



Knowledge gap: An exploratory measurement of service quality in the motor vehicle maintenance and repair industry

Emmanuel Baffour-Awuah *

Department of Mechanical Engineering, School of Engineering, Cape Coast Technical University, PO Box AD 50, Cape Coast, Ghana

Abstract

The existence of inappropriate management procedure, processes, market analysis mechanisms, strategies, capacity, capability, and attitude towards marketing, demands that organizations and industries continually assess the expectations of customers and management perceptions of customer expectations so that the right measures are introduced to promote customer patronage and satisfaction. This was revealed when sought to assess knowledge gap in the vehicle maintenance and repair industry in Cape Coast Metropolis in the Central Region of Ghana by measuring perceptions of customer expectations and management perceptions of customer expectations. Shahin and Samea (2010) model was employed. The study adopted a self-completion questionnaire using the SERVQUAL instrument. The simple random and convenience and purposive sampling techniques were employed. Two hundred completed questionnaires were returned at a response rate of 94.3 percent. It was revealed that customers in the metropolis are generally dissatisfied with the services provided in terms of tangibles, reliability, assurance, costing and communication dimensions. However, they were generally satisfied with responsiveness and empathy from service managers. Assumption considered include marketing embodiment of these seven dimensions. Management perception was 4.36 and customers 4.65. Mean knowledge gap was thus 0.29 indicating a general positive (leading to customer dissatisfaction) knowledge gap. This may be due to lack of the right focus of marketing strategy with regards to the customer as the focal point. The study thus contributes to the already existing studies that seek to assess knowledge gap in the motor vehicle maintenance and repair industry. It also adds empirical findings that could help management of workshops/garages in the industry to adopt corrective and preventive marketing methods that could lead to growth in businesses. The study is limited in that the model adopted has not been proven in terms of universal acceptability.

Keywords: Customer Satisfaction; Knowledge Gap; Maintenance and Repair; Motor Vehicle; Servqual

Published by ISDS LLC, Japan | Copyright © 2018 by the Author(s) | This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



Cite this article as: Baffour-Awuah, E. (2018), "Knowledge gap: An exploratory measurement of service quality in the motor vehicle maintenance and repair industry", *International Journal of Development and Sustainability*, Vol. 7 No. 6, pp. X-X.

1. Introduction

The growth and development of every nation depends on the ease and mobility of its humans, goods and services. Transportation is therefore an indispensable and invaluable means to achieve national cohesion. Transportation encourages commercial, social and industrial transactions. Among the various media of transportation, automobile vehicles have been the most versatile, inexpensive and widespread (Rodrigue and Notteboom, 2017). In Ghana over 70,000 vehicles are imported into the country annually (The Spectator, 2008). As a consumer service the car maintenance and repair industry is required to come to the task of providing the needed support in the sector. Maintenance and repair is an after vehicle-sale service in order to increase the longevity of vehicles and to ensure safety of vehicle, passengers and goods. Maintenance and repair is the point of contact between the consumer and the dealership. The few standard workshops in the country demands that local garages and workshops are encouraged to provide these services. The challenge, however, facing the industry is the quality of service provided to consumers (Berndt, 2009).

Service quality has been defined as the degree to which a service suits the needs and expectations of the consumer (Asubonten et al., 1996; Wisniewski and Donnelly 1996; Dotchin and Oakland 1994; Lewis and Mitchel, 1990). In both business and service industries public and private sectors, domestic and international areas service quality has become a prominent philosophy (Zahari et al., 2008). It has therefore become an indispensable criterion of industrial competitiveness (Rodrigue and Notteboom, 2017; Lewis, 1989). However, the provision of excellent service quality to achieve better customer satisfaction, though important, is faced with contemporary service industry difficulties (Hung et al., 2003). The relationship between service quality and higher profits, lower costs, customer satisfaction, business performance, return on investment and customer loyalty among researchers, practitioners, business executives and managers as a pertinent discipline of attention has been established (Sureshchander et al., 2002; Newman, 2001; Lasser et al., 2000; Gummesson, 1998) Chang and Chen, 1998; Hallowell, 1996; Cronin and Taylor, 1992; Grammies, 1992; Leanard and Sasser, 1982). Parasuraman et al. (1988) describes service quality as an attitude, though not equivalent to satisfaction, results from the comparison between expectations and performance. It is the measure of the extent to which the level of delivered service consistently matches with customer's comparison of expected service. Consumers thus judge service quality in terms of what they perceive with what they expect (Kiew and Chee, 2002). Consumers' comparison of expected service with perceived service results in perceived quality of service rendered. Parasuraman et al. (1985) defines service quality as the difference between customer expectation of service and perceived service. This implies that if expectations are greater than performance, then perceived quality falls short than satisfactory, resulting in customer dissatisfaction.

Service quality can also be looked at in terms of the difference between management perceptions and customer perceptions (Shahin and Samea, 2010), referred to as service quality knowledge gap. Thus customer satisfaction could be measured through the gap between customer expectations and the degree at which management perceives customer expectations in terms of quality of service provided. Management includes senior-most apprentice who could deputize shop-owners/managers. Considering the location of Cape Coast Metropolis and its importance to the economy of the nation there is the need for continual

assessment of performance of services in order to satisfy consumer and customer demands and requests. Thus baseline studies of service quality need to be conducted regularly to examine customer and management perceptions. This is because it is required of managers to pay more attention to what customers perceive in terms of service delivery and how they also view the satisfaction of their customers in terms of service rendered (Shahin and Samea, 2010; Shahin et al., 2006). This study contextually sought to access the nature of service quality in the motor vehicle maintenance and repair industry in the Cape Coast Metropolis, by measuring management perceptions of customer expectations and consumer expectations as well as knowledge gap which could directly or indirectly influence customer satisfaction within the industry (Shahin and Samea, 2010).

