (WHO, 2020c).

It was reported that in April 2020, due to COVID-19 outbreak, 48% of American travelers canceled their trips altogether, and 43% reduced their itineraries and trip plans (Shin & kang, 2020). Meanwhile, China's hotel industry lost revenue of beyond

67 billion Yuan (approximately $ 9.44 billion), while hotel occupancy dropped conspicuously from 70% to 80%, and an average of 72.29% of the hotels in China were closed for 27 days in January and February 2020 (Hao, Xiao, & Chon, 2020, lee et al., 2024).

It is of note that the reduction in the quantity of international travelers in 2020 which was experienced due to COVID-19 outbreak resulted in a noticeable loss varying from $300 to $500 billion while it was found that the Asia-Pacific region was affected with the most dramatic complications. The quantity of hotel guests has principally plummeted to a significant level. Apart from the above-mentioned issues, the fact is that the hoteliers in this industry fundamentally do not know much on how to deal with the pandemic (Yu, Lee, & Hyun, 2021).

It is well-agreed that the persistent presence of the hotel guests is a crucial factor for the survival of hotels. Yet, because the hotels are used by diverse groups in terms of race, nationality, age and culture, they can be quickly affected by an epidemic of diseases such as COVID-19 (Yu, Lee, & Hyun, 2021). Thus, prevalence of such diseases as Severe Acute Respiratory Syndrome (SARS), Ebola Virus Disease (EVD), Zika Virus Disease (ZIKV), and COVID-19 highlights the dire need to develop integrated national and international strategies to improve the tourism crisis.

Bearing this in mind, this study aims to reassure guests during such pandemics by examining the services that hotels can provide, especially during the COVID-19 outbreak.

- **Literature Review**

Safety and health stand as the most significant features of any tourist destination (Chen et al., 2023; Atadil & Lu, 2021). Meanwhile, it is witnessed that throughout the past few decades, the global tourism industry has been influenced adversely by a number of crises and disasters, such as terrorist acts, epidemics, hurricanes or tsunamis, floods, fires, environmental threats, as well as the recessions, implying that this industry has not been spared of such threats (Demeter, Walters, & Mair, 2021). In such circumstances, it is normal for the guests to expect the tourism managers, comprising the hotel managers, to adopt and take prompt appropriate strategies with the event of a disaster or crisis so that at the end their safety will be maintained. In return, tourism managers are expected to cognize their guests of the threat, while providing adequate instructions in relation to the safety of the visitors. In line with this, academic research has also laid emphasis on recognizing diverse crises and providing practical solutions in order to manage such calamities (Atadil & Lu, 2021).

In the travel and hospitality industries, failure in providing quality services is commonly caused by numerous factors including negligence, customer-related factors and uncontrolled factors (Kandampully & Solnet, 2015; NasarAmini Jeloudarlou et al., 2022). In face of such threats, the managers are required to adopt the appropriate measures. In this context, in order to provide quality services to all the hotel guests, different models of service quality have been introduced which offer suitable practical solutions to maintain quality services for the guests. These models include

LODGQUAL, SERVPERF, SERVQUAL and LODGSERV (Keshavarz et al., 2019). Indeed, offering quality service could preclude the negligence among the service provider, contributing to the guest's satisfaction concerning the quality of hotel services (Keshavarz, & Jamshidi, 2018). The most important variables studied in the above models in the hotels include tangibles, reliability, responsiveness, assurance, and empathy, which have been confirmed in most previously conducted research (Ezeh, Okeke, & Nkamnebe, 2021; Moro, Lopes, Esmerado, & Botelho, 2020). Apart from that, other variables such as convenience, valence, waiting time, as well as sociability have been also acknowledged by other authors as dimensions of service quality (Keshavarz, & Jamshidi, 2018; keshavarz, et al., 2019).

