

# Delivering Excellent Customer Service Using House of Quality (HOQ): A Case Study of Delta Shipping Company Limited

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## Abstract

Customer service is one of the most powerful elements available in an organization in search for competitive advantage, but the least well managed. This paper presents a proactive way of providing excellent customer service in the logistics world. The research focuses on the performance of excellent customer service which leads to customer satisfaction. Self-administered questionnaires and unstructured interviews were used to collect data from the respondents. Both purposive and random sampling methods were employed in selecting the respondents. The research employed House of Quality model in analyzing the data. The result from the study revealed that for Delta Shipping Company to offer excellent customer service to its clients, the company should prioritize reliability and fast delivery of their service. In addition, Delta shipping lacks delivery method and communication skills, some of characteristics required of a company for the achievement of customer satisfaction. In comparing the company to other competitors, Delta shipping is not doing well regarding the safety of the customers' cargo. It was recommended that Delta Shipping Company Limited should pay attention to reliability and fast delivery of the cargo to her customers. Furthermore, the company needs to improve on delivery method, communications skills and safety of the customers' goods.

## Keywords

Customer Service, House of Quality Model, Customer Satisfaction

## 1. Introduction

The key to the success of every business in a competitive environment is how the business owners or managers of the company are able to utilize their resources

efficiently and effectively to ensure the elimination of waste in her processing system to bring about maximum output. The central point or focus of any business therefore is to delight their customers hence the organization's ability to delight their customers will eventually lead to achieving customer satisfaction because meeting customer's expectations is what drives the business. Customer service is an important means of differentiating one company from her competitors and by so doing enhancing customer loyalty. Setting the components of customer service and quantifying the level of customer service are means of sustaining the company's competitive advantage. The main aim of logistics management is to serve customers better than the competitors and at the same time make profits. Customer service is about creating a relationship of trust and loyalty with customers that transcends the interaction of the moment. Such bonds are best forged not only when things go right but also when things go wrong. Therefore, complaints management becomes the premier opportunity to prove care, responsiveness and trustworthiness to customers.

**Ettore (2001)** is of the view that concentrating on current customer's information can and should be obtained to better understand their view on service provided. The quality of service provided will determine the level of satisfaction of the customer although what one customer will see as quality may not be necessarily seen as quality to another. Good customer service is treating customers with a friendly, helpful attitude. Customer satisfaction comes in here with the view that a good customer service leads to customer satisfaction. Customers derive satisfaction from a product or a service based on whether their need is met effortlessly, in a convenient way that makes them loyal to the company. Hence customer satisfaction is an important step to gain customer loyalty.

Delta shipping company has customer service as one of the pillars on which it operates as a custom house agent and this study seeks to find out whether service provided meets customer expectations and whether or not, customers are satisfied by those services. Providing excellent customer service leading to the satisfaction of the customer is one significant issue affecting organizational survival. Most companies in Ghana do not have clue what their customers really need. The companies operate in a state of ignorant bliss, believing that if their customers are anything less than 100 percent satisfied, they would hear about it. Then companies are shocked when their customer base erodes and their existence is threatened. Delta shipping company is an indigenous Ghanaian logistics company established to provide a personalized professional freight service to Ghana's importers and exporters. The company in recent time has noticed a drastic reduction in her clientele base due to company's inability to meet their expectations. This is affecting the performance of Delta shipping company and if steps are not taken to rectify the situation, it could lead to the collapse of the company. The research is thus aim at aiding Delta shipping company to achieve excellent customer service using the House of Quality model. The main objective of the research is to deliver excellent customer service using House of Quality model. To identify how customers' needs can be considered and factored into

company processes prior to service provision. The specific objectives are:

- To investigate the needs of customers at Delta Shipping that defines excellent customer service.
- To identify Delta shipping's capabilities in providing excellent customer service.
- To do a comparative analysis of service delivery between delta shipping and her competitors.
- To recommend how Delta Shipping can improve on its customer delivery.

