

THE IMPACT OF SERVICE QUALITY ON THE CUSTOMER SATISFACTION: MEDIATING ROLE OF WAITING TIME

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Abstract: The study is carried out to examine the impact of service quality and waiting time on the customer satisfaction. Meanwhile, the study has examined the mediating role of waiting time in the relationship between the service quality and customer satisfaction. The current study has presented important indications about positive and direct linkage among customer satisfaction and service quality. Even up till now an agreement is still required on the impact of service quality on the customer satisfaction and in the same way the impact of customer satisfaction on the service quality. The total useable questionnaires were 340 having response rate 68%. Then we have employed the Partial Least Structural Equation Modelling (PLS-SEM). Similarly, the service quality showed that the lesser waiting time allowed the enhanced experience of customer satisfaction through the services delivery. At the same time the potential to guess the intermediate role of waiting time in describing that why and how customer satisfaction was affected by the service quality these flaws and suggestion still needed some empirical research for its authentication. Although, if the case is different that consumer is concerned affective then the consumer identifies that due to the satisfaction among consumer would lead to service quality. The researchers would recommend that service quality concerned with the customer satisfaction in case of general service estimation but on the other hand if the evaluation is extremely negative for the service then the reverse order is found. The recent research shows through its results that waiting time acts as a mediator in the linkage among customer satisfaction and service quality. The results showed that satisfaction level of customer with the complete service quality has a link with the waiting time. Customers would be satisfied with the reduced service when the time for wait is very less.

Keywords: service quality. customer satisfaction, waiting time

1. Background

The earlier research work of marketing has attained more consideration regarding the association among customer satisfaction and service quality. Further research work which has been directed in service settings on the customer satisfaction and service quality depends upon the SERVQUAL model created by the researchers (Sharma, 2017). The existing research highlighted this problem which was also discussed in the earlier research. For

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instance, several scholars including Macieira, Oliveira, and Yanaze (2020), Ayasanond (2018) and Neirotti (2016) claimed that service quality is the very basic and primary requirement for the customer satisfaction while some other researchers including Ok, Suy, and Chhay (2018) and Sharma (2017) claimed vice versa. Several other scholars including Turay, Shahzad, and Altaf (2017), researched empirically and claimed that there was a correlation that existed among two models and thus these models were not distinctive. The difference of concept on the association among two models required furthermore study for the in-depth study and evidence that is required for improvement in the researcher's knowledge about the association among the two variables including customer satisfaction and service quality.

However, there is a compelling suggestion on the positive impact of customer satisfaction by the service quality, the earlier research showed that there is the direct link among these two factors, without considering the procedures or tools that supported this explanation that how and why customer satisfaction had impact by the service quality (Kebede, 2016; Mensah & Mensah, 2018; Murali, Pugazhendhi, & Muralidharan, 2016).

The estimation of the whole service has been impacted by the mechanism appeal and the structural content of the procedures itself (Koc, 2006; Murali et al., 2016). Murali et al. (2016) claimed that "the evaluation had been affect by the intensity of activities, the relative degree and during the service delivery the interactions to waiting periods". However, the deferments and wait particularly during the period when the service is supplying, have developed an impact significantly on the service evaluations, mostly they had been ignored previously (Colette, 2018).

It is important to point out that the SERVQUAL model created by the researchers Sharma (2017) formally measured the waiting time which is one of the terms which evaluates the service quality ("waiting time is not huge for the receiving of services specially in the banking sector"). These elements were not assumed as a distinct model while on the other hand it was assumed as grouped under the evaluation that is "Access".

Although, some of the elements were removed after further refinement and scale purification (Sharma, 2017). The removal of these elements showed that waiting time is a distinct and different model from the degree of SERVQUAL.

Hence, the recent research represented the waiting time as an intermediate to the association among customer satisfaction and service quality. The researchers claimed that in spite of good service quality the companies presents in the form of ambiance, improved technology, human resources and many more, when the duration of waiting time was prolong as a result the consumers would be dissatisfied with the services (Chen, Wang, & Zhu, 2020).

The recent research has directed the evaluation of intermediating impact of waiting time on the association among customer satisfaction and service quality through the field theory. Field theory has recommend that due to the waiting time a psychological tension develops due to the delay in fast accomplishment of service (Nunkoo, Teeroovengadum, & Thomas, 2017). The higher dissatisfaction level is developed among the customers with the quality of service due to the extended waiting time.