It is of note that the variables affecting service quality in out of control crises like COVID-19 have not been yet fully-recognized, implying that such variables can be scrutinized widely by applying appropriate models. According to the research results, published prior to this study, the role of service quality in the success of the hotel industry is incontrovertible (Akbaba, 2006) and service quality related to health and preventive measures during COVID-19 in the hotels can influence the customer behavior (Kunchomsirimongkol, 2020). Indeed, hotel customers do have a short-term experience in relation to the hotel services and products and react instantaneously to such services and products. Consequently, the hygiene of the hotel products and services is a pivotal factor influencing the customers' perceived service quality as well as their satisfaction, trust, loyalty, and the intention to return. It also mirrors the image of the hotel and thus lessen the costs while correspondingly increasing the business performance. Needless to say that the companies having high quality goods and services have higher market share, profits and asset turnover (Yu et al, 2021 & Keshavarz, et al., 2019).

Based on the cognitive appraisal theory, the customer's response to an event is consistent with a cognition-emotion-behavior model (Breitsohl & Garrod, 2016) which is able to be used as a model for tourists' reactions during an epidemic. On the word of Barber & scarcelli (2010), hotel's hygiene stands as an imperative factor for the quality of the physical environment that is perceived by the customers and influences their trust and intention to return. As such, it is highly vital that the guests perceive the hotel's cleanliness in the face of COVID-19 pandemic. Travelers attempt to stay in hotels that offer hygienic accommodation services and products (Atadil & Lu, 2021). Since the surfaces as well as air conditioners in the hotels are likely to be potential sources of virus transmission, hoteliers are expected to conduct regular health surveillance in relation to the facilities in compliance with the manuals (Jiang, & Wen, 2020). In practice, the entire hotel sections need to be committed to implementation of the safety and health protocols while having high standards housekeeping, which can in turn diminish pathogens in the hotel (Hung, Mark, Yeung, Chan, Graham, 2018).

Interestingly enough, in a previous research exploring the same diseases such as SARS, in which environmental sampling had been performed on some parts of the hotel including the corridor carpets and the elevators, it was reported that the SARS virus was observed on the surfaces even three months after a suspect-to-SARS guest had left the hotel. Consequently, there was a need to provide significant practical

instructions to the hotel staff to follow health protocols to prevent this disease (WHO, 2018).

The results in a research by Wong, Kim, Kim, and Han (2021) revealed that even the hotel staff's perceptions of occupational stressors and their consequences contrasted significantly pre and post COVID-19. As such, the post COVID-19 stressors were traditional hotel management factors, unstable work environment factors, and fatiguing factors of the hotel staff's changing behavior. Due to high costs of hotels and low revenues during the COVID-19 epidemic, hotels were forced to send workers on unpaid leave and procrastinate office and system maintenance (Lai, & Wong, 2020).

By taking into account the results of all these studies, hotel managers are recommended to lay a great emphasis on hygiene and health-related factors to prevent the spread of coronavirus among the guests while prioritizing the health and safety of the guests (Grand, 2016; Hung et al., 2018; Jiang, & Wen, 2020; Atadil & Lu, 2021). Based on the past research, there exists a significant difference between managers and guests in perceiving the hotel safety and health (Chan & Lam, 2013). As such, Atadil and Lu (2021) have introduced four variables as important dimensions of the guest's perception concerning the hotel health and hygiene, including Medical Preparedness, Hygiene Control, Health Communication, and Self-service Technology. Likewise, Wachyuni and Kusumaningrum (2020) have considered safety and cleanliness while Wen et al. (2020) considered hygiene and cleanliness as the factors influencing the guest's choice.

