

Impact of COVID-19 Pandemic on Hotel Service Quality and Customer Satisfaction

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Abstract

The hotel industry is one of the hardest-hit industries by the COVID-19 pandemic. Since the outbreak started in December 2019, there have been massive cancellations of hotel reservations due to the global travel restrictions, resulting in billions of dollars in revenue losses. In Malaysia, various government restriction orders and preventative measures have negatively impacted the hotel industry. The new standard operating procedures have affected how employees serve their customers, thus influencing customer experience staying at the hotel during the pandemic. Therefore, this study examined the impact of the COVID-19 pandemic on hotel service quality and customer satisfaction. An online survey was developed and distributed to social media platforms targeted to all customers staying at hotels in Pulau Pinang during the COVID-19 pandemic. Considering the population size in Malaysia, this study expected to sample 384 participants; however, only 160 responses were used in the analysis (42% response rate). The remaining responses were removed due to ineligibility. According to the findings, safety and security, customer interaction, and waiting time significantly influenced customer satisfaction. Additionally, waiting time was the most influential factor influencing hotel service quality and customer satisfaction. The new normal of doing business has changed the way hoteliers deliver their products and services to their customers, influencing overall customer satisfaction. Findings could assist hotel operators, and employees improve their quality of service during and in the post-pandemic. Limitations and future research recommendations are presented.

Keywords:

Customer Satisfaction; Hotel Industry; Malaysia; Pandemic; Service Quality

1 Introduction

Starting in December 2019, the Coronavirus disease (also known as the COVID-19) has threatened many lives worldwide. Although flu outbreaks are considered a major global infectious disease threat (Osterholm, 2005), the COVID-19 pandemic is the worst pandemic that has affected the whole world. The pandemic has affected millions of people, with millions of deaths recorded across countries (Worldometers, 2021). Owing to the pandemic, many developed and developing countries implemented numerous strategies to prioritize public health, including isolation, home quarantine, closure of schools and workplace, travel restrictions, social distancing, and face mask requirement (Burhan et al., 2021; Che Ahmat et al., 2021). The Malaysia government implemented similar strategies through a series of restriction orders from partial to full lockdowns and various preventive measures (e.g., social distancing, face mask) based on the number of COVID-19 cases (Khan et al., 2020).

The series of movement control orders, from the first movement control order implemented on March 18, 2020, to conditional movement control order (CMCO), recovery movement control order (RMCO), and enhanced movement control order (EMCO), had resulted in a substantial economic impact on many industries, including hospitality and tourism industry (Che Ahmat et al., 2021; Fan & Cheong, 2021; Foo et al., 2020; Shah et al., 2020). Despite the various economic stimulus packages provided by the Malaysian government (Foo et al., 2020), the closure of the country's borders and the imposition of travel restrictions for international and local tourists caused revenue loss among hotels in Malaysia. Khan et al. (2020) reported that 64% of tourists in Malaysia were coming from Singapore, China, and Indonesia, which also was affected by the COVID-19 pandemic. Although each type of MCO contributed to a different level of impact on the hotel industry, the overall hospitality sector in Malaysia had losses of around RM3.37 billion during the first two months of the MCO period (Dzulkifly, 2020). The Malaysian Association of Hotels reported more losses when the government decided to continue with the restrictions in 2021 due to increases in the COVID-19 cases (EdgeProp.my, 2021). Many hotels had to cease operations temporarily or permanently (Khan et al., 2020).

During the recovery movement control order, the government allowed people to travel interstate, and during that time, the demand for local domestic tourism had started to revive. Domestic travels were allowed, and businesses operated as usual while adhering to the standard operating procedures. These have helped hospitality businesses such as hotels recover (Che Ahmat et al., 2021). Despite a significant drop in the number of tourist arrivals and total expenditure due to COVID-19, the domestic tourism survey by the state in Malaysia in 2020 reported income generation for Selangor (7.1 billion) and Kuala Lumpur (5.3 billion) (DOSM, 2021a). To date, the industry is dependent more on the local tourists as many Malaysians prefer to travel within their country because the pandemic is still ongoing worldwide. Chan (2021) stated that the COVID-19 pandemic had affected tourist attitudes and behaviours towards travelling as many Malaysians preferred to travel domestically than internationally. The new

Omicron virus has also created fear among the public to travel abroad (Bernama, 2021). In other words, domestic tourism has an excellent potential to flourish. The hotel sector is one of the many sectors that could help contribute income to the hospitality and tourism industry.

Considering the public health and the country's economic situation, the government revised its strategies and implemented the national recovery plan in four phases from June until the end of December 2021 (National Recovery Plan Report, 2021). The national recovery plan eased the restrictions in Malaysia, and many businesses have started to bounce back. Nevertheless, since the pandemic started to hit the country, the government under the National Security Council and the Ministry of Health Malaysia has developed preventive measures, including standard operating procedures to help many industries operate while protecting public health, including hospitality and tourism. However, such preventive measures and standard operating procedures have changed how hotel operators deliver their products and services to customers. For instance, hotels had to operate at a minimum with no new bookings and provided only room service during the first movement control order. Later, during CMCO and RMC0, they were allowed to operate at regular hours with standard operating procedures in place (Che Ahmat et al., 2021). After living with COVID-19 for more than one year, the Malaysia government decided to continue using the standard operating procedures and guidelines for businesses while promoting the new normal concept (e.g., temperature checking, MySejahtera check-in, face mask, sanitize) because the pandemic is still ongoing.

In addition to the standard operating procedures by the National Security Council, each company has its unique procedures to protect its customers and business. Ideally, when a customer enters a hotel premise, the hotel staff will ask the customer to scan the QR code for location tracking, scan the customer's temperature, and sanitize hands. After that, hotel front desk staff will require the customer to present their identification card and digital vaccination certificate upon registration. Hotels need to ensure that only fully vaccinated customers can stay at the hotels. However, in addition to the required procedures, some hotels are very strict by checking their customers' health status daily and asking them to wear a tracking device. Some businesses allowed customers with MySejahtera status to show casual contact and no symptoms to dine-in, but some would not. Such inconsistencies between hotels and the standard operating procedures by the government create confusion and frustrations among customers, which will affect customer satisfaction. Even though people might need more time adjusting and adapting to the new normal (e.g., practicing protective measures, washing hands regularly, avoiding crowded places), clear communication related to standard operating procedures is needed to avoid any discrepancies that can lead to non-compliant.

