

Service Quality in Shipping Industry of Ghana – Determinants and Impact on Customer Satisfaction and Customer Retention

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Abstract – Customer retention and satisfaction are the most important objectives and indicators of a company's success in today's world and monitoring them is one of the most important management jobs. The modified SERVQUAL model was used to examine service quality and its impact on customer satisfaction and retention in the Ghanaian shipping industry. The study used a quantitative research approach and a non-probability sampling method. The demographic data was evaluated using frequencies and percentages, while the measurement and structural model were evaluated using Partial Least Square in Smart PLS 3.2.9. Assurance and responsiveness both have a detrimental influence on customer satisfaction. Customer satisfaction has also been demonstrated to influence customer retention. Empathy, reliability, and tangibility were shown to have a beneficial impact on customer satisfaction. Customer satisfaction was unaffected by the delivery service's quality or the personnel's competence. The study adds to the body of knowledge on customer service quality, as well as customer satisfaction (CS) and customer retention (CR). Examining the many parts of the SERVQUAL model and their impact on CS and CR is critical for the establishment of an effective organization, especially in the shipping sector, as this study illustrates the main variables.

Keywords - Service Quality Dimensions, Customer Satisfaction, and Customer Retention.

1 Introduction

Ports perform a variety of tasks, including loading and unloading cargo into ships, as well as offering value-added services like labeling, packing, and

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cross-docking to warehouses and distribution centers (World Bank, 2012). They provide greater value to port cargo and are more consistent across the value chain. Many ports are regarded as full and indivisible nodes in the customer supply chain. Because these transit nodes are crucial and required, they play a significant role in efficiently and effectively controlling the flow of goods and information in the supply chain. Customers' expectations for future purchases will rise if you concentrate on delivering value for them. As a result, quality has become a fundamental strategy for gaining a competitive edge and retaining clients. When looking for a link between customer contentment and service quality, we discovered that the greater the service quality, the higher the customer satisfaction (Pollack, 2008). Some research, on the other hand, have not shown a strong link between service quality and customer happiness (Lovreta et al., 2010). These findings lead us to the conclusion that service standards are not the sole determinant in customer happiness, and that service organizations' operations should be focused on providing maximum value to consumers.

Many businesses feel that delivering services to current clients will help them save money and make more money. Numerous studies have shown that the worth of consumers to a company rises as the number of their commitments grows, therefore improving business efficiency by delivering services to the same customers via improved knowledge and expertise might help. In today's corporate climate, the focus on long-term client loyalty is linked to corporations' never-ending battle for consumer emotion and loyalty to maintain a steady source of profit. The challenge of client loyalty is especially severe for shipping firms, which face intense rivalry and high expectations from consumers who, because to the nature of the service, are more loyal to the company than to the service. selected. Although there is current literature on service quality, little study has been done on the influence of service quality on Ghanaian maritime customers' happiness. Few studies have been done on the quality of these services and client satisfaction, which is unique to Ghana Shipping.

The SERVQUAL methodology was used in this research to analyze the level of service of transportation firms (particularly global transport corporations) with the goal of establishing a link between service quality and customer happiness. In this research, the elements that impact customer satisfaction in Ghanaian shipping should be investigated. The goal of this research is to use the SERVQUAL model to identify several elements of service quality in the Ghana shipping industry, and to investigate the influence of service quality dimensions on customer satisfaction and retention in the Ghana shipping sector. The study aims to address a gap in the empirical literature on the relationship between the SERVQUAL model and CS and CR in a developing country like Ghana. The study adds to the body of knowledge on customer service quality, as well as CS and CR. Examining the many parts of the SERVQUAL model and their impact on CS and CR is critical for the establishment of an effective organization, especially in the shipping sector, as this study illustrates the main variables.

2 Literature review and hypothesis development

2.1 Definition of Relevant Terms

2.1.1 Service Quality

Service quality is a multidimensional notion that is universally understood in terms of how various individuals interpret things. Service quality, according to Gronroos (1984), is determined by comparing customer expectations and perceptions. Parasuraman et al., (1985) define service quality as the difference between customer expectations and perceptions of actual service. Parasuraman et al., (1988, p. 19) defined perceived service quality as "the degree and direction of the gap between customer perception and expectations".

2.1.2 Customer satisfaction

Customer satisfaction, according to Fornell (1992), is an attitude acquired because of a customer's experience after acquiring items or services. Ning-sih and Segoro (2014) define satisfaction as a consumer's attitude, appraisal, and emotional reaction after completing a transaction. This indicates that the product or service has met your expectations. Customer satisfaction is defined by Yap, Ramaiah, and Shahidan (2012) as a broad connection between consumers and service providers.