Kim, Chen and Lee (2005) also considered hygiene equipment and educated employees as important factors in maintaining the health of the hotel guests. Moreover, Jiang and Wen (2020) claimed that by regular health surveillance in the facilities through manual methods (i.e. staff round) and automated methods, hotels reveal their commitment to compliance with safety and health protocols and high standards of housekeeping. In addition, Shin and Kang (2020) found that for two reasons, implementing the technological innovations can improve guests' perception of safety and reduce their anxiety level in the hotel. Not only can technological innovation minimize the interactions between the employees and the customers, but also it can be used as an advanced tool for hotel cleanliness. Some hotels have taken measures as a way to combat the pandemic including complete disinfection, food hygiene control, distribution of gauze masks, providing online medical advice, diagnosing the health of the customers and the staff, as well as shutting down all the laundry rooms, gyms, and other public places and facilities. Meanwhile, the guests were invited and welcomed to monitor these measures in order to ultimately win their trust (Hao et al., 2020). Moreover, as stated by Fung, Tsui and Hon (2020), constantly checking the temperature of the guests and staff, requiring guests to complete a health declaration, and planning to send the suspect-to-disease guests to the hospital rapidly could be considered as the measures to reduce guests' anxiety when staying in a hotel.

- **Methodology**

Previous research findings have exhibited that when providing service quality during the COVID-19 epidemic, different variables are effective; yet, there is a dearth of

research to this date on presenting all of these variables as a model. Consequently, this study was established with the objective of identifying the variables related to quality of hotel services during the pandemic in the form of a model. This research is descriptive while being both qualitative and quantitative in nature.

Through the qualitative stage, the initial variables of this research were evaluated and analyzed by the panel of expert in three steps. It is of note that a number of 10 hotel managers and 5 internal managers working in four-star and five-star hotels in Mashhad, along with 4 university professors in the field of tourism and hospitality were willing to participate in this research and were selected as the expert panel. The mentioned expert panel was given the variables selected from the previous research and was asked to elaborate on the desired items and add their desired items as well. In the first step, 62 items were considered by the panel of experts as the factors influencing the quality of services during the Covid-19 crisis in hotels. During the second step, the mentioned modified items were provided to the panel of experts to reanalyze and reassess the items. Subsequently, the items were reduced to 42 items by reexamining the variables and merging some others. Through the third step, all the 42 items were approved by reviewing and prioritizing the factors done by the panel of the experts.

Afterwards, the quantitative stage was conducted in which 42 questions obtained from the qualitative stage were distributed via emails to 461 guests in 4 and 5 star hotels who were staying in these hotels during the Covid-19 outbreak in Mashhad, Iran. The reason why the hotels in Mashhad were selected in this study is that this is the city where more than 50% of the Iranian 4- and 5-star hotels are located. According to the number of the guests in 4 and 5 star hotels in Mashhad, and based on the Krejcie and Morgan table, 384 guests were drawn from the accessible population as the study sample. Considering the ratio of the total guests in the hotels, of which 64% were staying in 4-star hotels whereas 36% were in 5-star hotels, and consistent with Fincham (2008) considering a sample size of 1.2 to draw the sample, finally a total number of 461 emails were sent out to the selected hotel guests, of which 295 were in 4-star hotels while 166 were in 5-star hotels. These questionnaires were distributed between May and June 1400 and of the total distributed questionnaires, 375 questionnaires were completed and returned, of which 362 were found to be valid and were thus used for statistical analysis.

The data obtained via the above questionnaires were initially analyzed using SPSS Version 25 to identify the variables through the exploratory factor analysis (EFA). Examining the correlation matrix revealed that significant values of the correlation are greater than 0.33, implying that this matrix would be suitable for factorization. Also, the Sampling Adequacy was assessed based on the Bartlett's test of sphericity using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, obtaining the value of 0.966, which denotes the suitability of the data volume to analyze the main components. The result of the Bartlett's test was also statistically significant, concluding that the covariance between the items proposed to measure the main research model is good enough to extract at least one factor.

The second stage in the EFA involves recognizing the share of the set of factors in determining the variance of each variable, identified as commonalities whereas the

third stage deals with the questionnaire to determine the contribution of each factor in determining the total variance of all the items. Accordingly, it was found that while 6 items had to be discarded and eliminated as they failed to obtain the corresponding values in the data analysis, the other 42 items could be also reduced to 36. Then by this set of 36 items, a new structure can be designed based on the factors, using them for the purpose of analysis.

According to the eigenvalues, 7 variables were expected to be extracted because their eigenvalues were greater than 1. These 7 components explain a total of 81.96 per cent of the variance. Table 1 demonstrates the extracted factors along with the eigenvalues, percentage of variance and percentage of cumulative variance.