Many industries invested in technology and transitioned to contactless service to minimize contact between the service providers and customers. The introduction of contactless orders and payment decreased personalization and influenced customer satisfaction. The social distancing requirement also limits the number of customers allowed to be in a restaurant at one time. Additionally, many hotels had to close their

dining rooms and no longer serve buffets, thus delivering breakfast directly to customers' rooms during the COVID-19 pandemic. Hotels had to change or modify the way they serve to protect their customers while adhering to the government operating procedures by the government. Nonetheless, many customers are not fully satisfied with the changes. For example, the quality of breakfast served in the room differs from the food served during buffet breakfast. Even after the buffet breakfast return, hotels need to follow strict standard operating procedures (e.g., limit the number of customers at one time, wear gloves when serving food), influencing customer experience at the hotel. In short, hotel operators need to continuously improve their quality of service because poor service quality leads to losses of customers (Keshavarz & Jamshidi, 2018; Nunkoo et al., 2020).

The purpose of this study was to examine the impact of the COVID-19 pandemic on hotel service quality and customer satisfaction. In addition, this study aims to identify the most influential factors affecting hotel service quality and customer satisfaction during the pandemic. This study significantly contributes to theory and practice in the hotel industry in two ways. First, the current study used expectancy disconfirmation theory to evaluate the post-purchase satisfaction of customers on hotel service quality attributes during the pandemic. In a similar vein, this study advances the service quality literature by focusing on how restriction orders and preventative measures implemented as a result of a crisis like the COVID-19 pandemic have impacted service quality and customer satisfaction. Therefore, findings can serve as a valuable reference for future studies in the same realm. Second, the present study focused on hotels in Pulau Pinang Malaysia as the top tourist destination, so findings could benefit hotel operators in providing quality of service while understanding customer satisfaction. The current study provides valuable contributions to our understanding of how the COVID-19 pandemic has impacted the hotel industry's new normal of doing business.

2 Literature Review

2.1 Customer Satisfaction

Satisfaction is known as providing goods and services that have specific levels of perceived value to the customer to have a positive view of the organization (Wicks & Roethlein, 2009). According to Kotler et al. (2017), customer satisfaction can be defined as the customers' feelings of pleasure or disappointment after getting the service quality that meets or differs from their expectations. Therefore, when the service provided by the service meets the customers' needs, it is called satisfaction; meanwhile, dissatisfaction comes from a failure of the service provider to provide the expected services to the customers (Kim-Soon et al., 2014). An abundance of previous research reported that service quality is a predictor of customer satisfaction (Bitner et al., 1990; Cronin & Taylor, 1992; Keshavarz & Jamshidi, 2018; Mohajerani & Miremadi, 2012; Ramseook-Munhurrin & Naido, 2011). Therefore, it is crucial to ensure that the hotel's service quality can exceed customer satisfaction because customer satisfaction is the key to success. Recognizing customer satisfaction would help the hotel locate its

weaknesses (Forozia et al., 2013). Lahap et al. (2016) stated that hotels would be challenging to sustain in the industry if they failed to provide good service quality and meet customer expectations. Moreover, poor service quality will cause hotels to fail to compete with their competitors.

Since the pandemic started, many researchers have examined customer satisfaction (e.g., Cheng et al., 2021; Wu et al., 2021). The unique additional procedures done by the hotels and the standard operating procedures by the government have changed the way hotel business is done and will be done in the future to protect hotel customers and the business. Despite the new normal in hotel operations, the inconsistencies and confusion of standard operating procedures will affect customer satisfaction. Min et al. (2021) found that employee active listening helped improve customer satisfaction from a service failure. Concerning the requirement of wearing facemask or face covering, Wu et al. (2021) sampled 383 Chinese customers and found that customer satisfaction increases when frontline staff wear facemasks. Using Yelp reviews, Kostromitina et al. (2021) reported that customers highlight COVID-19 standard operating procedures of social distancing and mask policies, and most importantly, customers gave lower ratings to businesses who failed to provide a safe environment for customers. A limited number of studies found in Malaysia on customer satisfaction during the COVID-19 pandemic, hence, justify the need to conduct this study in Malaysia contextual setting.

2.2 Service Quality

Service quality is defined as the overall evaluation of a specific service compared with the customer's general expectations with how performance should be like (Parasuraman et al., 1988). Service quality is often used to measure customer satisfaction. Many studies proved that customer satisfaction is positively influenced by service quality (Ali & Raza, 2017; Al-Tit, 2015; Brady et al., 2001; Cronin et al., 2000; Nunkoo et al., 2017; Wu, 2013). Service quality is one of the critical indicators that help differentiate one hotel from another in a competitive environment. Hotels with similar facilities survived depending on the delivery of service quality, which then influenced customer satisfaction (Mohsin & Lockyer, 2010). Expectancy disconfirmation theory is primarily used in measuring customer satisfaction from the perceived values of products and services (Anderson & Sullivan, 1993; Chatterjee & Suy, 2019). According to Li and Xu (2016), the expectancy disconfirmation theory refers to developing different expectations of service quality and personal experience, advertising, or other ways. Since the COVID-19 pandemic started, many researchers have investigated service quality from multiple perspectives, such as online food delivery (Cheng et al., 2021), frontline hotel employees (Lin et al., 2021). Nevertheless, there is a shortage of literature concerning Malaysia's service quality and customer satisfaction, particularly during the COVID-19 pandemic.

