Customer Engagement and Big Data Analytics in TM Forum

Presented by Team Leaders

May 21, 2015
Customer Experience Management Overview – Rebecca Sendel, Sr Director, TM Forum
- CEM ROI Calculator – Quantifying the benefits of CEM projects – Rebecca Sendel, Sr Director, TM Forum
- 360 Degree View of the Customer – Jeorg Niemoller, Ericsson
- CEM Use Cases: Implementing CEM Solutions – Dharmendra Misra, Cognizant
- Omni Channel: Maturity Model and Requirements – Anand Mohan, Infosys
- Small and Medium Business Customer Sentiment – Chris Bauschka, Salesforce

Data Analytics Overview – Peter Livaudais, Parstream
- Data Analytics Guidebook on standards, reference architecture – Larry Chesal, Spirent
- Data Analytics Use Cases – Extracting the Value – Matti Aksela, Comptel
- Data Management Processes – Applejuan Li, Huawei
- Data Analytics Repository – Amir Gefen, cVidya

Metrics – Paul Ousterhout, KPI Guy & Robert Bratulic, IBM

How to get involved and Q&A
Projects on tmforum.org

Collaborative R&D
- Overview
- Current Projects
- Outstanding Contributors Awards
- Frequently Asked Questions

Catalyst Program
- Overview
- Current Catalysts
- Selection Process and Guidelines
- Frequently Asked Questions

Development Projects
- Applied Framework for Digital Health
- Applied Framework for Internet of Things (IoT)
- Applied Framework for Smart Energy
- Catalog Management
- **Customer Engagement Group**
- Data Analytics Group
- Metrics
- Framework
- Open Digital
- Revenue Management Group
- SLA Management
- ZOOM (Zero-touch Orchestration, Operations & Management)

Catalyst Projects
- SDN & NFV (ZOOM)
- Internet of Things
- Customer Centricity
- Security & Privacy
Collaboration Process

Collaboration → Facilitation → Consensus → Ease of Use

Professional Project Management

Online Communities → Conference Calls → Agile Workshops → Action Weeks

Commitment at a level that works for you and your company
Collaboration Process

- **Project launch**
- **Join the Online Project Group (get IPR approval)**
- **Project Charter**
- **Weekly online work and conference calls**
- **Action Week or other face to face**
- **Weekly online work and conference calls**
- **Project Completion and Release**

T- 4 Months

Delivery
In May for Frameworx 15.0
Customer Engagement Project

Rebecca Sendel, Sr Director, TM Forum
rsendel@tmforum.org
Customer Experience Management Best Practices

Guidebook: Approach and Tools Overview
- Guidance for Customer Experience Management in a Service Provider

Maturity Model
- 6 Dimensions across the enterprise

Lifecycle Model
- Definitions of stages in customer lifecycle

525+ Metrics
- Measure every stage of the customer lifecycle

Implementation Guide
- Use Cases for CEM implementation

Omni Channel Best Practice
- Definitions and requirements

New
- 360 degree view of the customer
- CEM ROI Calculator
- Additional Metrics
- 7 new Use Cases
- Omni channel Maturity Model + 77 reqts
CEM ROI Calculator – Quantifying the benefits of CEM projects

