**Datameer**
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# Upgrade the **Telecom Service Customer Experience** with Big Data

## Introduction

With more choices for customers than ever, extremely low switching costs and ubiquitous internet access to new services, the communications industry is enduring rapid change and increasing competition.

Leading Communications Service Providers (CSPs) are winning in the market by providing a superior service experience that covers every aspect of:

- Customer interactions
- Innovation
- Service execution
- Network performance

Big data analytics combines and analyzes data related to those aspects, providing a 360-degree service experience view. This allows winning CSPs to retain and grow their customer base, increase service utilization and raise customer lifetime value (LTV).

# The Changing Telecom Landscape

The telecommunications industry continues to change at breakneck speed. Service digitization and network commoditization are driving increasing competition and continuous disruption. Both consumer and business customers are devouring data and utilizing data services at record paces.

Emboldened Over-the-Top (OTT) content and service providers such as Google and Facebook are at the center of this massive disruption. Their ability to layer services on the ubiquitous internet backbone frees them from network capital expenditures. OTTs are continuously expanding their offerings, creating disruption in the digital ecosystem.

Meanwhile, traditional operators are attempting to expand their service reach to meet explosive demand and fend off OTT competition. At the same time, these operators are outlaying large capital expenditures to upgrade network capacity and capabilities to gain service advantages.

# Business Challenges

A recent E&Y global telecommunications study found that customer experience management was the top agenda item for 68 percent of senior industry executives. The clearest path to increasing revenue for both traditional operators and OTTs is to increase customer loyalty and gain higher wallet share. Top-performing companies accomplish this through higher levels of customer intimacy and service combined with a superior service experience.

Service experience business challenges depend upon the overall business nature. The Treacy and Wiersema value discipline model[2] defines three ways in which businesses compete:

- **Operational excellence companies** use superior business processes to deliver the best price through streamlined execution.

- **Product innovation companies** focus on identifying and providing innovative new products and services that can carry a premium price.

- **Customer intimacy companies** know their customers cold and use superior customer service and timely offers to build a lasting, profitable relationship.

Using these three business models, we can examine the key business challenges service providers face in maximizing the customer service experience:

| Business Model | Service Experience Strategy |
| --- | --- |
| Operational Excellence | How do I streamline my network and service operations to ensure the best possible experience? |
| Product Innovation | How do I roll out innovative new services effectively with a great service experience? |
| Customer Intimacy | How do I deliver a superior service experience that maximizes the long-term relationship and value with my customers? |

While there are some common underlying fundamentals with these three models, ultimately the audience and "last mile" of information that supports the strategy will be different.

## Analytic Challenges

To answer the service experience questions mentioned in the previous section, service providers need to overcome a number of key analytic challenges, including:

- **Data diversity** – Data from various sources (network, services, customers and more) are in a variety of different formats and come from numerous sources. This creates a challenge when it comes to organizing, preparing and blending data.

- **Data volume** — Communications networks and services log a large volume of data on usage. Managing this bulk of data in the analytic environment and having timely analytic processing are challenges for service providers.

- **Identifying new insights** — With such a large volume of data, insights can be well hidden. Identifying the true signal from the noise is an enormous challenge for business analysts.

- **Sophisticated analytics** — The diverse data sets make for a complicated set of data correlations and relationships to link problems with outcomes. Applying analytics such as clustering, path-and-graph analysis and advanced data mining creates additional challenges.

When using the right modern BI platforms, communications service providers can tackle these challenges head on. These platforms enable the ingestion, enrichment, analysis and visualization of large and constantly changing communications data sets. Analysts can strategically harness their data to answer the critical questions service providers ask.

[1] Global Telecommunications Study: Navigating the Road to 2020, Singhal, Prashant and Hoiger Forst, Ernst , 2015.
[2] Customer Intimacy and Other Value Disciplines, Michael Treacy and Fred Wiersema, Harvard Business Review, 1993

# Solution

Modern BI platforms play a critical role in helping telecoms create a 360-degree solution for the service experience. Modern BI platforms deliver a myriad of benefits to your service experience analytics process, including:

- The ability to use more data in the analysis, which is critical to gaining deeper insights
- A simplified process of integrating, blending and preparing diverse data for analysis
- A rapid insight discovery process that dramatically reduces analytic cycle times
- Easy application of advanced analytics to identify the signal from the noise
- Correlating insights to outcomes to drive downstream business actions
- A scalable, performant architecture to crunch large analytic processes swiftly

Modern BI platforms can manage and analyze extreme data volumes far more effectively and at a fraction of the cost of traditional approaches. Dynamic modeling frees the analysts from rigid schemas that inhibit data discovery. And easy advanced analytics answer the complex questions business teams are asking.



Figure 1: Big Data Analytics Driven Service Experience 360° Solution

## Datameer's Approach

Modern BI platforms like Datameer are designed to help you understand your customers' service experience more precisely so you can take specific actions to optimize it. By adding more data to your analysis and using more sophisticated techniques to analyze it, Datameer gives you a more diagnostic examination so you can better align your actions to customer needs.