Several studies are found from various countries examining service quality from various perspectives. Oo (2020) examined the service quality of midscale hotels in Myanmar and found that the five dimensions of service quality: tangibility, reliability,

responsiveness, assurance, and empathy significantly influenced local and international tourist satisfaction, and assurance was recorded the highest effect. Earlier, Markovic and Jankovic (2013) found reliability, accessibility, and tangibles significantly influenced local and international hotel customer satisfaction in Croatia. Using the similar five dimensions, Wei (2019) found that tangibility, assurance, and empathy significantly influenced customer satisfaction at one hotel in Johor Bahru, Malaysia. Later, Ding et al. (2020) found differences in the service quality expectation between the Malaysians and international Airbnb users where Malaysians are concerned more about the property characteristics such as appearance and location, whereas international users care about whether Airbnb can accommodate groups. Most service quality studies found utilized the five dimensions when measuring service quality. Therefore, this study adopted more comprehensive service quality attributes by Nunkoo et al. (2020), which are: accommodation infrastructures, employee attitude and behaviour, customer interaction, employee expertise, food and beverages quality, front desk quality, room quality, safety and security, sociability, and waiting time. Details of each attribute are explained next.

2.2.1 Accommodation Infrastructures

The first service quality attribute is accommodation or hotel infrastructure's quality which is the crucial attribute needed in the hospitality sector (Wu & Ko, 2013). This service quality attributes involved the interior décor, the infrastructure's design, the physical environment, the ambiance such as music, lighting, temperature, signage, and wall colour, and the facility provided by the host or, in this case, hotel operators (Ali et al., 2016; Ju et al., 2019; Nunkoo et al., 2020). These aspects measure customer satisfaction during their stay in accommodation (e.g., hotels). Lahap et al. (2016) stated that the hotel's ambiance, which includes interior design and décor, contributed to the highest mean score in achieving customer satisfaction. When customers arrive at a hotel, they will have their first impression looking at the hotel ambiance, and they are aware that they will be satisfied with the delightful ambiance of the hotel. Additionally, the standard and conditions of the hotel are also included in the customer's expectations when they choose to stay in a hotel (Mmutle, 2017).

The COVID-19 pandemic has sped up the use of technology in the hotel industry. Many hotels are transitioning to smart hotels and improving their infrastructures through contactless services (for payment, check-in, check-out) and using robots for delivery and cleaning (Kim et al., 2021; Meidute-Kavaliauskiene et al., 2021; Zhong et al., 2020). Yang et al. (2021) examined the visiting intentions of 648 respondents from the Chinese Mainland and found that technology readiness and technology amenities (e.g., Wi-fi, touchscreen panel, mobile devices, SMART TV, smart room key) influenced their visiting intentions to smart hotels. As technologies are becoming more prominent in the hotel industry, it is essential to investigate customer satisfaction toward the level of service offered because using a robot to serve customers versus using humans might offer different experiences to customers. Kim et al. (2021) found customers in the

United States preferred robot service than human service in hotels. A recent study by Fan et al. (2022) found customers in the United States were less satisfied with voice assistant AI-powered in-room hotel technology versus touchless panels. Regardless, the COVID-19 pandemic has impacted customer preference toward accommodation infrastructures. Therefore, this study hypothesized that:

H_{1a}: There is a relationship between accommodation infrastructure and customer satisfaction.

2.2.2 Employee Attitude and Behaviour

The second service quality attribute involved in measuring customer satisfaction is employees' attitude and behaviour (Cronin et al., 2020; Parasuraman et al., 1988; Wu & Ko, 2013). Attitude is an employee's characteristics or behaviour, such as honesty in handling the job and care towards the customer's needs, while behaviour refers to actions carried out by employees while working. Kattara et al. (2015) found employees' positive (e.g., perform accurately, responds to customers, greet with friendly welcome) or negative (e.g., refuses to make changes, lacks information, displays bad mood) behaviours significantly associated with overall customer satisfaction in Egypt. Similar findings were reported by Wampande and Osunsan (2020) when they found that hotel employee attitude positively influenced customer satisfaction in Uganda. Additionally, using data from 303 restaurant employees in Turkey, Wang et al. (2021) found that employees' creativity and mindfulness influenced customer satisfaction. Even though employees' attitudes and behaviour sometimes might not be consistent due to human error, which leads to a service failure, employee active listening could alter service failure, thus shaping customer satisfaction (Min et al., 2021). Considering the influence of employee's attitude and behaviour on customer satisfaction, the following hypothesis is proposed:

H_{1b}: There is a relationship between employee attitude and behaviour and customer satisfaction.

2.2.3 Customer Interaction

This study's third service quality attribute is customer interaction (Huang & Hsu, 2010). In this study, customer interaction includes customer-to-employee and customer-to-customer interactions. Customer-to-customer interaction is a crucial element in the hospitality experience (Kandampully et al., 2018; Taheri et al., 2017). Kandampully et al. (2018) study claim that businesses have high attention to building relationships with their customers. This statement also was supported by many studies which agreed that customer interaction is one of the important attributes in service quality to measure customer satisfaction (Brady & Cronin, 2001; Nunkoo et al., 2017; Nunkoo et al., 2020). Customer-to-customer interaction during service delivery is a common phenomenon in various servicescapes (Martin,1996). Customer-to-customer interaction is also important and acts as a key determinant of customer experience

management (Kandampully et al., 2018). Altinay et al. (2019) found that the elderly customer's interactions with other customers positively influenced customer satisfaction and social well-being. Additionally, they found social interactions with other customers contributed to the social well-being of the elderly customers. Based on the literature, this study proposed the following hypothesis:

H_{1c}: There is a relationship between customer interaction and customer satisfaction.

2.2.4 Employee Expertise

The fourth service quality attribute is employee expertise. In terms of employee expertise, having skills and knowledge would affect the customer-employee interaction when they fulfilled specific tasks (Nunkoo et al., 2020). Some studies argue that employee expertise also largely contributes to measuring the quality of interaction between employees and customers (Brady & Cronin, 2001; Nunkoo et al., 2020). Other studies also found that employees' problem-solving skills also influenced the quality of employee and customer interaction, and they expect that employee expertise affects customer satisfaction (Dabholkar et al., 1996). Employees' expertise plays a significant role in determining customer satisfaction as the employee needs to know to communicate well with the customer. Employees should have good knowledge and skills when dealing with customers. Choi and Chu (2001) found employee service quality among the most important attributes influencing customer overall satisfaction. Customers will feel satisfied when employees actively listen or pay attention to their concerns (Min et al., 2021). Lin et al. (2021) stated that a manager's commitment to service quality affects service climate through empowering leadership. In that sense, managers need to empower their subordinates to make decisions or solve customer complaints. Kattara et al. (2015) reported that customers were satisfied when employees performed the billing functions accurately and were able to resolve customer complaints. Therefore, this study hypothesized that:

H_{1d}: There is a relationship between employee expertise and customer satisfaction.