Table 1: Exploratory factor analysis of the preliminary HEL-SERV scale

	Component						
	1	2	3	4	5	6	7
VAR00005	.921						
VAR00003	.909						
VAR00004	.899						
VAR00001	.899						
VAR00006	.889						
VAR00007	.883						
VAR00002	.883						
VAR00008		.903					
VAR00014		.893					
VAR00009		.892					
VAR00013		.882					
VAR00012		.873					
VAR00011		.873					
VAR00010		.872					
VAR00018			.910				
VAR00020			.902				
VAR00016			.901				
VAR00019			.899				
VAR00017			.898				
VAR00015			.894				
VAR00024				.911			
VAR00021				.909			
VAR00023				.903			
VAR00022				.898			
VAR00025				.895			
VAR00029					.932		
VAR00027					.921		
VAR00028					.909		

VAR00026					.908		
VAR00032						.924	
VAR00031						.918	
VAR00030						.917	
VAR00033						.916	
VAR00036							.912
VAR00035							.909
VAR00034							.904
Variance	5.794	5.636	4.917	4.131	3.535	3.201	2.292

KMO=.896, Bartlett test of Sphericity =12222.275(P=0.000), variance of six factors=81.960%

The fourth stage of factor analysis is to identify the correlation matrix between the items and the factors and to categorize each item in each factor. In order to interpret the correlation between the items and the factors, the Varimax correlation matrix Table was used. The final results of these steps are presented in Table 2.

Table 2: Correlation coefficients between each dimension of the HEL-SERV scale

Component	1	2	3	4	5	6	7
1	.788	.508	-.315	.119	-.043	-.071	-.017
2	.575	-.720	.327	.186	.042	.029	.081
3	.075	.453	.820	-.063	.281	.127	.134
4	-.207	.088	-.037	.933	.174	-.087	.198
5	.024	-.056	-.313	-.083	.520	.746	.254
6	-.013	.080	.137	.198	-.745	.616	-.033
7	-.009	.006	-.055	-.173	-.249	-.185	.933

- **Results**

It was found that the calculated Skewness and Kurtosis values of all the items are in the range of +3 and -3, implying that the remaining data for the analysis of the proposed model is normal and valid. Moreover, the correlation between all the dimensions of the HEL-SERV (abbreviation given by the authors) was less than 0.85. In addition, it was acknowledged that the VIF of the seven dimensions of the HEL-SERV structure is less than 10 and their tolerance is more than 0.1. This implies that the dimensions are non-aligned and removing any of these dimensions would be unnecessary.

After determining and categorizing the items in the EFA, Amos V.24 was employed to analyze the model design through structural equation modeling (SEM).

The normalized Chi-square index (CMIN / DF) was equal to 1.06 and the other indices including the Comparative Fit Index (CFI) had a value of 0.997 while Root Mean

Square Error of Approximation (RMSEA) was 0.013. This indicates that the data was successfully consistent with the proposed model and the model fits well. Figure 1 displays the final model designed based on the data analysis of this research.