2. Literature review

This section dilates on the service quality models in vogue presently as a means of measuring the quality of service provided. First, it reviews literature on the works of Parasuraman et al (1985; 1988). It then looks at the work of Gronroos (2001) and continues to discuss the works of other authors in the area under study. It further reviewed literature in relation to the model of Cronin and Taylor (1992; 1994) and finally, that of Shahin and Samea (2010), which was considered for the present work.

2.1. SERVQUAL and service quality measurement

Until now, majority of research work relating to service quality have relied on the SERVQUAL technique to measure the quantitative dimensions of service quality. This technique was developed by Parasuraman et al. in 1985. It uses tested criteria to assess a firm's quality of service by measuring quality from the point of view of customer perceptions and expectations. SERVQUAL is a multiple item scale which was developed by the researchers to measure service quality. The original version has ten dimensions which was later reduced to five (Parasuraman et al., 1988), namely; reliability of the service, tangible aspects of the service, responsiveness of the service provider, assurance given in the process of delivering the service and the empathy shown to customers.

Other researchers have nonetheless proposed other dimensions of service quality. For instance, Grönroos (2001) views service quality from process orientation according to what the customer receives. In this context there are other components of service quality namely technical quality, functional quality and reputational quality (Buttle, 1996; Johnson et al., 1995). In the motor vehicle dealership technical quality relates to the quality of repairs. Functional quality refers to the quality of interaction between consumers and the dealership; how courteous and friendly the dealership is towards its customers. Reputational quality deals with the reaction of the associates of the consumer towards the dealership such as family and colleagues. Sasser et al. has proposed personnel, facilities and materials as other service quality dimensions (Johnson et al, 1995). Equipment, image and interaction, according to Lethinen and Lethinen, are important components of service quality (Johnson et al., 1995).

In spite of these propositions and models, the SERVQUAL perspective by Parasuraman et al. (1988) has been the most reliable and most employed in determining the service quality of organizations. SERVQUAL has five generic dimensions and twenty-two contextual attributes. The five are stated as tangibles, reliability, responsiveness, assurance and empathy. Tangibles have four dimensions and responsiveness has four. The rest are assurance, four; and empathy five. The most important dimension of service quality is reliability (Saghier and Nathan, 2013; Chowdhury and Prakash, 2007; Zeithaml et al., 2006; Yang and Fang, 2004; O'Neill and Palmer, 2003; Buttle, 1996). It deals with the degree to which the dealership delivers on its promises. It is the ability to deliver a promised service with accuracy and dependency. Assurance refers to the extent to which the dealership instills in the consumer trust and confidence based on mutual interactions between the two. It is linked with courtesy and knowledge from employees to consumers (Zeithaml et al., 2006; O'Neill and Palmer, 2003; Buttle, 1996, Iwaarden et al., 2003).

Responsiveness covers the desire of the service provider to give assistance to the consumer. Assistance may include odd working hours, additional service different from original services demanded by the consumer, (Zeithaml et al., 2006; O'Neill and Palmer, 2003; Iwaarden et al., 2003). It also includes helping consumers and providing prompt service. Tangibles refer to the physical facilities, equipment and appearance of personnel in the organization. It is a service delivery process. They include parking, equipment, layout and signage of the organization (Zeithaml et al., 2006; Iwaarden et al., 2003, O'Neill and Palmer, 2003). Empathy deals with the care and individualized attention provided to the customer such as access, communication and understanding given to the customer. It relates the interaction between the organization and the customer and the nature of interactions (Zeithaml et al., 2006; Iwaarden et al., 2003; O'Neill and Palmer, 2003).

SERVQUAL is rooted on the customer's evaluation of the quality of service (Gržniz, 2007). It is a measurement technique in the determination of the extent of a delivered service in relation to consistent customer expectations. Parasuraman et al. (1988) therefore defines the model as a comparison between the expected and the obtained service in addition to the gaps in the process of service provided. The list of contextual attributes to determine the basic needs of customers in terms of the quality of service delivered has been defined in various ways of which SERVQUAL is the most popular used by researchers (Shahin, 2006). In spite of its popularity SERVQUAL has been subjected to many criticisms from operational and conceptual point of view (Carman, 1990). Conceptually the model has been criticized in terms of its pattern, that the pattern is more of affirmation than understanding, and that it does not have economical, psychological and statistical theories to support it. It has also been criticized of the fact that the consumer evaluating the quality of service through perception has little evidential support. Another criticism is that SERVQUAL does not move in the direction of the result of service experience but rather the process of service delivery. SERVQUAL critics also claim that there is no universality in the generic dimensions and that both generic and contextual dimensions are connected with high degree of intercalations between the generic dimensions.

Operationally, Cronin and Taylor (1992) criticized that the term "expectation" has many meanings including "standards". Thus consumers are tempted to understand expectations as standards making their responses to the item scale ambiguous in terms of interpretation. They therefore concluded that SERVQUAL

could not be used to measure expectations of service quality reliably. It has also been argued that the elemental characteristics in each of the five dimensions of service quality do not cover their variability. In addition to these criticism is the “moment of truth” paradigm. Thus the response of customers could vary from one moment to the other depending on several other extraneous factors such as emotional and psychological among others. Cronin and Taylor (1992, 1994) were also of the view that using the gap analysis results, which involve the difference between customer expectations and perceptions of the service received to measure service quality, does not portray the absolute service quality of an organization. They surmised that perception alone could be enough to measure service quality.

However, Shahin and Samea (2010) are of the opinion that the service quality gaps model is one of the most influential models in the service quality literature. In reviewing the previous models, though, they critically developed a new model to be more comprehensive. This study aims to reduce the boredom and confusion consumers get involved in responding to dual administration of the SERVQUAL instruments; the tediousness in filling both perceptions and expectation questionnaires by each subject. Thus Gap 11, of the Shahin and Samea (2010) model, was used to measure the quality of service delivered by motor vehicles maintenance and repair service providers in the Cape Coast Metropolis. Both management and customers in this regard responded to the questionnaire. The difference between the two, referred to as knowledge gap was therefore used as a measure of service quality (Shahin and Samea, 2010). The SERVQUAL model questionnaire was therefore dwelt upon in this study, using inferential statistics, since it is the most heuristically acceptable concept for measuring service quality using service quality gaps (Brown and Bond 1995). The primary objective of this study was to examine the nature of knowledge gap in the motor vehicle maintenance and repair industry in the Cape Coast Metropolis. However the secondary objectives were: to examine customer perceptions of seven dimensions (including the five generic dimensions proposed by Parasuraman et al. (1985)) and their contextual dimensions; to examine management’s perceptions of customer expectations; and determine the perception gaps between customer expectations and management perceptions of customer expectations.