2.2.5 Food and Beverages Quality

The fifth service quality attribute is food and beverage quality (Akbaba, 2006; Nunkoo et al., 2020). In terms of food and beverages quality, to achieve customer satisfaction, it involves the variety of food and beverages, the quality of the food that was being served, in the aspects of food's sanitary as well as the service level (Akkaba 2006; Wu & Ko, 2013). Other studies also were agreed that food and beverage quality does have a relationship with the level of service (Bihamta et al., 2017; Han & Hyun, 2017; Ryu et al., 2012). Ramanathan and Ramanathan (2011) found three dissatisfiers attributes, including food quality, that could affect customer repurchase behaviours in the United Kingdom. Similarly, Ryu et al. (2012) surveyed customers in the United States and found food quality was significantly influenced customer perceived value. Later, Al-Tit (2015) found that food quality positively influenced customer satisfaction, further

inducing customer retention. Based on previous studies related to food quality, this study hypothesized that:

H_{1e}: There is a relationship between food and beverages quality and customer satisfaction.

2.2.6 Front Desk Quality

The sixth service quality attribute is front desk quality (Bharadwaja et al., 2018; Gundersen et al., 1996; Hartline et al., 2003; Jang et al., 2018; Lockyer, 2002). This quality in the front desk involves the check-in procedure, the process of transferring luggage, and the ability of the front desk employees to solve the problems (Hartline et al., 2003). Front desk quality includes customer perception in overall service quality they perceived during their stay, affecting customer satisfaction. The front desk employee plays a major role in achieving the first good expectation from the guests. This front desk department is where the "Moment of Truth" happens between guests and front desk employees. Mmutle (2017) stated that the front desk employee must be ready to approach the customer first. This statement was supported by Hartline and Jones (1996) and Hartline et al. (2003) when they agreed that the employee's performance at the front desk influenced the customers' perception of service quality and satisfaction. Failure to provide good customer service will lead to customer dissatisfaction (Ramanathan & Ramanathan, 2011). Poon and Low (2005) found significant differences in service quality factors between Asian and Western customers, where customers from Western countries were more satisfied with hotels in Malaysia than customers from Asian countries, and hospitality was found as an influential factor predicting customer satisfaction. A recent study by Ali et al. (2021) found empathy, responsiveness, and assurance positively associated with customer satisfaction. This highlighted the importance of employee self-confidence, knowledge, and willingness to help customers when in need. Additionally, employees, particularly those in the front desk department, should be able to provide service as promised and handle customer problems. Based on the literature, this study proposed:

H_{1f}: There is a relationship between front desk quality and customer satisfaction.

2.2.7 Room Quality

The seventh service quality attribute is an accommodation's room quality (Jang et al., 2018; Nunkoo et al., 2020; Ramanathan & Ramanathan, 2011). In terms of accommodation's room quality, the quality means such as room size, temperature, level of quietness as well as the comfortable of mattress and pillow. The quality of the facilities and amenities offered in the room (e.g., bathroom and shower) influenced customer satisfaction regarding accommodation's room quality (Lockyer, 2002). Ramanathan and Ramanathan (2011) found room quality was among the dissatisfiers that affected customer decision to return to the same hotel again. Similar findings were reported in Choi and Chu (2001) regarding room quality that could affect customer

decision to revisit the same hotel. Ju et al. (2018) found the quality of the facility, or the room provided, was the most significantly influenced customer satisfaction in the accommodation business. For example, the bed is comfortable, the room is visually appealing, and the bathroom is clean. In a recent study, Fan et al. (2022) investigated customer responses toward hotel in-room technology (voice assistant versus touch panel) and found that voice assistant decreases customer level of satisfaction. The hypothesis is as below:

H_{1g}: There is a relationship between room quality and customer satisfaction.

2.2.8 Safety and Security

The eighth dimension in service quality is safety and security. In this context, security factors mean the protection of hotel property, customer possession, and ensuring the safety and security of employees and customers (Enz & Taylor, 2002). Security factors consider as one of the most important things the customers need to know when they decide to stay at the accommodation. Mmutle (2017) believes that employees from the safety and security department are also responsible for applying their strategies to meet customer satisfaction. Awan et al. (2020) reported that local and international tourists expected hotel operators in Malaysia to foster disinfection and sanitation practices in the new normal of doing business due to the COVID-19 pandemic. Hu et al. (2021) highlighted employee awareness of risk and health leads to compliance with COVID-19 safety practices. Not to mention, the management also needs to provide a safe workplace to employees. Bonfanti et al. (2021) interviewed hotel managers and found seven safety measures implemented by most hotels to enhance customer experience, including hygiene and protection, as well as physical and digital controlled touchpoints. Kostromitina et al. (2021) found that safety is the primary concern of customers during the pandemic and the quality of service; hence, business operators need to provide a safe environment for customers. Lack of safety leads to negative emotions among customers.

H_{1h}: There is a relationship between safety and security and customer satisfaction.

2.2.9 Sociability

The ninth dimension in service quality is sociability (Ali et al., 2017; Nunkoo et al., 2017; Nunkoo et al., 2020; Wu & Ko, 2013). Sociability is about the involvement with other people and when they share the enjoyment in the same activity. These are called positive social experiences. Sociability is also important as the social experience can meet customer satisfaction. Therefore, it is important to understand that social experience occurs after the consumption outcome differs from customer interaction during the service delivery process (Nunkoo et al., 2020). Thus, the proposed hypothesis is as below:

H_{1i}: There is a relationship between sociability and customer satisfaction.

