White Paper

Driving Customer Loyalty Through Network Service Quality

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Introduction

Loyal customers are valuable; churn is costly. These observations have become axiomatic and most communications service providers (CSPs) are conscious of the need to improve customer loyalty as measured by indicators, such as Net Promoter Scores (NPS).

According to Heavy Reading research into wireless CSPs, they widely agree that network service quality is the top driver of customer loyalty, trumping customer care and price, especially for high-value customers. They have made good progress in understanding the "outside in" view of customers towards their organizations. They routinely collect customer satisfaction data through a variety of channels and many already use NPS. They also feel they have satisfactory visibility into network service quality, although Heavy Reading research finds that the number of CSPs who say they have an excellent view of their network is still relatively small.

However, CSPs strongly aspire to go further: to invest in improving their understanding of network service quality and its impact on customer loyalty. They recognize that such knowledge can help them reduce churn and optimize customer lifetime value, target network investment accurately, launch successful marketing campaigns or prevent the degradation of service performance in the first place, avoiding the high operational costs of dealing with customer issues reactively.

CSPs with mature customer experience management (CEM) initiatives already have a strong ability to correlate customer loyalty and network service quality and are investing most aggressively in improving it, for example, by investing in big data-driven "next-generation" CEM architectures and analytical applications.

However, CSPs starting out on their CEM journeys have also identified this as a key capability. They have an opportunity to leapfrog "first-generation" CEM tools and approaches with a second-generation CEM solution.

This white paper reviews the finding of recent Heavy Reading research into wireless CSP attitudes to and plans for driving customer loyalty through control of network service quality. It discusses the features needed in a next-generation CEM solution that will support a real-time understanding of the impact of the network on individual customers' experience, enabling CSPs to take appropriate actions to maintain both loyalty and profitability.

Section II looks at why network service quality matters to customer loyalty and CSP attitudes to improving it.

Section III expands on the principles of a next-generation CEM architecture.

Network Service Quality Matters

Customer Loyalty Boosts Business Performance

Loyal customers are valuable; churn is costly. These observations have become axiomatic and most CSPs are conscious of the need to reduce churn. Losing a customer doesn't just mean the loss of that customer's immediate revenue. In a social age, it means no longer having access to the customer's recommendation potential and connections as well as to the long-term opportunity to upsell new products and services to that customer's community.

There is a demonstrable link between encouraging customer loyalty and business performance. IBM's 2014 study of over 4,000 senior-level executives across multiple industries worldwide, including telecoms, demonstrated strong correlation between companies that outperform their peers and those that focus on improving customer experience. Customer experience management (CEM) is a key tool for building loyalty and reducing churn.

Customer Loyalty & CEM

CSPs gain the loyalty of their customers when they provide them with the desired experience of the CSPs' products and services. To build customer loyalty, many CSPs are turning to CEM.

Heavy Reading defines CEM as a management discipline that uses the most relevant **insights** about the customer to drive the right **actions** across appropriate domains of the business and **measures** the outcomes of those actions to refine both insights and actions in the future.

Customer insights are derived both from an understanding of what the customer thinks and feels about their experience of the CSP's organization and from visibility into any aspect of the CSP's organization, such as its customer care approach, pricing policies and network service quality, which is likely to affect the customer's perceptions, and therefore loyalty.

CEM is a holistic discipline that spans multiple domains within an organization. CEM is still largely driven from the sales and marketing function today, according to recent Heavy Reading research. The research finds that a third of CSPs with mature CEM initiatives and 38 percent of those with just-started or planned CEM programs run them from the sales and marketing function.

However, wireless CSPs with mature CEM strategies are also most likely to be tackling CEM holistically, with 29 percent having established a dedicated CEM function compared to just 5 percent of those with immature initiatives. Bridging the organizational divide between customer-facing and network-facing groups is seen as a key CEM challenge, especially for those CSPs starting out on their CEM journey.

The Link Between Network Service Quality & Customer Loyalty

Nevertheless, overcoming this challenge is critical for CSPs' business performance going forward. According to Heavy Reading research, wireless CSPs widely agree that network service quality is the top driver of customer loyalty, trumping customer care and price (see **Figure 1**). This remains true even for high-value customers, although in the latter case, customer care runs network service quality a close second.