The negativity from the service experience effects the consumer's rating of the service quality and afterward the satisfaction for the entire service (Nunkoo et al., 2017). Certainly, as per several researchers, waiting time is considered as a waste of time, in service conditions, frustrating, time consuming, expensive, totally nonproductive, annoying, demoralizing, aggravating and agonizing (Desta & Belete, 2019; Pizam, Shapoval, & Ellis, 2016; Polas, Rahman, & Miah, 2018; Putra & Putri, 2019).

2. Literature Review

2.1. Customer Satisfaction

In the recent times customer satisfaction has been considered more important and gained attention. The earlier researches have reflected that for the achievement of any company the customer satisfaction with the service plays a vital role (Dawes, Stocchi, & Riley, 2020). The important consideration was initiated from the common philosophy for the success of any company and it remained successful as it stated that it is very important that customers experience is enhanced for their satisfaction (Leninkumar, 2017). Author claimed that the consumer satisfaction with the service will impact the consumer's decision that either engage them through word-of-mouth communication to stay in the current service provider or shift to the other service provider. Sharma (2017) recognized that the businesses who have enhanced the customer satisfaction they had to invest in the programs which enhanced the quality because customer satisfaction is quality-driven phenomenon.

Macieira et al. (2020) claimed that satisfaction is actually a performance of a particular service experience on the other hand Sharma (2017) explain the transaction specific assessment such as customer satisfaction. While Macieira et al. (2020) claimed that customer satisfaction is also a complete result of satisfaction or a specific character explanation. Mostly, the presence of a contract in the earlier research defined that customer satisfaction is actually about the enhancement of consumer's expectations and requirements.

Therefore, Chen et al. (2020) claimed that consumers would not capable to remember their earlier expectations in an impartial manner. The scholars Macieira et al. (2020) claimed that satisfaction is actually context-dependent which described that the outcome is calculated in the form of their recent experiences. Macieira et al. (2020) recognized that in comparison to the gap scores the scores perceptions are an improved analyst of customer satisfaction.

2.2. Service Quality

There are several definitions of service quality such as customer satisfaction. Service quality has a different perspective for various people, and it is biased in nature. Thus, mostly the service quality defining in a generic perspective is virtually not possible. Although, in spite of the complex issues with the definitions, there have been several definitions presented regarding service quality. Sharma (2017) explained the service quality as the evaluation of gap or differences among the consumer's perception of the service performance and the consumer's expectations for the service. It is a related term of attitude but actually it is not same as satisfaction which effects as compare to expectations as the delivery of better or superior service (Chetthamrongchai, Jermsittiparsert, & Saengchai, 2019; Saengchai & Jermsittiparsert, 2020).



Dawes et al. (2020) explained service quality as a degree of value of service association towards buyer and the evaluation of satisfaction. Service quality is explained as consumer's judgment regarding total service presented by the company and this judgment is mostly dependent upon the views developed in the service which came across during connections with the front line employees (FLEs) (Ok et al., 2018; Sharma, 2017).

2.3. Waiting Time

Waiting time has appeared as an important and critical factor that has generated fear for companies, the satisfaction effected by the evaluation of consumer's perception on the waiting time (Nelson, 2019). For instance, the service providers have to manage and improve their consumer's waiting time to guarantee the customer satisfaction with the wait because they could not eradicate wait completely.

Mostly the waiting is referred to as an expensive, waste of time, annoying, time consuming, aggravating, totally nonproductive, agonizing, demoralizing and frustrating (Desta & Belete, 2019; Pizam et al., 2016; Polas et al., 2018; Putra & Putri, 2019). About two-third of services have issues in the retail functioning which are associated with time for example waiting for lot of time to pay or lot of time to be served (Weng, Gotcher, & Kuo, 2017). Consumers never allow to wait for too long because they only agreed to wait for a specific period of time (Garaus & Wagner, 2019; Lehmann, 2019; Nelson, 2019). The determined satisfactory waiting time is not beyond than 30 minutes (Garaus & Wagner, 2019).

The phenomenon waiting consists of psychological and economic costs both (Lehmann, 2019; Ting & Nam, 2016). The researchers claimed that economic cost is included due to the reason that consumers pay their time which as a result moves towards anxiety and stress (Ting & Nam, 2016). The researchers claimed that due to waiting the psychological cost included due to the reason of cognition and emotions involvement or "affect" (Nunkoo et al., 2017; Polas et al., 2018). Waiting leads to bad temper, ruthless mood and disruptive behavior which would affect particularly when shoving, cutting in line is widespread and occasions of bumping. Hence, service providers have to research about behavioral, economic, physical and psychological features of the consumer's waiting experience during the delivery by the service providers if the service providers wants to stay competitive.

