Malawi Communications Regulatory Authority (MACRA)

Enhancing QoS/QoE in Malawi: A Regulatory Perspective from MACRA

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Presented by:

Cossam Chingancheke

Quality Assurance Manager

Introduction

- QoS and QoE are key regulatory concerns in telecommunications

- Malawi, through MACRA, has undertaken robust efforts to address service quality challenges

- One of the efforts – Better QoS for Malawi. MACRA has conducted the QOS project Called Better QOS from 2023 to 2024.

- This was a result of consumer complaints though Operators Quarterly QoS submitted reports showed compliant to many major KPIs.

- The exercise involved engaging all Mobile Network Operators with the help of an ITU consultant.

- The Project reviewed a lot of areas that had gaps in the Network Coverage (MNO), Network Availability, Poor Call set up, high call drop rate and low internet speeds.

- MNOs have since worked and resolved a lot of issues and those that are remaining have been put in their budgets for 2025 financial year.

- Revised QoS regulations have been completed and under review with the Ministry of Justice.

- This Presentation outlines strategies, findings, and reforms from the "Better QoS for Malawi" Project

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Agenda Overview

1. Methodologies to Address QoS/QoE Issues
2. Objective of the Better QoS for Malawi Project
3. Project Goals
4. Field Testing Approach
5. Principles for Choosing KPIs
6. Legal and Regulatory Framework
7. Data Analysis and Reporting
8. Stakeholder Engagement
9. Major KPIs
10. Regulatory Reforms Post-Project
11. Lessons Learned and Best Practices

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What triggered Better QoS for Malawi Project?

Submitted Quarterly QoS Reports

Feedback on QoE (How the feedback?????)

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Methodologies of getting feedback on QoS/QoE Issues

Planned Countrywide drive test audits
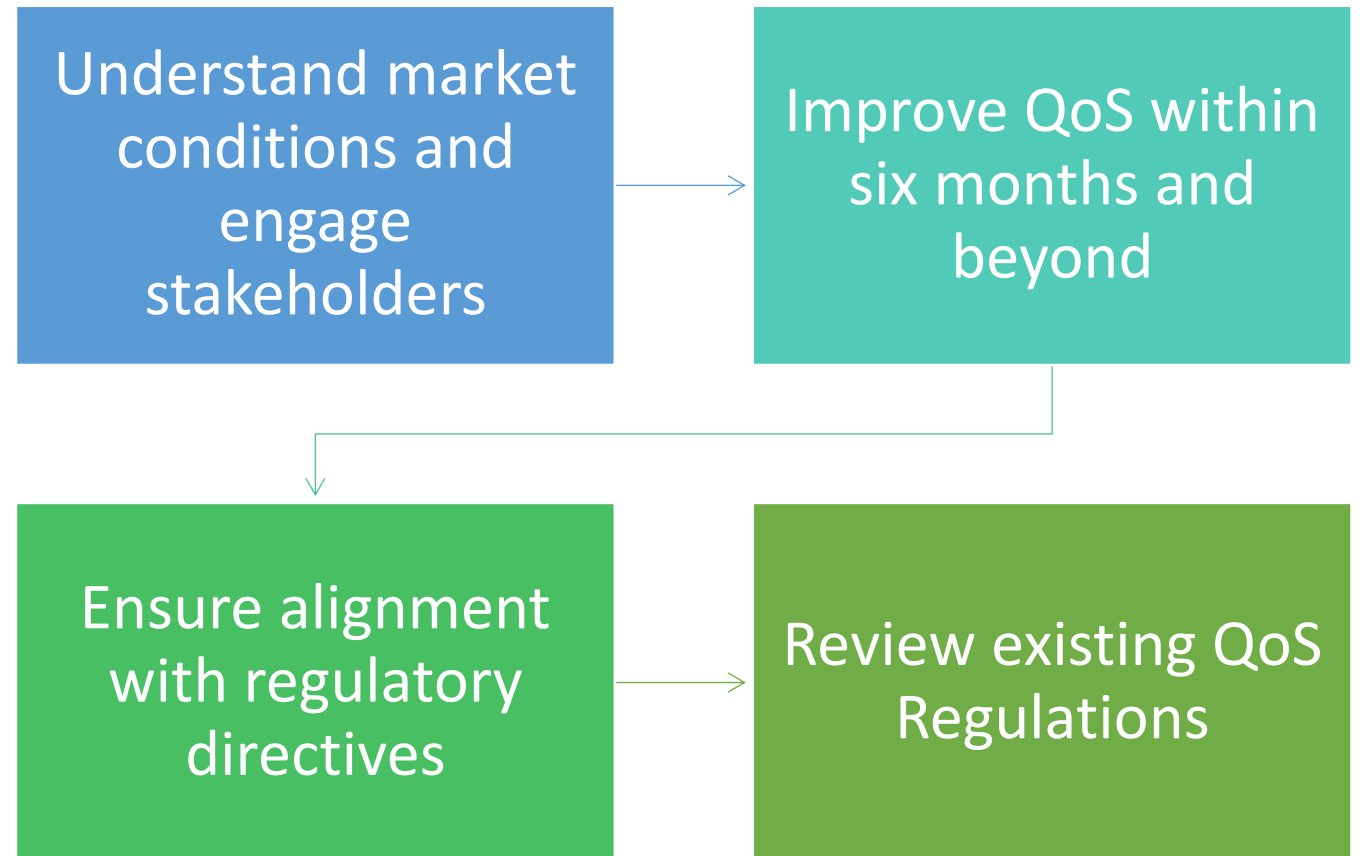
Stakeholder engagement and workshops