## 2. Related Literature

Customers can be described as those who use the output of work, the end users of products or services. A customer can also be a person or company who purchases goods and services or are people who need your assistance or people who phone, people who walk in, people who write email. They may be internal such as the employees, departments/units and directors or external like members of the public, other businesses or government (Dei-Tumi, 2005). According to Wreden (2004), customer service is defined as an organization's ability to meet the needs and desires of its customers. It can also be viewed as ability of an organization to consistently exceed the expectations of its customers.

Customer satisfaction constitutes a cardinal indicator for assessing the success of a company. Satisfied customers are assets that ensure a regular cash flow for the business in the future. Satisfaction is of great interest because its importance has effect on customer retention. Research by Oliver (2009) suggests that quality service and customer satisfaction are two distinct but related. This is particularly true for the services firms where increased level of customer satisfaction results in profit maximization. Therefore, experts say that customer satisfaction should be the fundamental principle of all the service firms as it is the key indicator of firm's performance. As said by Sakthivel et al. (2005), customer loyalty and satisfaction is proved to be the major determinants for long term survival and financial performance of the company. Also, customers are considered as final judges to judge the quality level of service offered. It is therefore important that service industries provide quality service to customers so as to satisfy them, make them loyal and retain them at the end.

Ako-Nai (2011) explained that excellent customer service is also about ensuring the customer is receiving the appropriate service they truly need and not selling them more products or services than they need. It is also about taking that extra step to help without being asked, it is about attitude and skills. Customer perceived service quality is the customers' own perception of the service based on different factors contribution to the service, from the process to the final outcome. According to Grönroos (2001b) "quality is what customers perceive". Customers buying service consider everything that contributes to the process and the final outcome in making their assessments of the service. However, the subjective assessment of the actual service experiences is the customer perceived service quality as pointed out by Looy et al. (2003), Zeithaml et al. (2006) and

Grönroos (2001a). Customer satisfaction is all about exceeding the promises and delighting the customers. Customers perceive service in terms of quality, but how satisfied they are with the overall experience is what defines satisfaction. According to Zeithaml et al. (2006), although customer quality and customer satisfaction are used interchangeably, there is a distinction. Customer satisfaction is when the outcome of the service matches the expectations of the customer. Customer loyalty broadly refers to customer behaviours that indicate a desire to better an ongoing relationship with a company, (Palmatier et al., 2006). According to Bowen & Chen (2001), just satisfying customers is not enough, there has to be extremely satisfied customers, reason being that customer satisfaction must lead to customer loyalty. Bansal & Gupta (2001) also argued that building customer loyalty is not a choice any longer with businesses, it is the only way of building sustainable competitive advantage. It can then be urged that customer satisfaction is not an accurate indicator of loyalty. Marketers are seeking information in recent world on how to build customer loyalty. The increased profit comes from the customer service elements such as reduced marketing costs, increased sales and reduced operational costs.

### 3. Research Methodology

The study employed case study method in this study. This method studies a particular situation rather than a sweeping statistical survey. It is used to narrow down a very broad field of research into one easily researchable topic. The research also employs house of quality or quality function deployment model to analyse the data collected.

#### 3.1. Study Area and Population

The research was conducted in Delta Shipping Company limited, Tema branch. Delta Shipping is a clearing and freight forwarding company. It was established in 1990 to provide a personalized professional freight services to Ghana's growing importers and exporters. Its operation includes air freight, customs brokerage, warehousing and other Logistics services. The company's vision is to become a First-class clearing, freight forwarding and logistics company that will provide superior services for its customers in Ghana. The main office is located in Aviation house, Accra, with two other branches located in Tema and Tarkoradi, (<http://www.deltaseair.com>). Population of the study is made up of 20 customers and 10 staff of Delta shipping at the Tema branch and staff of Transport Department of the Regional Maritime University.

