

# DATA-ENHANCED CUSTOMER EXPERIENCE



Using big data analytics to gather  
essential insight into user behaviors

GET THE  
WHOLE  
PICTURE



# ACTIONABLE INTELLIGENCE

Ericsson is driving the development of actionable intelligence within all aspects of ICT, based on insights from networks, IT environments and external sources. For our customers, this brings faster results, predictive power and new depth to analytics.

This document provides insights and opportunities connected to the data-enhanced customer experience. To get the whole picture, see also the data-driven efficiency and data-derived growth papers.

- > **Data-enhanced customer experience:** acquiring a deeper understanding of users and improving their experience at every touchpoint through high performance services, fast feedback and customized offerings
- > Data-driven efficiency: taking advantage of the actionable information available within the organization, combined with insights from the market, in order to work intelligently and reduce costs
- > Data-derived growth: creating innovative offerings and generating new revenue streams sparked by big data



## Improved experiences

By taking a big data approach that correlates carefully selected customer experience data and probable cause metrics, an Italian operator was able to reduce customer call durations and address issues in their network, this in turn improved customer satisfaction.

## What is big data?

The term 'big data' refers to large amounts of data collected from a variety of sources and analyzed with the purpose of building business advantages. It is usually characterized in terms of 'three Vs' (Gartner): volume (amount of data), velocity (latency/speed) and variety (diversity of data types and sources).

We believe that in order to build business advantages, service providers need to be able to make decisions in an accurate and timely way. When utilized properly, big data analytics add considerable value to decision making – helping to make it more accurate and actionable.

# CREATING OPPORTUNITIES

Big data creates innovative ways of satisfying customers by providing new levels of speed and giving operators a nuanced understanding of customer behavior. Customer experience is in itself a critical parameter for businesses, but it is also an effective measurement of healthy network operations. With big data analytics, organizations can gather the user insights that they need in order to improve their offerings as well as their business and subscriber relationships. In other words, big data provides opportunities for service providers to create an individualized customer experience at every level.

## Customer experience is becoming increasingly important in measuring a service's performance

There are several ways in which big data enhances customer experience. For example, by combining an effective segmentation model with all kinds of structured and unstructured data, service providers can offer relevant, precise offers for users based on what matters to them.

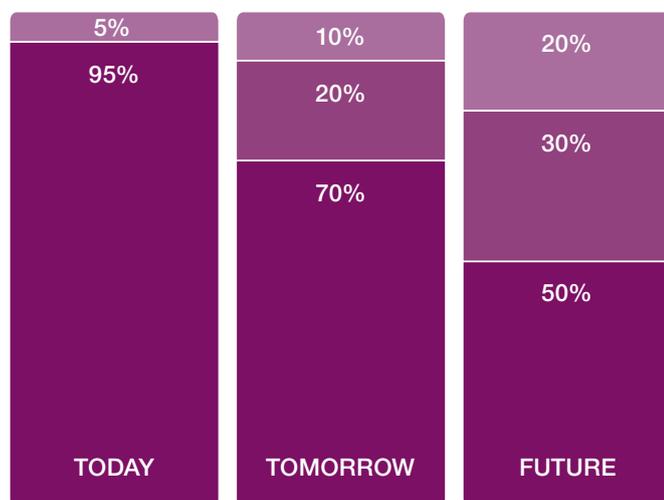
Big data also helps organizations understand their customers' experience by utilizing collected information

about interactions, orders, devices in use, and customer usage sessions. When a customer call comes in to a big data-boosted call center, personnel will be able to identify the root cause of the problem and promptly correct it. As compensation for the inconvenience, operators could use information about customer preferences to create tailored offers, e.g. provide movie lovers with free access to several movies, or give commuters a coupon for a free coffee. With the aid of big data analysis, it is even possible for the operator's technical support to proactively solve customer experience issues before they happen. This saves time and money and makes customers happier.

By combining public data with that on devices and media usage, organizations can create more accurate traffic forecasts. This means they can gain a whole new skillset to handle network design and optimization challenges – enabling them to prepare their networks for future demands. For example, it is impossible to plan for the future capacity of networks without fully understanding and factoring in the exponential increase in media usage across a variety of mobile platforms. The businesses that identify and use these insights effectively will have a competitive edge. Analytics help to provide the whole picture and thus step up network performance so that it meets the demands of users – both today and tomorrow.