2.1.3 Customers Retention

According to Oliver (1997, p. 392) customer retention is "a deep-seated commitment to continuously repurchase or sponsor priority items or services in the future, notwithstanding marketing initiatives that may result in situational repercussions and behavioral changes". The customer retention rate is defined by Buchanan and Gillies (1990, p. 523) as "the proportion of customers remaining at the end of the year at the beginning of the year". Another definition given by Motiwala (2008, p. 46) is to "maintain a current client base by cultivating positive connections with everyone who buys a company's goods".

2.1.4 The Concept of Service Quality

Many models and ideas have been created in recent decades to quantify service quality. The most essential models are those that represent service quality as a complex or multiple structure. The thoughtful model, which consists of five aspects: tangible, dependability, responsiveness, guarantee, and empathy, is one of the most often used measures for assessing service quality. The model's quality depicts service quality as a gap between the anticipated service level and the client's impression of it. The developers of this technique to assess the perception of service quality are (Berry, Par-

asuraman, and Zeithaml 1988; Islam, 2012). As a result, the quality of the service assessment contrasts the perception of the received services with the preventative services that must be provided. Previous research has not supported all the structures in Parasuraman et al., (2005) models. The scale's expansion and size were also challenged, with some suggesting that they should be applied to the services industry in which they are used. Cronin and Taylor (1992) proposed the SERVPERF model, which is based only on real-time operations and hence removes the SERVQUAL model's waiting component. Another prominent criticism of the SERVQUAL model was that its dimensions lacked stability and were confined to the five-service sector's applications (Carmman, 1990).

Grönroos (1990) established a model that includes three dimensions: technical quality, functional quality, and corporate image, all of which effectively include the service result component when assessing service quality. At the same time, people's views of quality are influenced by the corporate image, which may be favorable, neutral, or negative. Other research employing SERVQUAL's conceptualization and measurement methods in other service sectors has shown that it is not applicable to all industries or socio-cultural and economic situations. (Islam, 2012) investigated the implementation of the SERVQUAL model in the customer service of mobile providers in Bangladesh based on four aspects (tactility, dependability, responsiveness, and empathy). In marine-related study, Ugboma et al., (2009) discovered that all five SERVQUAL dimensions were valid. The backbone of the port service quality model and the basis for the quality assessment to be based on, according to Kolanovic et al., (2011), is reliability, availability, tangibles, business-like manners and responsibility, competence, kindness, communication, credibility, understanding, and safety. Weigmans et al., (2004) published a paper that used the SERVQUAL model to assess the service quality of European container ports. The research will use a modified SERVQUAL model to examine the influence on customer satisfaction and retention in the Ghana shipping business, based on the theoretical basis mentioned above. Lim, Tang, and Jackson (2010) described the dimensions of the SERVQUAL model in Table 1.

Table 1: Definitions of dimensions of SERVQUAL model (Lim et al., 2010)

Dimension	Definition
Tangibility	Physical facilities, equipment, the store's outward look, and the personnel's appearance.
Reliability	The company's ability to provide the promised service consistently and precisely.
Assurance	Employees' capacity to inspire trust and confidence, as well as their degree of expertise and civility. Competence, civility, credibility, and security are all part of this dimension.
Empathy	The firm's consumers get caring and individualized care. This dimension also covers client access, communication, and comprehension.
Responsiveness	The willingness of the company to assist consumers and deliver fast service.

Source: Lim, Tang and Jackson (2010)

2.2 Hypothesis development and conceptual framework

2.2.1 Tangibility and Customer Satisfaction

The look of visible devices, materials, equipment, and maintenance staff is defined by Parasuraman et al., (1985). Customers will be drawn to the physical aspects of the company's products, services, outlets, and outlets while monitoring procurement operations. Customers also think about or support things like the corporate atmosphere and the pleasant interactions between staff and customers (Raza, Siddiquei, Awan and Bukhari, 2012). Furthermore, according to Parasuraman et al., (1988), the amount of tangible assets is connected to the organization's physical environment, the many services it offers, and the materials or equipment utilized for communication. Furthermore, the gap between client expectations and impressions is exacerbated by the physical attributes and performance of staff. However, it is critical to establish a nice and welcoming atmosphere so that people have a clear impression of the service's quality (Nguyen and Leblanc 2002). Established on the explanation above, we assume:

H1: The tangible dimensions of service quality have a positive effect on customer satisfaction in the Ghanaian maritime industry.

