

# The Effect of Service Quality on Customer Satisfaction During Covid-19 Pandamic: Evidence From Hotels in Debre Markos Town

**mulugeta Belayneh Birara** (✉ [mulugetabelayneh7@gmail.com](mailto:mulugetabelayneh7@gmail.com))

Debre Markos University College of Business and Economics

**Tadesse Asmare Gebrie**

Debre Markos University College of Business and Economics

**Gessesse Gizachew Asresie**

Debre Markos University College of Business and Economics

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## Research

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## **Abstract**

*The main aim of this study was to identify the effect of service quality dimensions on customer satisfaction during Covid-19: evidence from selected hotels of Debre Markos town. In this study, the customer's perceptions level of the service quality dimensions and customers' satisfaction in the selected hotels were determined. To achieve the objectives of this study, the data were collected from 305 sample respondents using self-administered standardized questionnaire from five purposively selected hotels in Debre Markos town. The data was collected using convenience sampling method that was available to the researchers by virtue of its accessibility. In this study, both descriptive and explanatory research design were used. The result of this study indicates that the five service quality dimensions (tangibility, assurance, responsiveness, core hotel benefits and corporate image) have positive and significant relationship with customer satisfaction except empathy and reliability. Based on the findings, the researchers recommended that hotels should hire self-motivated, enthusiastic employees who are capable of handling customers and solve complaints in an effective manner, provide continuous training to the employees on ways of rendering service in hotels, give due attention for their employees by providing the required uniforms, develop their core competencies and prepare service quality standard plans, and full fill covid-19 protocols.*

## **1. Introduction**

As Bucak (2014) identified, quality is defined as a combination of features based on the ability to meet the possible requirements of a product or service. There is another concept together with quality i.e. service quality. It is described as the comparison of service expectations of customers with the actual performance. Service quality is crucial to the success of any service organization and customers have an access to interact closely with various aspects of a given organization because they participate in delivery and consumption of services (Kandampully & Suhartanto, 2000). They also found that their awareness about the service gives them the opportunity to assess the service delivery of organizations. In addition, they identified that customers know the service quality by comparing what they have received with their desired service.

As the service organization, hotels start to place importance on service quality on their products and service (Mosin and Lockyer, 2020). They also understood that hotels serve as a home for travelers and when the first roads were built in Britain, journey to the various parts of the world were begun. As their findings, travellers were going to different places, foods; shelter and drink were to be found in road side taverns and later on monasteries started to provide hospitality to get money for the church. According to Honok (2020) findings, the first publicly held hotel was established in 1792 and the first modern hotel was opened in New York in 1809. In addition, he found that the first business hotel (Buffalo statler) was opened in Boston in 1908. Another researchers Wipoosattaya, (2015) also identified that now a day tourism is increasing at alarming rate so that visitors want to get high quality service that help hotels compete each other to have high market share.

In Ethiopia, the first hotel was established in the name of Itege Taitu in Addis Ababa in 1906 and the hotel was opened to provide guests a place to rest and dine. It is also used to provide amenities including a Varity of bed rooms, bar and restaurant service, live jazz music every night, laundry and more service make it preferable by customers (Ministry of culture and tourism report, 2006). A decade ago, Debre Markos town was not as such attractive as similar towns of Ethiopia. Its development was started with the establishment of institutions such as colleges, university, health centres, primary and secondary schools, churches and mosques, and infrastructures (roads, waters and electric powers). In addition, with the increasing number of residents and beginning of exhibitions, so many investors invest their capital on the buildings of hotels so as to deliver service for the customers as well as for their economic growth.

Now a day's hotels start to render unique service which is slightly different from the others in order to attract customers and achieve their objectives and goals so that service quality becomes gradually changing even though it is not as intended (yenesaw, 2015). Hence, this research will try to assess the effect of service quality on customer satisfaction for selected hotels in Debre Markos Town.

## **2. Statement Of The Problem**

Covid-19 has affected every sector across the globe and the hotel industry is among hardest hit. And it faced with lack of reliability, empathy and assurance and low responsiveness to customer requests(Hanzaee & Mirvaisi, 2011) and Kimungu & Maringa, (2010) found that many hotels may not be able to achieve quality due to competition as well as covid-19 in the industry and failure to address all the service quality dimensions.