SKPI evolution models



## Perception defines quality

There is a clear trend towards customer experience becoming increasingly important among service Key Performance Indicators (KPIs).

In Ericsson's experience-centric managed services model, a mix of technology, service and customer experience KPIs are combined in order to measure a service's performance. This model is a result of the increased focus on customers' perception of a service, and the KPIs are used alongside the actual performance. Big data analytics are needed to be able to extract customer sentiments and combine them into this broader definition of service KPIs.

- Customer experience measures
- Service measures
- Technology measures

# KNOW YOUR CUSTOMERS

## Generate user segmentation that makes a difference

Effective user segmentation is a foundation for long-term strategies, as well as for tailored services based on real customer needs.

Ericsson has developed strong segmentation models using discriminant analysis and clustering techniques that utilize many different variables for each user. The segments can then be tagged in the customer database and used to improve offers, service levels and customer support. When used in the correct way, this process results in improved customer satisfaction, which in turn leads to increased loyalty, and ultimately increased revenue.

## Understand your customers' experience

Big data makes it easier to understand your customers. End-to-end information – from raw network data to social media sentiments – is analyzed in order to develop customer-centric KPIs, and to understand the factors that affect the user experience.

Insights can be deployed in customer call centers to better answer and solve concerns for the customer on the phone. They can also be used in Network Operations Centers (NOCs) to discover and handle any issues for bigger groups of users. Where relevant, information can be collected about the users' experience in real time. For example, call center staff could see if the customer on the phone has experienced problems at a particular location or while using a particular service. The result is an improved customer service, higher levels of customer satisfaction and a decreased churn rate.

## Big data helps operators take advantage of information that will optimize their network



## Solve customer experience issues before they happen

Ericsson gives operators the full picture of their users' experience at any given moment. It also helps customer technical support organizations to proactively identify potential problems before they happen.

By analyzing patterns in the network and relating them to previous issues, the technical support team can become capable of handling changes in the network. The result is a decreased number of problems within the NOC and call center. In this context, big data brings quicker responses and resolution of problems, which in turn reduces churn rates and network opex.

## Prepare your networks for future demands

Big data helps businesses take advantage of the available information within their networks in order to make them robust, optimized and scalable. Reviewing a network from a smartphone perspective helps reveal areas where improvement is needed. A revision of 3G-capable smartphone users running their devices on 2G could identify ways of making significant improvements based on intelligent analysis. Examination of user behavior can also play an important role in understanding how to better deliver media content, and thus directly impact customer experience.

Network usage data can be utilized, as can external data such as demographic trends in different geographical areas. The combination of information from several sources creates a solid foundation for forecasting network demands. It raises customer satisfaction levels whilst simultaneously reducing network opex.