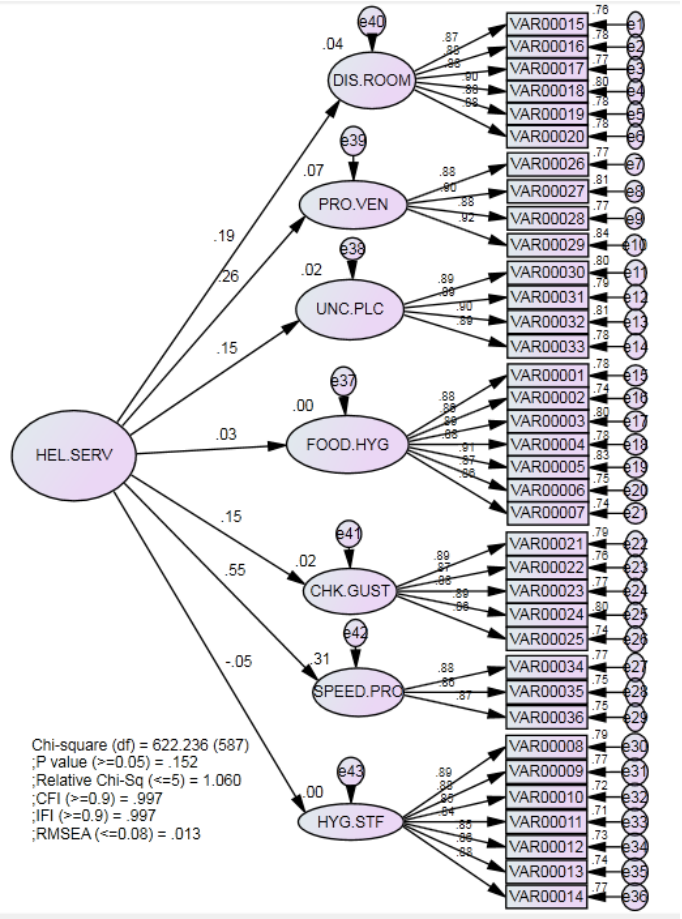

Figure 1: the structural model of the HEL-SERV scale

Table 3 shows the confirmatory factor analysis information. The Combined Reliability (CR) of these seven dimensions is between 0.83 and 0.86 and also the Average variance extracted (AVE) is between 0.74 and 0.79, which is above the acceptable threshold. Therefore, this structure can be used in the structural model to analyze and assess the proposed model.

Table 3: the confirmatory factor analysis of the HEL-SERV scale

Variables	Items	Loading	CR	AVE
disinfected room	Var15	.87	.857	.778
	Var16	.88		
	Var17	.88		
	Var18	.90		
	Var19	.88		
	Var20	.88		
proper ventilation	Var26	.88	.801	.797
	Var27	.90		
	Var28	.88		

	Var29	.92		
uncrowded place	Var30	.89	.800	.795
	Var31	.89		
	Var32	.90		
	Var33	.89		
food hygiene	Var1	.88	.875	.774
	Var2	.86		
	Var3	.89		
	Var4	.88		
	Var5	.91		
	Var6	.87		
	Var7	.86		
checking the guests	Var21	.89	.833	.772
	Var22	.87		
	Var23	.88		
	Var24	.89		
	Var25	.86		
speeding up the process	Var34	.88	.751	.757
	Var35	.86		
	Var36	.87		
hygienic staff	Var8	.89	.875	.747
	Var9	.88		
	Var10	.85		
	Var11	.84		
	Var12	.85		
	Var13	.86		
	Var14	.88		

- **Discussion and Conclusion**

On 30 January 2020, World Health Organization (WHO) announced the outbreak of the COVID-19 and declared a public health emergency. As such, millions of lives worldwide have undergone sever changes and the governments around the world have imposed travel restrictions in an effort to prevent the virus. This scenario has dramatically impaired the tourism and hotel industry. Meanwhile the hotel industry which is among the sectors of the tourism industry, has encountered many problems during the COVID-19 outbreak. It is reported that the global pandemic has cut down on the number of hotel guests. Moreover, a conspicuous number of these hotels had been forced to lay off their staff and in some case they were even forced to completely shut down the hotel. In addition to government regulations, one of the main concerns of hotel guests is whether corona-related hygiene is observed in the hotels or not. Bearing all this in mind, this study was an attempt to determine the factors making the guests more willing to stay in a hotel during COVID-19 outbreak.

Based on the type of the research questions, this research was qualitative and quantitative in nature. First, the related literature was reviewed in order to identify the items effective in the quality of hotel services during the other epidemics such as

Severe Acute Respiratory Syndrome (SARS), Ebola Virus Disease (EVD), Zika Virus Disease (ZIKV), and COVID-19 reported by other studies (such as Chien & Lam, 2013; Yu, Lee, & Hyun, 2021; Hao et al, 2020; Fung, Tsui & Hon, 2020).