#### 3.2. Sample Size and Sampling Techniques

A sample size of twenty six (26) was selected from the population with the breakdown as; 15 customers selected using random sampling method and 8 staff from Delta Shipping Company and 3 staff of Transport Department of the Regional Maritime University were purposively selected. The purposive selection was done based on staff whose core business is in direct contact with customers

as well as have in-depth knowledge in the model used.

### 3.3. Data Collection

Two sets of questionnaires were used. The first set of questionnaire was designed and administered to the customers of the Delta Shipping Company. This is to enable the researchers ascertain the voice or the needs of the customers normally referred to as WHATS. Based on the needs/voice of the customers, refer to **Table 1**, another set of questionnaires was designed to identify the technical capabilities or voice of the company known as HOW. In determining the relationship between the voice of the customers and that of the company, a group of three (3) Regional Maritime University lecturers who have an in-depth knowledge on the model were used to find the relationship.

### 3.4. Reliability and Validity of Data

To ensure the reliability and validity of data, the researchers did a thorough background study of the topic by reviewing various related literature and secondly through pre-discussions with industry players in the shipping industry to obtain practical and clear indicators in relation to the topic under study. This has been done to gain a well-developed data collection technique which goes further to enhance the accuracy, validity, and reliability of research findings.

### 3.5. House of Quality or Quality Function Deployment (QFD) Model

Delivering excellent customer service in today's competitive world is a vital tool for companies to gain competitive advantage and this can be accomplished at an affordable cost. This satisfaction can be achieved if companies are proactive in incorporating the voice of their customers in the initial stage of providing services. One way to do that is the use of Quality Function Deployment (QFD) model which is a structured approach to defining customer needs or requirements and translating them into specific plans to produce products or services to meet those needs. The model uses a matrix format to capture the voice of both the customers and that of the company that are vital to the service or production planning process. The study employed this model because it is the most recognized and widely used method in achieving higher customer satisfaction. It is also able to translate customer requirements through marketing research and benchmarking data into a number of engineering targets to be met by a new product or service design. Besides, the house of quality model helps identify the critical technical components through competitive analysis and customer needs. It is also able to adapt to any particular problem and allow managers to carry out competitor assessment from the customers perspective (Bernal et al., 2009: p. 17). Bernal et al. (2009) indicate that the model is useful in calculating benchmarking index, prioritizing index, as well as quality improvement index (Johnson, Muller, Sieck, & Tapke, 2004).

**Table 1.** Customers requirements and the weight.

WHATS (voice of the customer)	Weight
Safety	0.10
Reliability	0.21
Lower cost	0.23
Shorter lead time	0.26
Flexibility	0.11
Quality of Delivery	0.09

### Steps in “House of Quality” Model

The house of quality model is made up of six basic steps and they are (Figure 1):

1) The first step has to do with identifying what customer wants or the voice of customer (WHATS).

2) Step two is the technical requirements of the company that identify how the product or service will satisfy the customer (HOWS). It refers to identifying specific product or service characteristics, features or attributes and showing how they will satisfy customer wants

3) Determine the correlation between the HOWS. This is where the potential positive and negative interactions between technical characteristics using symbols + for Positive relationship, – for negative relationship. ++ for strong positive and -- for strong negative. The roof matrix also facilitates necessary engineering trade-offs.

4) Interrelationship matrix. This stage determines the relationships between customer requirements/voice and product requirements or technical characteristics. The relationships are depicted by the symbols;  $\Theta$ —Strong relationship, O—Moderate relationship and  $\Delta$ —Weak relationship with the numerical value for the symbols as  $\Delta$  is 1, O is 3 and  $\Theta$  is 9.

