Motorola Mobility Follows the Data to Engineer Better Smartphones

To continue innovating in the competitive smartphone industry, the Motorola Mobility Service and Repair organization created a novel approach to capturing and distilling the most meaningful market data. Motorola Mobility's custom solution, designed and built in partnership with the data science experts at Datascope, rapidly aggregates and algorithmically analyzes smartphone customer feedback data from a broad spectrum of Internet sources, including consumer sites, user forums, media outlets, social media and product review sites.

With a new perspective on product performance, Motorola Mobility gains immediate insight into customer satisfaction and the intelligence needed to rapidly respond to engineering issues that could otherwise harm brand perception and loyalty.

"We see no limit to this tool. It lets us keep a pulse on our customers in a way we actually understand, and with accuracy we never thought possible before we worked with Datascope. We look forward to expanding it across our entire product line."

Ahmad Shabazz,
Sr. Manager of Business Operations
& Strategy, Motorola Mobility

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Big Data for Humans: Transforming Data into Simple Business Insights

By thinking differently about how market data can be used, Datascope and Motorola Mobility built a unique analytics and visualization engine that distills assessments of product performance from a mess of hundreds of millions of phrases and Internet references from around the world. The custom tool created by Datascope gives the Motorola Mobility Service and Repair organization the means to immediately identify and address issues on the manufacturing lines and directly with consumers.

Beyond aggregating and analyzing product performance data, the solution uses custom designed algorithms to assess customers' emotional reactions: How do customers like/ not like the phone? What are they saying about the phone? Are they recommending or disparaging the phone? Culled from vast data sources, this compact and crystallized insight provides opportunities for customer support and marketing teams to engage directly with customers, improving

satisfaction and strengthening brand loyalty. The data-driven tool complements the Service and Repair team's intensive focus on reshaping the consumer service experience worldwide.

Bringing Data Science to Smartphone Engineering: How It Began

Motorola Mobility first came to Datascope in their search for data science expertise that could help transform the Big Data potential of digital consumer insights into a tool for better addressing smartphone product issues and customer needs. "We wanted to minimize service and repair failures and believed we could become more proactive in addressing our customers' needs following a smartphone launch," said Ahmad Shabazz, Sr. Manager of Business Operations & Strategy at Motorola Mobility. "We turned to Datascope to find out if it was possible to leverage real-time conversations among smartphone users across the Web to know immediately when they encountered problems."

Wanting to build on the Reverse Logistics team's recent studies around consumer

behavior that were released in June 2014 with B2X, the Motorola Mobility Service and Repair organization researched and found that existing tools could not accomplish their goals. In acknowledging that customers were posting valuable product insight on forums, in comments, and on social media from the moment a new smartphone release became known to the public, Motorola Mobility made aggregating and understanding customer data at a deeper level its primary objective. By gauging consumer sentiment and providing feedback to service engineering, Motorola Mobility is unlocking the value of readily available data.

Ideation Workshops: The Foundation of Human-Centered Data Science

The Motorola Mobility engagement began like many Datascope projects, with an ideation workshop. A collaborative and human-centered engagement, the ideation workshop brought together members of Motorola Mobility engineering, R&D, IT, marketing and leadership teams with Datascope data scientists. Datascope

> "We wanted to learn if we could extract actionable insight from this giant, global vat of consumer and market chatter that would help us to rapidly deliver fixes or make improvements in the engineering process."

guided the Motorola Mobility team through creative brainstorming exercises that explored Motorola Mobility's big goal of engineering better smartphones and applied data science to consider and frame the many ways it could be achieved.

Beyond the Hype of Big Data: Determining What Is Possible

Throughout the course of the three-day ideation workshop, participants shared numerous ideas and hopes for how data could be used to optimize smartphone engineering and Motorola Mobility's marketplace success. The Datascope team worked with Motorola Mobility through each consideration and idea, clarifying what was and was not feasible to achieve.

By the end of the three-day workshop, Datascope and Motorola Mobility outlined exactly what they knew they could do using consumer and market data:

- Identify specifics about product problems that engineering can use to fix in imminent product releases and that R&D can use to improve future product development

- Identify user issues on existing products that can be addressed quickly

- Identify and assess user sentiments related to the product and brand in order to influence marketing and customer service efforts

From Questions to Answers: Valuable Customer Sentiments Identified from Shared Insights

The Datascope design team, led by PhD-level data scientists, finalized wireframes and built the custom tool that would collect and streamline customer insights. To extract worthwhile product and customer insights from an expansive and dynamic data set, Datascope developed custom algorithms for categorizing all inputs. The tool was well received internally primarily because it provided the opportunity to take a proactive versus reactive approach and address issues before they bubbled to the surface.

In one case, customers were struggling to use voice and data features at the same time with Motorola Mobility's RAZR M. Immediately aware of the issue as a result of the solution's strategic data capture, the Motorola Mobility customer support team posted responses to customers in every forum and site where the issue arose, rapidly eliminating a potential customer satisfaction problem while boosting brand

loyalty. In subsequent releases of the phone, Motorola Mobility has relied on the solution to support and address customer issues while giving engineering teams the knowledge needed to improve products and implement fixes right away.

Future Plans for Data-Driven Product Development

With the success supporting smartphone launches, Motorola Mobility now uses the solution as an integral part of the Motorola Mobility product development and optimization process. The data captured is actively being utilized and communicated via the Supply Chain Reverse Logistics Control Tower, an innovative internal team focused on overseeing the supply chain process. Starting with the Moto 360, Motorola Mobility will use the platform to assess performance and sentiment for products outside of smartphones. "We see no limit to this tool," said Ahmad. "It lets us keep a pulse on our customers in a way we actually understand, and with

accuracy we never thought possible before we worked with Datascope. We look forward to expanding it across our entire product line."

"The application provides meaningful insights on what customers experience with our products and helps serve as a leading indicator to a lot of our operational metrics."

Jeremy Ong, Director of Business Intelligence & Strategy at Motorola Mobility

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