Additionally, the present study area, measuring service quality in terms of gaps between customers and management, has become more necessary because it appears no attention has been given to it (Shahin and Samea, 2010). In addition to this, it appears no published works has been carried out with respect to the Ghanaian context. This work on service quality has thus become more prominent in order to contribute to closing the existing gap between similar work in the western countries and those on the African continent. The following research questions were therefore addressed: First, what are the perceptions of customers and management perceptions of customers’ perceptions in the motor vehicle maintenance and repair industry in the Cape Coast Metropolis? Second, to what extent are the attributes of knowledge gap between management and customers in the motor vehicle maintenance and repair industry?

2.2. Models of service quality

The conceptual model of service quality by Luk and Layton (2002), identify several gaps. The model is an extension of Parasuraman et al. (1988). There are seven gaps in the Luk and Layton (2002) model as against

five in the Parasuraman et al. (1988) model. Luk and Layton (2002), Curry (1999) and ASI quality systems (1992) have documented that the three most important of the five gaps are Gap 1, Gap 4 and Gap 5 since they directly come to bear with external customers. The Luk and Layton model has two sections; the lower which deals with the service provider and the upper, the consumer. In the lower section consumers' expectations should be guiding management's perceptions so that better specifications can be designed. Better specifications are expected to yield improved service quality and hence better customer satisfaction. A service quality will ensue if there is mismatch between perceptions or expectations between service providers and consumers. In the upper section expected service or perceived service (by extension) is influenced by consumer experience, consumer personal needs and close associate communication to them. Word of mouth communication through advertising may also influence consumer expectation.

Lack of marketing research; insufficient communication from service providers and bureaucracy may result in lack or incorrect interpretations and analysis in relation to expectations and information between service providers and consumers. This is Gap 1, referred to as the knowledge gap (refer Shahin and Samea, 2010). It is the gap between management perceptions of customer expectations (MP) and customer expectations (CE) and a basic barrier for an organization in meeting expected service quality (Grznix, 2007, Parasuraman et al., 1998). Management may not have accurate perceptions of consumers' actual expectations (Kulašin and Fortuny-Santos, 2005). This is due to lack of the right focus of marketing strategy with reference to the customer. The existence of a marketing entity does not necessarily ensure the appropriate market focus. Appropriate management techniques, processes, market analysis mechanisms, strategies and attitude are essential in this regard. The standard gap also known as Gap 2 is the difference between service specifications and management perceptions. It is brought about as a result of improper planning or inadequate planning procedures, insufficient management support from top management towards service quality planning. Lack of involving tactical management in organizational planning may also result in standard gap. Insufficient commitment to service quality, inadequate task standardization, and lack of goal setting orientation and perception of impossibilities may result in Gap 2. These shortcomings results in difference between service provision processes and management information about customers' expectation leading to standard gap (Luk and Layton, 2002; Parasuraman et al., 1998) or improper service quality standards (Shahin and Samea, 2010). Gap 3, the service quality specification, service delivery gap, also referred to as service performance gap deals with the difference between service quality specifications and the actual service delivered (Shahin and Samea, 2010). It arises from poor employee-job fit, inadequate supervisory measures, inappropriate control systems, role ambiguity and conflict, lack of teamwork and work-culture ambiguities (Luk and Layton, 2002).

Shahin and Samea (2010) describe Gap 4, the service delivery-external communication gap as the disparity between service delivery and communication to customers in relation to service delivery. It is an indication as to whether what the organization promises is what is delivered. The promises, usually external communication, are through advertising and publicity. Parasuraman et al. (1988) explains that it is brought about from the tendency to promise more than what can be done; insufficient horizontal communication; improper and inadequate link between communication planning and available service; lack or insufficient coordination in terms of delivery process and procedure on one hand and marketing on the other; mismatch

between product specifications and organizational performance the propensity to exaggerate to fit into exaggerated promised services and performances.

Parasuraman et al. (1998) describe the service gap, Gap 5, a function of the other four gaps, as the difference resulting from customer expectation and their perceptions of service provided. The model shows work of mouth communication, previous experience to provide services and consumer needs as the factors influencing this gap. It is the difference between what the customers expect and what is delivered (Gržniz, 2007). Shahin and Samea (2010) intimates that the service quality depends on the direction and magnitude of the knowledge gap, standard gap, performance gap and communication gap in relation to the marketer portion of service quality delivery. According to Bondzi-Simpson (2012), the SERVQUAL model with its associated gaps and components used analytically to assess, examine and determine service quality of organizations is indeed most widely used by many researchers though out the world. The present study adopted the Shahin and Samea (2010) model which is an extension of Luk and Layton (2002). The Shahin and Samea (2010) model is shown in Figure 1.