Figure 1: Drivers of Customer Loyalty

Driver	Score
Network service quality	4.34
Billing accuracy	4.17
Brand image	4.09
Customer care	4.08
Price	3.98
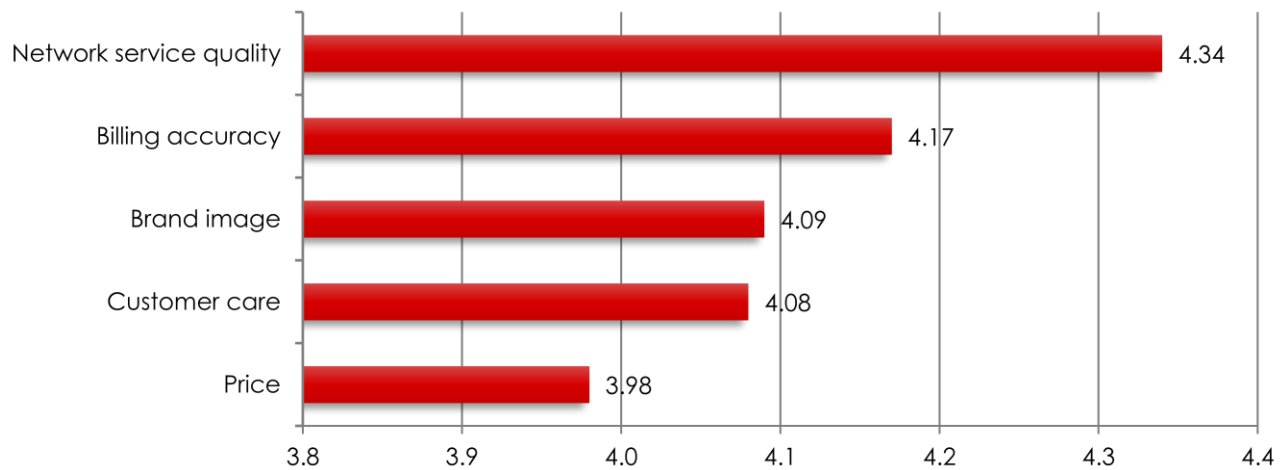
Source: Heavy Reading Network Service Quality Survey of Wireless CSPs, 2014

Each CSP's network is different, geographically and topologically, with a unique blend of technologies and equipment. Customers are individuals, each with their own mix of products and services, their own expectations and tolerance levels. Heavy Reading research shows that CSPs have a strong appetite to tease out exactly which aspects of network service quality drive customer loyalty *in their specific circumstances*, in order to respond effectively when customer experience is under threat.

