

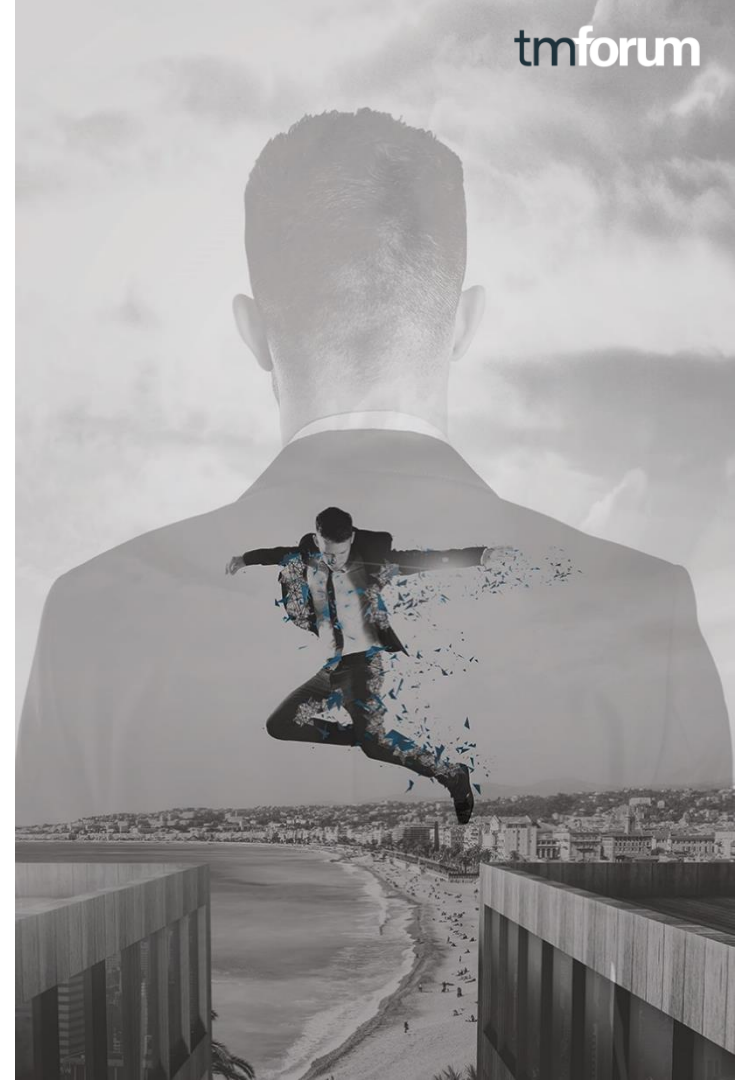


Automated Optimization of Customer QoE

Champions

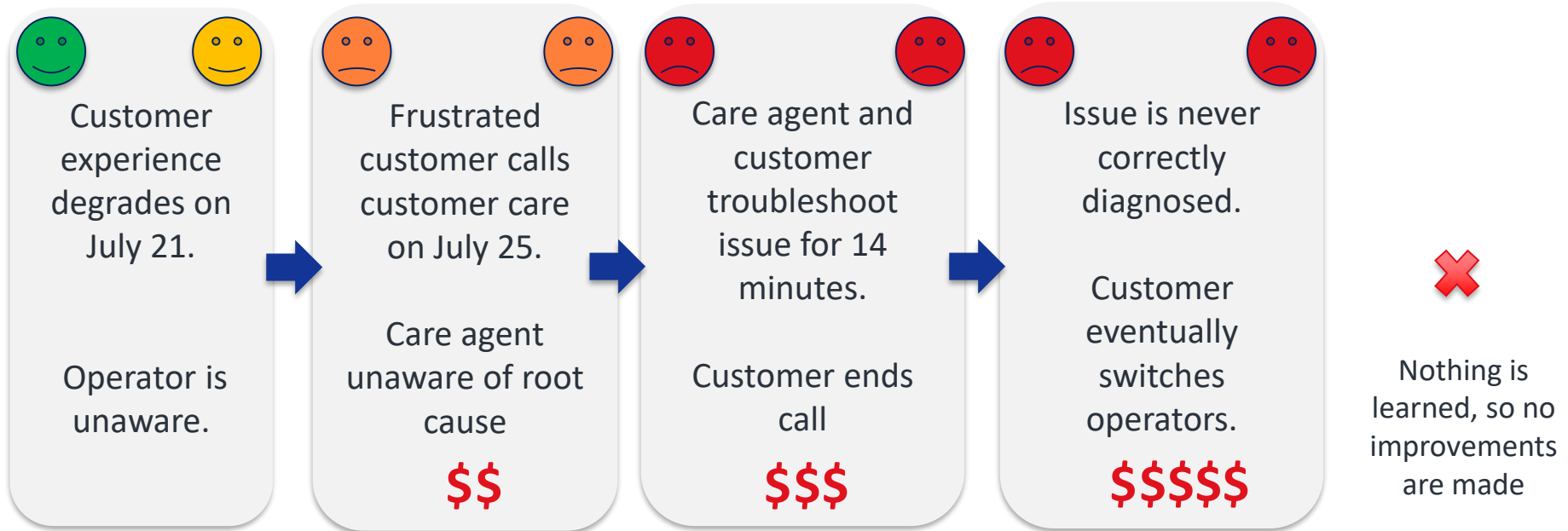


Participants



Customer care is still too reactive, labor intensive, and expensive

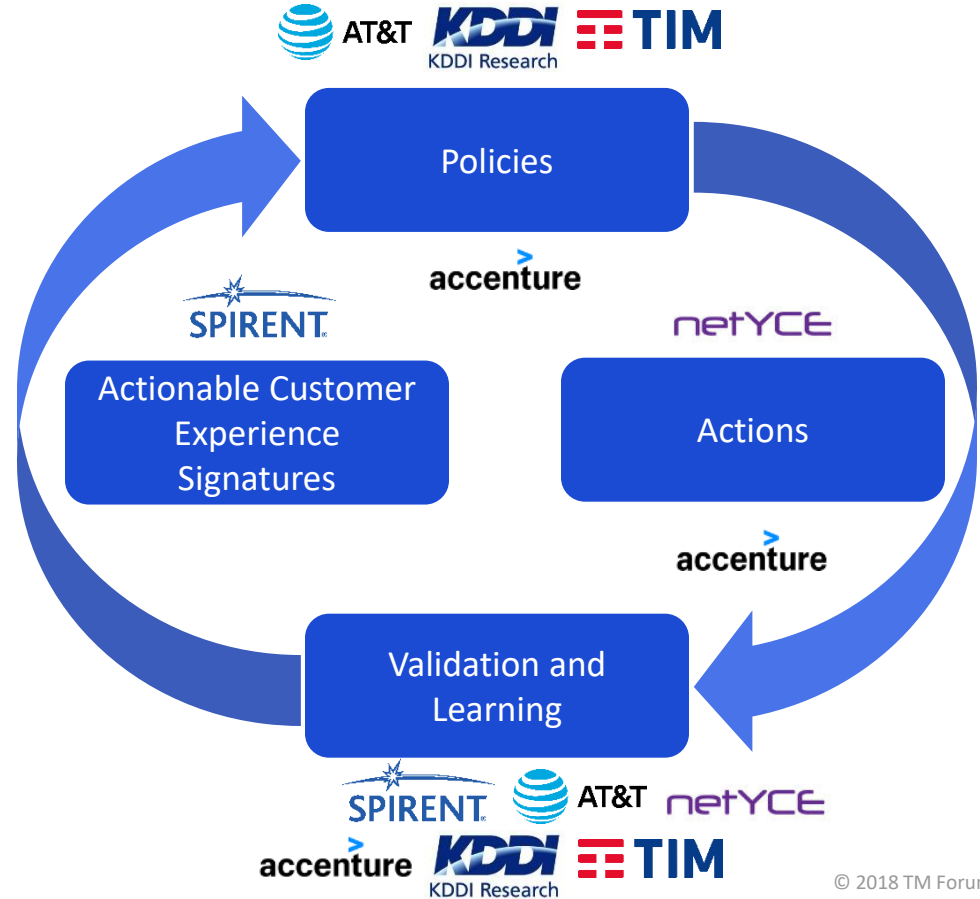
Our catalyst focuses on this problem



A more proactive, automated workflow is required

Our catalyst focuses on this solution

- Automated detection, isolation, and notifications of customer experience degradations
- Automated orchestration of targeted resolutions
- Decision support for care agents and portals if customers seek assistance
- Feedback on effectiveness collected in all cases to facilitate machine learning and improvement



Sample Use Cases

See our kiosk for a demonstration!