2.4. The Relationship between Service Quality and Customer Satisfaction

In the earlier research the scholars considered the association among customer satisfaction and service quality (Ayasanond, 2018; Colette, 2018; Graikinis-Evaggelinos, Tsitskari, & Kourtesis, 2019; Kebede, 2016; Lee & How, 2019; Macieira et al., 2020; Neirotti, 2016; Sharma, 2017).The significant and considerable competitive benefits have the capability of delivering high quality of services that would affect customer satisfaction and the general condition of the company business (Leninkumar, 2017).The research described a positive and direct association among customer satisfaction and service quality (Abdullah, Aziz, & Zainuddin, 2019). The research has shown that there are two various types of models that exists that is customer satisfaction and service quality (Neirotti, 2016)

These two models are closely associated and independent in nature, they have indicated that if one model enhances it would lead to the enhancement of the other model (Macieira et al., 2020; Sharma, 2017). Although, Turay et al. (2017) claimed that customer satisfaction and



service quality are two similar model. Macieira et al. (2020) recognized that service quality is actually an originator of customer satisfaction. Macieira et al. (2020) claimed that beyond the difference in culture the service quality leads to the customer satisfaction.

Turay et al. (2017) claimed that in some specific condition the role of service quality and customer satisfaction as an originator exists. If a consumer is concerned cognitive then the buyers identify the service quality which move towards customer satisfaction. Although, if the case is different that consumer is concerned affective then the consumer identify that due to the satisfaction among consumer would lead to service quality. The researchers would recommend that service quality concerned with the customer satisfaction in case of general service estimation but on the other hand if the evaluation is extremely negative for the service then the reverse order is found.

Macieira et al. (2020) recommend that the association among customer satisfaction and service quality go either way based on the variables for example nature of service, the degree of advancement in the business and client association, client's personality. Shortly, there are three various perception that exists on the association among the concepts of customer satisfaction and service quality. The initial group of researchers claimed that satisfaction is an originator of service quality.

This group recommended that customer satisfaction would lead towards considerable service quality. The second group of researchers claimed that for the customer satisfaction the service quality is an originator, because when there is a positive response from service quality then this opinion would tend towards customer satisfaction. The third group presented that there is an association that existed among customer satisfaction and service quality which is non-recursive in nature. Due to deviating perceptions, the link among these two construct is not certain yet because of its accurate nature which is also still uncertain. These perceptions suggested further in-depth study and investigation regarding the link among customer satisfaction and service quality.

The first target of the recent research was to investigate the correlation among customer satisfaction and service quality. Various researches have been done to examine the link among customer satisfaction and service quality (Colette, 2018; Lee & How, 2019; Leninkumar, 2017; Macieira et al., 2020; Neirotti, 2016; Sharma, 2017).

Numerous studies have presented the important indications on the positive and direct link among customer satisfaction and service quality (Chou & Kohsuwan, 2019). The research work done by the researcher Jamal, Ali, and Azmi (2018) to examine the association among customer satisfaction and service quality according to the survey conducted in India between customers of 43 banks and reported a strong correlation among customer satisfaction and service quality.

Macieira et al. (2020) reported that in Pakistan telecom sector customer satisfaction had a significant link with the service quality. Abdullah et al. (2019) reported that in Malaysia the research work recognized that in Malaysian Islamic banking the link among service quality perception and customer satisfaction showed that there was a significant link among customer satisfaction and service quality.



In the earlier research the significant perception is that service quality is the significant determinant of customer satisfaction but it is the superordinate concept (Abdullah et al., 2019; Chou & Kohsuwan, 2019; Jamal et al., 2018). Depending upon the empirical findings, the hypothesis is stated as follow:

H1: SQ has significant and positive impact on CS.

2.5. The Relationship between Waiting Time and Customer Satisfaction

Various research work have been done to investigate the impact on the customer satisfaction with a service by the waiting time (Colette, 2018; Desta & Belete, 2019; Garaus & Wagner, 2019; Nunkoo et al., 2017; Pizam et al., 2016; Polas et al., 2018; Ting & Nam, 2016). Field theory recommends that waiting that blocking the quick accomplishment of service towards customer develops psychological tension (Nunkoo et al., 2017).