Analysis of complaints from MACRA Call Centre and

Members of Parliament

Legal guidance from QoS Regulations Reg. 7)

Objective of the Better QoS for Malawi Project

Understand market conditions and engage stakeholders	Improve QoS within six months and beyond
Ensure alignment with regulatory directives	**Review existing QoS Regulations**

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Project Goals

- Understand consumer-reported QoS issues
- Mobilize MACRA's capacity for stakeholder engagement
- Analyze reports to assess QoS status
- Monitor QoS to guide regulatory decisions

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Key Consumer Complaints

- Poor network coverage

- Poor voice quality

- Dropped calls

- Erratic internet service

- Lack of complaints delivery channels

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Major KPIs Used in Drive Test Audits

- Considered Impactful KPIs on QoE:
  - Mean Opinion Score (MOS)
  - Radio Signal Strength
  - Radio Quality
  - Call Setup Success Rate
  - Dropped Call Rate
  - Latency
  - Data Speeds (DL/UL)

Drive Test Execution

Joint drive tests (MACRA + Operators)

Data processed in workshop rooms with stakeholders

Consensus on methodology and corrective action

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Data Analysis and Reporting

Raw data shared with operators for verification

Operators reconciliated and returned with remedies and compliance reports

MACRA published District, regional, national audit results

Consumer-friendly reports issued

MACRA issues directives with consequences for non-compliance

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Regulatory Reforms Post-Project

Workshop to review QoS Regulations and KPIs

Evidence-based enhancement using: - Project findings - CRASA Guidelines - ITU-T Recommendations

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Revised KPIs

- Below are the KPIs which were revised together with the operators after conducting the joint drive tests audit and analysis:
  - Signal Strength   -89.5dBm
  - Signal Quality   -15dB
  - MOS   3.5
  - Call Setup Success Rate   98%
  - Call Drop Rate   1.5%
  - Latency National   50ms
  - Latency International   200ms
  - Mean data transmission Rate   15 mbps
  - Minimum data transmission Rate   2 mbps

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Way forward

Tracking of the submitted Operators' action plan

Verification exercise on the agreed action plan as per the directive given by the Authority

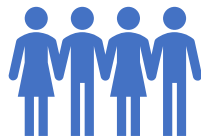Gazzetting of the reviewed Regulations

Planned consumer QoE survey

Continuous tracking of the issues.

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Lessons Learnt and Best Practices

Collaborative methodology ensures transparency

Community-based testing is critical

Feedback loops between regulator and operators improve compliance

Continuous regulation review enhances policy effectiveness

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Conclusion

- MACRA's proactive regulatory interventions improving QoS/QoE

- Evidence-based and stakeholder-driven approach is replicable

- MACRA is committed to digital inclusion, user experience, and service excellence

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END

Thank you