Hotel industries in Sri Lanka had various problems while they are rendering service to customers such as employees were impolite, did not quickly apologize when they made mistakes in the service, did not listen carefully when customers' complain (Gunaratne, 2014). According to Bashirian and Majdpuor, (2011), developing service quality standards and sustaining the service level as well as lack of creating positive image in the minds of customers through a standardized service are the major challenges of hotel industries in Iran. Moreover, hotels lack attractive tangible parts including the appearance of physical facilities and also staffs are not efficient on their knowledge and courtesy to create trust and confidence to the guests (Jose, 2019). Hotels try to satisfy their customers as much as possible but they are still facing problems because of the dynamic demand of guests and difficulty of measuring and managing the service provision properly (Kumar, Banga, & Thapar, 2011).

According to Abrham (2015) findings, the service provided by hotel industries has so many problems even if great attention is given for the expansion of the sector and the current situation in hotels of Addis Ababa city is simply gathering money without improving their service delivery. In addition, employees waste much time while they were ordered with guests and also lack ethics of hotels. Buzeye (2010) also conducted a comparative research on star hotels in Addis Ababa and found that handling of customers in Ethiopia is still traditional and the service provision technique is non-scientific. As evidence from east Gojjam culture and tourism office (2020) indicates that hotels in Debre Markos town faced many problems related to service delivery of hotels. Such as, lack of neatness of employees, uniforms and physical features of hotels, untrained employees, low consciousness and attitudes of employees towards service delivery.

Therefore, the researchers were motivated to conduct the study for selected hotels in Debre Markos town with the common five dimensions of service quality (tangibility, reliability, responsiveness, assurance, and empathy) and two additional dimensions of service quality/ corporate image and hotel benefits/ to address the issues by stating the problem as "the effect of service quality on customer satisfaction" using the SERVPERF model. In line with this, the study attempts to answer the following research questions.

- What is the perception of customers on service quality dimensions during covid-19?
- What is the correlation between service quality dimensions /tangibility, reliability, responsiveness, empathy, assurance, corporate image and core hotel benefits) and customer satisfaction during covid-19?
- Which dimensions are the best predictors of overall service quality during covid-19?

### **3. Related Literature Review**

#### **Service Quality**

Service quality is "more difficult for consumers to evaluate than product quality: this is due to a lack of tangible evidence associated with the service" (Hong and Goo, 2004). Researchers (Arun Parasuraman, Zeithaml, & Berry, 1988) had defined and measured service quality by examining the attributes of service quality dimensions. Service quality has been given a great deal of focus from both academicians and practitioners (Negi, 2009). Ghyselinck (2008) implied that by clearly defining service quality, companies will be able to render services with higher quality level to increase customer satisfaction.

#### **Service Quality Dimensions**

Service unique characteristics of intangibility, heterogeneity and inseparability lead them to possess high levels of experience and credence properties, which, in turn, make them more difficult to evaluate than tangible goods (Wilson, Zeithaml et al., 2012). Identification of the determinants of service quality is necessary so as to be able to specify measure, control, and improve customer perceived service quality (Johns, 1999).

Parasuraman (1985) identified ten dimensions of service quality which are:-

### **Understanding customers**

is the way of taking the customers' ideas, requests and needs in to consideration while delivering service. Then Parasuraman (1985) purified these dimensions into five dimensions i.e. tangibility, reliability, responsiveness, assurance and empathy to measure service quality using SERVQUAL model but Grönroos (2001) cited in Bozorgi (2007) improved and developed service quality dimensions into seven (tangibility, reliability, responsiveness, assurance, empathy, technical and corporate image).

The SERVPERF scale is identical to SERVQUAL scale in its dimensions and structure. Cronin and Taylor (1992) argued on the frame work of Parasuraman et al., (1985) with respect to conceptualization and measurement of service quality and developed performance only for the measurement of service quality called SERVPERF by illustrating that service quality is a form of consumer attitude and measuring performance only is an enhanced means of measuring service quality.