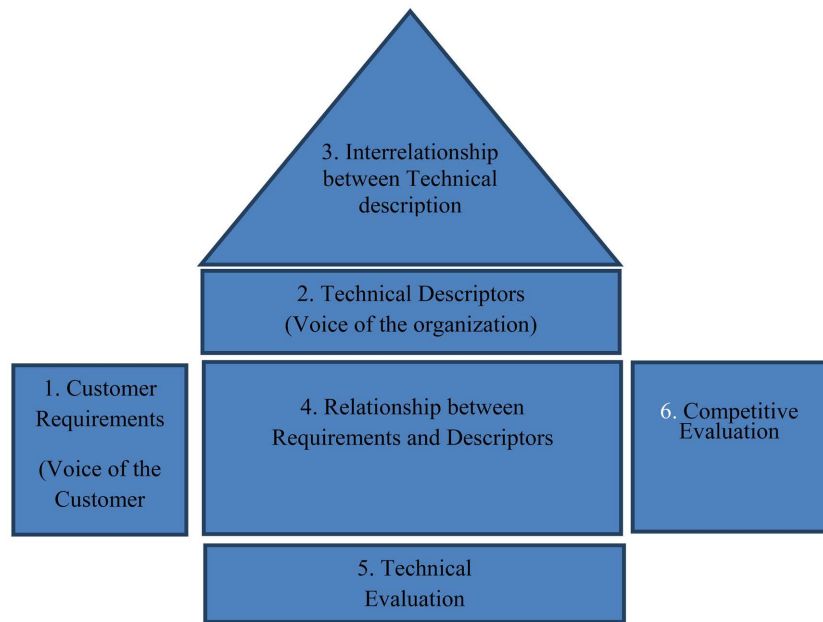
5) Technical Evaluation. At this stage, comparison is made between or among the company’s technical characteristics. It shows the leading or lagging position of the company so that it gives a direction to which area to improve on.

6) Customer Competitive Evaluation. A competitive analysis of the company and its competitors which shows the views and satisfaction of customers for a particular customer attribute for different competitors. A scale of 0 to 5 is use to analyze how each company is being rated. In this case 0 is the worst rating and 5 is the best.

## 4. Data Analysis

### 4.1. Number of Years of Business with Delta Shipping Company

The study wanted to know how long these customers have been doing business with Delta Shipping Company. The data gathered indicate that even though the company have been in operation in the shipping industry for the past 24 years, 73.3% of the respondents have been doing business with Delta Shipping company



**Figure 1.** House of Quality diagram.

between 1 - 5 years. Only 26.7% of the respondents have been working with the company for more than 5 years. This according to the Company can be attributed to their inability to deliver excellent customer service to their clients and hence most of the customers leave when they are dissatisfied.

#### 4.2. HOQ Model

The essence of this model is for the Delta Shipping Company to be proactive in satisfying their customers rather than been reactive resulting in their customers leaving. It ensures that problem associated with the service delivery is identified at the onset of the service delivery and reduced.

##### Step 1. Identification of Customers Requirements

The respondents indicated safety, reliability, lower cost, shorter lead time, flexibility and quality of delivery of service as their needs. As can be seen in **Table 1** are the weight assign to each of these needs with the shorter lead time being the most pressing need of customers.

