UNDERSTANDING CUSTOMERS AND REDUCING CHURN IN TELECOM'S BIG DATA ERA

A SCALABLE SYSTEMS WHITEPAPER ON TELECOM

EXECUTIVE SUMMARY

The rapid expansion of device, application and service choices throughout the telco industry has radically increased the challenges related to satisfying and retaining customers. The explosion of data traffic, social media and other unstructured data streams has rendered traditional BI incapable of providing the critically important insights telcos must now generate to remain competitive.

Customer data often represents the most valuable yet underutilized asset a telco possesses, and the ability to quickly respond to evolving consumer, device and application interactions is becoming a key competitive differentiator. The need for real-time analysis is enterprise-wide, ranging from improving the customer experience and reducing service outages to the end-to-end management of new product rollouts and marketing initiatives.

Properly applied, social and legacy data insights into consumer trends, concerns and service issues are invaluable. Big Data mining can quickly identify customer service problems, streamline decision-making, spot purchasing trends and provide actionable insights for generating more successful messaging, marketing and customer service support. These insights extend into non-customer-facing areas as well.

The complexities inherent to reaping profitable insights from today's unprecedented peer-to-peer interactions, mobile broadband data volumes, video consumption and other traffic can seem truly daunting. Frequently disruptive traffic across social networks creates additional challenges, exerting ever-more-powerful influences on people's opinions of products, marketing campaigns, brands and even entire companies.

By combining the wealth of information from internal data sources with insights from social media and other unstructured natural language data types, innovators are utilizing Big Data to profit from understanding their customers' mindsets and delivering more effective and targeting advertising to promote new products and services tailored to appeal to and satisfy consumers' evolving desires and needs.

The ability to gain insights from customer data is also allowing pro-active telcos to enjoy fresh revenue streams. The production and sale of anonymous data about aggregated customer preferences to other companies allows them to more effectively personalize their product and service offerings. This ability to mine and monetize subscriber data is even enabling free online service providers, such as Facebook and Google, to generate profitability. Telcos that fail to utilize and capitalize on such Big Data insights will increasingly fall behind.

Growth will increasingly depend on having a cloud computing strategy, an approach for the high-growth IT service market and a clear value proposition for the enterprise market

TELECOM'S INHERENT DATA ADVANTAGE

The telco industry finds itself in an enviable position with respect to capturing profitable customer data, for it is their own networks that are delivering the explosion of new business, entertainment and social media data. Social, mobile, cloud and Big Data analytics can be seamlessly integrated with a company's traditional databases, transforming and positioning telco businesses for optimal performance and success.

The insights Big Data mining can provide are enormous, including for understanding customer sentiment. Unlike traditional sources of costly consumer intelligence, such as from surveys, focus groups and corporate research, social data is instantly available. Voluntarily given by a company's customer base, it also has the advantage of providing massive volumes of demographic and psychographic data for free.

The ability to interrogate all types of data is possible due to emerging search and indexing engines, natural language processing algorithms, distributed processing capabilities and machine learning programs. The ability to profitably aggregate and mine customer service logs, sales pipeline files, operational incident records, social media and other massive data libraries by using a unified new social business intelligence platform not only generates in-depth customer views but can also substantially reduce some existing application costs.

Social data mining and analytics can produce real-time measurements of products and services that can be leveraged with a business's existing data, dashboards, metrics, applications and other KPIs. Not only can this help a telco inexpensively track and optimize traditional and social media campaigns, but sentiment analysis unveils customers' emotions and preferences, providing instantly actionable feedback about products and brands.

Real-time customer interactions and predictive models can assign "propensity scores", increasing the effectiveness and rapid updating of marketing initiatives such as targeted online ads and encoded offers disseminated through social media and other real-time channels. Initiatives can now utilize real-time transactions and geospatial data from both analytic and operational data sources to enhance sell-throughs. Improved product targeting, more relevant communications and dynamic interactions result in increased customer satisfaction and loyalty.

With the support of robust real-time analytics, telcos have fresh opportunities to deliver powerfully engaging new online and mobile services such as:

- location-specific business partner discounts and limited-duration promotions
- enhanced target-specific company and third-party advertising
- interactive and engaging social collaboration experiences
- access to new premium content packages
- bundled cloud-based services

Your most unhappy customers are your greatest source of learning.

-- Bill Gates

Meanwhile, Big Data analytics' ability to quickly combine insights into dropped calls, video -based service latencies and other service issues with traditional BI best-practice KPIs and related tools with subscriber insights gleaned from static and dynamic data can allow telcos to more quickly identify and fix problems related to malfunctioning broadcast towers, MSCs and other critical infrastructure. The ability to provide transparency to operational dynamics can also allow providers to identify and address dangerous load usage and other potential service interruption issues before they occur.