CSPs interviewed, for example, discussed how understanding the impact of service quality issues can help them accurately target network investment, launch successful marketing campaigns or prevent the degradation of service performance in the first place, avoiding the high operational costs of dealing with customer issues reactively.
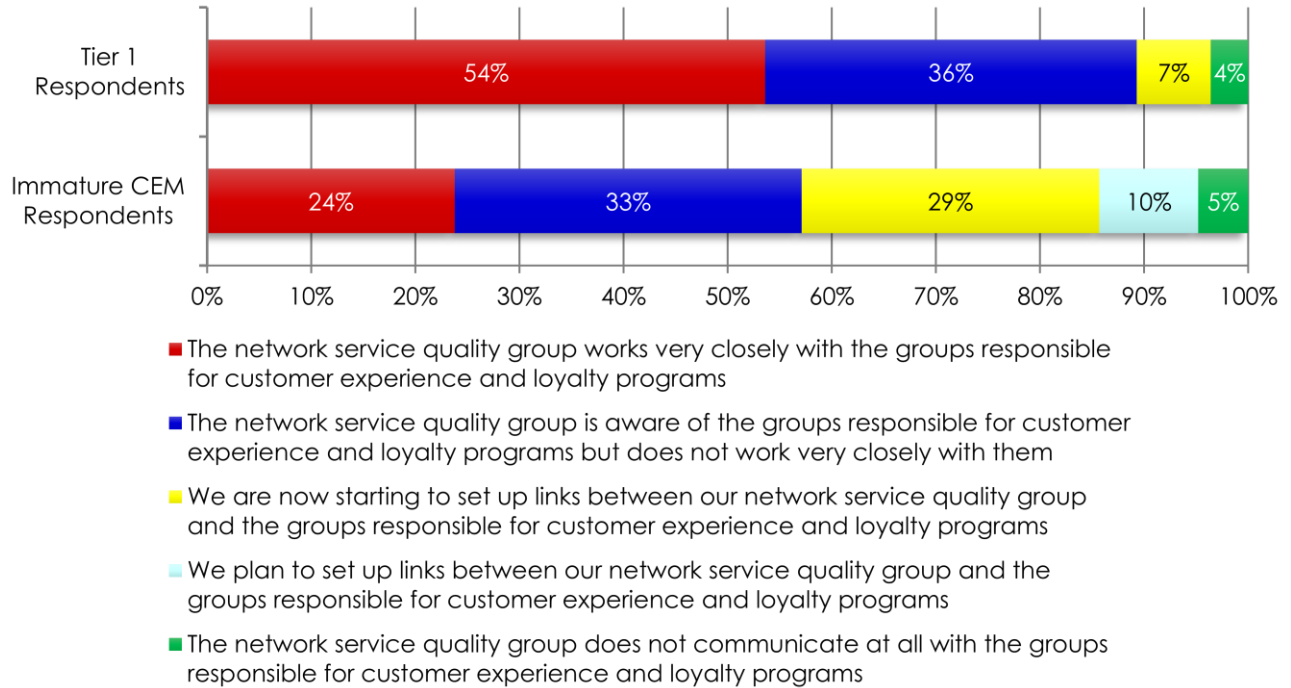
Heavy Reading research confirms that most CSPs feel their networks are satisfactorily instrumented with 67 percent of CSPs surveyed suggesting that they have adequate or good visibility into key network service quality factors. However, the percentage with excellent visibility – 16 percent – is still relatively small. CSPs in the survey with mature CEM strategies demonstrate the strongest appreciation of the need for excellent visibility: 24 percent say they have achieved this compared to only 5 percent of those with CEM initiatives that are less than a year old or in the planning stages. The message from the research is clear: CSPs that take customer experience management seriously want to have the best possible "inside out" view of how their unique networks are performing.

CSPs have made good progress in understanding the "outside in" view of customers towards their organizations. They routinely collect customer satisfaction data through a variety of channels and over a third of survey respondents have been using the Net Promoter Score (NPS) measure of customer loyalty for some time. The proportion of large Tier 1 CSPs using NPS is even higher: 54 percent. Tier 1 CSPs are also those most likely to have had a CEM strategy in place for at least three years.

This group of CSPs was almost twice as likely to have a network service quality group working closely with the groups responsible for customer experience and loyalty programs than those with a CEM function that is less than a year old or in a planning

phase. The research shows that CSPs with a mature understanding of CEM are strongly motivated to link customer loyalty and network service quality, in order to understand the impact of the latter and drive that knowledge back into the business.

Figure 2: Comparison of Cross-Organizational Cooperation in Mature/Immature CEM Segments

- The network service quality group works very closely with the groups responsible for customer experience and loyalty programs
- The network service quality group is aware of the groups responsible for customer experience and loyalty programs but does not work very closely with them
- We are now starting to set up links between our network service quality group and the groups responsible for customer experience and loyalty programs
- We plan to set up links between our network service quality group and the groups responsible for customer experience and loyalty programs
- The network service quality group does not communicate at all with the groups responsible for customer experience and loyalty programs

Source: Heavy Reading Network Service Quality Survey of Wireless CSPs, 2014

CSPs also understand that this link is dynamic: customer behaviors continue to change as they interact with new technologies and the network service quality drivers of customer loyalty today may not be the same tomorrow. The CSPs Heavy Reading surveyed anticipate that over the next two years, as the use of mobile data grows and LTE networks are more widely deployed, issues such as dropped sessions and data rates will overtake today's top drivers of churn, which include call quality and coverage.

