

Exploring Gaps in Service Quality and Customer Satisfaction in Mobile Telecom Business in Tamale Metropolis, Ghana

In Ghana a main issue confronting customers of Mobile Telecom networks is service quality and customer satisfaction. Studies conducted have targeted service quality issues from the service providers' perspective. This has possibly nudged Telecom network companies to improve their services. The National Communications Authority in Ghana has taken some steps to address the issue. Yet customers seem dissatisfied. The study examined service quality and customer satisfaction of Mobile Telecom services in Tamale Metropolis. The study employed a mixed method research design. The sample size for the study was 401 respondents. Data was sourced from key informant interviews, questionnaires and focus group discussions. The results showed that customers perceived service quality and satisfaction differently. While most Vodafone customers were satisfied with their service, customers of MTN were dissatisfied. The study concludes that some aspects of the operations of both MTN and Vodafone networks require improvement in order to meet customer satisfaction and quality standards. Service providers need to improve service quality through effective application of new technology.

Keywords: Customer Satisfaction, Ghana, Mobile Telecom Networks, National Communication Authority, Quality Standards.

Introduction

The National Communications Authority (NCA, 2018) has documented complaints about poor service quality of Mobile Telecom Companies in Ghana. Measures the NCA has taken against defaulting Telecom operators include fines and sanctions. Four Mobile Telecom network companies have license to operate in Ghana and two of these offer fixed-line services. The four are: MTN, Vodafone, Airteltigo and Glo Mobile. Vodafone and Airteltigo offer additional services in fixed-line connectivity. The quality of service provided by the operating networks remains a matter of concern to end users. According to Amenyo (2011) many people have often complained about the frequent call drops, delays in call set-ups and call congestion. The challenges of customers were highlighted in May of 2010 when the Consumer Protection Agency (CPA), an advocacy group in Ghana asked end users in the country to switch off their phones for at least six hours in protest against "poor services" by the operators. This move was to highlight the difficulties end users go through in the use of their chosen Mobile service (Magdaline, 2013).

These complaints have awakened mobile phone service providers such as MTN, Vodafone, Airteltigo and Glo to adopt measures from time to time to satisfy their customers. For instance, since 2009 MTN has spent about US \$200million in network upgrade and expansion and in September 2010 MTN invested US\$ 350million in a new switch technology called "the blade cluster" to improve network quality and customer experience in Ghana (Nimako & Azumah, 2009).

Despite the promises of good network quality subscribers of both MTN and Vodafone and the other mobile networks in Tamale still experience poor network service in the form of “call drops”, “misdirection of calls”, “out of coverage area notices” and a general difficulty in making calls. The NCA conducts periodic monitoring of quality of service delivered in the telecom sector. One such report based on findings in Northern Region from 10th February to 4th March 2016 was published for all operators by the NCA on its official website. The main question the study attempted to answer was: How do customers assess service quality of Mobile Telecom networks in Tamale Metropolis of Ghana?

