

ITU-T Study Group 12 Regional Meeting

Banjul, The Gambia



**Theme: "Sharing Experience to Enhance Telecoms
Network Quality for Consumers"**

Date: 13th to 16th March 2023

**Venue: Sir Dawda Kairaba Jawara International
Conference Centre**



**QUALITY OF
EXPERIENCE**



Presentation
Title

**THE GAMBIAN
CONTEXT**

Presentation outline

- Background
- Telecom quality experience Gambian Case
- Exercise Objective
- Challenges
- Solutions
- Conclusion

Background

- ▶ The telecom market in Gambia is characterized by vibrant competition with the presence of four mobile operators made up of GAMCEL, AFRICELL, COMIUM and QCELL. This seemingly offers consumers with varied choices of communication services and providers.
- ▶ Gambia's telecom market is dominated by the state-owned Gamtel, which retains a monopoly on fixed-line telephony services.
- ▶ Mobile penetration is well above the African average, itself a testament to the poor condition of the fixed-line infrastructure and the lack of availability of fixed services in many rural areas of the country.
- ▶ Investment in the rural areas continues to be a challenge.
- ▶ Gambians face challenges with internet access due to the cost of data. Consumers consider High cost as a primary hinderance to internet access in The Gambia,
- ▶ The regulatory authority for the telecommunication industry is the Public Utilities Regulatory Agency (PURA), which was created in 2001. The main internet service providers are Gamtel, Africell, Netpage, and QCELL. Internet connectivity into The Gambia is managed by Gamtel, with bandwidth sold to other ISPs.
- ▶ Currently none of the network operators are providing 5G services.

Telecom Quality Experience Gambian Case

- ▶ Scenario 1
- ▶ The Gambia currently does not have any scientific means to measure the telecom Quality of experience
- ▶ We rely on consumer complains to determine and engage operators to address issues of quality wherever it may exist
- ▶ This method was viewed as not adequate to address most issues related to QoE, as it limits the engagement of the authority to only the complained sites



Telecom Quality Experience Gambian Case Con't

► Scenario 2

- As a result of this inadequacy the authority decided to use a basic method in order to
 - measure quality of experience, by conducting inquiries amongst subscribers to ascertain their opinions and actual experiences with various aspects of their mobile operator network.
 - These inquiries were made by means of a survey, which we designed to determine the customers' perception of the service quality.



Exercise objective

- The objective of this exercise:-
 - is to capture the perception of consumers' quality of experience (QoE) of their mobile operators' networks based on defined metrics.
 - This is consistent with the Authority's mandate under the PURA Act to ensure that telecommunication services are provided throughout the country and that the interests of all users are protected in respect to price, **quality** of service and value for money.



Objective con't

- Capture consumer experience against the defined Metrics.
- Evaluate the Overall level of consumer satisfaction.
- Evaluate the performance of operators against the defined Metrics
- Evaluate the relative performance against the defined METRIC Categories

Sample Survey Form

<p>Q1 Gender: Male <input type="checkbox"/> Female <input type="checkbox"/></p> <p>Q2 which area do you live in?</p> <p>Q3 Age</p>	<p>Q4 what type of phone do you have? Ordinary Mobile <input type="checkbox"/> Smart Phone <input type="checkbox"/></p> <p>Q5 If Smart do you understand the features? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Q6 what do you use your phone for? Calls <input type="checkbox"/> Text <input type="checkbox"/> Internet <input type="checkbox"/></p>	<p>Q7 How Many Mobile phone do you have? One <input type="checkbox"/> Two <input type="checkbox"/> Three <input type="checkbox"/> Four <input type="checkbox"/></p> <p>Q8 Phone Number</p>																																							
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<p>Q17 Do you use the Internet? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Q18 Who are your Service Providers?</p> <p>Gamcel <input type="checkbox"/></p> <p>Gamtel <input type="checkbox"/></p> <p>Africell <input type="checkbox"/></p> <p>Comium <input type="checkbox"/></p> <p>QCell <input type="checkbox"/></p> <p>Netpage <input type="checkbox"/></p>	<p>Q19 what type of device do you use?</p> <p>Mobile Phone <input type="checkbox"/></p> <p>Desktop Computer <input type="checkbox"/></p> <p>Laptop <input type="checkbox"/></p> <p>Tablet <input type="checkbox"/></p>	<p>Q20 what do you most often use the internet for?</p> <p>Make or receive calls <input type="checkbox"/></p> <p>Play games <input type="checkbox"/></p> <p>Use social networking websites <input type="checkbox"/></p> <p>Send or receive instant messages <input type="checkbox"/></p> <p>Play videos <input type="checkbox"/></p> <p>Other (please specify)</p>																																							
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How did we do this?