Closing the Network Service Quality/Customer Loyalty Gap

The research unearthed a strong aspiration among CSPs to invest in improving their understanding of network service quality and its impact on customer loyalty. CSPs with mature CEM initiatives are investing most aggressively, with 91 percent of this subset of respondents planning to spend on improvements, 38 percent of whom describe their investment as "heavy." Just more than half of those with nascent plans for CEM – 53 percent – expect to spend moderately to heavily on linking network service quality and customer loyalty.

Both groups expect to invest as a matter of urgency, with 58 percent of CSPs with mature CEM and 53 percent of CSPs just starting their CEM programs expecting to do so within the next 12 months. The latter group faces the largest barriers to achieving
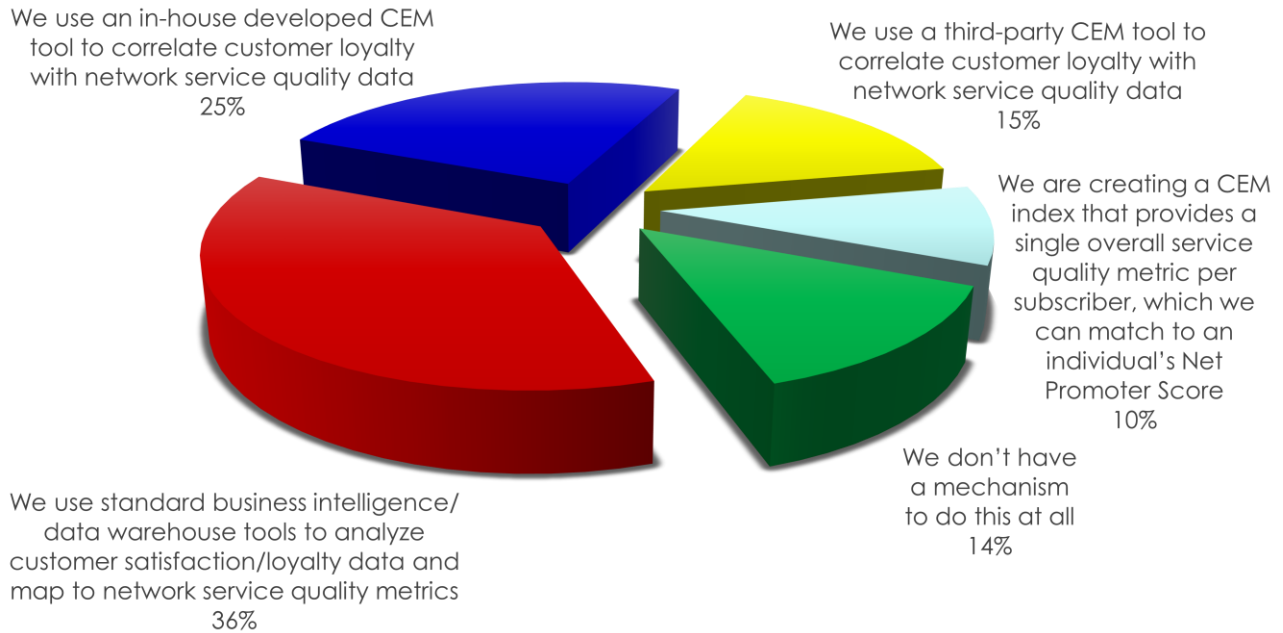
this goal, however, since CSPs in this category are most affected by the difficulty of securing cross-departmental cooperation and budget.

North American and Asian CSPs are particularly keen to invest heavily compared to European CSPs. The latter are lagging behind in their ability to link network service quality factors and customer loyalty, perhaps because they are more affected by their organizational structures and European regulation on data sharing.

The research finds that CSPs with a mature CEM strategy have a much stronger ability to correlate customer loyalty with network service quality data and are much more likely to have built or acquired specific CEM tools for this purpose than those just starting to consider CEM. Nearly a third of the latter segment lack any kind of mechanism in this area and 41 percent of those that do are using standard BI tools.