Literature Review

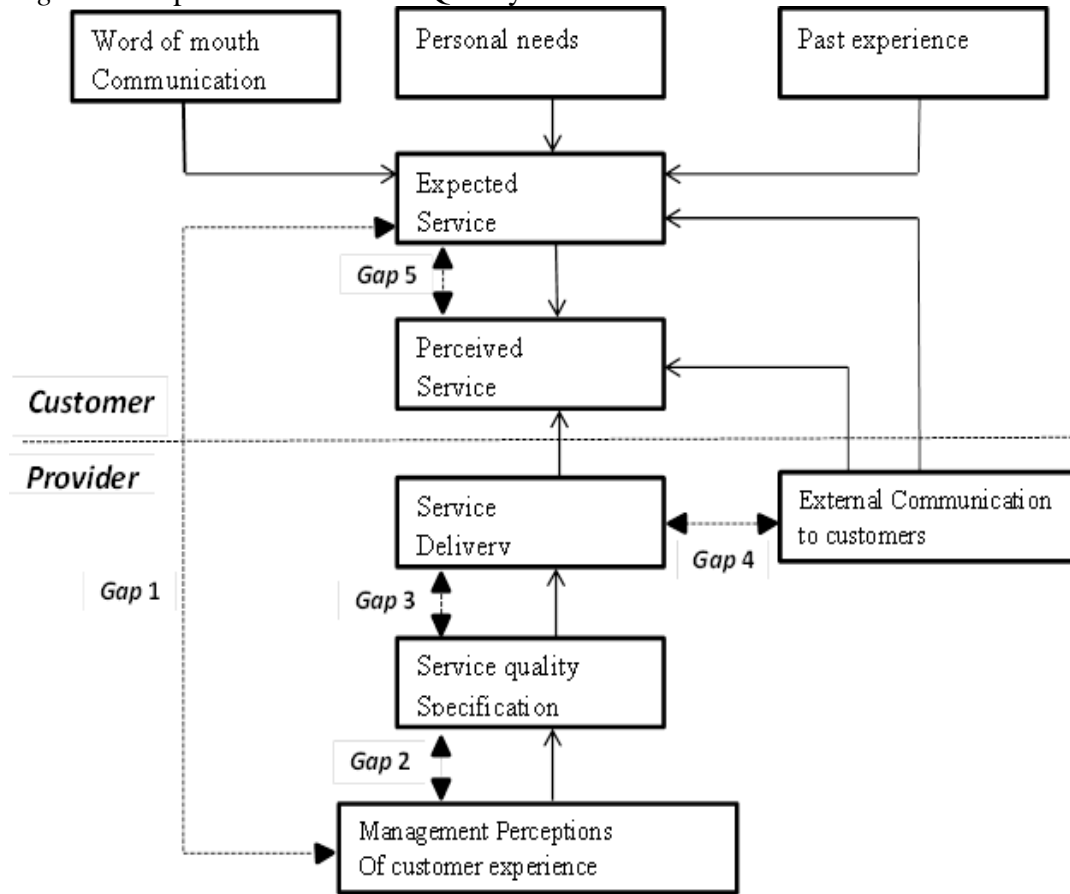
Gap Model of Service Quality

The study adopted the Gap Model of Service Quality by Parasuraman, Zeithaml and Berry, (1985). The model was designed to analyse the dimensions of service quality that provides an important framework for defining and measuring service quality. They developed the GAP Service Quality Model (Figure 1) through the findings from exploratory research that contains in-depth and focus group interviews. GAP Service Quality Model showed the major findings achieved through the executive interviews and focus group interviews about the service quality concept. The gaps revealed were shown in the marketer side (GAP 1, GAP 2, GAP 3, GAP 4), and the GAP 5 which was formed by the focus group interviews was in the end users side of the model. The GAP relations and names as indicated by Parasuraman, Zeithaml and Berry (1985) and Lovelock and Wirtz (2011):

- GAP 1: Customer expectation-management perceptions gap, *The Knowledge Gap*.
- GAP 2: Management perception-service quality specifications gap, *The Policy Gap*.
- GAP 3: Service quality specifications-service delivery gap, *The Delivery Gap*.
- GAP 4: Service delivery-external communications gap, *The Communications Gap*.
- GAP 5: Expected service-perceived service gap, *The Service Quality Gap*.

Lovelock (1994) added the sixth gap to the model as GAP 6: Service Delivery and Perceived Service, *The Perceptions Gap*. According to the responses of focus group participants, the judgments of high and low service quality depended on how consumers perceived the actual service performance in the context of what they expected, and GAP 5 showed the expected service-perceived service gap. After the gaps modeling, the determinants of service quality that consumers used when interpreting the quality were described (Emel, 2014 p. 83, Sanjay & Garima, 2004 p. 27).

1 *Figure 1. Gap Model of Service Quality.*



2
3 *Source:* Adopted from Parasuraman, Zeithaml and Berry (1985).
4

5 This model was adopted for the study because the gaps identified in this
6 model are what shapes and determines customer perception in the Mobile Telecom
7 industry. Therefore, the study sought to find out whether customers of Mobile
8 Telecom networks in Tamale Metropolis have an idea about service quality
9 gaps/determinants as presented in the Gaps Model. And if they do, how do they
10 assess the performance of the Mobile Telecom company's service they use in
11 relation to their knowledge about the gaps in service quality. The gaps model sees
12 the idea of service quality or otherwise to be the interplay between the various
13 gaps. Gap 1 entails the management perceptions of customer experience leading to
14 Gap 2, which is customer service quality specifications. This leads to the service
15 delivery system in gap 3 having interplay with gap 4, which is the external
16 communications to customers. The gap 4 leads to two adjoining gaps in gap 5
17 which is perceived service and then a further gap 6 which is expected service. The
18 customer's word of mouth communications, personal needs and past experiences
19 all depend on the quality of service enjoyed from the service provider. The
20 weakness of the model is that it equates service quality to awareness about service

quality gaps. But literature shows that poor service delivery goes beyond merely knowing about gaps.