- **Tangibility** refers to an item that the customers can touch, see and feel and it will create an impression one way or the other (Nankervis, 1995). He also defined that it is important to make sure that physical facility such as decorations, furnishings, and fittings should be in keeping with the type of services provided
- **Reliability:** is about always keeping the promises service organizations make to the customers (Zeithaml et al., 1990). The researchers also found that these promises can be made in many ways. For example, they can be spoken or written agreements or contracts made with customers, part of the hotels sales literature or even an aspect of the service that is provided and comes to be expected by most customers, products and services are usually sold with certain implicit or explicit commitments. In addition, it is found that service reliability is the service "core" to most customers and managers should use every opportunity to build a "do-it-right-first" attitude.
- **Responsiveness:** - refers to the timeliness, speed, efficiency, courtesy, and capability of employees in providing products, services or information(K. A. Brown & Mitchell, 1993).
- **Assurance:** - assurance relates to how confident the customer feels about doing business with an organization(A Parasuraman, Zeithaml, & Berry, 2002). The researchers explained that many consumers have some concerns when using a business, especially when it is for the first time. They need to be sure that the business knows what it is doing and is competent and capable in providing the required product or service just when it is needed and at the desired level of quality.
- **Empathy** refers to the concern, understanding and compassion a company shows to its customers when they have a problem or a worry about some aspect of the product or service (Nelson and Chan, 2005).
- **Corporate image** refers to the subjective over all attitudes and impression that consumers develop based on the products and services rendered by the enterprises and or on the related information and experience obtained from the consumers' involvement in relevant social activities (Fombrun, 1996).
- **Core hotel benefits** refers to the central aspects of the service or benefits to hotel customers including comfortable, relaxed and clean mattress, pillows, beds, sheets and covers, reasonable room rates and variety of basic products and services offered such as toothpaste, soaps, shampoo, towels, toilet papers, stationary, laundry, ironing, tea, coffee and drinking water are the most important dimensions (Veasna, 2013).

### **Customer's Satisfaction**

Improving service quality to meet customers' standard is an ongoing part of doing business. In this way, customers drive the market and the organization (Yi & Zeithaml, 1990). They also implied that things that should be done on the service organizations is that they should prepare service quality standards to check whether they are doing in accordance with the designed standards or not. In addition, organizations should take the customers' purchasing power in to consideration to enable customers satisfy on service providers(Kotler, 2000).

Thus, researcher considered delivering service or assessing service quality as posing a challenge compared to the problems and solutions of traditional product marketing (Berry, 1980).To assess the quality of a firm's service, researchers used consumers' perceptions of quality (Arun Parasuraman, Berry, & Zeithaml, 1991). According to Zeithaml (1988), perceived quality is the

consumer's judgment about an entity's overall excellence or superiority. Customers compare their perceptions of the firm performance with what they believe the firm should offer to them. In other words, perceived service quality is viewed as the degree and direction of discrepancy between consumers' perceptions and expectation(Anantharanthan Parasuraman et al., 1985).

### **Review of Previous Empirical studies**

Research on quality of service currently has received special attention from marketing researchers. Among some researches which were conducted by various researchers are mentioned below.

According to Majdpour and Bashirian (2011) the five service quality dimensions (tangibility, reliability, responsiveness, assurance and empathy) have positive and significant effect on customer satisfaction. They identified that there is no difference among the service qualities on the impact of customer satisfaction or they have strong relationships between independent variables and dependant variables.

The four service quality dimensions such as tangibility, reliability, responsiveness, assurance have a positive and significant effect on customer satisfaction but the other dimensions of service quality namely empathy has a negative and significant effect on customer satisfaction(Sriam, 2010). The two service quality dimensions (reliability and assurance) have a significant and positive effect on customer satisfaction and the other dimensions such as tangibility, responsibility and empathy have no contributions to the satisfaction of customers(Malik, Naeem, & Nasir, 2011).

As it is found by Siddique, Akhter, & Masum (2013), dimensions of SERVQUAL items such as providing customized service, service delivery on time, modern interior decoration, providing international standard security system, tasty food quick response to guests' problems, personal attention and understanding of the needs of the guests appear to be fertile areas for future inquiry. Their key findings from the study was that the service quality of the star hotels in Bangladesh should take proper steps to ensure the guest's satisfaction on their service, through reliable service and giving assurance to fulfill to the expected requirements.