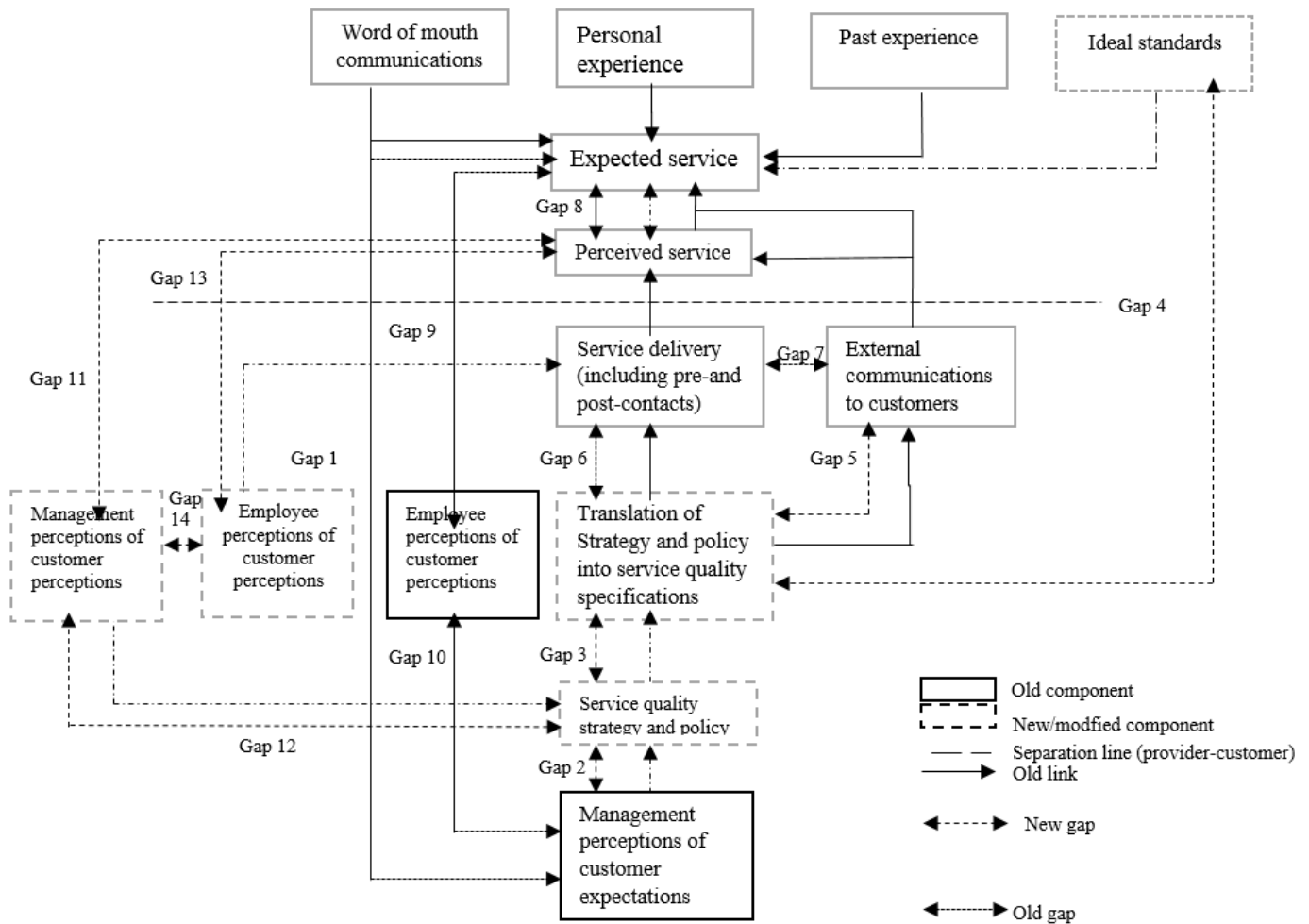


Figure 1. Shahin and Samea (2010) model of service quality gaps

3. Methodology

The Cape Coast Metropolis was considered as the study area for two reasons. One, It is a tourist attraction center in Ghana. And two, its position as the mid-nodal point between the capital of the Ghana, Accra and the petroleum city, Takoradi, makes it a busy and attractive metropolis for enhanced motor vehicle services activities. The study targeted both service providers and customers. All in both divide were considered as the population. A multi-step sampling technique was used. Simple probability sampling was adopted to select 44 service providers based on Yamene (1967) formula. This was to ensure generalization of results. The nature with which customers patronize motor vehicle maintenance and repair services required the use of convenient and purposive sampling technique to select the customers, four from each service provider totaling 168. However, 40 management staff and 160 customers returned completed questionnaire. Thus 200 questionnaires were received at a response rate of 94.3 percent. Although convenient and purposive sampling may lack in strength for generalization the advantage of drawing large body of respondents within a relatively short time motivated its choice. (Saunders et al., 2009; Hair et al., 2006). A large sample size could likely offset the disadvantage of non-generalization. Micro and small scale providers were considered since they form one hundred percent of the supply service in the metropolis. Their importance to the economy of the study area informed the choice of the target population. Not all contacted respondents were given questionnaire. The major reason was to ensure that respondents had patronized a shop for over a year and not less than three occasions. This is in tandem with the suggestion by Katariina et al. (2008) that consumer acquaintance with a service provider is a major factor of perception towards service quality (Elistina and Naemah, 2011). According to Asika (1991), it is proper for a researcher to consider cases that are typical of providing the essential information for a study by ensuring that subjects are the true representation of the population. This ensures accurate and precise acquisition of data (Saunders et al., 2009).

The intimation of Parasuraman et al. (1985) that the gap between customer perception and expectation of service quality as a measure of consumer satisfaction using the SERVQUAL research measurement directed the choice of the study instrument. Gap 1 of the Parasuraman et al (1985) model, the knowledge gap, was investigated as a measure of service quality. It is the description between customer expectation and management perception of customer expectation (Gap 11 of the Shahin and Samea, 2010) model). The establishment that customer perception is an indication of customer satisfaction (Cronin and Taylor, 1994) and the proposition by (Shahin and Samea, 2010) that management perceptions of customer expectations (MP) is directly linked to customer expectations (CE); and that the discrepancy is a measure of service quality, aided the use of SERVQUAL questionnaire to solicit information from the respondents. Applications suggest that the SERVQUAL questionnaire when used as an instrument of service quality in this regard could reliably produce good results (Bondzi-Simpson, 2012; Cronin and Taylor, 1994). Thus both management and customers responded to the same questionnaire. Descriptive statistics (SPSS Version 21) was used relying on mean, standard deviation, range and. The survey was conducted through a self-administered questionnaire to the majority literate customers and an interview schedule for the few non-literate ones on a face to face basis. Those who could not respond immediately were allowed to submit to workshop managers. A period of thirty five days was taken to collect the last returned questionnaire.