Customer Expectations and Satisfaction about Service Delivery of Telecom Companies in Tamale Metropolis

The National Communications Authority (NCA) reported more complaints from customers about poor services of Mobile Telecom network companies more than any other service industry in its periodic publications on Cellular Mobile Consumer Satisfaction Survey for 2012/2013 (Samuel & Arnold, 2014). This trend of continuous complaints from customers about service quality necessitated the adoption of Mobile Number Portability (MNP) in 2011 by the NCA which took effect on 7th July, 2011. MNP is a mechanism to check poor service quality that ensures that customers of Mobile Telecom networks switch to a different network whilst still keeping their mobile phone number. Its introduction was seen as a way of giving more power and control to the customer to decide which mobile network operator they want to receive services from. However, MNP has contributed less in checking poor service quality in the telecom sector. This has therefore kept industry watchers in awe about what exactly needs to be done to propel decent and quality service delivery in the Ghanaian Mobile Telecom Industry.

The Tamale Metropolis has access to telecommunication service providers such as Airteligo, Vodafone, MTN and Glo. Broad band internet and data services are also available in the Metropolis and serves as a link to the worldwide web (TaMA, 2016). The NCA's periodic publications on Industry Information-Telecom Subscriptions for January, 2016 have included pockets of service quality drawbacks from the Tamale Metropolitan area. Whilst some of these findings genuinely identifies some operators to be non-existent in locations they claim to be, others relates to poor service delivery for which occasional fines are slapped on these network operators. At other times, customers are made to benefit based on compensation packages that the network operators are made to pay for poor quality service. For instance, the National Communications Authority's annual report in 2017 showed that the voice service of Expresso was not available in the entire Northern Region prior to the revocation of their license a year later.

Mobile phones are a useful technology to inhabitants of the study area because Hamdiya and Paul, (2012) found out that mobile phones were predominantly used by farmers of Kanvilli, a suburb of Tamale to link family/friends and requesting for farm inputs. This enhanced communication and saved time. However, farmers were faced with challenges of poor services such as no reception, calls ending unexpectedly and poor sound/breaking up of sound.

Inhabitants in the study area therefore rely on Mobile networks services for agricultural uses, business and social networking. The NCA frowns on poor service quality issues customers face in the Telecom industry. With service quality parameters such as: service availability, service accessibility, service reliability, billing performance and help/enquiry services among others, which are all calculated in percentages, and the NCA monitors service providers. NCA hopes

that each of the Mobile Telecom network service providers is able to meet about 90% of each of these parameters (NCA, 2018). Periodic assessments are carried out by the authority to ascertain whether service providers are able to meet these parameters based on which sanctions are applied if the need arises.

Methods

The study employed a mixed method approach. Two focus group discussions were held - one focus group was for customers while the other was for vendors who deliver services to customers of these networks. There were 10 participants in each focus group consisting of customers and vendors. Key informant interviews were conducted for one respondent each from the Mobile Telecom network service providers and one from the industry regulator, the NCA.

The total population of the Tamale Metropolis is 233,252, (Ghana Statistical Service, 2010) representing 9.4 percent of the region's population. Of the total population, there are more females 112,143 (50.2%) than males 111, 109 (49.7%), (GSS, 2014). Since the study is about mobile phone users, available information indicates that of the population 12 years and above, 53.7% have mobile phones, representing about 125,256 mobile phone users in the metropolis. The proportion of males who own mobile phones (55.5%) is higher than that for females which is 44.5%. However, in terms of usage and choice of subscriber, the total number of subscribers for MTN in the Tamale Metropolis as at February 2018, were 47, 648. That of Vodafone for the same period was 31, 385, comprising mobile voice subscribers. The total number of mobile phone users relevant for this study in the Metropolis is 79,033. This represents the part of the population that uses the services of mobile phone subscribers MTN and Vodafone, representing 33.88% of the total population of the study area. The sample size determination formula of Yamane (1967) was used based on the number of mobile phone users of MTN and Vodafone networks to obtain a sample size of 398. Two market leaders – MTN and Vodafone were purposefully sampled for the study. The responses of two service providers that is one each from MTN and Vodafone and one National Communications Authority staff was collected through interviews conducted. The actual sample size for the study was 401. Questionnaires were administered to respondents (customers) through proportional quota sampling as indicated in Table 1:

Table 1. Proportional Quota Sampling.