2.2.10 Waiting Time

The last dimension involved in service quality is waiting time, which means the time that customers need to wait for the service (Benitez et al., 2007). The amount of acceptable waiting time according to customer expectations would contribute to customer satisfaction (Lee & Cheng, 2018). According to McDougall and Levesque (1999), customers believe that waiting time in the service industry was a frustrating experience. As stated in the study done by Nunkoo et al. (2020), waiting time is also an important determinant in achieving customer satisfaction. As many studies have been done by previous researchers related to waiting time, the waiting time should be reduced to meet customer satisfaction (De Vries et al., 2018; Fullerton & Taylor, 2015; Lin et al., 2015). Through simulations, Kokkinou and Cranage (2013) found that customer waiting times will be reduced, and the level of service will be improved when self-service kiosks are added to an existing check-in counter. During the COVID-19 pandemic, Bonfanti et al. (2021) found that hotels invested in technology to help reduce customer wait times while enhancing customer safety. Therefore, this study proposes the hypothesis below:

H_{1j}: There is a relationship between waiting time and customer satisfaction.

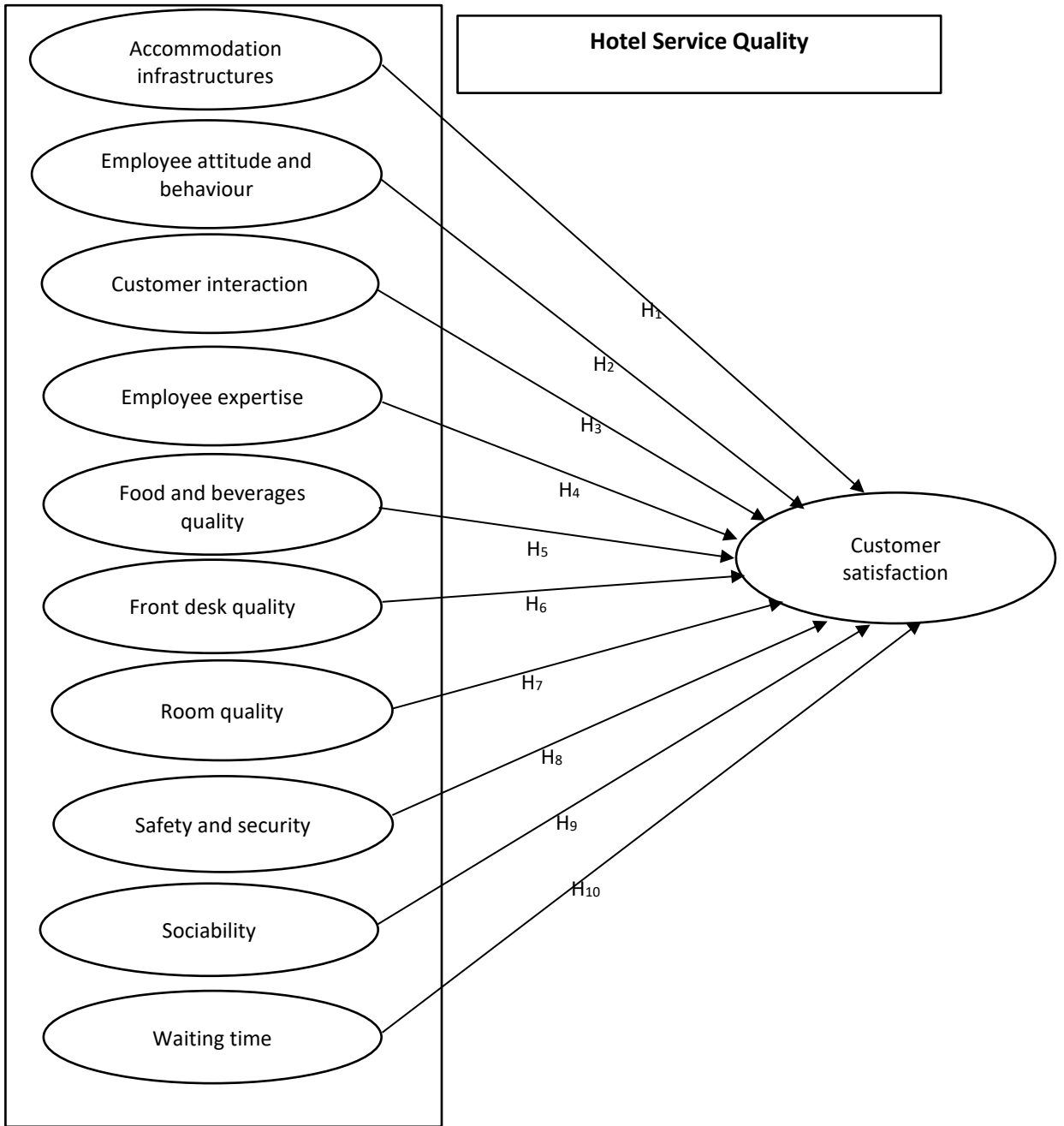


Figure 1: The conceptual model.

3 Methodology

3.1 Research Design and Sampling

A descriptive cross-sectional study was applied using a quantitative approach. An electronic survey was developed using Google Form, and the survey link was conveniently distributed using social media platforms such as Facebook, WhatsApp groups, and Telegram. This study used non-probability sampling whereby only customers who have experienced staying at hotels in Pulau Pinang, Malaysia, during the COVID-19 pandemic were invited to participate in the survey. There are at least 51 hotels in Pulau Pinang (MOTAC, 2021). Considering the Malaysian population in 2021 (32.7 million) (DOSM, 2021b), this study plan to gather 384 responses, as per the sample size table by Krejcie and Morgan (1970). The data collection was done during the COVID-19 period from February to March 2021. Distributing surveys online was deemed reasonable during the pandemic with restriction orders and social distancing. Also, an online survey is considered low-cost and can gather responses in a short period (Nayak & Narayan, 2019).