Gunarathne (2014) conducted the study on the relationship between service quality and customer satisfaction in Sir Lanka hotel industry and found that the most important factor in predicting tourism service quality evaluation was tangibility, followed by empathy, reliability and responsiveness. His study suggested that among the five dimensions of service quality, assurance had a negative relationship with customer satisfaction and knowing how consumers perceive service quality and being able to measure service quality can benefit management of hotel service.

### **Conceptual Framework**

The aim of this section is to summarize the idea about past literature and to bring about the contributions for this study. After the literature has been reviewed, the relationship between service quality dimensions and customer satisfaction do you to covid-19 effects are discussed below.

Researches were conducted by using ten service quality dimensions (tangibility, reliability, responsiveness communication, access, competence, courtesy, credibility, security and knowledge) on customer satisfaction by Parasuraman (1985). Later he conducted the research on the relationship between service quality dimensions and customer satisfaction and refined the ten dimensions into five dimensions (tangibility, reliability, responsiveness, assurance and empathy) because he got the appropriateness of the five service quality dimensions to measure customer satisfaction in various service organizations.

On the other hand, even if Parasuraman (1985) purified the ten dimensions into five dimensions, Grönroos (2001) improved and developed the service quality dimensions into seven dimensions. These are: - tangibility, reliability, responsiveness, assurance, empathy, technical and corporate image. Moreover, another researchers Ramsaran-Fowdar, (2007) as cited Veasna, (2013) added two service quality dimensions/ core hotel benefits and hotel technologies/ on the five service quality dimensions/ tangibility, reliability, responsiveness, empathy, and assurance/.

Thus, the researchers took the six dimensions (tangibility, reliability, responsiveness, assurance, empathy and corporate image) from Grönroos (2001) and added core hotel benefits from (Veasna, 2013). The reason why these two additional dimensions of service quality used in this study was that the researchers wants to identify the effect of these dimensions on customer satisfaction due to covid-19 effects and to fill the gap which were not seen by another researchers.

Source : (Grönroos, 2001) and (Veasna, 2013).

## Hypothesis

H<sub>1</sub>: Tangibility has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>2</sub>: Reliability has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>3</sub>: Responsiveness has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>4</sub>: Empathy has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>5</sub>: Assurance has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>6</sub>: Corporate image has significant effect on customer satisfaction during covid-19 pandemic in hotels.

H<sub>7</sub>: Core hotel benefits have significant effect on customer satisfaction during covid-19 pandemic in hotels

## Methodology

In this study the researchers were used quantitative research approach with a cross-sectional survey design. It is useful in obtaining an overall picture as it stands at the time of the study and is designed to study some phenomenon by taking a cross-section of it at one time(Rampersad, 2001).

### Sample Size and Sampling Technique:

According to East Gojjam office of culture and Tourism (2020) report, the total numbers of hotels in Debre Markos Town is 62. To take the representative samples from the total target hotels, the researchers selected 5 hotels using purposively taking in to account seniority, numbers of customers served and privilege ranks.

After the selection of sample hotels, the respondents were determined. Since it was difficult to get information about the number of customers in hotels, the researchers took one month estimated total population information of 15,442 from hotels' managers and the estimated number of customers in the selected hotels as shown below in Table 1. For populations that are large and infinite, the sample size was determined by the formula which was developed by Cochran (1963) as cited (Israel, 1992). It can be calculated as follows.

$$n = \frac{z^2 p(1-p)}{(e)^2} = \frac{(1.96)^2 (.5) (.5)}{(.05)^2} = 384$$

Where: n - the sample size

Z - Level of confidence.

e - The acceptable sampling error (0.05)

p - The estimated proportion of an attribute that is present in the population

Hence, the total sample size is 384. Since the number of customers in each hotel is not the same, the number of samples for each hotel was proportionately distributed as illustrated below.