Communities	Population	Quota (%)	Number of Respondents
Sakasaka	485	5	20
Kukuo	10,677	50	200
Kalpohini	7,440	25	98
Zogbeli	1,149	10	40
Malishegu	460	5	20
Others	930	5	20
Totals	21,141	100	398

Source: Field Survey, 2018.

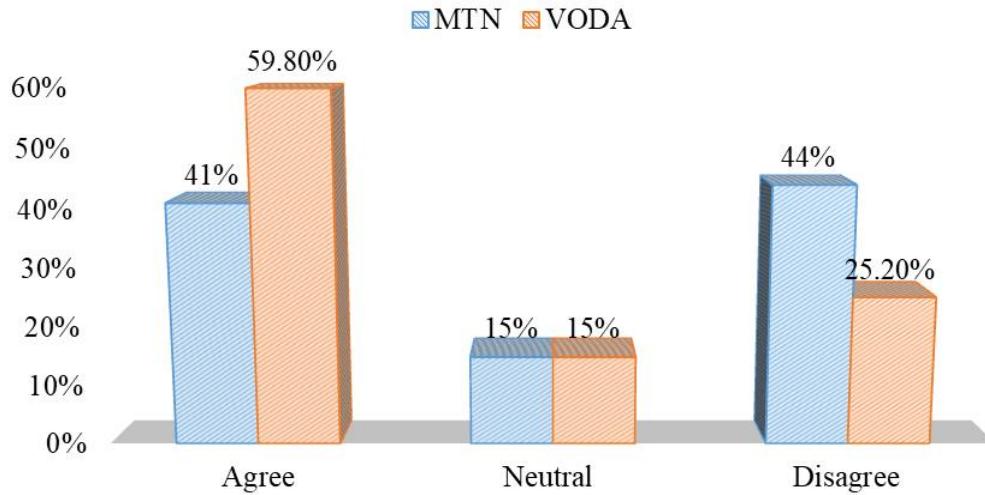
Findings

On factors that account for poor delivery of services, the Regional Coordinator at Vodafone Ghana noted: "You see, the resources is one, because the business might not have the resources to deploy a cell site in every area. And at places we want to site one, we have to acquire a permit from the Environmental Protection Agency, which is sometimes denied. At other times too, we have cable theft or fibre cuts at places due to road construction or farming activities. So all that are big challenges we face which leads to poor service quality." According to the Frontline Agent at MTN Ghana, factors that lead to quality service delivery refer to our ability at MTN Ghana and Tamale branch specifically to provide voice clarity and the speed that the customer gets in accessing the network.

From the industry regulator's perspective, the Assistant Manager in charge of Consumer and Corporate Affairs at the National Communications Authority (NCA) said:

"As an organization, all the network operators are aware that we conduct quarterly quality of service monitoring. We have a van and we do a drive test and we collect data and the locations sometimes are not indicated them so that they will easily go and improve quality there. What we do is that we do it every quarter and we don't tell them that we are going to Sagnarigu or we are going to Kukuo, we just go and we don't even inform them that this is the time we are doing quality of service monitoring. And when we do, all the standards or the benchmarks that we have given them, we check it."