When wait is for long period of time then the lack of satisfaction exists with the quality of service. Mostly, research represented that customer satisfaction with service and service quality had a negative impact through waiting time (Colette, 2018; Garaus & Wagner, 2019; Polas et al., 2018; Putra & Putri, 2019; Ting & Nam, 2016). When the customer waits for too long then they would be more dissatisfied or less satisfied with the service as the waiting time leads to customer dissatisfaction.

Desta and Belete (2019) recognized that there is a direct correlation that exist among customer satisfaction and waiting time, the less satisfaction is due to the wait for a long period of time. The research work also claimed that there is a negative correlation among customer's evaluation of the service quality and waiting time. These findings recommend that sometimes wait for too long leads to high satisfaction level among customers rather than less waiting times. Colette (2018) recommended that customer evaluations of the service had a negative impact by the waiting time. Researcher suggested that waiting time satisfaction is an overall intermediating factor in the service satisfaction link and perceived waiting in the industry of the health care.

Overall, it can be stated that the waiting time had a negative impact by the service experience which effects the subsequently satisfaction of whole service and the customer's rating of the service quality. According to this perception, there is a high requirement reported which has an impact on customer satisfaction by the waiting time. However due to this reason the service offer would be courteous, efficient, and the consumer's experience regarding wait would significantly impact the complete level of satisfaction among the company.

According to the researchers if the wait is for too long it would negatively impact the whole assessment of the quality of service. Certainly, the wait would ruin the experience, or it may lead towards perfect service experience. The important challenge faced in waiting time management is the customer's opinion regarding wait and the satisfaction level with the wait and also the accurate degree of time for which the customer wait. This will be presented that the significant issue regarding waiting time is to offer a great satisfaction level. Hence, waiting time would be well accomplished as it would impact the whole satisfaction regarding the service quality such as generally people related with waiting for poor service quality if they wait for too long.



H2: WT has significant and positive impact on CS.

2.6. Mediation

According to the recent research the second target was to investigate the possible mediator in the link of the customer satisfaction and service quality with respect to predict the impact on customer satisfaction by the service quality with more precise description. The earlier research regarding intermediating impact of waiting time in the link among customer satisfaction and service quality is within limitation. Mostly, customer satisfaction with the service quality is linked with the waiting time of the customer. The empirical research work recommended that there is a strong connection among customer's evaluation of the service quality and the waiting time (Garaus & Wagner, 2019; Hultman, Banin, & Boso, 2019; Putra & Putri, 2019). Therefore, "there would be a period when the use of waiting time like a replacement for the customer satisfaction is not a perfect fit" (Putra & Putri, 2019). Desta and Belete (2019) claimed that in the industry of health care where the satisfaction of waiting time acts as an intermediating factor in the relation among service satisfaction and perceived waiting time. This contradict with the earlier history depending on field theory, the recent research hypothesis that there would be a mediating impact of perceived waiting time on the link among customer satisfaction and service quality.

H3: SQ has significant and positive impact on WT.

H4: WT significantly and positively mediates between SQ and CS.

3. Methodology

For collecting the data of given study, we have selected a survey-based technique. For this purpose, we have obtained 350 questionnaires from respondents out of 500. After sorting the data, we have dropped 10 questionnaires because they were inappropriate for data analysis. So, the total useable questionnaires were 340 having response rate 68%. Then we have employed the Partial Least Structural Equation Modelling (PLS-SEM). For the statistical analyzation of collected data. Though for the assessment of partial model structures the PLS is not a comprehensive measure for checking the goodness of fit so we have used a set of criteria by following the recommendations of Ong and Puteh (2017). We can apply these criteria's systematically in two steps which involves the assessment of inner and outer model.

4. Results

This process starts with the focusing on the evaluation of measurement model. The evaluation of systematic PLS comprises the estimation of validity and reliability of variables by applying the criteria linked with formative and reflective models. The inner mode estimation will make a sense when observed latent variables reliability and validity will be appropriate for data analysis.