2.2.2 Responsiveness and Customer Satisfaction

According to Zeithaml et al. (1990), responsiveness is defined as a desire to provide customers with timely services when they are required. Furthermore, according to the poll, personnel are eager to help them at any time and without any hassle. Furthermore, responsiveness entails knowing client demands and desires so that staff may devote their attention to specific consumers, work at the appropriate hours, and the team is accountable for their trading and financial concerns (M. Kumar, Tat Kee, Taap Manshor, 2009). Therefore, how personnel treat clients has a direct impact on their sense of service quality. According to Urban (2010), service personnel's passion and drive to connect with consumers is in accordance with the company's acceptance and helpful attitude (Parasuraman et al., 1988). Because of their accepting attitude, the personnel acquired consumer trust and directly increased customer evaluations of the company's service quality (Haque, Sarwar, Yasmin, and Anwar, 2012). The review of the previous literature leads to the development of the following hypotheses:

H2: The responsiveness dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.

2.2.3 Assurance and Customer Satisfaction

The concept of assurance refers to the credibility, understanding, and courtesy of employees. Parasuraman et al., (1985), defined assurance as to the courtesy and knowledge of the staff and the ability to establish trusting relationships with customers. Awareness of quality of service also depends primarily on the ability of staff to trust their customers. In addition, it concerns the ability of staff to understand customer needs and the important knowledge needed to meet customer demands (SA Kumar, Mani, Mahalingam & Vanjikovan, 2010). To meet expectations, staff must respond to clients at the right time to increase their confidence (Haque et al., 2012). On the contrary, otherwise, it can negatively affect customer confidence (Liu, Guo & Hsieh, 2010). The review of the previous literature leads to the development of the following hypotheses:

H3: The assurance dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.

2.2.4 Reliability and Customer Satisfaction

All the company's services are regarded as trustworthy. The primary aspect of total service quality, according to V.A.Z. Parasuraman et al. (1988), is dependability, which refers to the company's dedication to delivering quality-oriented services in a high-quality and dependable way. In the retail industry, dependability refers to the timeliness and precision with which sales and service professionals handle client complaints and promises (He & Li, 2011). As a result, it will have a significant impact on the customer's sense of service quality. According to prior research, one of the most crucial elements that impact consumers' perceptions of service quality is dependability (Dab-

holkar, 1996). Solving all types of client concerns during service, initiating the first delivery of essential services, providing the promised service on schedule, and maintaining without faults is a model of service quality and dependability that has a significant impact on customer satisfaction (Parasuraman et al., 1988). Grounded on the above literature, we hypothesize that:

H4: The reliability dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.

2.2.5 Empathy and Customer Satisfaction

Empathy is the ability to consider customer attention by providing customer service (Iwaarden et al., 2003). In addition, according to the survey, compared with competitors, they have a better understanding of customer expectations and always provide necessary customer service without any inconvenience, which greatly affects customer satisfaction (Parasuraman et al., 1988). Convenient work schedules, personal attention, a better understanding of individual customer needs, and better communication between management and customers will have a positive impact on customer satisfaction (Ananth et al., 2011). The review of the previous literature leads to the development of the following hypotheses:

H5: The empathy dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.

2.2.6 Delivery Service Quality and Customer Satisfaction

The delivery service provides time and space effects for logistics and implements the transfer of ownership of the product during online purchases. Therefore, the delivery service has the closest relationship with customers among all elements of the logistics function and is also the center of customer needs and logistics services. Delivery service means the delivery of packaged goods according to the order and according to the specifications to the customer at the agreed time and place. This also requires speed, good condition of the goods and correct order. If the customer receives the correct product and is not damaged, the problem of contacting service personnel to return the product can be avoided. In short, the higher the quality of the service provided, the more satisfied the customer will be. Based on this, there is another assumption:

H6: The delivery service quality dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.

2.2.7 Employee Competence Dimension and Customer Satisfaction

Previous empirical data supports the idea that competence influences satisfaction, which may be changed through communication and engagement (Hery, 2016). Personnel competency may be defined as having the skills and knowledge required to execute a certain service. More worker competency leads to a better level of customer satisfaction. Staff competen-

cy is defined as an integrated set of abilities, knowledge, and understanding needed to accomplish jobs that deliver excellent customer service (Golani 2017; Manrai, L.A., Manrai, A.K. 2007). Customers typically feel a sense of pleasure when comparing the result to their expectations, thus the employees must make helpful ideas to illustrate their contentment. Therefore, competition is probably the most intimate and fundamental expectation in the physical relationship, and the answer to this expectation is a predictor of satisfaction (Selnes, 1998). The above literature reviews will lead to the following hypothesis:

H7: Employee competence dimension of service quality positively influence customer satisfaction in the Ghanaian shipping industry.