1 *Figure 2. Respondents' views on dependability of Vodafone/MTN's service.*

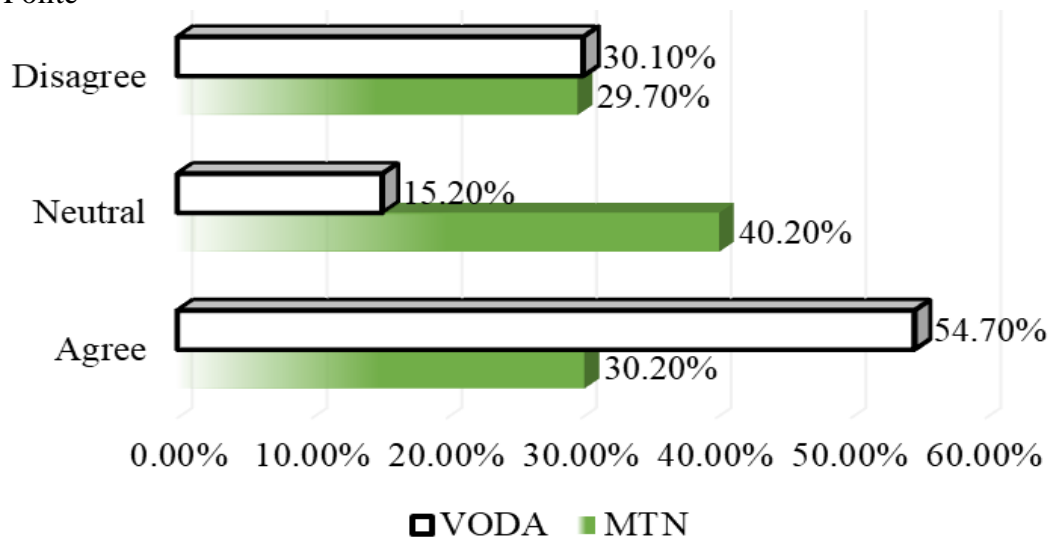


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3 *Source: Field Work, 2018.*

4

5 *Figure 3. Views of respondents on whether employees of Vodafone/MTN are*
6 *Polite*



7

8 *Source: Field Work, 2018.*

9

10

1 *Table 2. Customer satisfaction of MTN and Vodafone services.*

Responses	Vodafone		MTN	
	Frequency	Percentage	Frequency	Percentage
Strongly Agree	123	30.6	40	10
Agree	198	49.4	141	35
Neutral	40	10	60	15
Disagree	20	5	100	25
Strongly Disagree	20	5	60	15
Total	401	100	401	100

2 *Source: Field Work, 2018.*3
4 The Frontline Officer at MTN Ghana Tamale noted:5
6 *"Satisfaction of customers in the telecom industry has to do with getting your*
7 *customers the network coverage at each location they are found. For Tamale, our*
8 *coverage is 100%. For voice, regardless of location, our customers are satisfied but for*
9 *data, there may be complaints when the person uses a device that is not 4G configured; if*
10 *not, all those on the 4G get super speed when it comes to data. So they are satisfied with*
11 *our service. I am sure about it."*
1213 The views of the industry regulator on satisfaction of customers during the
14 key informant interview focused on capacity of the Mobile Telecom network
15 operators to satisfy their end users. The Assistant Manager in charge of Consumer
16 and Corporate Affairs at NCA said:
1718 *"From my perspective, personally I think that if you look at the voice quality of*
19 *Vodafone, they have a very good voice quality when it comes to voice and MTN also has*
20 *very good data quality because of the 4G that NCA auctioned to them. So they are the*
21 *only network using 4G except the other 4G services such as Surfline and then Busy*
22 *Internet and the other people. But when it comes to those who do voice and data, MTN*
23 *has very good quality data because of the 4G and the rest but when it comes to voice, I*
24 *think Vodafone is ahead of them in terms of voice. So they all have what we call*
25 *competitive advantage. The voice is an advantage, we think that data is now ruling the*
26 *world but I can still tell you that especially our part of the world, because majority are*
27 *illiterate and can't read and write so data doesn't have meaning for them so the voice too*
28 *they also cherish the quality of the voice."*
2930 The use of modern equipment can propel quality of service in the Mobile
31 Telecom industry due to the ongoing trends in technological advancement.
32 Majority of the respondents, 50% chose Vodafone ahead of MTN when asked
33 about whether their mobile network company (Vodafone or MTN) had modern
34 equipment or used modern equipment in their operations to ensure quality service
35 delivery. About 25% of the respondents said MTN had modern equipment ahead
36 of Vodafone. Twenty-five percent said both networks had modern equipment. This

means that there is a strong perception among customers of MTN and Vodafone that their Mobile Telecom network uses modern equipment in their operations.

As regards effects of quality service on their business, the study revealed that a total of 50.30% of Vodafone respondents agreed that quality service affects their business. About 49% of respondents of MTN agreed that their network's poor quality service affects their business. About 39.7% of Vodafone respondents in the study did not respond to the question on this matter whilst 25.10% of MTN respondents failed to respond on this matter, hence were neutral. The MTN network had 25.10% for the disagree scale while Vodafone had 10% of their customers disagreeing to this point. During the key informant interview on this issue, the Regional Coordinator of Vodafone Ghana in Tamale said:

"We all know that this time everything is ran on technology. So we are there as a solver of problems. Whatever the client is using the service for is the person's business so if it's communication from one end to another without even generating revenue for the person doing it, it's the person's business. So we are very cautious of that, such that we ensure that we give the best of service to our clients."