3.2 Instrumentation

Many researchers developed and tested different service quality scales (Lai et al., 2018). Nevertheless, this study adopted an instrument from Nunkoo et al. (2020). There were 12 sections altogether. Sections A to J measures the predictor variables, which are accommodation infrastructure (4 items), room quality (4 items), front desk quality (3 items), food and beverages quality (3 items), sociability (3 items), safety and security (4 items), employee attitude and behaviour (3 items), employee expertise (4 items), customer interaction (2 items), and waiting time (2 items). Meanwhile, the dependent variable, customer satisfaction, was measured using three items. This study used a five-point Likert-type scale from (1) "strongly disagree" to (5) "strongly agree". Six questions were asked related to the demographic profile, including gender, age, race, educational level, and monthly income. The study conducted a pilot test among 30 employees and students at Universiti Teknologi MARA, Cawangan Pulau Pinang, Pulau Pinang Malaysia to ensure the validity of the questionnaire. The results of the data analysis indicated that Cronbach's Alpha values were greater than 0.7, which is considered good reliability.

4. Findings

4.1 Demographic Respondents

From a total of 400 participants who responded to the online survey distributed, only 160 respondents had experience staying at hotels in Pulau Pinang, Malaysia, during the COVID-19 pandemic period. The remaining 240 participants were ineligible because they had experience staying at hotels in other states. Therefore, the researchers removed the data from analysis as this study focus on service quality for hotels in Pulau Pinang only. Additionally, not many people were travelling and staying at hotels in

Malaysia including hotels in Pulau Pinang during the pandemic because of the stay-at-home policy by the Malaysian government. Many people preferred to stay at home during lockdowns; hence, the low response rates from the eligible group are justified.

More males (59.4%) responded to the survey than females (40.6%). In terms of age, respondents between 18 to 25 years old formed the majority (53.8%), followed by 26 to 33 years old (27.5%) and 34 to 41 years old (13.8%). In total, 62.1% of the respondents had a bachelor's degree as their highest academic qualification. The highest group of races responded were Malays (85%), and 78.8% of the respondents reported that their monthly income was RM4,850 and below. More than 80 percent of the respondents agreed that hotels in Pulau Pinang implemented proper standard operating procedures at their premises. During the COVID-19 pandemic period in Pulau Pinang Malaysia, most of the participants had experience staying at hotels in Georgetown (38.1%), Batu Feringghi (24.4%), Bukit Mertajam (16.9%), Butterworth (9.4%), Bayan Lepas (7.5%), Seberang Perai (1.3%), Permatang Pauh (1.3%), Sungai Dua (0.6%), and Tanjung Bungah (0.6%).

4.2 Descriptive Analysis

The following table shows the questionnaire items, the reliability, and the descriptive analysis of mean scores and standard deviations for each predictor. Based on the reliability test scores (see Table 1), the Cronbach's Alpha coefficient for each dimension ranges from 0.851 to 0.946, indicating good reliability (DeVellis, 2003; Nunnally, 1978). Based on the normality test, the maximum value of skewness is between -1.23 to -0.991, and kurtosis was recorded as -0.812 to 1.77, thus indicating that the dataset was normally distributed.

Table 1: Reliability scores, Mean scores, and Standard Deviations

Predictor and survey items (α)	Mean (Standard Deviation)
<i>Accommodation infrastructures</i> (0.857)	4.05 (0.740)
The style of décor is to my liking at this accommodation	3.97 (0.713)
The accommodation is generally clean	4.13 (0.750)
The design of the accommodation is attractive	4.05 (0.759)
The physical environment is what I expect in this accommodation	4.04 (0.751)
<i>Room quality</i> (0.878)	4.05 (0.820)
The room size of this accommodation is adequate	3.96 (0.804)
The bed/mattress/pillow are comfortable	4.07 (0.825)
This room in this accommodation is quiet	4.11 (0.859)
In-room temperature control is of high quality	4.06 (0.787)
<i>Front desk quality</i> (0.851)	3.85 (0.910)
The check-in procedure at the accommodation is good	3.83 (0.926)
Luggage transfer is adequate	3.78 (0.909)
	3.93 (0.880)

In general, the front desk employees are able to solve my problems	
<i>Food and beverages quality</i> (0.868)	3.73 (0.890)
The food and beverage in this accommodation are of high quality	3.66 (0.889)
Cultural differences are taken into account in the menu proposed	3.83 (0.797)
There are a variety of food and beverage facilities at this accommodation	3.70 (0.976)
<i>Sociability</i> (0.864)	3.63 (0.970)
This accommodation provides me with opportunities for social interaction	3.63 (0.859)
I feel a sense of belonging with other customers at this accommodation	3.65 (0.992)
I have made social contacts at this accommodation	3.60 (1.053)
<i>Safety and security</i> (0.858)	4.06 (0.740)
There are accessible fire exits at this accommodation	3.99 (0.765)
There are noticeable sprinkler systems at this accommodation	4.02 (0.756)
The accommodation is located in a safe area	4.14 (0.726)
The room door has adequate security features	4.09 (0.708)
<i>Employee attitudes and behaviour</i> (0.946)	4.02 (0.830)
The attitude of employees demonstrates their willingness to help me	4.02 (0.828)
The attitude of employees shows me that they understand my needs	4.01 (0.820)
The behaviour of the employees allows me to trust their services	4.03 (0.835)
<i>Employee expertise</i> (0.902)	4.01 (0.800)
The employees understand that I rely on their professional knowledge to meet my needs	4.03 (0.768)
I can count on the employees knowing their jobs/responsibilities	3.98 (0.773)
The employees managed to deal with all my needs	4.02 (0.828)
The employees are competent	3.99 (0.850)
<i>Customer interaction</i> (0.910)	3.90 (0.830)
I am generally impressed with the behaviour of the other customers	3.78 (0.816)
My interaction with the other customers has a positive impact on my perception of this accommodation's services	3.75 (0.839)
<i>Waiting time</i> (0.893)	3.90 (0.880)
The waiting time for service is reasonable at this accommodation	3.89 (0.873)
The employees of this accommodation understand that waiting time is important to me	3.91 (0.896)
<i>Customer satisfaction</i> (0.934)	4.00 (0.810)
I feel satisfied with the accommodation's overall performance	4.03 (0.788)
	3.95 (0.815)

The performance of this accommodation has met my expectations	4.01 (0.832)
My satisfaction level with this accommodation is quite close to my ideal accommodation	

Note: $N = 160$

4.3 Examining the associations between the hotel service quality predictors and customer satisfaction

To answer the first research question, a Pearson product-moment correlation coefficient analysis was performed to check the proposed hypotheses by examining the associations between the study variables. Positive correlations were found between all the service quality dimensions and customer satisfaction (see Table 2), thus supporting hypotheses from H_{1a} to H_{1j} . The correlation scores ranged from 0.369 to 0.740, which indicated moderate to strong correlations between the predictors and customer satisfaction.