##### Step 2. Technical Descriptors (Voice of the Delta Shipping Company—HOWs)

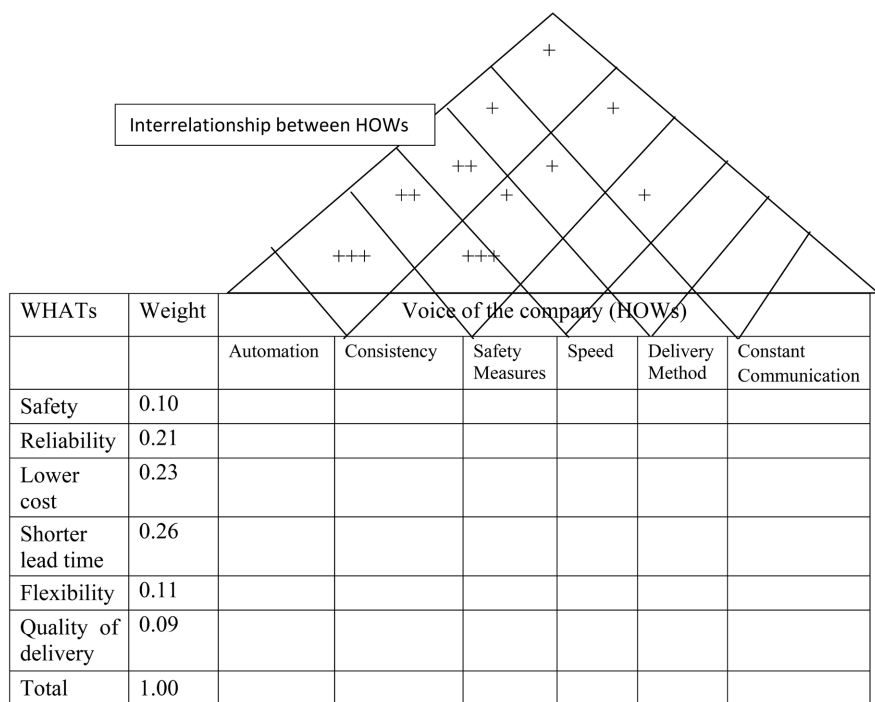
Based on the voice of the customers, the company is capable of doing the following in order to satisfy the needs of customers. Automation of activities, consistency of service delivery, improving safety, increasing speed of delivery, adopting more advanced delivery method and constant communication. **Table 2** shows the WHATs and HOWs.

##### Step 3. Interrelationship between Technical Descriptors (HOWs)

Under this step, a group of three (3) staff was asked to find the relationship between the technical capabilities as being positively strong, slightly positive, negatively strong or slightly negative (**Figure 2**).

**Table 2.** Voice of the company (HOWs) together with the voice of the customer (WHATs).

WHATs	Weight	Voice of the company (HOWs)					
		Automation	Consistency	Safety Measures	Speed	Delivery Method	Constant Communication
Safety	0.10						
Reliability	0.21						
Lower cost	0.23						
Shorter lead time	0.26						
Flexibility	0.11						
Quality of Delivery	0.09						
<b>SUM</b>	<b>1.00</b>						



**Figure 2.** Showing, WHATs, HOWs and interrelationship between HOWs.

**Step 4. Relationship between WHATs and HOWs**

This step talks about a prioritization matrix used to establish the correlations between WHATs and HOWs. Below is a table showing the relationship between WHATs and HOWs and is determined by group of RMU lecturers (Figure 3).

**Step 5: Prioritized customer and technical requirements.**

The customer requirement is prioritized using the formula;

$$\text{Customer prioritized (Cp)} = w \sum_{i=1}^n hi$$

where (*w*) = the weight of WHATs, (*hi*) = HOWs (*n*) = number of HOWs.

The prioritization of HOWs was also worked on using the formula;

$$\text{Company Prioritized (Kp)}: \sum_{j=1}^m wjAj$$



where ( $w_j$ ) = the weight of each HOWs, ( $A_j$ ) = WHATs, and ( $m$ ) = number of WHATs (Figure 4).