On value for money for service rendered, 15.1 % of Vodafone end users strongly agreed that they get value for money from their network whilst only 5% of MTN respondents strongly agreed that their network provides them with value for money services. For Vodafone, 20.1% of the end users agreed but not strongly that they get value for money. And 34.7% of MTN respondents agreed but not strongly that their network provides them value for money services. About 39.7% of Vodafone respondents and 20.1% of MTN respondents remained neutral. On the disagree scale, a total of 15.1% each of MTN and Vodafone respondents said their network does not provide them with value for money services. The rest of the respondents, a total of 10.1% for Vodafone and 25.1% of MTN respondents said their network does not provide them with value for money services as they strongly disagreed.

According to service providers, value for money issues is dependent on the charges they do for services customers received from them. For the Regional Coordinator of Vodafone Ghana, said the rate at which they charge their customers for services and the promotions they give out are enough pointers that customers get value for money for using Vodafone. According to him, this places every customer at a position to get and enjoy what he/she can afford. When asked about the value for money issues, he said:

"If you ask me, yes! You see it is not just the case, but we have a standard price. And I think the standard price is Ghp0.08 per minute. There is no much difference in terms of pricing. But you know we all have promotions that we run. So for instance, I will offer GhS 10, GhS 11 for let's say 1000 minutes of calls on-net that is say Vodafone to Vodafone and I may offer you again 120minutes off-net that is from Vodafone to competition. Then I might give you some 250 megabites of data, so those are the things."

1 The industry regulator has an eye on value for money issues. The Assistant
 2 Manager in charge of Consumer and Corporate Affairs at the NCA alluded to the
 3 fact that the authority has put in place enough measures to ensure customers get
 4 value-for-money in relation to what they spend using their chosen telecom
 5 network service. He mentioned some of them as certain operational parameters
 6 such as billing feedback, to enable customers instantly receive messages from
 7 service providers about how much they have spent on a call. Then there is also a
 8 regulation that makes service providers notify customers before migrating them
 9 from their data bundle to their main balance if the bundle elapses.

10 On respondents' views on customer care as against expectations, the study
 11 revealed that while no MTN customer strongly agreed to standards in customer
 12 care from their network's perspective, 10.1% of Vodafone respondents strongly
 13 agreed that their network has a better standard and customer expectations than
 14 MTN. About 39.7% of Vodafone respondents agreed but not strongly that their
 15 network has a better customer service standard and MTN had 40.2% of them
 16 agreeing that their network has a better standard and customer care than Vodafone.
 17 The neutral scale saw 30.2% of respondents for MTN and 25.1% respondents for
 18 Vodafone. On the disagree scale, about 14.6% of MTN respondents and 15.1% of
 19 Vodafone respondents said their network does not match current standards in
 20 customer care and expectations. About 10.1% of respondents of Vodafone said
 21 their network does not match up to current standards in customer care and
 22 expectations. About 15.1% of the respondents strongly disagreed.

23 An Assistant Manager in charge of Consumer and Corporate Affairs at NCA
 24 in response to the issue said:

25
 26 *"For us at NCA, yes we have standards in customer care. For instance, we do*
 27 *regular check-ups on their customer care centres to find out how long customers wait to*
 28 *be served. We also do check to see how many customer care agents or if you like tellers*
 29 *that they have. Aside that we have what we call the complaint mechanism, when we send*
 30 *them complaints how we expect it to be received, the standard even not from us but when*
 31 *an ordinary customer calls, the standard of addressing that issue, I think we set all those*
 32 *standards for them and it's the same across board. They all have to abide by it."*
 33

34 On the other hand, the Regional Coordinator at Vodafone Ghana in a key
 35 informant interview disclosed that in order for them to align the standards in
 36 customer care to meet customer expectations, they engage in constant training of
 37 staff.

38 The Front Line Officer at MTN Ghana gave a similar response as his
 39 competitor at Vodafone. He said, standards in operations are very important to the
 40 MTN brand especially as they are the market leaders. According to him, in order
 41 not to exhibit any laxity in service delivery, employees of MTN are constantly
 42 trained on current technological advancements in the telecom industry to meet a
 43 certain standard.
 44
 45

Discussion

It was revealed that half of the customers of Mobile Telecom services knew about the service quality gaps as presented by Parasuraman, Zeithaml and Berry (1985). Forty percent of the respondents had no idea about the service quality gaps. Ten percent of respondents were neutral or said they did not know or would not comment on it. Even though all respondents had some form of formal education, it is not enough to fully understand quality issues in the Mobile Telecom industry. It is based on knowledge about the service quality gaps that customers can understand the difference between what their network service provider offers and what their perceptions and expectations are. This finding confirms what Emel (2014) and Sanjay and Garima, (2004) identified in their respective studies on the gaps model. This means service quality is interpreted very well if one has an idea about the gaps.