- The methodology was designed to measure the consumers' experience using their mobile phones.
- It was designed to produce statistical datasets that treats each mobile service provider on a fair and equivalent basis.
- It was envisaged that this would allow us to compare service providers' networks as an industry,
- It will enable the regulator to compare and determine to an extent, the performance of separate operator's network on a fair and equivalent basis.
- Taking sufficient samples to produce statistically significant results.
- Data captured in a fair and unbiased way.
- Using experienced and qualified PURA Staff and consumer advocacy groups to conduct the survey.



Parameters Used

The parameters used for the survey were classified under three main categories:

Accessibility

- Call success: - a call for which the routes are successful obtained through the network
- Call Setup :- the length of time required to establish a route for a successful call

Network availability

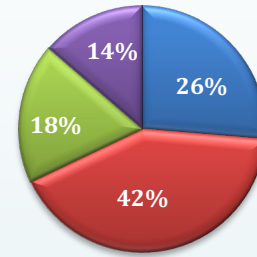
- Lack of coverage
- SMS Does not arrive Or Arrives late
- **Retainability**
- Drop Calls:- is the probability of a call terminating without any of the users' will
- Call echo- when ones talks and then you hear what you just said repeat back at you
- Poor quality of call

Sample size

- Three thousand nine hundred and seven (3907) mobile subscribers, of the four licensed mobile operators were sampled for the survey.
- This translated to 4,513 subscriptions due the fact that in certain cases a single consumer is a subscriber to more than one operator.
- Certain consumers sampled were users of more than one service provider. e.g. one consumer could be in a possession of both a GAMCEL and COMIUM number. Such a consumer would be counted twice.

Distribution of Consumers surveyed per Operator

Distribution of Consumers



■ Gamcel ■ Africel ■ Comium ■ QCell

➤ Consumers surveyed, AFRICELL accounts for 42%, GAMCEL with 26%. COMIUM with 18% and QCELL 14%.

Level of experience with define Parameters

► Across all networks, a little over 60% of mobile service consumers claimed they encounter issues making a successful call. With AFRICELL and QCELL consumers expressing the highest level of dissatisfaction regarding call success.

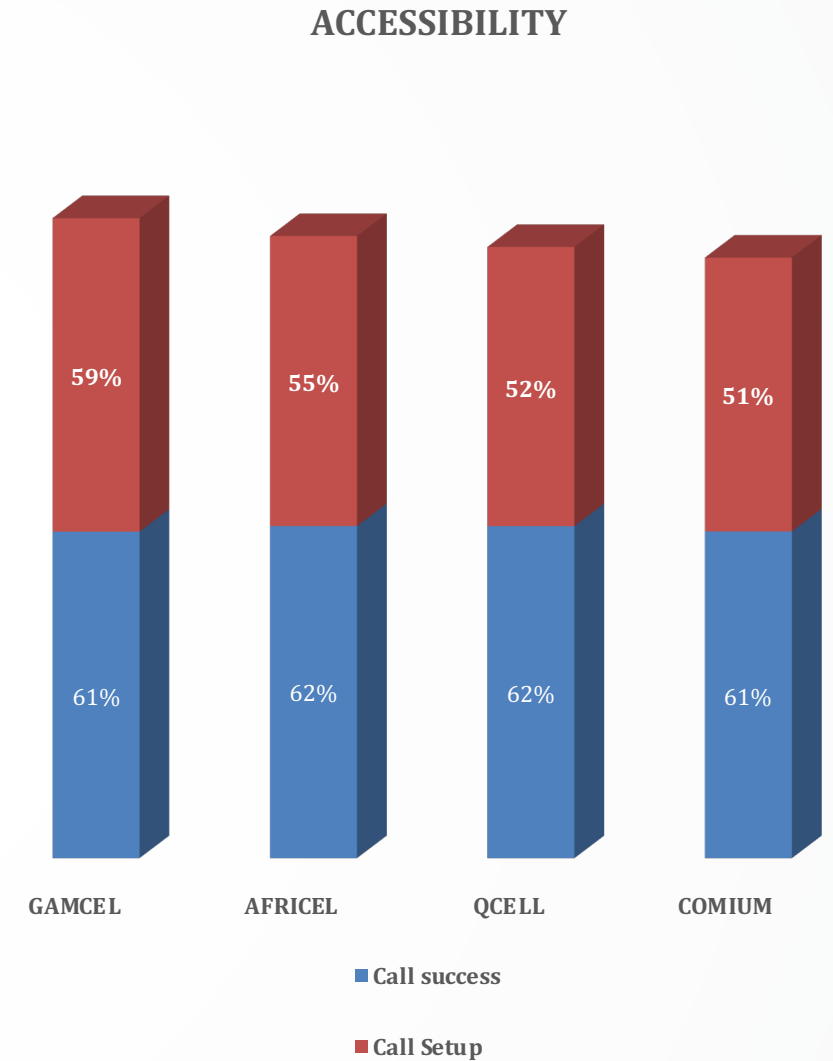
► It is noted that across all networks, less than 50% of the respondent claimed they do not have adequate coverage. Consumers of GAMCEL, AFRICELL and COMIUM expressed their concern of drop calls, call echo and poor quality of calls at over 50%.