2.2.8 Customer Satisfaction and Customer Retention

According to Hallowell (1996) customer satisfaction, loyalty, and productivity are interrelated. In a form of a template, it is shown that satisfied customers will enter the loyal customer category, which will eventually bring profit. Another study shows that customer satisfaction and loyalty have a positive coordination relationship between degrees. It is also suggested that customer retention, market share, and profit can be improved by improving customer satisfaction (Ponirin, Scott, and Heidt, 2009). Martin- Consuegra et al. (2007) indicated that satisfaction is one of the most influential factors and partially increases customer loyalty. Research shows that customer satisfaction affects customer retention, service use and certain customer wishes have a significant positive effect, therefore customer satisfaction is one of the most important conditions for improving customer loyalty (Verhoef, 2003). These findings illuminate the proposed hypothesis as:

H8: Customer satisfaction will have a positive impact on customer retention in the Ghanaian shipping industry.

2.3 Conceptual Framework

The image below demonstrates the conceptual framework for the effect of service quality elements on customer satisfaction and retention using the revised SERVQUAL model. Delivery service quality and staff competence are two new components added to the original SERVQUAL model, both of which are based on Sahar Siami and Mohammadbaghaer Gorji's research (2012).

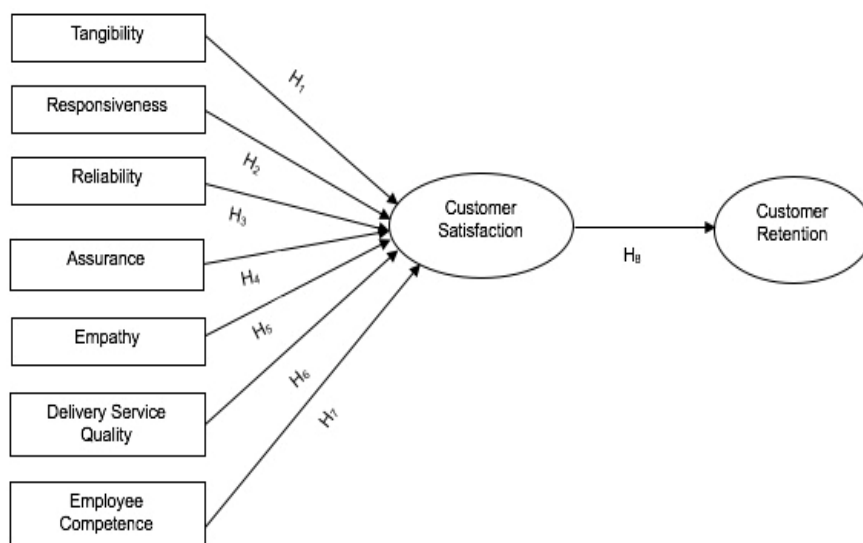


Figure 1: Conceptual Framework

3 Methodology

The study used a quantitative research technique, with respondents drawn mostly from Accra and Tema City, Ghana's two most populous cities with the most diverse marine industry. Customers that have had a shipping transaction are the focus of this research. A total of 200 respondents were contacted at random for the survey, with 150 agreeing to take part (75 percent response rate). This research used a non-probability sampling approach called convenience sampling. The study's primary data gathering tool is the distribution of questionnaires to the study's sample population. To gather answers from the participants, a questionnaire was used using a 7-point Likert scale ranging from strongly disagree, disagree, slightly disagree, neutral, somewhat agree, agree, and strongly agree.

The main data collection instrument used for the study is questionnaire administration which was subsequently analyzed via SPSS version 23.0 to assess the demographic information using frequencies and percentages whiles Smart PLS 3.2.9 was employed to assess the measurement and the structural model (Ringle et al., 2015) using Partial Least Square. The data collection instrument comprises a structured questionnaire, with scales adapted from the extant literature. In this study, the 21-items scale of SERVQUAL proposed by Parasuraman et al. 2002, was adopted considering the five dimensions "tangibility, responsiveness, reliability, assurance, and empathy" and were modified to suit the current research context. The customer satisfaction scale was jointly composed by items taken from Cronin et al., (2000), Hanif et al., (2010), Kaur and Soch (2012), and Hazrati, Zohdi, Zohdi, Seyedi, and Dalvand, (2012) while the scale of customer re-

tention was developed using items extracted from Sirdeshmukh et al., (2002), Zeithaml et al., (1996), and Amin et al. (2013).

In the sense that career-related abilities (such as personal attitude, expertise, and personality), rather than IQ, are the most significant drivers of professional success, McClelland (1973) is arguably the first idea to be defined. Katz (1974) discovered that the talents required to be a good manager fall into three categories: technology, people, and ideas. From an industrial standpoint, Spencer and Spencer (1993) describe competitiveness as a core personal attribute of an individual that leads to great performance in a specific setting. Technical skills connected to technical and administrative needs, which typically comprise the development of broad knowledge and skills relating to human, personal, and interpersonal conduct, were advocated by Rainsbury et al., (2002). According to the literature study, service competency is described as a mix of interpersonal and professional qualities necessary to accomplish customer service duties.