The modified SERVQUAL questionnaire adopted by (Elistina and Naemah, 2011) was administered (refer Table 4). It is a 29-item questionnaire with seven dimensions as tangibles, reliability, responsiveness, assurance, empathy, cost, and communication. A seven-point Likert scale with rating 1 to 7, representing strongly disagree to strongly agree respectively, was used to assess the perceptions of providers and customers. The scale was used because it gives wide range of options and lends greater support by several writers. The data was taken in the months of June and June/July 2015, during the rainy season, when demand for maintenance and repair of motor vehicle service is usually at its apex.

4. Results and discussion

This section analyzes and presents the data and results of the study. It first deals with the demographic background of workshop/garage managers and secondly their customers. It then discusses the responses of managers and customers and finally compares both to arrive at knowledge gaps between the two.

4.1. Demographic characteristics of management

The demographic characteristics of management include gender, age, highest education attainment, net monthly income and type of service. Forty management respondents partook in the study 95 percent male and 5 percent female. This implies that the repair and maintenance service business is more of a male-dominated preserve. Majority (25.0%) was within the ages of 36 and 45; above 55 year group (25.0%) and 46-55 year group (22.5%) in that order. The remaining 27.5 percent was below 36 years. The distribution appears to show that many young men are not interested in the trade. This may be attributed to relatively low net income of the managers in the trade, considering that 50 percent earn below GH¢ 601 as net monthly income while only 12.5 percent earn above GH¢900 per month (refer Table 1). It is interesting to note that 72.5 percent of the number of services attended to by managers was corrective maintenance (repairs). This may be attributed to bad road and numerous road bumps in the metropolis, most of the vehicles being imported used vehicles; poor maintenance culture among drivers and drivers having little or no technical knowledge in maintenance and repair work.

Table 1. Demographic characteristics of workshop/garage management

Demographic variables	Frequency	Percent
Gender		
Male	38	95
Female	2	5
Age (years)		
Below 26	4	10
26 - 35	7	17.5
36 - 45	10	25
46 - 55	9	22.5
Above 55	10	25
Highest Level of education		

Table 1. Cont.

Basic	25	62.5
Sec/Voc/Tech	13	32.5
Tertiary	2	5
Monthly (Net) Income (GH¢)		
Below 500	8	20
501 - 600	12	30
601 - 700	3	7.5
701 - 800	4	10
801 - 900	8	20
Above 900	5	12.5
Type of service (Average)		
Maintenance (Routine)	11	27.5
Repairs (Corrective)	29	72.5

Source: Survey Data (2015)

4.2. Demographic characteristics of customers

The socio-demographic characteristics of the customers include gender, age, and highest level of education net monthly income, type of employment, sending pattern and technical knowledge (Table 2). About 82 percent of the customers were male while the remaining was female. Majority (46.3%) were in the 36-45 year group and the minority (3.1%) above 55 years. The educational profile was basic (38.1%), Sec/Voc/Tech (19.4%) and tertiary (42.5%). About 13 percent earned a net monthly income of above GH¢ 1000.00, with the majority (26.8%) earning between GH¢801 and GH¢900 per month. Most of the customers (59.3%) were private vehicles drivers, unemployed ones being 10 percent. The unemployed may be wards or children sent by parents and guardians for repair and maintenance activities. The high percentage of tertiary customers could be attributed to a metropolis which has two tertiary institutions and many public institutions and organizations. This group contains the middle and upper level income earners. Majority of the customer respondents comprising 69.4 percent were regular customers to one particular garage while the remaining 30.6 percent would send vehicles to different places. About 82 percent had little technical knowledge in vehicle maintenance and repair, 15 percent had a lot and 3.1 percent no knowledge at all.

Table 2. Characteristics of customers

Demographic variables	Frequency	Percent
Gender		
Male	131	81.9
Female	29	18.1
Age (Years)		
Below 26	7	4.4
26 - 35	41	25.6
36 - 45	74	46.3
46 - 55	33	20.6
Above 55	5	3.1
Highest Educational Attainment		
Basic	61	38.1

Table 2. Cont.

Sec/Voc/Tech	31	19.4
Tertiary	68	42.5
Net monthly income (GH¢)		
Below 700	17	10.6
701 – 800	38	15.4
801 – 900	43	26.8
901 – 1000	42	26.3
Above 1000	20	12.5
Type of employment		
Government	23	14.4
Private	95	59.3
Self employed	26	16.3
Unemployed	16	10.0
Sending Pattern		
At the place all time	111	69.4
Different places	49	30.6
Having technical knowledge		
Little	131	81.9
A lot	24	15.0
Not at all	5	3.1

Source: Survey data (2015)

4.3. Knowledge gaps

Table 3 displays the mean scores of responses by management and customers as well as the knowledge gaps of the response. Table 4 shows the knowledge gaps in terms of categorized attributes while Table 5 and Table 6 display the detail responses of customers and management including mean responses. While responses on the Likert scale ranged between 1 and 5.3 on the average for managers, it was 2-5.3 for customers. With Tangibles, The least knowledge gap among the categorized attributes was 0.13 and the highest 0.85 (refer Table 3). Being positive, this implies that customers were dissatisfied with the way managers display important information at easily accessible places; equipment are up to date; physical appearance of garage is up to date and mechanics appearance is suitable, in that order (refer Table 3). The mean gap was also positive (0.68), indicating that customers were generally dissatisfied with the tangible attributes (refer Table 4).