**Step 6: Customers Competitive analysis (Figure 5)**

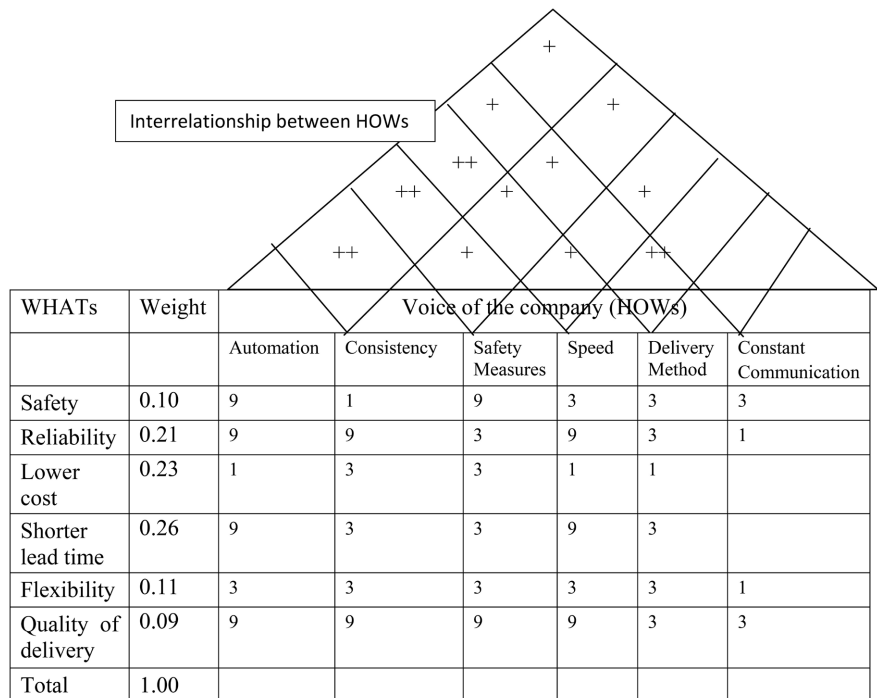


Figure 3. Showing, WHATs, HOWs and interrelationship between HOWs.

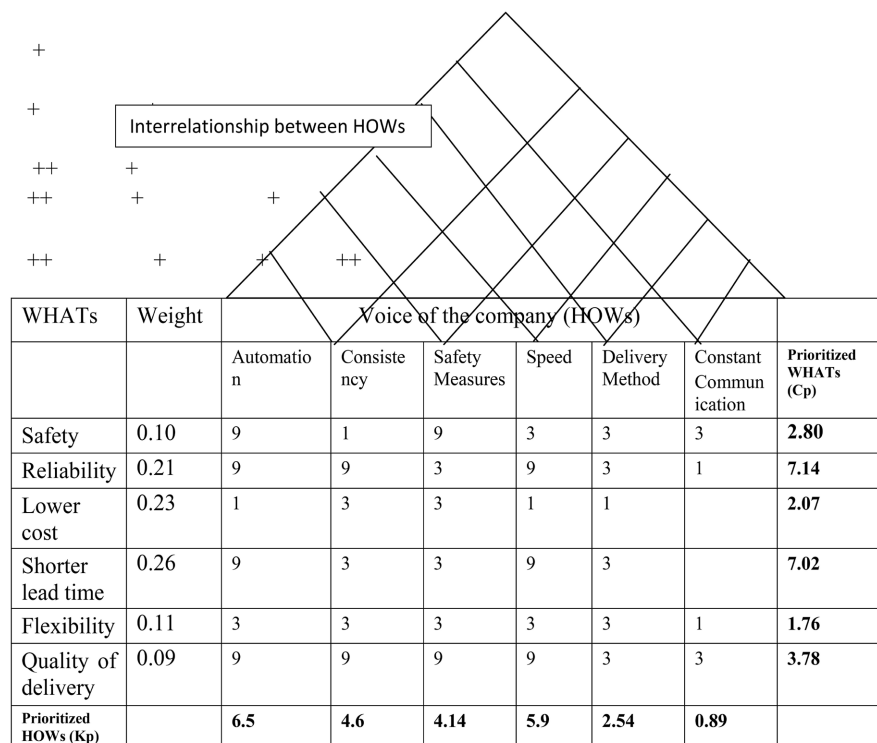


Figure 4. Showing, WHATs, HOWs and interrelationship between HOWs.