Respondents that expect to invest heavily in CEM mirror the immature CEM users' profile, suggesting that a substantial portion of their future investment will be directed toward improving their ability to analyze network service quality metrics and map them to customer loyalty measures through the acquisition of specialist solutions.

Figure 3: Mechanisms for Mapping Network Service Quality to Customer Loyalty

We use an in-house developed CEM tool to correlate customer loyalty with network service quality data
25%

We use a third-party CEM tool to correlate customer loyalty with network service quality data
15%

We are creating a CEM index that provides a single overall service quality metric per subscriber, which we can match to an individual's Net Promoter Score
10%

We don't have a mechanism to do this at all
14%

We use standard business intelligence/ data warehouse tools to analyze customer satisfaction/loyalty data and map to network service quality metrics
36%

Source: Heavy Reading Network Service Quality Survey of Wireless CSPs, 2014

"Second-Generation" CEM Needs Big Data

CSPs increasingly recognize that linking network service quality and customer loyalty to determine how one affects the other will need to be underpinned by a big data infrastructure. Heavy Reading's research articulated the need for a "second generation" CEM solution that can cope with the collection and correlation of cross-functional metrics and create the mappings needed to link rich network service quality data with customer loyalty indicators.

An early generation of CEM applications typically drew on traditional BI tools and offline data warehouses to identify interesting customer experience trends weeks and months after data had been collected. A next-generation CEM architecture must support:

- The large amounts of customer loyalty data CSPs are collecting in different formats via a growing number of channels, including from focus groups, emails, Web interactions, mobile apps, SMS.

- The large network service quality datasets that the two thirds of respondents with excellent/good visibility of network service quality say they are creating.

CSPs also want the customer loyalty-network service quality analysis and mapping to take place in near real time.

The CSPs interviewed by Heavy Reading suggest that organization-wide big data initiatives will provide important support for their CEM strategies, with churn prevention an early use case. Research participants cite a unified view of their customers as key to understanding the network drivers for customer loyalty: the group responsible for implementing a big data initiative can help them construct such a view.

Figure 4: Top Three Priorities for CEM Over the Next 12 Months

Source: Heavy Reading Network Service Quality Survey of Wireless CSPs, 2014

Underpinning CEM with big data starts to enable the holistic goals of the discipline, since big data is drawn from every corner of the organization as well as from third parties, and made available for CEM-related analysis. CEM initiatives can benefit from the senior-level management support required to launch big data initiatives and the way in which such support can break down the barriers of cross-departmental cooperation and lack of budget.

CSPs with mature CEM strategies clearly indicate that they want to align CEM and big data strategies. CSPs that currently have less advanced CEM programs can leapfrog first generation CEM systems and gain the far-reaching benefits of a next-generation, big data-enabled CEM approach from the start.

Next-Generation CEM Architecture

Principles of a Next-Generation CEM Architecture

There is growing market consensus over the architecture for a second generation CEM solution – one that is capable of analyzing network service quality data and mapping it to customer loyalty indicators, such as NPS, on an individual customer basis. Such a solution needs three key components:

1) **A highly flexible data collection layer** that can tap into any network data source using a variety of collection mechanisms. The network needs to be extensively instrumented in order to understand the nuances of network service quality and this requires mechanisms beyond conventional and expensive passive probes. The latter will still be needed for certain use cases. However, network functions virtualization (NFV) is driving a new opportunity to create virtual probe functionality which can be colocated with a range of network devices, including DPI, routing, switching and traffic steering appliances. Such virtual probe functionality can be deployed much more densely across the network to gain deep insights into customer-centric metrics such as time spent buffering video or time to load pages.

2) **An open big data management platform** able to handle the volumes of data from the terabit mobile networks expected in the next two to three years and from fixed networks too, as fixed/mobile convergence (FMC) becomes commonplace. Such a platform is likely to be Hadoop-centric to reduce hardware cost at high scale, but with modular extensions to support both real-time data analysis and traditional SQL access to data. The management platform needs open application programming interfaces (APIs) southbound to accommodate any data source and northbound to enable any analytical application to tap into its data.