Table 1  
number of customers and proportion of samples taken from each hotel

Name of hotels	Customer population/day	Number of sampled customers
LBS hotel	2275	57
FM International hotel	3955	98
Centera hotel	3514	87
Abma hotel	2191	55
Gozamen hotel	3507	87
Total	15,442	384
Source: own survey, 2021		

### 3.1. Data source and method of data collection

For the proper achievement of the objectives of the study, the researchers were used primary source of data. In this study, the researchers were distributed self administered questionnaire for five selected hotels for four weeks in every three days interval using convenience sampling techniques because there is no point in time during which all customers are available and it is difficult to contact everyone who may be sampled.

Standardized questionnaires were adopted from different sources as shown Table 2 and the responses of the respondents measure with five point likert scale which includes strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5) was used to enhance their cooperation and ultimately to ensure maximum response rate (Rabsib Colin, 2002).

Table 2  
Data collection instruments

Variables	No. of items	Adopted from
Corporate image	6	Chen & Chen, 2014
core hotel benefits	5	Veasnna, 2013
Tangibility,	4	Tizazu, 2012
Reliability,	5	
Responsiveness,	4	
Empathy	5	
Assurance	4	
Customer Satisfaction	6	
<b>Methods of data analysis</b>		

The data that was obtained from questionnaires was processed (i.e. edited, coded, tabulated) and then analyzed according to the objective of the study. Further transformation of the processed data to look for relationship between variables was made by using descriptive and correlation statistical analysis. To analyze the data, both descriptive and inferential statistics are used. Specifically, descriptive statistics (tables, frequency distribution, and percentage) and Pearson correlation were used to determine the relationship between service quality dimensions (tangibility, reliability, responsiveness, empathy, assurance, core hotel benefits and corporate image) and customer satisfaction, and multiple linear regressions were used to examine the effect of service quality dimensions (tangibility, reliability, responsiveness, empathy, assurance, core hotel benefits and corporate

image) on customer satisfaction. Before distributing the questionnaire a pre-test of the items was made to check its reliability and all of them had a Cronbach Alpha value of > 0.70.

### Model specification

In this study the researchers were used linear regression models to analyze the effect of service quality on customer's satisfaction during covid-19 pandemic evidence from selected hotels in Debre Markos town. Under linear regression the researchers have chosen multiple regression analysis as it is appropriate way to check the causal relationship between independent and dependent variable. Therefore, the outcome variable is predicted from a combination of all variables multiplied by their respective coefficients plus a residual term, see Eq. (1) below:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

Where;  $Y$ - is the dependent variable—customer satisfaction

$X_1, X_2, X_3, X_4, X_5, X_6$ , and  $X_7$  are explanatory variables or the regresses.

$Y$  is the outcome variable i.e customer's satisfaction;  $\beta_0$  is the constant term of the model,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$  refers to the coefficient measures the change in the mean value of  $Y$ , per unit change in their respective independent variables &  $\epsilon$  - refer to error term

## RESULTS AND DISCUSSIONS

The total of 384 questionnaires were distributed to the respondents and 322(84%) was collected and the remaining 62(16%) were not returned. Among the collected questionnaire i.e. 322(84%), 17 questionnaires were not filled properly and then rejected. As a result, the analysis was made based on 305 questionnaires and the response rate was 80%. The response rate which accounts for 70% and above of the sample size is sufficient for the analysis of a given research(Weisberg, Krosnick, & Bowen, 1996) so that the researchers took 80% response rate for analysis.

### Demographic results of the respondents

This research was enclosed the main back ground information such as sex, age groups, marital status, and occupation. Regarding to the sex distribution of the respondents were 206 (67.5%) of males and the remaining 32.5% (99) of the respondents were females. The age category of the respondents implied that the majority 202 (66.3%) of the respondents were under and equal age group of 35 years old and 103 (33.8%) of the respondents were above age group of 35 years old. The marital status indicated that 52.1% of the respondents were married; 30.2% of the respondents were single and the remaining 15.4% and 2.3% were divorced and widowed respectively. On the other hand, the occupation of the customers implied that government employees were represented 61% of the respondents, 20.3% of the respondents were engaged in self-employed whereas 11.1% of them were private sector and 3.9% were unemployed, and the rest 2% and 1.6% of respondents were students and retire respectively.