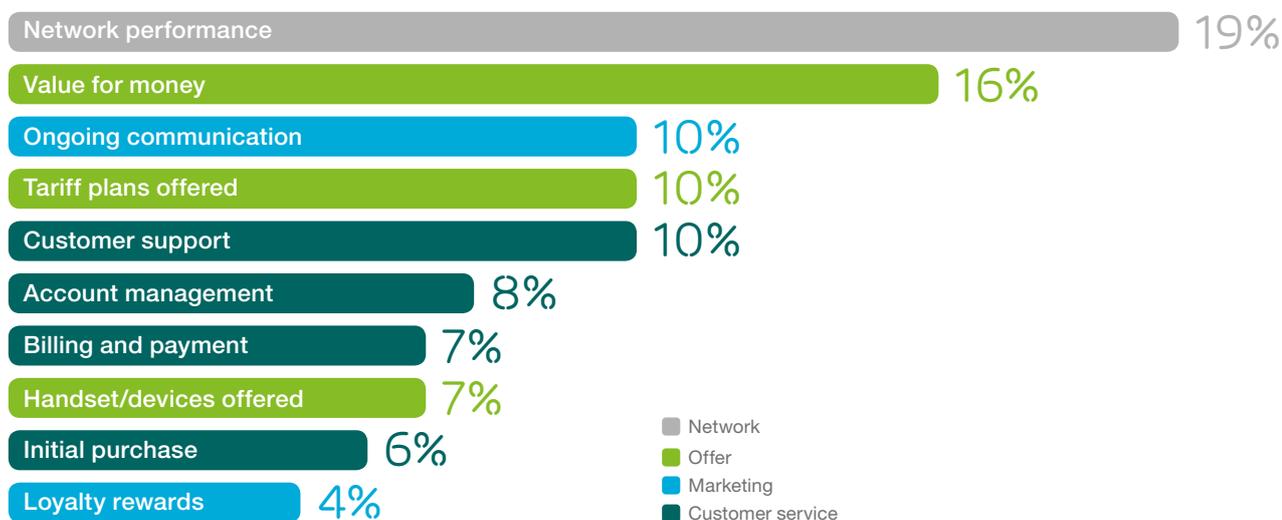


### Driving customer loyalty

In 2013, an Ericsson ConsumerLab study of 12,000 smartphone users in 12 countries found that consumer perception of network performance was the top driver of customer loyalty to an operator brand –

more so than value for money. Therefore, it is vital that operators minimize any issues that customers face when using their products and services.

Drivers of loyalty to operator brand (NPS)



Source: Keeping Smartphone Users Loyal, Ericsson ConsumerLab, 2013

# INGREDIENTS FOR SUCCESS

## Encourage a commitment to customers

How can you create a customer-centric organization that provides the personalized services and the consistent end-to-end experience that your subscribers require? It is harder than it might seem to adopt an outside-in perspective, because you must understand that your customers' perception of your service may not always match up to its actual performance. Helping your business to reach its full potential requires a lot of work.

## Find the measures that fit you

Customer experience KPIs are often considered soft, as opposed to hard technology and service KPIs. Traditionally, Customer Relationship Management (CRM) systems focused on products, price and processes, rather than customer needs. Today, you must define what you need to measure in order to ensure a good customer experience at various touchpoints. You must also make sure that you define owners of these KPIs in your organization to secure a customer-centric business.

## Enable your business to reach its full potential

## Privacy matters

Always respect subscribers' privacy when collecting, analyzing and responding to customer data. It is not enough to just make sure that you do not break any ethical standards – you should also communicate to your team and your customers how you use data, and how you will protect personal privacy boundaries.

## Connecting efficiency and customer experience

Implementing a big data solution to reduce churn and increase customer satisfaction is also an important approach for making substantial efficiency improvements. The customer experience is impacted by almost every key process in the organization. Whether it is plan-to-provision, service-to-cash or trouble-to-resolution, optimization of those processes can improve the customer experience. Identifying network issues through big data analysis helps your call center staff answer customers' questions. These can also be addressed in the NOC and issues can be eliminated before network quality is affected. Make sure you exploit the synergies between the customer experience improvements and efficiency activities.



# UTILIZE EVERY RESOURCE

Ericsson combines an unmatched strength in telecom technology with service excellence and global scale. We help businesses leverage big data to make their customers happier.

In order to avoid basing customer intelligence on second-hand statistics, operators need to draw on a whole range of information, including from networks and IT systems. Ericsson is one of few companies that can do this.

To have the information is itself not enough. Businesses need to identify the relevant parameters and interpret them, and Ericsson has the experience and expertise to do this.

Even with the right data and good analytics, businesses will be constrained if they cannot disperse knowledge within their organizations and overcome structural barriers. Ericsson's Professional Services can provide support with this.

Adding more analytical measures within a business can seem staggering at first. The risk of complicating operations may be a concern that stops businesses from adopting big data assets. Ericsson simplifies complexity, facilitates transformation and accelerates the process of creating happier customers.



## CASE STUDY | EUROPEAN OPERATOR

When a European operator began to include more sophisticated services and devices in its portfolio, it saw an increase in customer experience issues. These led to a decrease in customer satisfaction, increased churn levels and high pressure on the customer call center.

Through a big data approach that correlates carefully selected experience and probable cause metrics, it was able to understand customers' experiences on an individual level.

The operator leveraged this knowledge to both resolve issues in customer care centers and address issues in its networks. The data-driven solution helped reduce customer care call durations and increased first call resolution. This in turn improved customer satisfaction.

Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, businesses and societies to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With more than 110,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.

Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2013 were SEK 227.4 billion (USD 34.9 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.

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