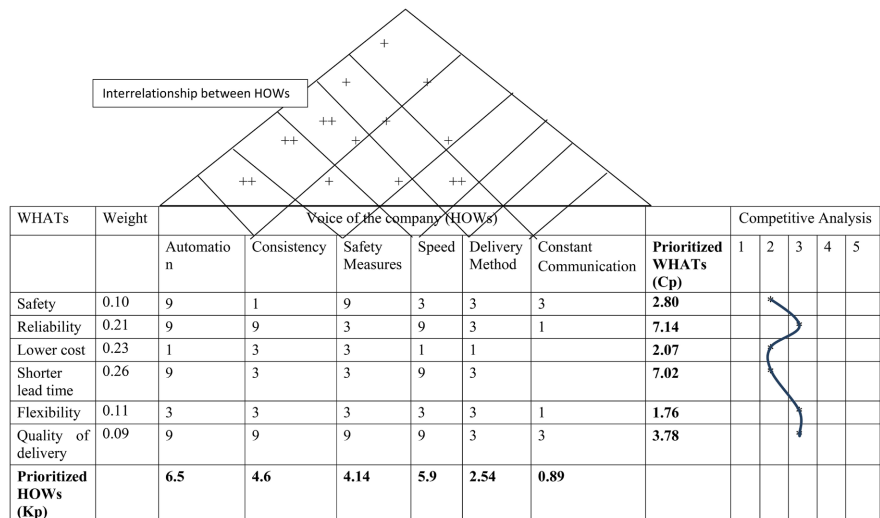


Figure 5. Showing, WHATs, HOWs and interrelationship between HOWs.

### 4.3. Discussion

It can be deduced from the result that what the customers want most is reliability with a score of 7.14. Any reliable company will like to deliver goods to its customers on time without delay. The company needs to deliver the promised service to the customer in an accurate manner, but not to keep changing its service time, giving excuses to the customers. This is followed by fast delivery or shorter lead time with a score of 7.02. When there is fast delivery of cargo, more cost will not be incurred in terms of demurrage, port rent charges, handling charges. These two (2) are the main focus on customer requirements in other for Delta shipping to be able to give excellent customer service. In this case, Delta shipping has to improve on reliability and fast delivery of their service. The rest of the customer requirements are quality of service delivery with a score of 3.78, safety with a score of 2.80, lower cost of service with a score of 2.07 and flexibility with a score of 1.76 which are less important to the customers.

In terms of the company’s capability, the analysis indicates that the company is doing well in automation with 5.96 scores, speed with 5.9 scores, safety measures with a score of 4.14 and consistency with 4.06 scores. The company is lacking in terms of delivery method and communication skills with scores of 2.54 and 0.62 respectively hence, the company needs to improve on them.

The result obtained from a customer rating competitor indicates that Delta shipping is doing well in reliability, cheap, fast delivery, flexibility and quality of delivery with a competitive score of approximately 3, but not doing well in safety. Competitors have a competing score of 3.5 which is approximately 4, meaning they are doing better than Delta shipping. With this, safety measures need to be improved on by the company.

### 5. Conclusion

The purpose of this study is to find out how Delta Shipping Company can be

proactive in delivering by incorporating the customer needs in service delivery. Customer service comes here with the view that a good customer service leads to customer satisfaction. The customer service provision promised by Delta shipping is being delivered to the satisfaction of the customers of Tema branch. Even though there are few barriers to customer service provision from the company, customers will be loyal and continue doing business with the company if the company focuses on their needs.

## 6. Recommendation

The study recommends the following:

- 1) Delta Shipping Company should focus on reliability and faster delivery of the goods as required by the customers. These are the major needs of the customers. So, for the Delta Shipping Company to satisfy its customers, the company must focus on reliability and faster delivery of the goods
- 2) Delivery method and communication skills have been a major setback for Delta Shipping Company in providing excellent service to its customer, the company should improve on delivery method and communication skills as part of their technical capabilities.
- 3) Delta Shipping company have not been doing well in comparison with other competitors. Hence, Delta Shipping Company should improve on safety as competitors are doing better than the company.

## 7. Limitations and Recommendation for Further Studies

The research was limited only to the Tema branch of Delta shipping Company, which could not allow comprehensive research on the other branches of Delta shipping. Furthermore, the research was also limited and compared to only few logistics, clearing and forwarding companies whiles comparison of different companies or different service sectors would have been better. Further research, to cover all the branches of Delta Shipping Company is recommended.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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