Rebecca Sendel, Sr Director, TM Forum
rsendel@tmforum.org

On behalf of Jonathan Hopkinson, Huawei
CEM ROI Calculator Approach

Use Case n → Use Case 1

Impact on KQIs

Best in Class Benchmark

KQIs

Worst in Class Benchmark

Impact on Business

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## Calculator Example

### Table: Calculator Example

<table>
<thead>
<tr>
<th>% of calls where refund is given</th>
<th>10.00%</th>
<th>rc</th>
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<tbody>
<tr>
<td>Amount refund</td>
<td>$0</td>
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<tr>
<td>% of Revenue Spent on Managing Customer Complaints (L1)</td>
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<td>% of Revenue Spent on resolving customer complaints (L2)</td>
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<td>% of Rev spent on Service Quality Problem Investigation (L3)</td>
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<tr>
<td>% of calls resolved at L1</td>
<td>60.0%</td>
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<tr>
<td>% of calls resolved at L2</td>
<td>70.0%</td>
<td>bb</td>
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<tr>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
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<tr>
<td>----------------------------------</td>
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<td>PTC (Network)</td>
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<td>% of calls resolved at L1</td>
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<td>Calls landing at L2</td>
<td>0.36</td>
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<tr>
<td>% resolved at L2</td>
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<td>Calls landing at L3</td>
<td>0.1</td>
<td>0.1</td>
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<tr>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
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<tr>
<td>----------------------------------</td>
<td>--------</td>
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</tr>
<tr>
<td>Cost reduction at L1 due to PTC</td>
<td>576000</td>
<td>320000</td>
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<tr>
<td>Cost reduction at L2 due to PTC</td>
<td>1440000</td>
<td>800000</td>
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<td>Cost reduction at L3 due to PTC</td>
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<td>720000</td>
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<tr>
<td>Additional cost reduction at L2 due to L1 resolution</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Additional cost reduction at L3 due to improved L1 and L2 resolution</td>
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<tr>
<td>Original Refund before PTC</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Refund after PTC</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Total Refund Reduction</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Year 1</td>
<td>Year 2</td>
<td>Year 3</td>
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<tr>
<td>----------------------------------</td>
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<td>--------</td>
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<tr>
<td>Total PTC Reduction</td>
<td>3312000</td>
<td>1840000</td>
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<tr>
<td>Total Reduction due to improved resolution</td>
<td>0</td>
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<tr>
<td>Original Cost</td>
<td>3.3E+07</td>
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<tr>
<td>New Cost</td>
<td>#42#</td>
<td>27968000</td>
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<tr>
<td>Total Impact of OPEX/SALES</td>
<td>0.3%</td>
<td>0.3%</td>
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</tbody>
</table>

### Graph: OPEX reduction due to reduction of calls

- Year 1: 3312000
- Year 2: 1840000
- Year 3: 974118
360 Degree view of the Customer

Jörg Niemöller, Ericsson
joerg.niemoeller@ericsson.com

May 21st, 2014
Summarizing Aspects of Customer Sentiment

• Definition of customer sentiment

• Importance of customer sentiment with example use cases

• Aspects of Sentiment: Satisfaction, Customer Effort Score, Feelings / Moods, Behavior patterns and prediction, Customer intention, Customer Expectation

• Persona: Different Types of persons involved with specific roles Value-Chaser, Never-Changer, Early Adopter, Head of Family, Contract main contact, Ordinary User
CEM Use Cases and Implementing CEM Solutions

Dharmendra Misra, Cognizant
Dharmendra.misra@cognizant.com

May 21st, 2014
This team has focused on defining a methodology for using all of the TM Forum’s best practices and tools for CEM that we have today (maturity model, metrics, lifecycle model, big data use cases) in a defined, repeatable and extensible manner.
Use Case Template main Categories

Identification and Description
- Name and generic description
- Purpose and business value
- References to other models like eTOM
- Entry conditions (e.g. maturity level)

Metrics and Benchmarks
- Key metrics of the use case
- Condition for success
- Expected Cost

Actions and Processes
- A flow of actions to be taken
- Alternative flows with their entry conditions
- Links to external sources to be used
- Explanation of how to use other standards

Stories
- Experience of organization when following this guide
- Budget spent vs. reached result
Sample Use Cases In Progress

Increase NPS

- Increase Service Awareness
- Increase Brand Recall
- Measure & improve CEM maturity level
Common methodology

Stage I: Maturity level
- Define
  - Determine measure for each attribute
  - KCI (Key Capability Indicators)
- Self-assessment
  - Measure Values of Attributes
  - Calculation