On the issue of which of the two networks provided dependable services to their customers, the results showed that about 25% of some customers of Vodafone strongly agreed that indeed Vodafone is a dependable network in terms of services. MTN had a total of 10% of their customers who strongly agreeing that their network offers dependable services. According to Nigel, Jonathan and Britt (2004) the rapid expansion of the Mobile Telecom markets is clearly linked to liberal regulatory environments, where operators have been given freedom to respond to customer requirements, hence making these operators dependable according to customer needs. This is the case in Tamale Metropolis because 35% of respondents agreed that their Mobile Telecom network service providers offer them dependable services. However, on the disagreed scale 44.5% of customers raised issues about how dependable Telecom network services were. Samuel and Arnold (2014) note that the goals set by government have only partly been met especially with respect to the development in mobile service quality in rural areas – and the quality of service is still low and has even deteriorated on some indicators. There is, therefore, a widespread dissatisfaction with the general Telecom development in Ghana among users as well as policy decision makers and administrators. The findings of Florian and Soeren (2015) on dependability of network service revealed that having the most reliable network in terms of fewest dropped calls and outages, and constant access to data is overwhelmingly the most important attribute in terms of network choice. It implies that customers switching intentions are dictated by how dependable their Mobile Telecom network service provider is able to provide their needs.

Keeping promises to customers was seen as a factor that determines service quality. The study revealed that 30% of Vodafone customers and 10% of MTN customers have agreed that the two networks keep promises; some other respondents such as 19.5% for MTN and 5% for Vodafone disagreed that the networks keep their promises to customers. Adjetei (2012) has expressed doubts as to whether Ghanaian Mobile Telecom companies have policies to guarantee total satisfaction of their customers through promises they make.

The next factor that determines service quality considered in the study was fair charges in terms of the amounts customers pay for services. About 5% of the MTN respondents in this study agreed that their network has fair charges whilst 10% of the Vodafone respondents agreed that their network has fair charges for them. Twenty-five percent of the MTN respondents in the study disagreed strongly that their network charges them fairly, whilst 20% of the Vodafone respondents disagreed strongly that the charges of their network were fair. The rest of the respondents, representing 25% remained neutral on this factor. According to NCA's publication of February, 2016, MTN and Vodafone charge the same amount of Ghp 0.11 on net and Ghp 0.13 off net for calls. Both networks, however, have slightly different charges for Short Message Services (SMS). While MTN charges Ghp 0.045 for SMS on-net, Vodafone charges Ghp 0.055 for SMS on-net. Also, MTN charges Ghp 0.055 for SMS off-net whilst Vodafone charges Ghp 0.065 for SMS off-net. Scott, Jonathan and Britt (2004) note that the findings on charges of the Mobile Telecom industry players recognizes that its next 1billion customers will be won by companies that develop business models that work for poorer people in Africa. This presents big opportunities for the delivery of pro-poor services in terms of call and SMS charges.

The results showed that 5% of MTN respondents agreed that their network provides them with value for money services. For Vodafone, 34.5% strongly agreed that their network provides them value for money services. On the strongly disagree scale, a total of 20% of MTN respondents said their network does not provide them with value for money services. Twenty percent of Vodafone respondents said their network does not provide them with value for money services. The rest of the respondents, about 20% from both networks remained neutral in their responses on this issue. Value for money is one of Mobile Telecom industry's developmental issues that was captured in a study titled: 'Telecom Consumer of the Future' (Florian and Soeren, 2015). The two researchers in the study identified it as a very important customer-centered measure that will lead to growth in Telecom companies in competition. According to them, retail access provisions and value-for-money offerings are both classified under data utilities which if Mobile Telecom companies pay attention to, they can achieve 'higher potential profitability'.

The effects of Mobile Telecom network service on business were viewed from either positive or negative angle. When service is poor, it leads to a negative effect and vice versa as customers spend more than they should on services. On the issue of service quality effects on businesses of customers, the study took two issues into consideration: value-for-money and how beneficial the service is to the customer in terms of their business. The former has already been discussed in a previous section. The study revealed that 10% of MTN customers strongly agreed that usage of their network is more beneficial than others. For Vodafone, 39.5% strongly agreed that using their network is more beneficial than others. Five percent of MTN respondents strongly disagreed with the assertion that using services of their network company is beneficial. On the other hand, 20% of respondents of Vodafone said using the services of their Mobile Telecom network

1 is not beneficial as they disagreed strongly with the statement on benefits. About
 2 25.1% of the other MTN respondents and 39.7% of Vodafone respondents did not
 3 respond to this question or chose a neutral position on the issue of benefits.