Table 2: Pearson's correlations between variables.

Predictor (hypothesis)	Pearson Correlation, r	Hypotheses
Accommodation infrastructures (H_{1a})	0.606	Supported
Room quality (H_{1b})	0.625	Supported
Front desk quality (H_{1c})	0.517	Supported
Food and beverages quality (H_{1d})	0.505	Supported
Sociability (H_{1e})	0.369	Supported
Safety and security (H_{1f})	0.638	Supported
Employee attitudes and behaviour (H_{1g})	0.625	Supported
Employee expertise (H_{1h})	0.677	Supported
Customer interaction (H_{1i})	0.548	Supported
Waiting time (H_{1j})	0.740	Supported

Note: All correlations were significant at the $p < 0.05$ (2-tailed).

4.3 Identifying the most influential factors influencing hotel service quality and customer satisfaction

To answer the second research question, this study used regression analysis to identify the most influencing factors affecting hotel service quality and customer satisfaction. Referring to Figure 2, all points are in a straight diagonal line from bottom left to top right, showing an acceptable level of normality. A scatterplot summarizes the results (Figure 3). Based on the multiple regression analysis (see Table 3), the model R-square is 0.692, which means that this model explains 69.2% of the variance of customer satisfaction, which was greater than the minimum R-square value found in Nunkoo et al. (2020), which was 57%.

As presented in Table 5, waiting time ($\beta = 0.401, p < 0.05$), customer interaction ($\beta = 0.193, p < 0.05$) and safety and security ($\beta = 0.149, p < 0.05$) were significantly

influenced customer satisfaction. Additionally, based on the highest regression score, waiting time is found as the most influential factor influencing hotel service quality and customer satisfaction. Such finding echoes with Nunkoo et al. (2020) as they also found waiting time as the major predictor of customer satisfaction. Other studies also concur about the importance of waiting time in influencing customer satisfaction (De Vries et al., 2018; Fullerton & Taylor, 2015; Lee & Cheng, 2018).

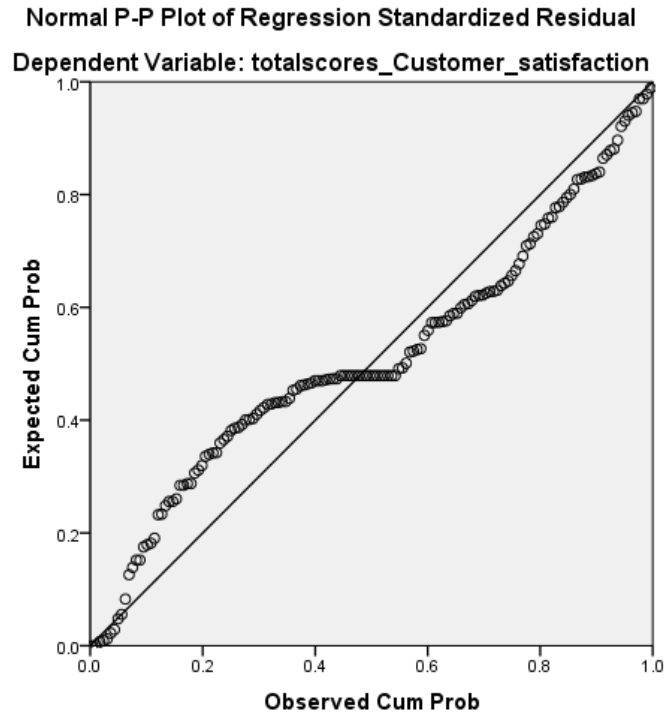


Figure 2: Normal Probability Plot of Regression Standardized Residual of Dependent Variable.



Figure 3: Scatterplot of Dependent Variable

Table 3: Coefficient Value of the Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.832 ^a	0.692	0.670	1.32553

Table 4: ANOVA results

Model		Sum of Squares	df	Mean square	F	Sig.
1	Regression	549.834	10	54.983	31.235	0.000 ^b
	Residual	251.726	143	1.760		
	Total	801.560	153			

a. Predictors: (Constant), waiting time, sociability, accommodation infrastructures, customer interaction, front desk quality, safety and security, food and beverages quality, attitudes and behaviour of employees, room quality, employee expertise.

b. Dependent variable: Customer satisfaction

Table 5: Regression coefficient

Model	Unstandardized coefficients		Standardized coefficients		
	β	standard error	Beta	t-value	Sig.
1 (Constant)	-0.545	0.821		-0.664	0.508
Accommodation infrastructures	0.135	0.070	0.147	1.928	0.056

Room quality	0.081	0.064	0.099	1.262	0.209
Front desk quality	-0.040	0.062	-0.041	-0.638	0.524
Food and beverages quality	0.016	0.066	0.017	0.248	0.804
Sociability	-0.074	0.053	-0.804	-1.394	0.166
Safety and security	0.138	0.064	0.149	2.148	0.033
Employee attitudes and behaviour	0.061	0.075	0.063	0.819	0.414
Employee expertise	0.050	0.070	0.062	0.713	0.477
Customer interaction	0.278	0.098	0.193	2.839	0.005
Waiting time	0.546	0.099	0.401	5.522	0.000