Stage II: Implementation
- Performance
  - Change in processes
  - Change in systems
  - Resource management

Stage III: Measure and monitor
- Monitor
  - Dashboard
  - Thresholds
- Measure
  - According CE LifeCycle
  - CE Metrics (CxM)
  - CEM Index

Stage IV: Improve
- Actions
  - Change management
  - Internal procedures
  - Follow-up changes
Project planning

• Meetings: Weekly each Wednesday at 10AM EDT/ 4PM CEST

Day long workshops
Omni Channel – Maturity Model and Requirements

Anand Mohan, Infosys
anand_mohan@infosys.com
Defining Omni Channel:
Integration of interactions across all channels

DIRECT | IN-STORE | CALL CENTER | WEB | MOBILE | SOCIAL

COMMERCE
CUSTOMER CARE
MARKETING
Imperatives of Omni Channel

Customer chooses the channel of interaction

Channel hopping is a reality, be prepared

Its about the “individual”

Right data, right channel

Deliver in “context”

Identify and prioritize your journeys
Omni Channel Introductory guide: Functional Capabilities

- Customer Identity
- Customer Data Integration
- Digital Content Management
- Sales Catalog Management
- Personalization
- Recommendation
- Knowledge Management
- Privacy
Use the guidebook to help you identify journeys that your customer will like and prioritize them.
### Omni Channel Introductory guide: Maturity Model

<table>
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<tr>
<th>Function</th>
<th>Level 1: Siloed</th>
<th>Level 2: Fragmented</th>
<th>Level 3: Selected</th>
<th>Level 4: Consistent</th>
<th>Level 5: Seamless</th>
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<td>Business strategy</td>
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<td>Data Driven approach</td>
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<td>Technology</td>
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<tr>
<td>Process</td>
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<td>Governance and organization</td>
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<td>Roadmap, Plan and Timeline</td>
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<td>Functional Capabilities - Customer,</td>
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<tr>
<td>Inventory, Product and Order</td>
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<td>Organizational Change Management</td>
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<tr>
<td>Budget</td>
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</tbody>
</table>

Team work, Collaboration, Advise from Industry leaders, reviews by CSPs to come up with an Omni Channel Maturity Model
Omni Channel Best Practice

Table of Contents (Draft Only)

- Executive Summary
- Principles of Omni Channel
- Key Requirements from CSP’s
- Functional Capabilities for Delivering Omni Channel
- Prioritized User Journeys
  - Across Geographies, Service Lines, Channels
- Relationship with Metrics and Implementation Guide
- Summary
Pulse Catalyst: Small and Medium Business Customer Sentiment

Chris Bauschka, Salesforce
cbauschka@salesforce.com
Pulse Catalyst: Creating and Building a Deeper Connection with the Small/Medium Business Customer

Filling the gaps in what is captured

Sentiment

Emotion

Journeys

360 view
CSPs are embracing customer intelligence, understanding and metrics (such as NPS and Customer Effort Score) to Improve Customer Experience (CX)

- NPS is a simple, consistent metrics which can indicate customer satisfaction and loyalty (via surveys), but doesn’t account for the customer sentiment and its impact on NPS responses
- Our goal is to provides understanding of customer behavior and sentiment from the customer’s interactions
- Additional information can help to drive continuous refinement to the customer experience

**Critical Success Factors**

- Systematically capture additional customer sentiment with each interaction
- Continuously update customer profile and journey history with sentiment score and additional feedback
- Manage each interaction based on context of recent sentiment score and feedback
- Leverage big data to evaluate customer experience holistically and recommend best next action.
Scenario 1: Chief Customer Officer
- Review SMB business dashboard, position that Quadstar can improve NPS and other success measures (e.g. revenue, churn, profitability) if it can manage each customer interaction based on customer’s sentiment.

Scenario 2: Field Sales Interaction Customer 1
- Show how sales person prepares for visit with an SMB customer. Show how he captures updated sentiment & profile information.