1

Automated
Customer Problem
Diagnosis,
Recommendations

2

Creation and
Routing of NOC
Trouble Ticket

3

Detection and
resolution of
subscriber
provisioning errors

4

Detection and
Resolution of
Network Element
Misconfigurations

Human Decision Support

Zero Touch Operations

Automated optimization of customer QoE



Operator Data
Science and
Operations
Teams

- Collaborative offline machine learning model development and refinement
- Policy oversight or control

Customer
Experience
Assurance
System

- Signature customer experience alerts & recommendations
- Feedback collection
- Online machine learning operationalization
- Collaborative offline machine learning model development

Orchestration
Engine

- Action implementation
- Logging of actions taken
- Inputs on configuration states



Significant OPEX reduction without sacrificing service quality or customer satisfaction

\$1.95

*OPEX Savings
per subscriber
per year*

*With a better
customer
experience*

Customer Care Call Avoidance

- Baseline 2 care calls/sub/yr
- Weighted average (tier I + 20% escalation to tier II) AHT of 13 minutes, cost of \$0.67/min
- 3.3 reduction in tickets via automated resolutions
- **Annual subscriber value ~\$0.41/sub/yr**

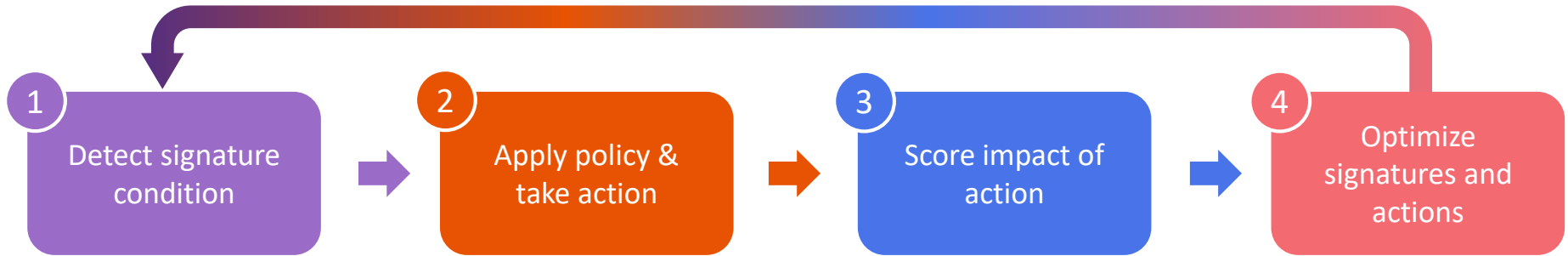
Cust. Care Call Handling Time Reduction

- 20% of calls benefit from handling time reduction
- 1.4 minute reduction in weighted average handling time for benefitted calls
- **Annual subscriber value ~\$1.03/sub/yr**

Churn Reduction

- 20% of churn tied to service quality
- 10% benefit in quality-related churn
- \$138 blended churn-related cost (50% prepay @ \$75 replacement, 50% postpay at \$200 replacement)
- **Annual subscriber value ~\$0.51/sub/yr**