Customers were also generally dissatisfied with reliability attributes (0.59): the minimum gap was 0.01 and the maximum 1.10 (refer Table 3). This means that customers could not trust garages to do a good job (0.01); believe garages do not complete service at the designated time (0.5); when something is promised, it is not done (0.5); and do not provide service correctly the first time (1.11) (refer Table 4). The study has shown that customers were generally satisfied with the responsiveness dimensions (-.045) (refer Table 4). Customers were satisfied in terms of finishing the job within a reasonable time (-0.20) and responsiveness to complaints (-0.15). However, they were dissatisfied with provision of prompt services (0.08) and mechanics are busy to respond to requests (0.10) (refer Table 3). The study also showed that customers were generally

dissatisfied with Assurance, knowledge gap being 0.13 (refer Table 4). Though customers were dissatisfied with skills and expertise could be trusted (0.61) and do not feel that they were being talked into unnecessary servicing/repairing (0.28), they were satisfied in terms of can be trusted to take care of vehicles (-0.33) and knowledge in answering all consumer's questions (-0.69) (refer Table 3). It was further shown that customers were not generally dissatisfied in terms of empathy (-0.09) (refer Table 4). They were dissatisfied in relation to convenient operating hours (0.5) and have customer's best interest at heart. However, they were satisfied, to a large extent, on do not use technical terms difficult to understand (-1.98) (refer Table 3).

The study revealed that customers were generally dissatisfied with regards to costing (0.44). They generally disagreed that actual charge is lower or similar to the estimated one (0.25); that charges are reasonable (0.47) and that prices of spare parts were reasonable (0.86) in that order. (refer Table 3 and Table 4). The study also revealed that customers were generally dissatisfied with the communication attribute (0.25) (refer Table 4). Thus customers disagreed that managers provide clear information on charges (0.81) and that they provide clear information of the problem (1.10). They were however of the view that managers do provide clear information for any risk that might happen (refer Table 3 and Table 4).

Table 3. Knowledge gaps of motor vehicle maintenance and repair industry in Cape Coast Metropolis

Contextual attribute	Management Perception (MP)	Customer expectation (CE)	SERVQUAL Gap
Equipment are up – to – date	3.9	4.84	0.58
Physical appearance of garage is appealing	4.5	5.28	0.78
Mechanics appearances are suitable	4.1	4.95	0.85
Display important information at easily accessible places.	4.9	5.03	0.13
When something is promised it is done	4.5	5.0	0.50
Could be trusted to do a good job	5.0	5.1	0.10
Performs the service correctly the first time	4.1	5.21	1.11
Complete the services at the designated time	4.6	5.1	0.50
Keeps records correctly	5.0	5.24	0.24
Finishes the job within a reasonable time	5.2	5.0	-0.02
Provision of prompt service	5.0	5.18	0.08
Response to complaints	5.1	4.95	-0.15
Mechanics are never too busy to respond to requests	4.8	5.0	0.20
Skills and expertise could be trusted	4.6	5.21	0.61
Can be trusted to take care of vehicles (Safety)	5.2	4.87	0.33
Do not feel that they were being talked into unnecessary servicing/repairing	4.9	5.18	0.28
Knowledge in answering all consumers problems	5.3	4.61	-0.69
Individual attention given to each consumer	5.3	15.3	0.00
Convenient operating hours	4.6	5.1	0.50
Have customers best interests at heart	4.6	5.3	0.70
Do not use technical terms which are difficult to understand	5.1	3.12	-1.98
Understand what the consumer wants	4.8	5.02	0.22
Actual charge is lower or similar to the estimated charge	3.1	3.35	0.25

Table 3. Cont.

The charges are reasonable	3.2	3.42	0.47
The prices of spare parts are reasonable	3.0	3.89	0.86
Provide clear information of the problem	3.7	4.8	1.10
Provide clear information of the specification of the spare parts	3.1	3.1	0.00
Provide clear information of any risk that might happen	3.9	3.01	-0.89
Provide clear information on charges	3.8	4.61	0.81

Source: Survey data, 2015

Table 4. Categorized knowledge gaps of service quality

Generic Attributes	Mgt Perception (MP)	Customer expectations (CE)	SERVQUAL Gap (CE minus MP)
Tangibles	4.35	5.03	0.68
Reliability	4.55	5.14	0.59
Responsiveness	5.01	5.03	0.02
Assurance	5.00	5.13	0.13
Empathy	4.88	4.79	0.09
Costing	3.10	3.54	0.44
Communication	3.63	3.88	0.25

Source: Survey data, 2015

Table 5. Management perceptions of customer expectations

Attribute	Strongly disagree (%)	Mod. Disagree (%)	Shiftily disagree (%)	Indifferent (%)	Shiftily agree (%)	Moderately agree (%)	Strongly agree (%)	Mean s (M)	Standard deviation (S.D)
1. Equipment are up - to - date		10	22.5	50	10	7.5		3.9	1.1
2. Physical appearance of garage is appealing	57.5	32.5	10	.....	4.5	0.707
3. Mechanics appearances are suitable	37.5	22.5	30	10	.....	4.1	1.1
4. Display important information at easily accessible places.	7.5	42.5	25	25	.....	4.9	0.87500
5. When something is promised it is done	17.5	37.5	12.5	32.5	.....	5.5	1.179
6. Could be trusted to do a good job	20	60	10	10	.....	5	0.817
7. Performs the service correctly the first time	22.5	27.5	17.5	32.5	.....	4.1	0.876

Table 5. Cont.