The next step was to form the panel of expert, who assisted in consultation in relation to the items related to the question. After multiple analyses and assessments, 42 items were identified for the study. The obtained items were first tested by pre-test by recruiting 30 respondents to test for the normality. After gaining the normality, the obtained questionnaire was distributed among the guests staying in four and five star hotels in Mashhad. Having reviewed the valid questionnaires through exploratory factor analysis (EFA) using the SPSS, seven variables were identified as the dimensions of the HEL-SERV model, which was confirmed by Structural equation modeling in the Amos V.24. What follows is a discussion on the proposed model and its dimensions.

The HEL-SERV model has seven dimensions as follows: disinfected room, proper ventilation, uncrowded place, food hygiene, checking the guests, speeding up the process, and the hygienic staff.

The Disinfected room is one of the dimensions of the HEL-SERV which was confirmed in this study. The variable itself was measured via 6 items. The first question of this variable was "not using the room at least 5 hours after the previous guest checked out". Therefore, as the hotel guests posited, rapid check-in of the new guest after check-out can cause COVID-19. Consequently, hotel managers must have the necessary planning to delay the check-in process after the check-out by the previous guest. The second variable of the disinfected room is "disinfecting the room after the guest checks out", which was reported by the guests to have a great impact on the quality of health services. The items "hygienic packaging of personal items in the room, towels and bedding", "allocation of a separate floor for guests suspected of Covid-19", "laundry hygiene program to disinfect towels and bed sheets" as well as the "removal of the room key card" were the other items that were approved by the guests. Similar studies (Yu, Lee, & Hyun, 2021; Jiang & Wen, 2020) have shown that guests' worries about staying in a hotel can be reduced and alleviated by guests' fear of re-entering the hotel due to the outbreak and adherence to hygiene protocols in room cleaning. Our research finding is also in line with the research studies conducted by Wachyuni and Kusumaningrum (2020) and Wen et al. (2020) in which safety and cleanliness and hygiene and cleanliness were respectively considered as the factors effective in adhering to hotel hygiene protocols, as asserted by the guests in their studies.

The second dimension studied in this model was the proper ventilation which had four items affecting the HEL-SERV structure. The items related to this structure include "installation and use of proper ventilation", "further use of the hotel's open spaces", "leaving the doors and windows of the public areas of the hotel open", and "restrictions on using the pool and sports facilities". According to what the medical practitioners have acknowledged regarding the reduction of the virus infection via proper ventilation of the environment, such an assertion had been addressed by the guests participating in this study. Shin and Kang (2020) assume that since technological innovation can reduce guests' concerns about the spread of the disease, air conditioning technology could be used in the polluted environments in the hotels. Kim, Chen and Lee (2005) also consider the hygiene equipment as one means of maintaining the hotel hygiene.

The third dimension considered in this model was the uncrowded place, which was also confirmed by four items. Indeed, this dimension has been considered by the hotel guests because of frequent health recommendations posed by the experts in relation to observing the social distance. Items such as "Planning for the elevators to be uncrowded while being secluded to have no stops on all the other floors", "arrangement of the tables in the restaurant and coffee shop to be away from each other ", "prolonging the time for serving the food in the restaurant " and "distributing the guests in the hotel rooms in a way to keep the environment uncrowded". The results of this dimension are congruent with that of Atadil & Lu' (2021), recognizing the Hygiene Control and Health Communication as the two variables influential on the guest perception in observing the hotel hygiene protocols. Moreover, our finding here is in line with the recommendations posited by the WHO experts, pinpointing that that one of the paramount factors in the spread of coronavirus is the lack of social distancing (WHO, 2020c).