3) **A set of analytical applications** that draw on network service quality data to address specific CEM use cases. Examples might include an application that analyzes network service quality drivers for NPS and customer loyalty or an application that analyzes the performance of hundreds of different mobile applications across the network and enables this to be factored into the overall experience of individual customers. An application that analyzes customer behavior on the network allows for fine-grained segmentation of customers. This can then be used to determine how a particular customer segment may be affected by a network service quality issue that is at first experienced by only one or two members. The issue can then be resolved proactively for all. Analytical applications can be created and used to drive processes that are designed to improve customer experience and cement loyalty, such as network capacity upgrades, root cause analysis and offer generation.

Migrating to Next-Generation CEM

A next-generation CEM architecture needs to be modular to enable CSPs to start small, addressing pain points that deliver quick wins. This will help them demonstrate the benefits of CEM and win the backing of the business for further investment.

For example, CSPs can start with a limited set of data sources, whatever data management technology they already have in place and one or two analytical applications to prove the value of linking network service quality and customer loyalty

indicators, such as NPS. Over time, as they have the budget, they can add in more data sources, migrate to a Hadoop-based big data architecture and add further analytical applications to gain deeper insights into the interaction between network service quality and customer loyalty. .

To achieve the ability to drive customer loyalty through improved network service quality, CSPs should seek:

- **Support from senior management** to drive cross-organizational cooperation over the collection of data from multiple different sources, making it available for multiple use cases within a big data management platform. Leading CSPs already recognize CEM's contribution to business performance and prioritize CEM initiatives: now CSPs starting out with CEM need the same support and funding.

- **Technology or business triggers for change**, such as LTE deployment or the adoption of a new digital services strategy, which provide the opportunity for a new customer experience-oriented approach. The nature and scale of LTE networks demand new solutions for capturing network service quality metrics while CSPs intending to provide new digital services, such as gaming and cloud services must guarantee a high level of customer experience or risk rejection by the market.

- **Liaison between groups responsible respectively for big data and CEM.** The CEM organization needs to feed its requirements into big data initiatives to ensure that the big data platform is architected in an open and flexible way to meet its demands, including for real-time and massive volumes of customer and network data collected and stored cost-effectively.

- **CEM-specific analytical applications**, not general BI tools, which can work on real-time data and provide rapid and focused analysis of customer experience issues, including the relationship between network service quality and customer loyalty scores. Such applications enable CSPs to achieve results faster and more efficiently while still maintaining competitive differentiation, since the underlying data they work on is tuned to a CSP's individual network environment and customer segments.

Conclusion

Heavy Reading research confirms that CSPs are urgently looking for a next generation of CEM solutions that will help them understand the link between network service quality and customer loyalty. CSPs acknowledge that network service quality is the largest driver of customer loyalty due to the increasingly critical role the network plays in subscribers' lives. However, teasing out exactly which factors affect individual customers is challenging given the large amounts of network data involved and the need to establish cross-organizational links between customer and network facing groups.

CSPs with several years of CEM experience are already seeing the results of improved understanding of network service quality in terms of reduced churn and higher Net Promoter Scores. Both outcomes increase the opportunity for new revenue generation and lower operational costs, which translate into better business performance. Such CSPs have the strongest intentions to spend on dedicated CEM organizations and solutions that will help them drive further value from network service quality data.

For example, advanced CSPs that are committed to driving customer loyalty through a better understanding of network service quality expect to invest in:

- Increasing their visibility of the network

- Creating a unified view of the customer and each customer's experience

- Analytical applications that can correlate "inside out" network service quality metrics with "outside in" indicators such as NPS.

CSPs that are just starting out on their CEM journeys are also keen to acquire such capabilities but first need to win business support. This will be easier if they identify quick wins that demonstrate the power of linking network service quality and customer loyalty indicators in a limited domain to start with.

The ability to calibrate levels of customer loyalty based on a real-time view of network service quality is a powerful one. Those CSPs who master it will gain a large competitive advantage in the battle to win subscriber hearts and wallet shares.

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