4 Results

4.1 Respondents Demographic Information

Table 2 shows the descriptive statistics of the respondent's demographic information, including gender, age, and educational qualification. The research included 150 participants, with the majority (87) being males (58%) and 63 (42%) being females. According to the respondents' ages, the majority (45.3%) were in the age category of 31-40 years, followed by 18-30 years (40.7%), above 50 years (7.3%), and 41-50 years (6.7 %). In terms of educational credentials, the majority (38%) hold a bachelor's degree, followed by postgraduate (32%) and diploma (17.3%), with the remainder having other educational qualifications.

Table 2: Measurement of Demographic Statistics of Respondent (N=150)

Variables		Frequency	%
Gender	Male	87	58.0
	Female	63	42.0
Age	18-30 years	61	40.7
	31-40 years	68	45.3
	41-50 years	10	6.7
	51+years	11	7.3
Educational Qualification	Diploma	26	17.3
	Bachelor	57	38.0
	Post Graduate	48	32.0
	Others	19	12.7

Note: N = Sample size, % = Percentage. Source: Author's Contribution with SPSS Version 26.0

4.2 Model Measurement

Using SmartPLS version 3.2.9, the researcher assessed the study constructs' reliability and validity (Nunnally and Bernstein, 1994 and Fornell and Larcker, 1981). Nunnally and Bernstein (1994) and Fornell and Larcker (1981) procedures were used to validate the construct's reliability and validity. To establish the construct's reliability and validity, the Composite Reliability and Cronbach's Alpha must both be larger than 0.70. The factor loadings for all of the measurement items varied from 0.730 to 0.950 and were significant, as shown in Table 3. The results also demonstrated that all constructs had composite reliability (CR) and Cronbach's alpha (CA) values more than 0.70, demonstrating construct reliability and validity. The average variance extracted (AVE) was more than the 0.5 thresholds proposed by Hair et al., (2006) as shown in Table 3.

Table 3: Constructs Reliability and Validity (Confirmatory Factor Analysis (CFA))

Factors/Items	Loadings	CR	AVE	CA	Sig
Tangibility (TN)					
TN1	0.945				
TN2	0.964	0.958	0.852	0.941	***
TN3	0.908				
TN4	0.872				
Responsiveness (RN)					
RN1	0.907				
RN2	0.960	0.957	0.848	0.940	***
RN3	0.902				
RN4	0.913				
Reliability (RL)					
RL1	0.826				
RL2	0.837	0.946	0.778	0.931	***
RL3	0.901				
RL4	0.936				
RL5	0.906				
Assurance (AS)					
AS1	0.783	0.915	0.784	0.864	***
AS2	0.941				
AS1	0.924				
Empathy (EM)					
EM1	0.925				
EM2	0.898	0.949	0.823	0.928	***
EM3	0.909				
EM4	0.897				
Delivery Service Quality (DEL)					
DEL1	0.841	0.826	0.614	0.699	***
DEL2	0.733				
DEL3	0.773				
Employee Competence		0.886	0.795	0.758	***

(EMPL)					
EMPL1	0.834				
EMPL2	0.946				
Customer Satisfaction (CS)					
CS1	0.838	0.925	0.804	0.877	***
CS2	0.911				
CS3	0.937				
Customer Retention (CT)					
CT1	0.804				
CT2	0.864	0.903	0.700	0.857	***
CT3	0.865				
CT4	0.812				

Note: ***P-value < 0.01. CR = Composite Reliability, AVE = Average Variance Extracted, CA = Cronbach's Alpha. Source: Author's Contribution with SmartPLS Version 3

The researcher again made use of another form of discriminant validity test suggested by Henseler et al., (2015). Presented in Table 4 is the Heterotrait-Monotrait Ratio (HTMT) which indicates a good discriminant validity only if the HTMT ratios are less than the utmost 0.90 restrictive thresholds (Henseler et al., 2015). As shown in Table 3, all the HTMT ratios were less than the utmost restrictive threshold of 0.90, again confirming the discriminant validity of the constructs under study.

Table 4: Heterotrait-Monotrait Ratio (HTMT)

VAR	TN	RN	RL	AS	EM	DEL	EMPL	CS
TN								
RN	0.256							
RL	0.187	0.756						
AS	0.134	0.535	0.634					
EM	0.548	0.433	0.360	0.283				
DEL	0.548	0.202	0.119	0.085	0.081			
EMPL	0.083	0.091	0.058	0.084	0.098	0.148		
CS	0.635	0.281	0.364	0.165	0.698	0.133	0.088	
CT	0.710	0.304	0.397	0.244	0.678	0.118	0.127	0.030

Note: TN = Tangibility, RN = Responsiveness, RL = Reliability, AS = Assurance, EM = Empathy, DEL = Delivery Service Quality, EMPL = Employee Competence, CS = Customer Satisfaction, CT = Customer Retention.