Automated detection, resolution, verification of customer provisioning errors



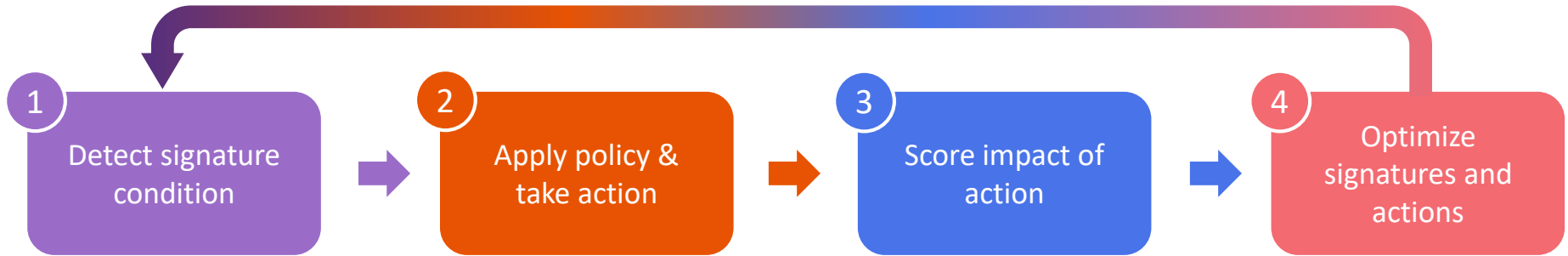
- Overall QoE and SMS KQI impacted for subscriber
- MO SMS failures tied to provisioning problems
- Incorrect SMS provisioning setting in HLR

- Modify IMSI provisioning for service in HLR

- Provisioning errors disappear for this subscriber, returning QoE to green.
- Score = 100%

- Promote/retain this path based on score

Automated creation and routing of NOC trouble ticket based



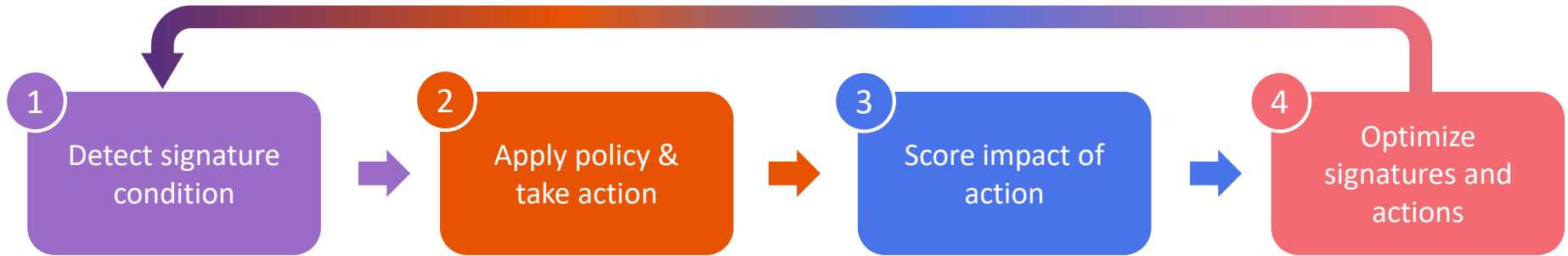
- High #/% of subs with poor QoE
- KPIs & cause codes point to core signaling failures
- High #/% of poor QoE subs with VoLTE issues
- Failures center around one MME

- Create NOC ticket and route to EPC engineering team

- NOC feedback score indicates that this was the proper routing
- Score = 100%

- Promote/retain this path based on score

Automated customer problem diagnosis and care agent decision support



- Subscriber QoE and Voice KQI impacted
- KPIs & cause codes point to core signaling failures
- MO Voice Failures tied to provisioning problems
- Current provisioning status unknown

- Alert care agent to voice provisioning issue, recommend investigating voice provisioning status

- Customer care agent indicates that this problem diagnosis and (provisioning) resolution were correct
- Score = 100%

- Promote/retain this path based on score

Related and new/proposed use cases

Existing or proposed use cases	Standard
Improving Assisted Care with Network Experience Analytics (C-CEM-16)	GB962d, C-CEM-16
Proactive Care Based on Network Experience Analytics (C-CEM-26)	GB962d, C-CEM-16
Automated self-healing of issues degrading the customer experience	Proposed new contribution to GB962d
Automated network operations workflows triggered by customer experience degradations	Proposed new contribution to GB962d