4 The issue of likely effects of poor quality service on customers of Mobile
 5 Telecom networks hinges on the uses of mobile phones as captured by Scott,
 6 Jonathan and Britt (2004), who note that it saves time, makes business more
 7 dynamic, improves financial management, all of which tend to improve household
 8 income and reduce risk in African settings. In each of these, when service delivery
 9 is poor, it would affect customer's businesses negatively and vice versa.

10 Mobile Telecom networks see the use of modern equipment, current
 11 technology and prompt service delivery as some of the standards in customer care
 12 and expectations marching. Standards in customer care are dictated by the
 13 regulator, the NCA in Ghana. The standards have some universal points of
 14 agreement in the service industry which is mandatory. For the NCA the notable
 15 points are: the length of time customers spend in getting complaints resolved by
 16 the service providers, the manner in which complaints are resolved and based on
 17 these, a complaint mechanism is put in place for compliance. The NCA has
 18 measures in place to check all of these and ensure they are being followed. From
 19 time-to-time, these standards in customer care are modified. This is to ensure that
 20 the telecom industry in Ghana has standards that conform to global standards in
 21 the Mobile Telecom network service industry. These requirements and results are
 22 similar to Jennifer's (2015) study on: "Responding to problems faced by
 23 Telecommunications Consumers in Australia." The NCA also has billing
 24 notification which is a requirement for service providers to comply with, such that
 25 when a customer has exhausted data bundle on their account, they have to be
 26 notified. So that based on the notification, they must decide whether they should
 27 be migrated to their main account. This shows that customers have some
 28 reservations about their network service providers compliance to these standards
 29 based on the responses given.

32 **Conclusion and Recommendations**

34 Customers perceive satisfaction and quality service in different ways. While
 35 most Vodafone customers were satisfied with the service they received, most
 36 customers of MTN were dissatisfied. Customers are not satisfied with service
 37 providers in terms of dependable service. Customers of both networks reported
 38 that poor service quality affects their businesses in terms of spending. Customers
 39 highlighted how poor services can derail their efforts at profit-making in
 40 businesses.

41 However, both companies had similar standards in terms of customer care and
 42 expectations on the nature of services they render. Customers of Vodafone were
 43 slightly positive about their network's standards in care and meeting their
 44 expectations on average than MTN customers. The study concludes that certain
 45 aspects of operations of both MTN and Vodafone networks have to be improved in

order to meet customer satisfaction in Tamale Metropolis. The respective networks have over the years concentrated much on information technology upgrading, which does not necessarily translate into decent services for customers.

Each of the network has one quality of service drawback or the other from time to time to contend with. Customers acknowledged the challenges of unsatisfactory service delivery by Telecom operations and tried to manage the situation by using more than one network. Customers noted that the strategy help them keep a balance in the service they receive so that when one Mobile network fails, the other could work for them.

The study concludes that license revocation by the NCA seems a better way of ensuring Mobile Telecom networks services meet expected standards. However, the frequency of this action seems slow because only Expresso has had its license revoked. It is important that service providers take steps to improve service quality through effective application of new technology. This will enhance service quality as usage patterns expand to capture data with the emergence of smart phones and other digital technologies.

It is recommended that more customers take advantage of Mobile Number Portability (MNP) to switch service providers whilst still maintaining their existing mobile phone number. This is because most customers are unaware of the advantages that go with MNP. Hence, customers express regret for using a particular service but are unaware that leaving a service provider does not lead to losing their mobile phone number. There is a gap in educating the public on the MNP, which requires a joint coordinated effort of service providers and NCA to fill.

The NCA needs to firmly enforce rules and regulations on standard performance practices in the Telecom industry by for instance, revoking the licenses of recalcitrant companies, who flout such rules and regulations.

Service quality can only be guaranteed if there is a solid infrastructure base to propel effective connectivity among mobile devices. Fibre cuts and cable thefts which are identified as some of the causes of breaks in service delivery by the Mobile Telecom networks. The problem can be addressed through a joint effort of the service providers to design and build a robust security system to monitor and safeguard their infrastructure and other vital equipment spread across Ghana.

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