Source: Author's Contribution with SmartPLS Version 3

4.3 Assessment of the Structural Model

In this study, the research hypotheses were tested using the bootstrap re-sampling function procedure embedded in the SmartPLS to evaluate the significance of the path coefficients as well as the indirect effect of the constructs. The path coefficient (original sample) of the constructs is made up of standardized values from -1 to +1. According to the standardized values, the closer the estimated path coefficients are to 1 and 0, the robust and weaker the estimated relationship respectively. The path coefficient for the structural model showing the direct and total effect of the hypothesis is presented on Table 5. The result shows that six (6) out of the eight tested hypotheses were supported and significant. For instance, we found that assurance (AS) (OS = -0.139, t-value = 2.276, p-value = 0.023) and responsiveness (RN) (OS = -0.302, t-value = 3.270, p-value = 0.001) has a significant negative effect on customer satisfaction (CS) respectively. Again, customer satisfaction (CS) is found to have a positive significant influence on customer retention (CT) (OS = 0.895, t-value = 46.898, p-value = 0.000). At the same time, empathy (EM) (OS = 0.545, t-value = 10.917, p-value = 0.000), reliability (RL) (OS = 0.430, t-value = 4.298, p-value = 0.000) and tangibility (TN) (OS = 0.393, t-value = 7.688, p-value = 0.000) were found to have a positive significant influence on customer satisfaction (CS) respectively. However, delivery service quality (DEL) (OS = 0.023, t-value = 0.500, p-value = 0.617) and employee competence (EMPL) (OS = 0.013, t-value = 0.239, p-value = 0.811) have no significant influence on customer satisfaction respectively.

Table 5: Path Coefficient of the structural model showing the Direct and Total effects of the variables

Variables	Original Sample (O)	M	SD	T Statistics (O/STDEV)	P-Values
Assurance → Customer Satisfaction	-0.139	-0.128	0.061	2.276	0.023**
Customer Satisfaction → Customer Retention	0.895	0.895	0.019	46.898	0.000***
Delivery Service Quality → Customer Satisfaction	0.023	0.029	0.046	0.500	0.617
Empathy → Customer Satisfaction	0.545	0.545	0.050	10.917	0.000***
Employee Competence → Customer Satisfaction	0.013	0.010	0.053	0.239	0.811
Reliability → Customer Satisfaction	0.430	0.425	0.100	4.298	0.000***
Responsiveness → Customer Satisfaction	-0.302	-0.300	0.092	3.270	0.001***
Tangibility → Customer Satisfaction	0.393	0.392	0.051	7.688	0.000***

Note: ***P-value < 0.01, **P-value <0.05. Source: Author's Contribution with SmartPLS Version 3

Conversely, the mediation role of customer satisfaction in the structural model per this study was also tested (Table 6). It was revealed from the result that, five (5) out of the seven (7) hypotheses tested were supported, while two (2) were not supported. Thus, for instance, customer satisfaction (CS) mediates the relationship between assurance (AS) and customer retention (CT) as (OS = -0.124, t-value = 2.297, p-value = 0.022). Customer satisfaction mediates the relationship between empathy (EM) and customer retention (CT) as (OS = 0.020, t-value = 11.097, p-value = 0.000), as well as reliability (RL) and customer retention (CT) as (OS = 0.385, t-value = 4.322, p-value = 0.000). However, customer satisfaction (CS) do not mediate the relationship between delivery service quality (DEL) and customer retention (CT) as (OS = 0.020, t-value = 0.501, p-value = 0.617) as well as employee competence (EMPL) and customer retention (CT) as (OS = 0.011, t-value = 0.240, p-value = 0.810).