Scenario 3: Contact Center Interaction Customer 1
- Show how contact center agent manages interaction with customer 1, with whom Quadstar has had rocky relationship. Show how she manages the transaction to positive outcome based on visibility to customer profile & sentiment.

Scenario 4: Chief Customer Officer
- Review SMB business dashboard 6 months later, show how managing customer interactions based on enhanced view of customer profile and sentiment has translated into improved NPS and other success measures (e.g. revenue, churn, profitability).
Getting started with Data Analytics

Peter Livaudais, Parstream
peter.livaudais@parstream.com
Guidebook Elements

Reference Model

51 Use Cases

48 BDA use cases

Business Value Roadmap

A step-by-step process to enable a CSP to implement a use case that delivers real business value.
Data Analytics Guidebook on standards, reference architecture

Larry Chesal, Spirent
Larry.chesal@spirent.com
Data Analytics Guidebook

Business Value Roadmap

A step-by-step process to enable a CSP to implement a BDA use case that delivers real business value

Use Cases

Building Blocks

Reference Model

Validate

NEW!

Maturity Level Matrix

NEW!

Identify Business Challenges

NEW!

Choose Repository Approach

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Data Analytics Addendum
GB979C - ABDR

1. Introduction
2. Motivation: Why Use ABDR?
3. Anatomy of an ABDR
4. Conclusion: Guidelines, SID and Perspectives
Data Analytics Use Cases – Extracting the Value

Matti Aksela, Comptel
Matti.Aksela@comptel.com
About 50 Big Data Analytics Use Cases

- 14 BDA use cases covering Offer Targeting and Optimization
- 2 BDA use cases covering CSP Data Monetization
- 3 BDA use cases covering Network Planning and Capacity Management
- 1 BDA use case covering Market Watch
- 1 BDA use case covering Fraud Management
- 5 BDA use cases covering improvements in the Ordering & Installation processes
- 2 BDA use cases covering Revenue Assurance
- 14 BDA use cases covering Customer Care, Proactive Care & Customer Retention
- 4 BDA use cases covering Real-Time Network Optimization and Management
- 1 BDA use case covering Partner Value Optimization
- 1 BDA use case covering Business Process Optimization

... but we are constantly looking for more!
What about new use cases?

We need your help!

- New use cases are solutions the business problems you see
- Current operator use cases as well as new fields like Internet of Things, NFV/SDN, ...

Have a new use case idea?

- We are using a confluence template to fill in the key parts of a use case, to be complemented with an Osterwalder canvas. Some of the key things include
  - The name of the use case
  - A short description of the core value and why a communication operator would implement this use case
  - A description of the flow of the use case, what steps and actors are involved
  - Key data sources that are expected to be needed to enable the use case
- Please contact me (matti.aksela@comptel.com) to discuss further or with any questions you might have – and if you are not sure if the use case you have in mind is new and interesting, please just ask – all contributions are greatly valued!
Data Management Processes

Apple Juan Li, Huawei
applejuan.li@huawei.com
Business Process from Use Cases

- Frameworx 15.0: Adding Data Analysis processes in CRM & EM to enhance eTOM
- Analysis of use cases in other domains will be coming soon.
Standard Proposals to eTOM

- Add “Analyze Customer Problem” as level 3 process under “Problem Handling”.

- Add data analytics related texts to description of “Process management & support”.

- Add “Analyze Market Trend” as level 4 process under “Strategies & Enterprise Planning”.

- Add data analytics related texts to description of “Fraud Operations Support”.

Comprehensive Insight into Dynamic Market Trends

Strategic Business Planning
- Provide Strategic Business Direction
- Create Actionable Strategy
- Program-manage Strategy Implementation

Fraud Management
- Fraud Policy Management
- Fraud Operations Support
Common Data Analytics Processes in eTOM
Use Case Articulation to eTOM

Use Case: Input data

It aims to integrate Use case into eTOM Business Processes.