5 Discussion and Conclusions

This study examined the impact of the COVID-19 pandemic on hotel service quality and customer satisfaction by pursuing the following two objectives: 1) to examine the associations between the hotel service quality attributes and customer satisfaction, and 2) to identify the most influential hotel service quality attributes in predicting customer satisfaction. To achieve the objectives, customers who had experienced staying at hotels in Pulau Pinang, Malaysia, during the COVID-19 pandemic period were invited to participate in an online survey. Based on the correlational and regression analyses, this study found that all the hotel service quality attributes positively and significantly associated with customer satisfaction. In addition to that, based on the regression analysis, waiting time, customer interaction, and safety and security significantly influenced customer satisfaction. Such findings corroborated well with findings by Nunkoo et al. (2020) when they found that waiting time and customer interaction significantly influenced customer satisfaction on four- and five-star hotels in South Africa, while safety and security was found to influence customer satisfaction in three-star hotels. Nevertheless, their study was done before the COVID-19 pandemic hit the world. The COVID-19 pandemic has influenced the level of service quality in hotels because hotels had to change some of their procedures to match with the government procedures under the Ministry of Health and the National Security Council, which further modified the overall product and service provided to customers. Hotels are bound by the new rules imposed by the government. Thus, hotels would not be able to give full and personalized service to their customers during the pandemic period and probably in the post-pandemic too, and these changes further influenced customer satisfaction.

Additionally, the current study found that waiting time is the most influential predictor in predicting customer satisfaction of the service quality among hotels in Pulau Pinang, Malaysia. During the COVID-19 pandemic period, hotels must follow procedures imposed by the Malaysian government under the Ministry of Health and the National Security Council on top of the hotel procedures. These procedures (e.g., social

distancing, a minimum number of customers allowed to dine in at one time, verification of vaccination status, temperature checking) have affected hotels' daily operation. Some hotels require a copy of a customer identification card, a screenshot of full vaccination status, and customers need to fill in a health declaration form upon check-in. Such additional procedures potentially increase the waiting time from one customer to another. Nevertheless, based on the current study findings, customers were satisfied with the services provided by the hotel employees and agreed that the waiting time for the services provided was reasonable. In that sense, customers were satisfied with the reasonable waiting time, and the customers perceived that hotel employees understood the importance of waiting time.

In addition to waiting time, this study found that customer interaction and safety and security significantly predict customer satisfaction when staying at hotels in Pulau Pinang, Malaysia, during the COVID-19 pandemic. This confirms that the behaviour of other customers and the interaction with other customers impacted customer satisfaction. During the pandemic and in the new normal of the hotel business, customers need to follow the social distancing requirements and other procedures that minimize the contact between one customer to another. Even so, the interaction between customers is important in predicting customer satisfaction. For example, customers can educate each other about the COVID-19 standard operating procedures, remind each other about social distancing, face covering, and sanitizing hands. Customers need to understand the importance of following the procedures and the implications of not following the procedures. Regarding safety and security, respondents reported hotels are in a safe area, and hotels have adequate security features and accessible fire exits. Overall, the respondents felt safe and secure while staying at the hotels during the COVID-19 pandemic period.

Furthermore, findings from this study showed that more than 80 percent of the respondents reported that the hotel they stayed in Pulau Pinang during the pandemic period did practice the standard operating procedures. Meanwhile, the remaining reported may be unsure whether the hotels practice the standard operating procedures as per the government guidelines. Ideally, hotels modified or enhanced their existing procedures to reflect the government's latest standard operating procedures and guidelines. Although the percentages of hotels not practising the standard operating procedures or failing to make the procedures clear were small, they should not be ignored. Hotels need to shut down their businesses if they fail to comply with the standard operating procedures. Therefore, hotels should educate customers about the COVID-19 procedures and ensure the standard operating procedures are well informed to their customers. Proper monitoring from the hotel management is important, and a random hotel visit by the authorities to check for compliance with standard operating procedures. The COVID-19 pandemic and the restriction orders and preventive measures imposed by the Malaysian government have influenced the level of service quality provided by hotels and customer satisfaction. Hotels must follow the guidelines

and procedures by the government; thus, they might not be able to provide a high-quality level of service to customers during the pandemic.

The current study successfully validated and achieved the study objectives. Findings from this study aligned with findings by Nunkoo et al. (2020) and provided additional new findings of the most influential hotel service quality attributes on customer satisfaction in Malaysia. The current study findings were influenced by the COVID-19 pandemic and the Malaysian government's restriction orders and preventive measures. This study's findings enhance our understanding of the hotel service quality attributes on customer satisfaction during the COVID-19 period. Most of the previous studies found examining the service quality attributes and customer satisfaction were conducted before the COVID-19 pandemic; hence, findings from this study are beneficial for industry practitioners and researchers. The quality of services provided by most hotels in Malaysia is affected by the COVID-19 pandemic and the strict SOPs by the government and the hotel management. Moreover, findings from this study could help the government and the hotel operators understand to what extent the service quality attributes influenced customer satisfaction during a pandemic or a crisis like the COVID-19, thus, justify the novelty.

The results of this study offer several implications to industry practitioners. First, hotel operators should concentrate on increasing customer satisfaction by ensuring the waiting time is reasonable despite the additional procedures. The hotel management needs to take action to prevent issues or complaints related to waiting time that will jeopardize customer satisfaction regardless of during the pandemic or in the post-COVID-19. To minimize and prevent issues or complaints related to waiting time, hotels can offer contactless services (e.g., check-in and check-out) by maximizing technology usage (e.g., QR codes, facial recognition). This could reduce the waiting time and the risk of COVID-19 transmission while minimizing contact between employees and customers. The contactless transaction is the way forward for most businesses, including hospitality, as many more hotels are now utilizing contactless services throughout their businesses. Maximizing the use of technology will make customers feel more comfortable during their stay at a hotel and improve their overall hotel experience. Such a strategy can also help hotels be more competitive and resilient in the future or the post-pandemic era.

While this study contributed significant findings, it is not without limitations. First, the current study only investigated hotels in Pulau Pinang, located in the northern region of Malaysia; hence, findings could not be generalized into other states. Therefore, future studies should expand the study setting and include hotels from other states in Malaysia. Distributing surveys in other states also allows future researchers to compare findings regarding hotel service quality attributes and customer satisfaction from different states. Additionally, this study focused on service quality attributes and customer satisfaction. Hence future studies can consider other relatable variables that

can influence the associations between service quality and customer satisfaction, such as perceived value, repurchase intention, hotel star rating.

6 About the author

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