Table 6: Specific Indirect Effect of Construct (Mediation Analysis)

	Original Sample (O)	M	SD	T Statistics (O/STDEV)	P-Values
Assurance → Customer Satisfaction → Customer Retention	-0.124	-0.114	0.054	2.297	0.022**
Delivery Service Quality → Customer Satisfaction → Customer Retention	0.020	0.026	0.041	0.501	0.617
Empathy → Customer Satisfaction → Customer Retention	0.488	0.487	0.044	11.097	0.000***
Employee Competence → Customer Satisfaction → Customer Retention	0.011	0.009	0.047	0.240	0.810
Reliability → Customer Satisfaction → Customer Retention	0.385	0.380	0.089	4.322	0.000***
Responsiveness → Customer Satisfaction → Customer Retention	-0.270	-0.268	0.083	3.268	0.001**
Tangibility → Customer Satisfaction → Customer Retention	0.351	0.351	0.049	7.236	0.000***

Note: ***P-value < 0.01, **P-value < 0.05. Source: Author's Contribution with SmartPLS Version 3

The researcher also measures the predictive power of the regression model by assessing the coefficient of determination also known as Adjusted R-Square (Table 7). The coefficient of determination (r²) indicates the

amount of variance in the dependent variable (construct) that can be explained by the independent variables (constructs). The adjusted R2 value of 0.801 (t-value = 23.601, p-value < 0.01) in Table 7 indicates that, customer satisfaction (CS) explains 80.1% of the variability in the dependent variable, customer retention (CT). At the same time, the adjusted R2 value of 0.714 (t-value = 17.259, p-value < 0.01) showed that tangibility, responsiveness, reliability, assurance, empathy, delivery service quality, and employee competence jointly explain 71.4% of the variability in the dependent variable customer satisfaction.

Table 7: R-Square Result for the Structural Model Path

	Original Sample (O)	M	SD	T Statistics (O/STDEV)	P-Values
Customer Retention	0.801	0.801	0.034	23.601	0.000***
Customer Satisfaction	0.714	0.728	0.041	17.259	0.000***

Note: ***P-value < 0.01. Source: Author's Contribution with SmartPLS Version 3

5 Discussion and implications

The study's purpose was to understand how service quality affected customer satisfaction and retention in the Ghanaian shipping industry. Overall, the current study's results are consistent with previous empirical research on service quality and its impact on customer satisfaction and retention. According to the evidence shown above, service quality has a significant impact on customer satisfaction. Similar results have been found in previous studies (Amin & Isa, 2008; Anderson & Sullivan, 1993; Arasli et al., 2005; Arasli, Mehtap-Smadi, & Katircioglu, 2005; Awan et al., 2011; Cronin Jr & Taylor, 1992). This shows that our study's H1-H5 theory is correct. However, in terms of the association between customer satisfaction and hypothesis 6 and 7, they were statistically insignificant. However, tangibility, responsiveness, reliability, assurance, empathy, delivery service quality, and employee competence together explain 71.4 percent of the variability in the mediator variable customer satisfaction, according to the coefficient of determination (r²) of variance in the dependent variables that can be explained by the mediator variable. Many issues in the shipping business are among the researcher's concerns about the rejected hypothesis. Customers' opinions on delivery service quality and staff competency, for example, might be attributed not just to satisfaction but also to other social exchange variables. Quality of delivery service and personnel competency may also be considered technological variables that are basic and important to clients. It is also argued that enhancing customer happiness may enhance customer retention, market share, and profit (Ponirin, Scott, and Heidt, 2009). Customer satisfaction has a strong beneficial influence on client retention, service usage, and specific customer requests, according to previous study. As a result, customer

happiness is one of the most critical factors for boosting customer loyalty (Verhoef, 2003). Finally, this research demonstrates how SERVQUAL factors affect customer satisfaction and retention. These results corroborate Reicheld's (1996) theory that customer pleasure is important but not enough to guarantee client loyalty. Table 8 displays the summary of the tested hypotheses based on the research findings.