To verify the value of utilizing Data Analytics by comparing the performance of business process with Data Analytics and without Data Analytics.

Use Case: Data Analytics Actions

eTOM Business Processes

E.g. Implement Use Case into business:
Use case <E-FAM1: Fraud Management> impacts eTOM process performance <Enterprise Domain: Enterprise Risk Management → Fraud Management>

- Learn fraud patterns from existing fraud cases;
- Identify and report on anomalies for new fraud pattern detection;
- Predict fraud on an event-by-event basis;
- Take appropriate action to prevent fraud (block, alert, etc.)

- Compare Performance:
  - AS-IS performance <without Data Analytics>
  - TO-BE performance <Add Data Analytics Actions>
Analytics Big Data Repository (ABDR) Phase-3

Gadi Solotorevsky, cVidya
Gadi.Soloterevsky@cvidya.com
Amir Gefen, cVidya
Amir.Gefen@cvidya.com
Catalyst Goals

- Using Big Data Analytics to improve customer experience and achieve business growth
- Creating Analytics Big Data Repository (ABDR)
  - A unified big data layer and data dictionary
  - Supporting multiple use cases and multiple analytics systems
  - Avoiding data replication, reducing ETL costs and time, saving in hardware costs (storage and processing power), and shortening the time to implement new use cases
- Phase 1 (Nice 2014): Developed and demonstrated selected real-life telecom analytics use cases as defined in the Big Data Guide Book
- Phase 2 (San Jose 2014): Use cases will share a common Analytics Big Data Repository (ABDR)
- Phase 3 (Nice 2015): Creating and using a Big Data Analytics Dictionary as a best practice for mapping the required data for each use-case
- Phase 4 (San Jose 2015): TBA
China Mobile
MTS Allstream
Orange
Telus
Verizon

Project Champions
Project Suppliers

- BAE Systems
- cVidya
- NetCracker
- ParStream
“Service providers preside over a goldmine of data, and big data analytics is becoming an important asset and competence. Yet how to fully extract its value is still a challenge. We are pleased to support the TM Forum's Big Data Guidebook and Catalyst project, which will help us to make a leap forward in extracting the value of big data analytics.”

- Lifen Zhao, Project Manager, China Mobile
“Big Data is a big challenge. The ever increasing pressure from competition alongside all the industry hype make for a very confusing, complex environment to navigate thru. The TM Forum’s Big Data Analytics Guidebook, alongside the Big Data Analytics Catalyst, provide a valuable, practical jumpstart to helping service providers navigate thru the hype and focus on real tactics to extract the value out of data. I am pleased to support this catalyst project and the Big Data Guidebook initiative.”

- Loreen Edkins, Director IT Architecture & Common Services, MTS Allstream
Metrics

Paul Ousterhout, KPI Guy
paul@kipguy.com
Robert Bratulic, IBM
Bratulic@ca.ibm.com
• 1000 metric definitions available today
• Use this list as a quick start guide in your projects
• There will not be metrics for everything you need
• We will help you fill the gaps
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<tr>
<td>238</td>
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</tbody>
</table>
New Metrics and Repository

- CEM
- Cable
- IoT (eHealth, Smart Grid…)
- B2B2X

• Single, Consistent Repository
• User Friendly
• Crowd Sourcing
We need you!

Metrics Users
All TM Forum Members

Metrics Team
- Governance

Metrics Definners
Metrics SME
How does it work

The Metrics Team is here to support YOU!

- We give you a spreadsheet of all of today’s metrics and/or a link to the online repository
- We ‘right size’ the support model based on the individual needs of each team
- We give you a template for creating new metrics
- You create metrics and submit them to the Metrics Team
- We normalize to ensure consistency
- We publish the new/updated metrics to the Online Repository
- Repeat!
Any Questions?
Contact:
Snigdha Mitra
smitra@tmforum.org
Rebecca Sendel
rsendel@tmforum.org
or contact any of the leaders directly

Thank You!