### Level of perception on service quality dimensions and customer satisfaction

According to Zaidatol and Bagheri (2009), the mean score above 3.8 was considered high, 3.40–3.79 was considered moderate and below 3.39 was regarded as low perceptions for a five point likert scale based on this assumption researchers were determined the perception level of customer's in service quality dimensions and customers satisfaction.

Table 3  
Customer's perception on service quality dimensions and customer satisfaction

	N	Mean	Std. deviation
Tangibility	305	2.83	0.48
Reliability	305	3.06	1.09
Responsiveness	305	2.94	0.63
Empathy	305	3.01	0.35
Assurance	305	2.74	0.84
Corporate image	305	2.80	0.44
Core Hotel Benefits	305	2.95	0.67
Customer Satisfaction	305	2.59	0.54

Table 3 show that the perception of customers on service quality dimensions observed in the selected hotels, As a result, the average mean score of all service quality dimensions are low that is tangibility, reliability, responsiveness, empathy, assurance, corporate image, core hotel benefits, and customer satisfaction were 2.83, 3.06, 2.94, 3.01, 2.74, 2.80, 2.95, and 2.59 respectively.

#### Correlation analysis

To determine the relationship between service quality dimensions (tangibility, reliability, responsiveness, empathy, assurance, core hotel benefits and corporate image) and customer satisfaction, correlation was computed.

Table 4  
Pearson Correlation Analysis

		Tangibility	Reliability	Empathy	Assurance	Responsiveness	Corporate image	Core hotel benefits
Customer satisfaction	Pearson Correlation	.630**	.097	.103	.662**	.594**	.699**	.560**
	Sig. (2-tailed)	.000	.089	.074	.000	.000	.000	.000
	N	305	305	305	305	305	305	305

\*\*Correlation is significant at the 0.01 level (2-tailed).

The results in the Table 4 implied that there is a strong positive and significant relationship between tangibility and customer satisfaction ( $r = 0.630, P < 0.01$ ), assurance and customer satisfaction ( $r = 0.662, P < 0.01$ ), responsiveness and customer satisfaction ( $r = 0.594, P < 0.01$ ), corporate image and customer satisfaction ( $r = 0.699, P < 0.01$ ), core hotel benefits and customer satisfaction ( $r = 0.560, P < 0.01$ ). However, there is weak positive and insignificant relationship between reliability and customer satisfaction ( $r = 0.097, P > 0.01$ ) and empathy and customer satisfaction ( $r = 0.103, P > 0.01$ ).

If the correlation between two variables is from 0 to 0.19, very weak, from 0.20 to 0.39, weak, from 0.40 to 0.59, moderate, from 0.60 to 0.79, strong and from 0.80 to 1 very strong(Evans, 1996). Hence, the correlation between tangibility and customer satisfaction ( $r = 0.630, P < 0.01$ ), assurance and customer satisfaction( $r = 0.662, P < 0.01$ ) and corporate image and customer satisfaction( $r = 0.699, P < 0.01$ ) is strong. Moreover, the correlation result between reliability and customer satisfaction( $r = 0.594, P < 0.01$ ), core hotel benefits and customer satisfaction( $r = 0.560, P < 0.01$ ) is moderate. On the other hand, the correlation between reliability and customer satisfaction ( $r = 0.097, P > 0.05$ ), empathy and customer satisfaction ( $r = 0.103, P > 0.05$ ) is very weak and insignificant.

## Multiple Regression Analysis

To assure the regression model fitness the different assumptions were tested such as multi co linearity test was taken in this study with tolerance and variance inflation factor values. There is no multi-co linearity between two or more predictor variables when the tolerance value is greater than 0.1 and VIF is less than 10 (Field, 2013)and (Liu, 2010) respectively .Thus, as it can be shown in Table 8, the researchers concludes that there is no multi co linearity among independent variables. In addition, the assumptions of normality, linearity, and homoscedasticity were tested using the data which was collected from questionnaires using SPSS version 20. Then the multiple regression analysis was employed to determine the effect of service quality dimensions on customer satisfaction, covid-19 effects.