Datameer's self-service modern BI platform allows your organization to dig deeper into service experience with three important benefits:

- **Answer new digital-age questions to optimize service experience** – Datameer helps you integrate and use more data, whether structured or unstructured, and makes it easy to apply advanced analytics to find undiscovered patterns and trends. Through this, Datameer allows your team to answer deeper diagnostic questions that lead to highly actionable service experience insights.

- **Provide an agile analytic discovery process that identifies new insights from big data** – Service experience analytics covers multiple aspects of the impact that experience has on customers, networks and service strategies. Datameer offers a rapid, agile discovery platform that dramatically increases the productivity of your business analysts so they can discover insights and deliver results to the business.

- **Easily put new insights to work in the business operations** – Insights aren't valuable to the operations unless they reach the business teams that need them on a regular basis. Datameer makes it easy to operationalize your analytics, execute them regularly, deliver results to the business teams and continuously improve the processes.

Datameer takes your service experience analytics to an entirely different level. The analytical results can reveal totally new patterns and insights you never knew existed — and aren't even conceivable with traditional analytics. The possibilities are endless.

# Datameer in Action

### Experience-Based Network Capacity Planning

As mobile broadband usage, HDTV consumption, OTT and other services consume more network bandwidth — and carriers plan for rollouts of next-generation technology — it's vital that they accurately plan for network capacity. The goal, of course, is to build out a network to meet current and forecasted demand to ensure consistent, quality service experiences – but avoid excess capacity that inflates capital expenditures.

A major European telecom company uses Datameer to integrate their subscriber data, including demographics, device, access technology (2G/3G/4G) and application behavior. They brought together and analyzed all of these data sources in just eight weeks – a task that was impossible for them to do using traditional database and analytical software. Now, they can:

- Correlate this data with network performance data and network capabilities (such as 3G capacity and long-term evolution [LTE] network availability)

- Analyze and correlate subscriber and network data with specific physical location data to perform a clustering analysis

Because of Datameer, this carrier can:

- Identify where demand is very near to capacity and prioritize network investment to align demand with network capacity

- Apply "what-if" models to analyze how different revenue growth forecasts and increases in specific access technology usage will impact capital expenditures

- Analyze new OTT services, understand the network impact and build the best business strategy to accommodate these new services

With the new insights generated through Datameer, the company anticipates savings of more than $150 million each year in capital expenditures.

## Forecasting Capacity and Demand for New Service Rollout

Using Datameer, a U.S.-based service provider is identifying where demand is very near to capacity, where to prioritize rollouts and where to adjust marketing efforts to align demand with service capacity. They use Datameer to:

- Successfully aggregate complex session data by service group for trending and forecasting

- Aggregate and regroup these complex datasets by service group to determine usage patterns

- Easily test and trend entirely new information sets, quickly and efficiently

- More accurately forecast for future demand via better demand planning

Through Datameer this carrier has been able to:

- Align network bandwidth with current and future demand
- Avoid performance degradation for all customers in a given area
- Make smarter decisions about new service rollout investments

## Reducing Customer Churn Through Better Experience

Using Datameer, one U.S.-based carrier can aggregate data on billions of IP telephony and video sessions to analyze it in minutes to reveal content delivery net (CDN) performance. For example, they can analyze:

- The computing average bit rate, volumes and connections by content provider, by video resolution and by hour of the day – all trended over time

- The rate of adoption of 4K video resolution by content provider and the number of unique subscribers over time

- Aggregated data per local time zone to show time-of-day views to show CDN performance using QoE metrics that are exposed in RTE data

- Customers impacted by data service performance issues

Armed with these new analytics, this carrier is able to:

- React more quickly when performance issues occur to improve customer experiences

- Detect persistent patterns of flow-quality to make informed, strategic bandwidth investments to fix the root cause

- Analyze historical data to anticipate and prepare for heavy traffic patterns – and thus head off future problems that can hurt customer experiences

# Getting Started

Where do you see the biggest opportunity to improve your service experience? Are you trying to optimize your networks, roll out innovative new services or maximize the lifetime value of your customers? Perhaps all three.

Datameer can vastly accelerate your time to insight about services, operations, network investments and customers. It empowers line-of-business analysts to access, analyze and visualize data all of your data using a single, simple analytic process.

To get started with big data analytics, you can take the traditional path of brainstorming the problems you want to solve and the questions you want to ask. Or you can look at the data available to you, and then determine the business problems that the data – which can be combined with other third-party data – can help solve.

Datameer is uniquely designed to support both approaches. We understand that building an analysis is an agile, iterative process, not a linear one. So we let people discover as they go, and let the data lead the way. Or, they can start with a question in mind and deliberately work toward the answer.

To learn more about how Datameer can help your business, visit www.datameer.com and get started with requesting a demo today.

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