8. Complete the services at the designated time	.....	.....	.....	30	37.5	32.5	.....	4.6	1.174
9. Keeps records correctly	.....	.....	.....	20	62.5	17.5	.....	5	0.667
10. Finishes the job within a reasonable time	.....	.....	.....	30	37.5	32.5	.....	5.2	0.919
11. Provision of prompt service	.....	.....	.....	30	35	22.5	7.5	5.0	0.994
12. Responsive to complaints	.....	.....	.....	40	27.5	.....	4.8	5.1	0.876
13. Mechanics are never too busy to respond to requests	.....	.....	.....	30	32.5	37.5	.....	4.8	0.876
14. Skills and expertise could be trusted	.....	.....	22.5	7.5	57.5	12.5	.....	4.6	0.966
15. Can be trusted to take care of vehicles (Safety)	.....	.....	.....	25	45	30	.....	5.2	0.789
16. Do not feel that they were being talked into unnecessary servicing/repairing	.....	.....	.....	22.5	30	47.5	.....	4.9	0.876
17. Employees have knowledge to answer questions	.....	.....	.....	20	32.5	47.5	.....	5.3	0.823
18. Individual attention given to each consumer	.....	.....	.....	22.5	30	47.5	.....	5.3	0.823
19. Convenient operating hours	.....	.....	20	30	22.5	27.5	.....	4.6	1.174
20. Have customers best interests at heart	.....	.....	15	32.5	30	22.5	.....	4.6	0.966
21. Do not use technical terms which are difficult to understand	.....	.....	.....	27.5	35	25	7.5	5.1	0.817
22. Understand what the consumer wants	.....	.....	10	30	30	30	.....	4.8	1.033
23. Actual charge is lower or similar to the estimated charge	.....	20	27.5	22.5	25	.....	5	3.1	1.1
24. The charges are reasonable	.....	22.5	37.5	27.5	7.5	.....	.....	3.2	0.643

Table 5. Cont.

25. The prices of spare parts are reasonable	.....	30	37.5	30.5	7.5	7.5	.....	3.0	0.825
26. Provide clear information of the problem	.....	.....	2.5	32.5	32.5	17.5	15	3.7	0.710
27. Provide clear information of the specification of the spare parts	.....	.....	30	57.5	5	7.5	.....	3.1	1.082
28. Provide clear information of any risk that might happen	.....	.....	15	32.5	30	22.5	.....	3.9	1.12
29. Provide clear information on charges	.....	.....	28.5	52.5	17.5	7.5	.....	3.8	0.966

Source: Survey data, 2015

5. Conclusion

The study sought to ascertain the nature of knowledge gap in the motor vehicle maintenance and repair industry in the Cape Coast Metropolis in Ghana using the Shahin and Samea (2010) model. It determined seven knowledge gaps between customer expectations and management perceptions of customer expectation of quality of service in the provision of services in the industry. The study has shown that there were positive gaps in terms of Tangibles, Reliability, Assurance, Costing and Communication implying dissatisfaction among customers. Attributes that recorded negative gaps were Responsiveness and Empathy which infer satisfaction. The study has therefore revealed that customers in the metropolis are generally dissatisfied with the services provided in terms of tangibles, reliability, assurance, costing and communication. However, they were generally satisfied with responsiveness and empathy from service managers. The management perception was 4.36 and customers 4.65. The mean knowledge gap was thus 0.29 indicating a general positive (dissatisfaction) knowledge gap of service quality within the industry in the metropolis. Management may lack precise perceptions of consumers' real expectations. The availability of a marketing unit does not naturally ensure that the market focus is functional. This may be due to lack of the right focus of marketing strategy with regards to the customer as the focal point. Appropriate management procedure, processes, market analysis mechanisms, strategies, capacity, capability, and attitude are required in this regard. The study is limited in the sense that the model adopted is not universally accepted. The limitation of the study is based on the reason that the model adopted has not given credence to universal application. The results of the study cannot therefore be generalized but only applicable to the study area. It is recommended that future studies should be directed towards universality of the model with special

reference to application of knowledge gap as a measurement of service quality in general and the motor vehicle maintenance and repair industry in particular.

References

- ASI Quality Systems (1992), "Quality function deployments Practitioner Workshop", U.S.A: American Supplier Institute Inc.
- Asubonteng, P. McLeaty, K.J.D. and Swan, J.E. (1996), "SERVOUAL revisited: A critical review of service quality", *Journal of Service Marketing*, Vol. 10 No. 6, pp. 62-81.
- Berndt, A. (2009), "Investigating service quality dimensions in South African motor vehicle servicing", *African Journal of Marketing Management*, Vol. 1 No. 1, pp. 001-009.
- Bondzi-Simpson, A. (2012), "Service quality in hotels in the Central Region, Ghana", *Journal of Business and Enterprise Development*, Vol. 3 No. 1, pp. 1-21.
- Broun, S.W. and Bond, E.U. (1995), "The internal/external framework and service quality: Toward theory in service marketing", *Journal of Marketing Management*, No. 2, pp. 25-29.
- Buttle, F. (1996), "SERVQUAL, review, critique, research agenda", *Europ. J. Market.* Vol. 30 No. 1, pp. 8-32.
- Carman, J.M. (1990), "Consumer perceptions of service Quality: An assessment of the SERVQUAL dimensions", *Journal of Retailing*, Vol. 66 No. 1, pp. 33-35.
- CEPS (2011), My joy online.com (14th September, 2011).
- Chang, T.Z. and Chen, S.J. (1998), "Market orientation, service quality and business profitability: A conceptual model and empirical evidence", *Journal for Service Marketing*, Vol. 12 No. 4, pp. 246-264.
- Chowshary, N. and Praksh, M. (2007), "Prioritizing service quality dimensions", *Managing Service Quality*, Vol. 17 No. 5, pp. 493-509.
- Cronin, J.J. and Taylor, S.A. (1992), "Measuring service quality: A re-examination and extension", *Journal of Marketing*, Vol. 6 No. 7, pp. 55-68.
- Curry, (1999), "Innovation in public service management", *Managing Service Quality*, Vol. 11 No. 3, pp.27-42.
- Dotchin, J.A. and Oakland, J.S. (1994), "Total quality management in services, Part1: understanding and classifying services", *International Journal of Quality & Reliability Management*, Vol. 11 No. 3, pp. 9-26.
- Gammie, A. (1992), "Stop at nothing in the search for quality", *Human Resource*, No. 5 (spring), 35-38.
- Grönroos, C. (2001), "The perceived service quality concept - A mistake", *Managing Service Quality*, Vol. 11 No. 3, pp. 150-152.
- Gržnić, J. (2007), *Concepts of service quality measurement in the hotel industry*, Pula, University of Jurja Dobrile