Statistical models can combine inputs with an ever-increasing wealth of historic data to more accurately predict customer behaviors and even anticipate desired services. With respect to gaining market share, the rapid accumulation and analysis of diverse data feeds increases the number of opportunities for delivering actionable ideas to win new customers. The delivery of more accurate network planning, preemptive service assurance and superior customer experience are all enabled by harnessing Big Data.

Big Data tools make the entire data infrastructure simultaneously accessible across BI layers and applications while enhancing data availability, traceability and consistency. Having a single unified system of records also positions an enterprise to gradually sunset a number of legacy systems and applications, allowing for significant cost savings to be realized.

PROFITABLY LEVERAGING BIG DATA

Although Big Data is complex, and seemingly unwieldy, it can be effectively processed by combining low-cost Cloud solutions with existing IT architecture that most telcos already have in place. This enables more productive and profitable decisions to be made. This process requires a holistic approach to understanding a great variety of data types, including from combining the vast social media world's concerns, conversations, likes, dislikes and social graphs with massive internal customer service data sources.

In addition to the staggering Volume, Variety and time-sensitive Velocity intrinsic to Big Data, there is an intrinsic need to assure the validity of the data. Profiting from the data-driven future also necessitates that robust data cleaning and enrichment processes are in place and rigorously enforced to eliminate data toxicity. Protocols for assuring the integrity of data analysis and the enterprise-wide sources from which data is derived need to be instilled. Data integrity, data masking and master data management can empower an enterprise by taming its data sources in ways that increase resource optimization, customer retention, enterprise alignment and operational efficiencies.

Big Data utilizes server clusters, processing engines such as Hadoop, and new interactivity tools to store, mine and analyze virtually unlimited amounts of highly complex statistical data. These complex data sets must then be presented in effective real-time dashboard visualizations. This requires the creative insights of a data scientist, who must possess math and programing skills plus scientific insights to evaluate huge numbers of factors, ask the right questions, and then produce meaningful visualizations.

Predefined dashboards, powered by solution accelerators, data models, advanced reporting tools and predictive analytics can also reduce product development cycles and time-to-market activities. These tools also allow companies to understand their business at a granular level to identify usage patterns and other insights helpful in differentiating otherwise commoditized products and services.

Big Data not only allows companies to instantly see how new products and marketing efforts are being perceived, but to engage their communities for testing new services and marketing plans. Such mass collaborations strengthen customer relationships and service while also helping telcos identify online thought leaders who can be enlisted to provide expert reviews and other product and brand support. These and other benefits are enterprise-wide, allowing companies to share actionable ideas with partners, prospects and customers.

Information technology and business are becoming inextricably interwoven. I don't think anybody can talk meaningfully about one without the talking about the other.

Bill Gates

CONCLUSION

The data available to telecom companies represents not only a highly valuable asset but a tremendous advantage in the increasingly data-driven business world. Big Data analytics provides the key to unlocking this unprecedented resource, enabling a dynamic approach to future growth and profitability. As the global economy continues to be even more driven by digital content, the most savvy telco companies will reap outsized rewards.

Successfully harnessing and capitalizing on the ever-expanding data landscape is of critical necessity in the modern era. When combined with robust data analytics and visualization, Big Data analytics can provide valuable insights and increased productivity across an entire enterprise. The benefits will be wide-ranging; from cost-effectively improving system performance and customer service to maximizing new product and service initiatives that increase customer retention and an enterprise's growth.

Optimizing a client's enterprise for success is our main motivation at Scalable Systems. We have developed a comprehensive suite of services customized to help telco companies leverage operations through the implementation of sound database development and modeling, master data management and data masking solutions. We focus on providing a holistic approach to overcoming the challenges of cleaning, storing, searching and analyzing unstructured, structured and raw data - and then presenting it in ways that provide valuable, cost-effective insights.

We view our dynamic approach to social and legacy data as an art form, embracing processes that are both creative and constantly evolving. Our team of strategists can customize an organic solution to fit any telco company's specific needs. By utilizing social, mobile, cloud and Big Data analytics in combination with the general knowledge from nurses, doctors, sales reps and IT professionals, we can transform a telecom business for optimal performance and success. And by incorporating services from our India-based operations, we can provide the low-cost solution.

BIBLIOGRAPHY

1. The Complete Guide to Business Analytics, Thomas H. Davenport, FT Press, 2012
2. Big Data Analytics: Turning Big Data into Big Money, Frank J. Ohlhorst, John Wiley & Sons, 2012
3. The Age of Big Data, Steve Lohr, New York Times, 2012, www.nytimes.com/2012/02/12/sunday-review/big-datas-impact-in-the-world.html
4. http://www.interactivedata.com/special/11-128/in-site/

About Scalable Systems

Scalable Systems is a global software consulting, development and IT outsourcing company providing both onshore and offshore software solutions and integration services to business enterprises around the globe. Scalable Systems has proven expertise encompassing low-cost but high-quality and reliable software solutions and services in areas including Data Management, Business Intelligence, Content Management and Applications Development.

Scalable Systems

Email: info@scalable-systems.com
Web: www.scalable-systems.com