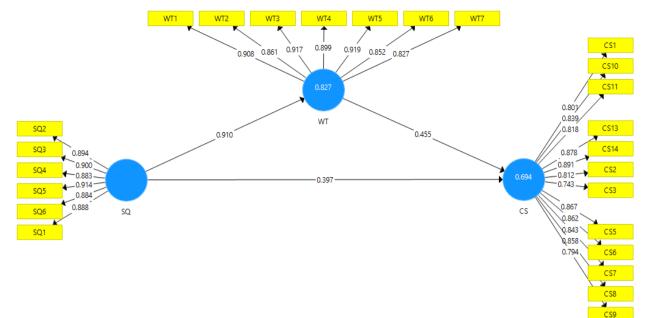


Figure 1: Measurement Model

Table 1: Outer Loading			
	CS	SQ	WT
CS1	0.801		
CS10	0.839		
CS11	0.818		
CS13	0.878		
CS14	0.891		
CS2	0.812		
CS3	0.743		
CS5	0.867		
CS6	0.862		
CS7	0.843		
CS8	0.858		
CS9	0.794		
SQ2		0.894	
SQ3		0.900	
SQ4		0.883	
SQ5		0.914	
SQ6		0.884	
WT1			0.908
WT2			0.861
WT3			0.917
WT4			0.899
WT5			0.919
WT6			0.852
WT7			0.827
SQ1		0.888	

Table 1: Outer Loadings



Generally, the first criteria that needs to be checked is the internal consistency reliability (ICR). The researchers traditionally use the Cronbach alpha criterion for checking the internal consistency, as it gives estimates of reliability in the form of inter correlations among the different indicators (Naala, Nordin, & Omar, 2017). In the criterion of Cronbach alpha, we have assumed that all indicators are equally reliable whereas in PLS we give priority to all indicators according to their reliability. We have applied the measure of composite reliability for checking that either internal consistency reliability is suitable or not, while the Cronbach alpha strictly underrates the internal consistency reliability coefficient and Cronbach alpha coefficient the value of ICR is assumed to be greater than 0.70, and it would be considered as acceptable if its greater than 0.80 in advanced research, however indicators would be less reliable if the value of composite reliability coefficient is less than 0.60 (Hair et al., 2016; Ramayah, Cheah, & Memon, 2018).

We generally divide the validity into two types name as convergent validity (CV) and discriminant validity (DV). The CV indicates that for a specific construct all the indicators are signifying the similar construct, which can be checked through the unidimensionalty of them. For the measurement of convergent validity Ramayah et al. (2018) has suggested the average variance extracted (AVE) criterion. For AVE, the least acceptable value is 0.5 (Hatamifar, Darban, & Rezvani, 2018).

	Cronbach's Alpha	rho_A	CR	(AVE)
CS	0.961	0.965	0.965	0.697
SQ	0.950	0.950	0.960	0.799
WT	0.953	0.954	0.961	0.781

Table 2: Reliability

On the other side the DV is notion which indicates that there must be a difference between theoretically different concepts for example the nature of indicators set should not be unidimensional. In PLS we use the two criterions for the measuring the DV first is cross loadings and second is Fornell-Larcker criterion.the first criterion suggests that among the latent variables and their indicators the variance shared additionally (Ramayah et al., 2018). From statistical perspective the values of AVE must be greater than the correlation among latent variables the values of each indicator loadings must be higher than cross-loadings, so in comparison with the Fornell-Larcker criterion the other one is more liberal (Hair et al., 2016; Ramayah et al., 2018).

When the estimation of outer model shows the valid and consistent assessments then it helps in enabling the successful evaluation of structural model. For this for endogenous latent variables the coefficient of determination (\mathbb{R}^2) is key criterion. Naala et al. (2017) has defined the values for R-square as 0.19(weak), 0.33(moderate)and 0.67(significant).

	R Square
CS	0.694
WT	0.827



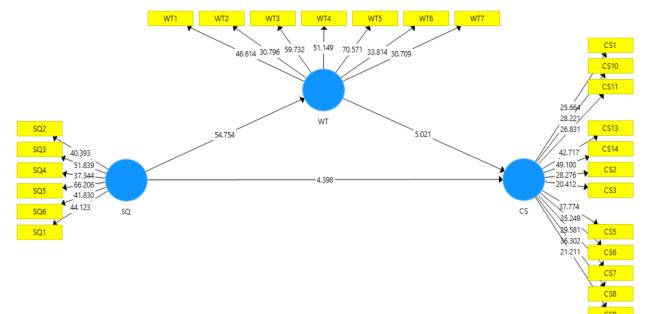


Figure 2: Structural Model

For the statistical interpretation of path coefficients, we must use the resampling technique which is known as bootstrapping procedure. For checking the direct and indirect relations of specific construct's antecedents the mediation and moderation effects are the other important criteria's (Hair et al., 2016; Hair, Matthews, Matthews, & Sarstedt, 2017; Henseler, Hubona, & Ray, 2016).