- Gummesson, E. (1998), "Productivity, quality and relationship marketing in service operations", *International Journal of Contemporary Hospitality Management*, Vol. 10 No. 1, pp. 4-15.
- Hair, J.W., Bush R.P. and Ortinau, D.J. (2006), *Marketing Research within a Changing Environment*, 3rd ed., McGraw-Hill, New York, NY.
- Hallowell, R. (1996), "The relationship for customer satisfaction, customer loyalty and profitability: an empirical study", *International Journal for Service Industry Management*, Vol. 7 No. 4, pp. 28-42.
- Hung, H., Huang, M.L. and Chen, K.S. (2003), "Service quality evaluation by service quality performance matrix", *Total Quality Management & Business Excellence*, Vol. 14 No. 1, pp. 79-89.
- Iwaarden, J.V., Wiele, T.V.D., Ball, L. and Millen, R. (2003), "Applying SERVQUAL to web sites: An exploratory study". *International Journal of Quality and Reliability Management*, Vol. 20 No. 7, pp. 919-935.
- Johnson, R.L., Tsiros, M. and Lancioni, R. (1995). "Measuring service quality: A systems approach", *J. Services Market*, Vol. 9 No. 5, pp. 6-19. DOI: 10.1108/08876049510100272
- Kiew, L.Y. and Chee, L.K. (2002), *Quality Measurement of the Malaysian Rail Services Using the SERQUAL Scale*, Faculty of Economics & Administration: Universiti Malaya.
- Kulašin, D. and Fortuny-Santos, J. (2005), Review of the servqual concept, *4th Research/expert Conference with International Participation "QUALITY 2005" Fojnica*, B & H, pp. 09-12 November, 2005.
- Lasser, W.M., Manolis, C. and Winsor, R.D. (2000), "Service quality perspectives and satisfaction on private banking", *Journal of Service Marketing*, Vol. 14 No. 3, pp. 244-271.
- Leonard, F.S. and Sesser, W.E. (1982), "The incline of quality", *Harvard Business Review*, Vol. 60 No. 5, pp. 173-171.
- Levis, B.R. and Mitchel, V.W. (1990), "Defining and measuring the quality of customer service", *Marketing Intelligence and Planning*, Vol. 8 No. 6, pp. 11-17.
- Levis.B.R. (1989), "Quality in the service sector", *Internal Journal of Bank Marketing*, Vol. 7 No. 5, pp. 4-12.
- Luk, S.T.K. and Layton, R. (2002), "Perception Gaps in customer expectations: Managers versus service providers and customers", *The Service Industries Journal*, Vol. 22 No. 2, pp. 109-128.
- Newman, K. (2001), "Interrogating SERVQUAL: A critical assessment of service quality measurement in a high street retail bank", *International Journal of Bank Marketing*, Vol. 19 No. 3, pp. 126-139.
- O'Neill, M. and Palmer, A. (2003), "An exploratory study of the effects of experienced on consumer perceptions of the service quality construct", *Managing Service Quality*, Vol. 13 No. 3, pp. 187-196.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1955), "SERVQUAL: A multi-item scale for measuring customer perceptions of service quality", *Journal of Detailing*, Vol. 64 No. 1 pp. 12-40.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985). "A Conceptual model of service quality and its implications for future research", *Journal of Marketing*, Vol. 49 No. 3, pp. 31-50.

- Rodrigue, J-P, and Notteboom, T. (2017), *The Geography of Transport Systems*, Hofstra University, Department of Global Studies and Geography, Chapter 1. available at: <http://people.hofstra.edu/geotrans> (accessed 10 February 2016).
- Saghier, N.E. and Nathan, D. (2013), "Service Quality Dimensions and Customers' Satisfactions of Banks in Egypt", *Proceedings of 20th International Business Research Conference, 4-5 April, Dubai, UAE*.
- Saunders, M., Lewis, P. and Thornhill, A. (2009), *Research Methodology for Business Students*, 5th ed., Pearson Education Ltd., Harlow.
- Shahin, A. (2006), "SERVQUAL and model for service quality gaps: A framework for determining and prioritizing critical factors in delivering quality service", In: Partha Sarathy V. (Ed.), *Service quality - An introduction*, pp. 117-131. Andhra Pradesh: ICFAI University Press.
- Shahin, A. and Samea, M. (2010), "Developing the models of service quality gaps: A critical discussion", *Business Management and Strategy*, Vol. 1 No. 10, E2.
- Shahin, A., Dehghan, A. and Albdvi, A. (2006), "Service quality gaps and six sigma with a case study on CCG (Customer Centric Group) Co.", *Proceedings of the Second International Conference on Six Sigma* (pp. 50-64), 5th-7th June Glasgow.
- Sureshchander, G.S., Rajendran, C. and Anatharaman, R.N. (2002), "The relationship between service quality and customer satisfaction: A factor specific approach", *Journal of Service Marketing*, Vol. 16 No. 4, pp. 373-379.
- The Spectator (2008, April 13), 70,000 cars imported into Ghana yearly. Modern Ghana, available at: <https://www.modernghana.com/news/162413/1/70000-cars-imported-into-ghana-yearly.html> (accessed 10 February 2016).
- Wisniewski, M. and Donnelly, M. (1996), "Measuring service quality in the public sector: the potential for SERQUAL", *Total Quality Management*, Vol. 7 No. 4, pp. 357-365.
- Yang, Z. and Fang, X. (2004), "Online service quality dimensions and their relationships with satisfaction: A content analysis of customer reviews of securities brokerage services", *International Journal of Service Industry Management*, Vol. 15 No. 3, pp. 302-326.
- Zahari, W., Yusoff, W. and Ismail, M. (2008), "FM-SERVOUAL: A new approach of service quality measurement frame work in local authorities", *Journal for Corporate Real Estate*, Vol. 10 No. 2, pp. 130-144.
- Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2006), *Services Marketing: Integrating customer focus across the firm*, 4th Edition, McGraw-Hill, Boston.