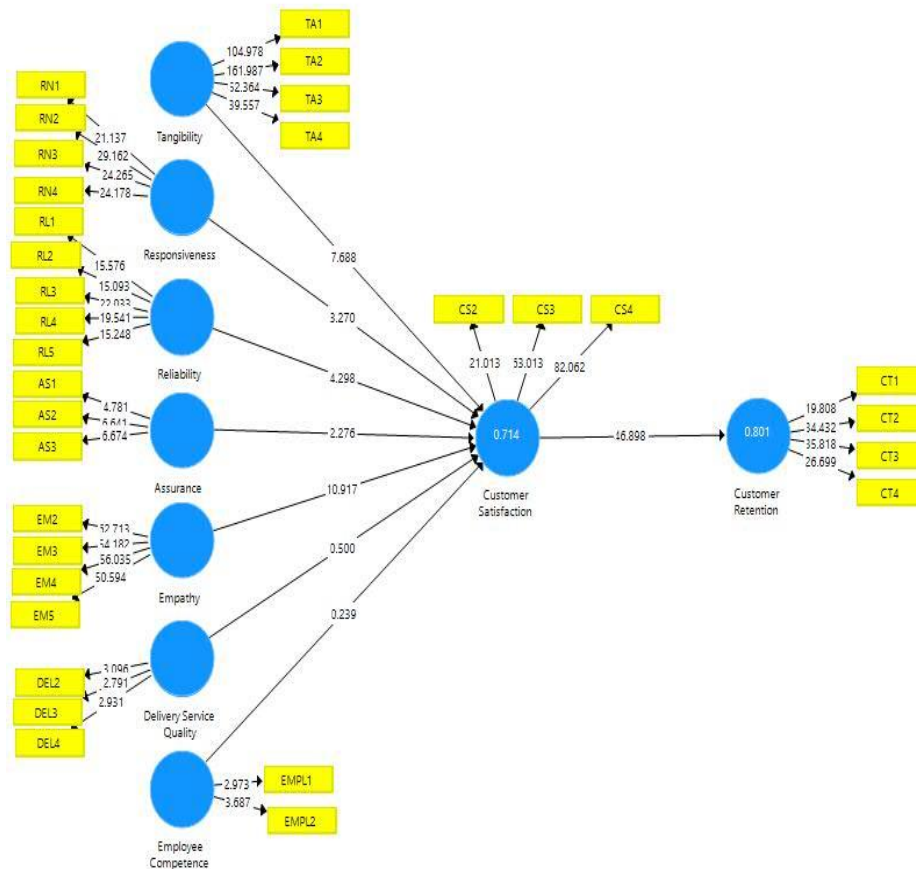


Figure 2: Structural model of modified SERVQUAL dimension to customer satisfaction and retention

5.1 Theoretical Implications

The outcomes of this study add to theoretical knowledge/literature in the areas of service quality, customer satisfaction, and retention, expanding consumer responses to service quality. The overall impact of assurance (AS) and responsiveness (RN) have a considerable negative influence on customer satisfaction (CS), according to this study. Customer satisfaction (CS) is determined to have a strong beneficial impact on customer retention once again (CT). Simultaneously, empathy (EM), reliability (RL), and tangibility (TN) were discovered to have a positive substantial impact on customer satisfaction (CS). Customer happiness, on the other hand, is unaffected by

delivery service quality (DEL) or staff competence (EMPL). From a research standpoint, the study added to the body of knowledge on customer service quality by investigating the influence on customer satisfaction and retention in the Ghanaian context. Customer satisfaction and loyalty are bolstered by the latest survey findings. Customer happiness and loyalty should be positive outcomes and resources for growing a service company.

Table 8: Status of the Hypotheses base on the research findings

No.	Research Hypotheses	Research Status
H1	Tangibility dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Significant and Accepted
H2	Responsiveness dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Significant and Accepted
H3	Assurance dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Significant and Not Accepted
H4	Reliability dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Significant and Accepted
H5	Empathy dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Significant and Accepted
H6	Delivery service quality dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Insignificant and Not Accepted
H7	Employee competence dimension of service quality positively influences customer satisfaction in the Ghanaian shipping industry.	Insignificant and Not Accepted
H8	Customer satisfaction will have a positive impact on customer retention in the Ghanaian shipping industry.	Significant and Accepted

5.2 Managerial Implications

As a shipping manager, it's critical to stick to and properly execute all aspects of your quality of service strategy. Customer satisfaction is influenced by tangibility, responsiveness, dependability, assurance, empathy, delivery service quality, and personnel competency, among other factors. As a result, managers are being urged to improve their staff' abilities to address client complaints and difficulties on a continuous basis. Management should be kept up to date on where service has failed and hunt for a solution as soon as possible, particularly if extra personnel is required owing to many clients to minimize lengthy lineups. According to the researcher's observations, more skilled people in charge of dealing with customer issues is required to address the issue of lengthy waiting lines. This will have a negative impact

on consumers' sentiments by decreasing their appreciation for service quality and ultimately leading to discontent. Remember that since it's a question of sentiments, it's not always simple to deliver pleasure where it has previously failed. The findings of this research show that the SERVQUAL model is a good way to measure customer satisfaction and retention in Ghana's shipping business. To be competitive in the industry, managers of different shipping firms must utilize the SERVQUAL model to continuously assess and improve customer satisfaction and retention rates.

6 Limitation and future research prospects

This study, like most of the others before it, has certain drawbacks. First, the study's sample was confined to Ghana and a single geographic region. As a result, future study should include a bigger sample size in the same sector or a multi-sample analysis. Therefore, the findings may or may not be applicable to other nations. Future study should investigate this situation in other nations, particularly in developing economies where shipping is a major part of individuals' everyday lives. Although a variety of variables may affect service quality and staff competency, the emphasis of this study is on the impact of service quality on customer satisfaction and loyalty. Other variables that may impact the non-significant association between service delivery quality, employee competency, and customer satisfaction indicated in this study will need to be investigated in future research. To acquire a better grasp of the causal link between the components, longitudinal study is required.

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