Table 5  
Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.850 <sup>a</sup>	.723	.716	.22082

From the Table 5, it has been observed that R value is 0.850. Therefore, R value (0.850) for the overall service quality dimensions namely tangibility, reliability, responsiveness, empathy, assurance, corporate image and core hotel benefits suggested that there is a strong effect of these seven independent variables on customer satisfaction due to covid-19 effects. Thus, result the adjusted R Square value 71.6% of the variation in customer satisfaction can be explained by these service quality dimensions and the other unexplored variables may explain the variation in customer satisfaction which accounts for 28.4%.

Table 6  
ANOVA result

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	37.766	7	5.395	110.466	.000 <sup>b</sup>
	Residual	14.505	297	.049		
	Total	52.271	304			
a. Dependent Variable: customer satisfaction						
b. Predictors: (Constant), core hotel benefits, empathy, reliability, tangibility, responsiveness, assurance, corporate image						

From Table 6, it is identified that the value of F- stat is 110.466 and is significant as the level of significance is less than 5% ( $P < 0.05$ ). This indicates that the overall model was reasonable fit to proceed to the next regression coefficient model.

Table 7  
Regression Model for Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Co-linearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	-.382	.129		-2.960	.003		
Tangibility	.244	.032	.281	7.713	.000	.704	1.420
Reliability	.020	.012	.053	1.712	.088	.958	1.044
Empathy	.008	.014	.017	.558	.577	.969	1.032
Assurance	.299	.048	.252	6.294	.000	.584	1.713
Responsiveness	.189	.047	.153	3.990	.000	.635	1.574
Corporate image	.234	.038	.260	6.231	.000	.538	1.858
Core hotel benefits	.143	.029	.178	4.849	.000	.696	1.437

Source: own survey, 2021

The results of multiple regressions in the Table 7 indicate that assurance has the highest value ( $\beta = 0.299$ ,  $P < 0.01$ ), which means that assurance is the best predictor or makes the greatest contribution to the customer satisfaction and the second predictor to customer satisfaction is tangibility with a beta value ( $\beta = 0.244$ ,  $P < 0.01$ ), followed by corporate image with a beta value ( $\beta = 0.234$ ,  $P < 0.01$ ), responsiveness with a beta value ( $\beta = 0.189$ ,  $P < 0.01$ ) and core hotel benefits with a beta value ( $\beta = 0.143$ ,  $P < 0.01$ ) that has statistically significant effect on customer satisfaction, except reliability and empathy.

As indicated in the Table 7, service quality dimensions (tangibility, assurance, responsiveness, corporate image, and core hotel benefits) have positive and significant effect on customer satisfaction. The remaining dimensions (empathy and reliability) have positive and insignificant effect on customer satisfaction.

Table 8  
Hypothesis testing

Hypothesis	Decisions
1 <b>H1:</b> Tangibility has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Do not rejected
2 <b>H2:</b> Reliability has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Rejected
3 <b>H3:</b> Responsiveness has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Do not rejected
4 <b>H4:</b> Empathy has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Rejected
5 <b>H5:</b> Assurance has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Do not rejected
6 <b>H6:</b> Corporate image has significant effect on customer satisfaction during covid-19 pandemic in hotels.	Do not rejected
7 <b>H7:</b> Core hotel benefits have significant effect on customer satisfaction during covid-19 pandemic in hotels	Do not rejected

## Conclusions

The perception of customers on service quality dimensions observed in the selected hotels show that, the mean score of all service quality dimensions are low. Therefore, the mean score of all items indicated that customers were dissatisfied in all

dimensions. Furthermore, the findings of the correlation result show that tangibility, corporate image, assurance, responsiveness and core hotel benefits were positively and statistically significant related with customer satisfaction but reliability and empathy were positively and statistically insignificant related with customer satisfaction. The ANOVA result shows that F-value was 110.66 and is significant as the level of significance ( $P < 0.05$ ) so that the overall model was reasonably fit. Moreover, adjusted R square value indicated that the service quality dimensions accounted for 71.6% of the variance in customer satisfaction and the remaining 28.4 variations in customer satisfaction may be explained by other unexplored variables. The regression coefficient of the study also show that the service quality dimensions, tangibility has the highest contribution to the customer satisfaction followed by corporate image, assurance, core hotel benefits and responsiveness respectively whereas reliability and empathy have no effect on customer satisfaction.