	GAMCEL	AFRICELL	COMIUM	QCELL
Metrics	%	%	%	%
Call Success	61%	62%	61%	62%
Call Setup	59%	54%	51%	53%
Network Coverage	47%	39%	46%	44%
SMS does not Arrive or Arrives Late	45%	37%	46%	38%
Drop Calls	60%	53%	64%	48%
Call Echo	63%	56%	65%	49%
Poor Quality of Call	61%	51%	60%	49%

Metric Categories:

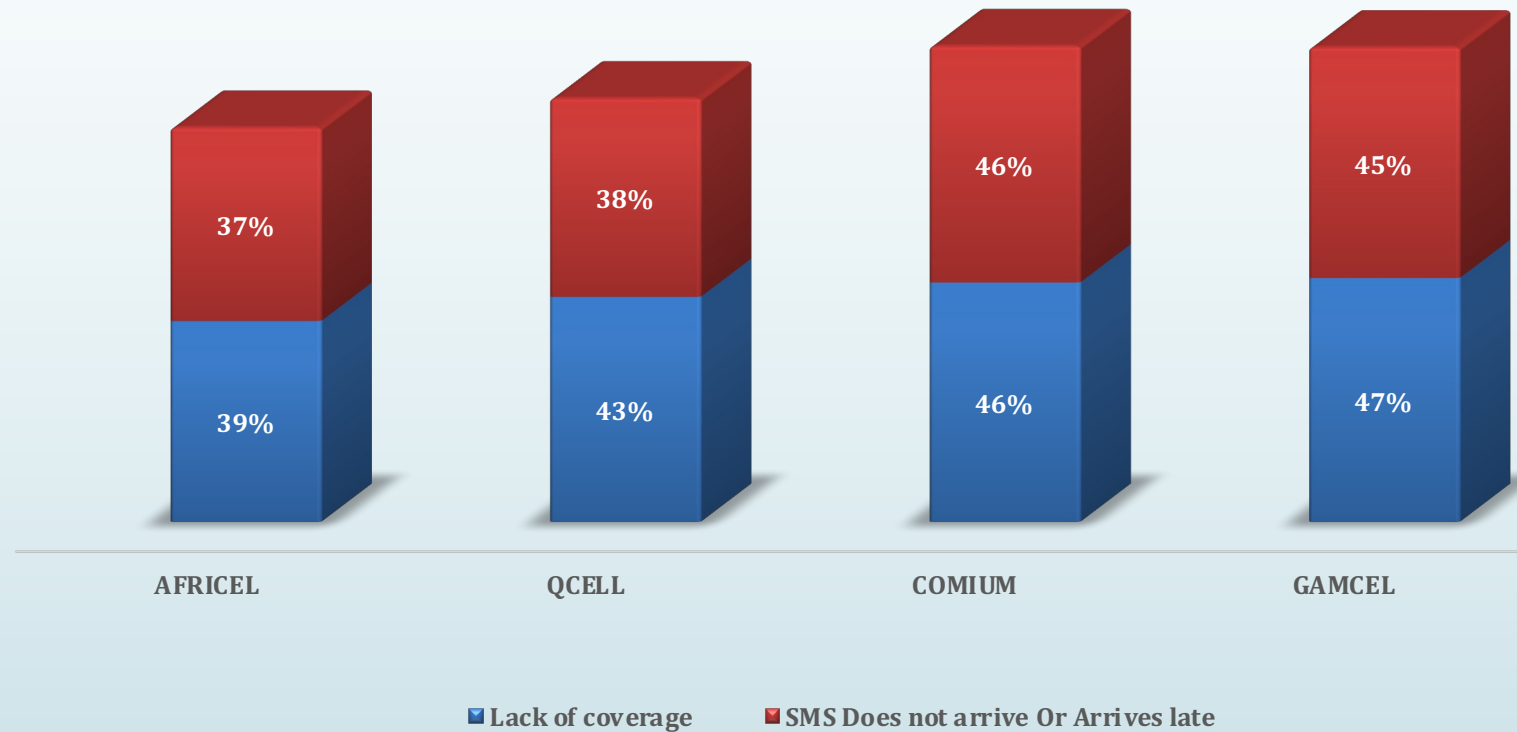
1. Accessibility

Participants in the survey were asked to indicate if they experienced difficulty with call set up and call success. The result obtained for call success and call set up was used as a metric to measure how accessible an operator's network is. The response of the consumers of the four service providers is presented in descending order of frequencies.



Network Availability

NETWORK AVAILABILITY

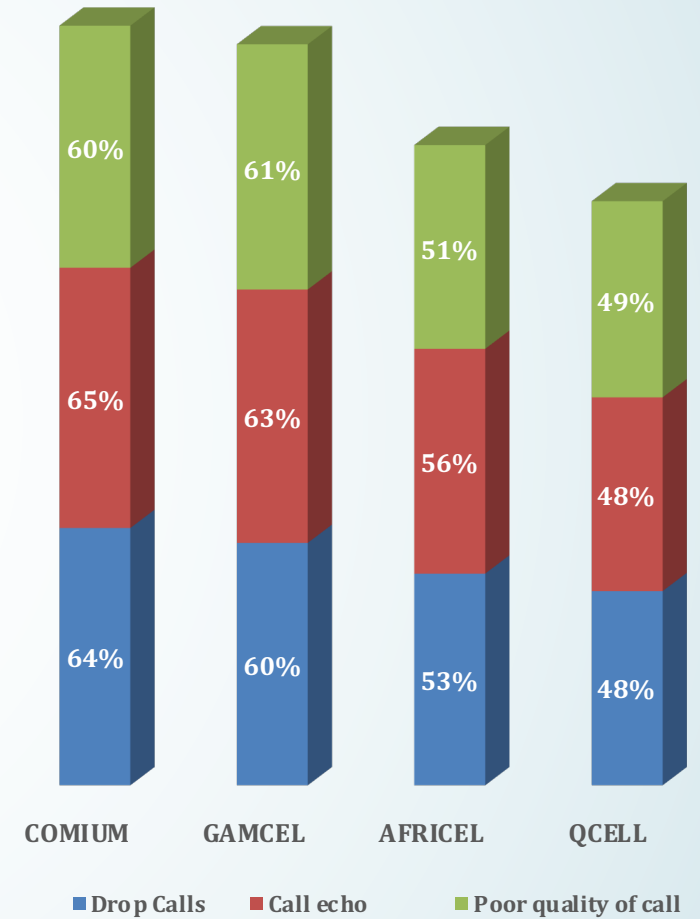


Retainability

► Consumers of GAMCEL, AFRICELL and COMIUM expressed their concern of retaining calls on their operators' network at over 50% (average).



RETAINABILITY



Type of phones used

Over 50% of QCELL respondents claimed to have smart phones while majority of respondents from GAMCEL, AFRICELL and COMIUM use ordinary phones.

This could be an indication why QCELL recorded the highest number of internet users.

Number of phones per respondent

- Over 57 % of respondents have only one phone to connect to a network.
- Which leaves 43% of respondents having 2 or more phones to connect to a mobile service providers.
- It was observed that most respondents have a single phone and they interchange their SIM cards to take advantage of the different promotions packages especially pertaining to on-net calls.

Challenges

- There is no scientific method to gauge the quality of experience
- The Correlation between the QoS and the QoE, not always straight forward
- Enforcement of QoE results, are challenged as not scientific



Solutions

- Investment in QoE Tools
- Regular monitoring exercises are carried out to ensure that operators stay within approved thresholds .
- continual updating of the laws that govern the sector.



Conclusion

- The global trend these days is to combine technical parameters obtained from quality-of-service Metrics with the quality of experience of customers of a particular network.
- The report findings indicate that consumers of all four networks are dissatisfied with services offered by the mobile operators, with percentages of overall customer dissatisfaction weighing above 60% average.
- Even Though some consumers have shown that they are reasonably satisfied with network availability, concerns relating to accessibility and retainability were also expressed.
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Conclusion Con't

- The Authority has engaged operators regarding the findings of the survey to help them identify critical areas that are needed for improvement and enhance service experience of their consumers.
- The Authority has published the findings for the benefit of the general public as the results although limited, the number of respondents, was a good indication of the experience of consumers of all four networks.