	(0)	(M)	(STDEV)	(O/STDEV)	P Values
SQ -> CS	0.811	0.812	0.032	25.530	0.000
SQ -> WT	0.910	0.909	0.017	54.754	0.000
WT -> CS	0.455	0.459	0.091	5.021	0.000

Table 3: Direct Results

Therefore, by using the PLS path modelling it is suggested that the researchers must evaluate direct impact of assumed models mainly, and then check the other effects of moderation and mediation.

Table 5: Mediation

	(0)	(M)	(STDEV)	(O/STDEV)	P Values
SQ -> WT -> CS	0.414	0.418	0.085	4.886	0.000

By using the Hair et al. (2017) f^2 we can evaluate the effect size of all effects that arise in path model. The value of f-square for effect size represents increase in R-square in relation with the unexplained percentage of variance in endogenous variable. Hair et al. (2017) has suggested the value of f square as large (0.35) medium (015) and small (0.02). The predictive ability is an additional criterion for assessment of structural model (Akter, Fosso Wamba, & Dewan, 2017). For the prediction of predictive ability by using the procedure of blindfolding



the commonly used measure is Stone-Geisser's Q^2 (Hair et al., 2016; Henseler et al., 2016). In accordance with this criterion the indicators of the endogenous latent variable must be well predicted by the model.

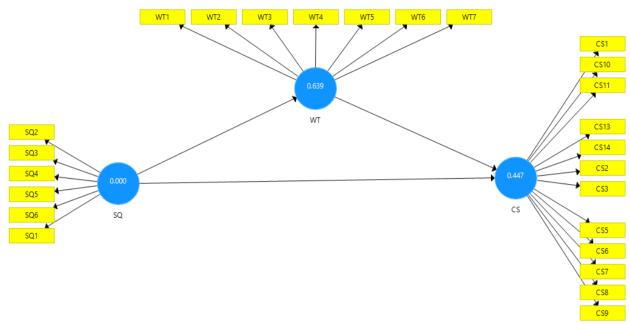


Figure 3: Blindfolding

We can apply the blindfolding procedure only when the endogenous variables have a reflective operation Measurement model. If the value of Q-square turns to be a non-zero or greater than zero for a specific endogenous construct it represents predictive relevance of explanatory variables. The measures of Q-square gives comparative effect of predictive relevance of latent variables as medium, large and small (0.15, 0.35 and 0.02).

5. Conclusion

For RMCD the understanding of the factors which effected the customer satisfaction is very important. The recommendation of the service quality factor as a single factor of a customer satisfaction is not enough. There would be different variables that included in the system of service delivery which would affect the association (Mensah & Mensah, 2018; Murali et al., 2016). The current research presented that waiting time is a variable that would act as a mediator in the linkage among customer satisfaction and service quality. Due to this reason waiting time is taken as a constant activity that exists among the time, service quality is presented with in the period where the influence is manipulated on the satisfaction level of customer. Later, two research targets were structured for the recent research. The first target of the research was to investigate the link among customer satisfaction and service quality.

The second target was to evaluate the influence of the waiting time as a mediator in the association among customer satisfaction and service quality. Lastly, this research operated the service performance instrument (SERVPERF) which was presented by the researchers Macieira et al. (2020). The mechanism which evaluated the service quality depends upon the five service quality (SERVQUAL) dimensions which are Empathy, Reliability, Assurance,



Tangibles and Responsiveness which was structured by the researchers Sharma (2017). The mechanism implied to evaluate the customer satisfaction was reformed by the researchers Abdullah et al. (2019), on the other hand tool used to calculate the waiting time was modified by the researchers Hultman et al. (2019).

The results of the recent research work present a positive and significant link among customer satisfaction and service quality. The outcomes also indicates that in RMCD the quality of service was a model which consists of five variable with flawless theory and various dimensions consists of 12 kinds Empathy-three items, Tangibles-two items, Assurance-two items, Responsiveness –two items and Reliability- three items). The findings showed, although, it is not dependable with the researchers Sharma (2017). Parasuraman and other researchers suggest that SERVQUAL tool is operated like a generic degree to evaluate the service quality.

The recent research shows through its results that waiting time acts as a mediator in the linkage among customer satisfaction and service quality. The results showed that satisfaction level of customer with the complete service quality has a link with the waiting time. Customers would be satisfied with the reduced service when the time for wait is very less. While the customers would not be satisfied if waiting time observed is very long. Hence, RMCD has not considered service quality such as the single factor of customer satisfaction but rather it has to consider waiting time as having an influence on the satisfaction level of customer.

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