The fourth dimension of the HEL-SERV structure was the food hygiene. Since previous research had proven that the patrons cast attention on the food health (Hao et al, 2020), in line with this, food hygiene with 7 items was confirmed as one of the dimensions of the HEL-SERV. The items on food hygiene include "Supervision of hygienic cooking and packaging of the food", "Distribution of the food by the restaurant host", "further use of room service instead of serving the food in the restaurant", "Use of food menus appropriate to be used during the outbreak" "Using a trolley with a cover to carry the guest food", "Hygienic packaging of the eating utensils (spoons, forks, knives, plates, etc.)", and "Using a buffet shield". The results are in line with some previous research. For instance, Atadil & Lu, (2021) introduces the self-service technology as an important dimension of the guest perception in hotel health, which can also be considered in hygienic distribution of the food. Moreover, Hao et al. (2020) consider food hygiene as a means to win the guests' trust in the hotel.

Another dimension was checking the guests, which has been confirmed as another dimension of the HEL-SERV with 5 items. The items in this dimension include " test of the Guests' body temperature ", "providing the guests with personal hygiene packages (gauze mask and disinfection gel) ", "Installation of disinfection systems at the entry points", "Use of a doctor and necessary equipment in the hotel" ", and" use of facilities needed for maintaining social distancing between the guests and the staff ". The results of this part of the research are supported by the previous research. For example, Fung et al. (2020) declared that testing the guest's body temperature is considered as an effective factor in hotel hygiene. In addition to diagnosing the guest's health, Hao et al. (2020) considered medical advice and consultation as a factor to further ensure the guests of the hotel's hygiene.

Since overcrowding influences the prevalence and transmission the disease, the results of this study showed that speeding up the process in different stages of the hotel can be effective in reducing the disease. These items here include "planning a guest check-out after 12 noon", "further use of the staff at the front office during the busy times to get the guests' work done faster", and "using paperless systems for the check-in and check-out process". Hence, by implementing the above programs, hotel managers can speed up the guests' affairs and prevent overcrowding in the hotel lobby. Although there is no research on the speed of work in the front office in relation to COVID-19,

this dimension in quality service research is considered as one of the chief dimensions in models such as LODGQUAL, SERVPERF, SERVQUAL and LODGSERV (Keshavarz, & Jamshidi, 2018; Keshavarz, et al., 2019).

The last dimension of the HEL-SERV structure in this research is hygienic staff with 7 items. These items include "use of gauze masks and preventive means by the hotel staff", "continuously testing the staff and presenting the results on a special board", "staff's awareness in guiding the guests how to use disinfectants properly", "disinfection of the guest transportation means", " training the staff to deal with the suspected guests", "Appropriate response of the hotel staff to guests' health-related questions", and "training the staff to avoid unhealthy encounters with each other". The results of this dimension support the previous research. Various studies (Fung et al., 2020; Hao et al., 2020; Shin & Kang, 2020; Kimet al., 2005) have considered the observance of hygienic and health protocols by the hotel staff to prevent the disease among the guests.

- **Suggestions for Future Studies**

Contagious diseases and pandemics cause severe problems for the world economy, and economic decision-makers need to adopt appropriate strategies to maintain their economic situation in such critical situations (McKercher & Chon, 2004), and the hotel industry is no exception. COVID-19 outbreak has exerted a devastating effect on the hotel industry, and the hotel managers are required to adapt their organization to this external threat by planning and implementing appropriate strategies.

By presenting a new model, not only can this research be a guide for future research in the field of contagious diseases, but also it can be used as a guideline for hotel managers in better planning to provide more appropriate hygienic services to their guests. The results of this study are used only in the field of health services during epidemics. Therefore, the model presented in this study does not contradict the previous research models on the quality service in the hotels such as the SERVQUAL and LODGSERV but in turn it contributes to completing these models by helping the hotel managers to provide quality services as much as possible.

Yet, due to the limitations in face of the study statistical population and also the expert panel recruited in this study, other variables can be identified in the future research. Therefore, future researchers are suggested to develop this model by using different models of the hotel quality service and matching them with this model.

Likewise, due to travel restrictions during COVID-19, the statistical population of this study was limited to domestic tourists; as such, it is recommended to use a variety of tourists in the future research. Finally, the above research was undertaken at a time when the corona vaccination had not yet been completed, so it is recommended that a similar study be done after vaccination to complete the shortcomings of this study.

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