Generally, the researchers concluded that to improve the service delivery of hotels, policy makers shall prepare standardized rules and regulations on how to recruit manpower, standardized service quality, payment of employees in accordance with the level of hotels, disciplines and qualifications of employees and also their organizational structures in the country and applying covid-19 protocols.

### **Limitations and Suggestions for Future Researchers**

This study was conducted to identify the effect of service quality dimensions on customer satisfaction during covid-19 evidence from selected hotels in Debre Markos town. To conduct this study different limitations were found such as due to covid-19 pandemic it is difficult to easily access customers to get data, only the seven service quality dimensions were included, and the study only conducted in Debre Markos town in some selected hotel's it is difficult to generalization about service quality on customers satisfaction.

But there could be some other relevant variables that may be perceived as factors for customer satisfaction like organization's service culture, employees' related factors (attitudes, educational level, and motivation), management commitment, leadership styles and other variables which can influence customer satisfaction could be studied in the future. Hence, it is better for the fourth coming researchers to conduct comparative study among hotels with similar issue at hand so as to find out other factors that can affect customer satisfaction.

## **Abbreviations**

**SERQUAL**- service quality, **SERVPERF**- service performance, **ANOVA**- analysis of variance

## **Declarations**

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**Competing interests:** Authors declare no conflict of interest.

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## Figures

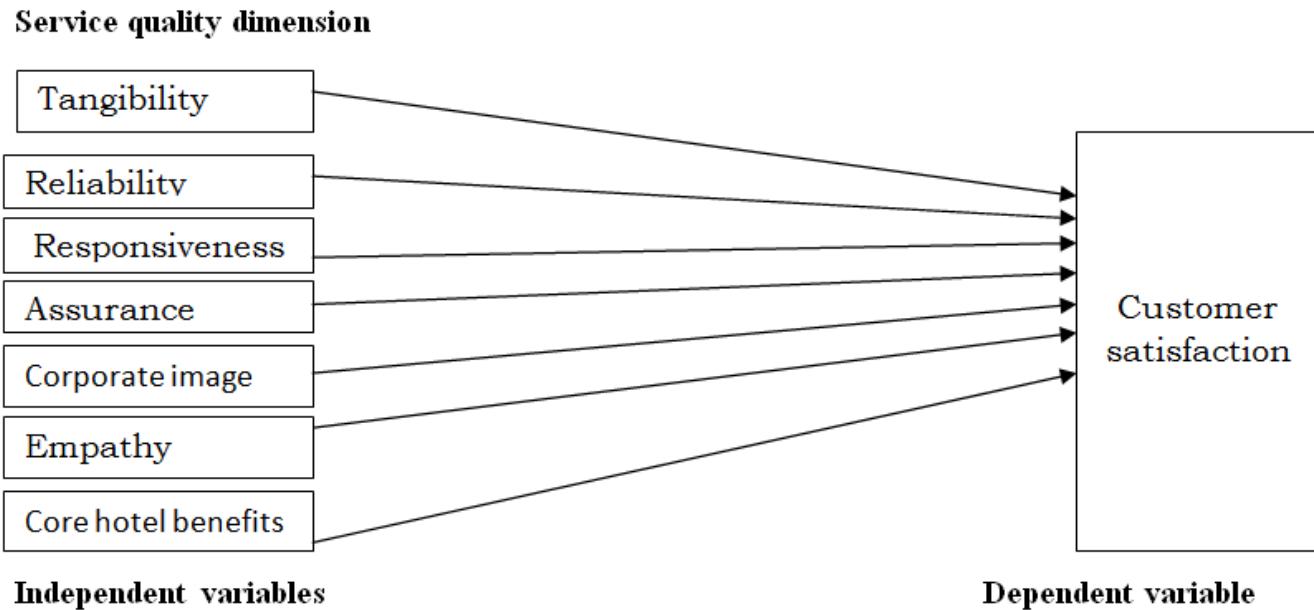


Figure 1

Conceptual frame work of service quality dimensions on customer satisfaction.

Source : ([Grönroos, 2001](#)) and ([Veasna, 2013](#)).