LEVERAGING BEHAVIORAL DATA WITH AI TO IMPROVE AN ALREADY-EXCELLENT CHURN MODEL

Verizon partners with Intent HQ to improve sector-leading churn prediction accuracy by up to 3.5%.

Operationalizing Churn Improvement

Verizon leads the U.S. wireless telecom market because it constantly innovates to maintain its competitive advantage and drive brand preference.

For a company generating annual revenues in excess of $100 billion and serving over 100 million customers with a range of voice, data, and video services, delivering better operational performance can be incredibly challenging.

But Verizon's sustained success at the top of the U.S. wireless telecom market is due to their relentless drive to innovate and improve along all fronts, including customer acquisition, base management, and customer retention.

Highlights at a glance

Challenge:

Verizon already had a top-performing churn model, refined over two decades, but saw an opportunity for improvement by leveraging behavioral data and Intent HQ's AI platform.

Solution:

• Intent HQ Insights Explorer
• Intent Workflow

Results:

The combination provided significantly more accurate churn predictions, which will improve Verizon's ability to find and retain at-risk customers.

• Accuracy improved by 3.5% in the highest-risk decile
• Churn model accuracy improved by 2.1% in the top 3 deciles
• Forecasted value over five years: $180 million*

* $180 million incremental revenue forecast from improving churn model accuracy and associated retention offers over a five-year period.

Leaders in industry churn accuracy

Verizon engaged Intent HQ because it recognized how extracting intelligence from billions of weblogs and other network data would give them a breakthrough in understanding customer behavior at a human level. Applying this intelligence as enriched features to improve already best-in-class predictive models proved an effective first use case for this new technology.

However, Verizon knew that extracting this intelligence required experience and technology it did not have:

- Behavioral network data like web browsing and Call Detail Records (CDRs) are extremely sensitive and must be processed in a privacy-safe manner
- These data sets are enormous, and this makes them extremely difficult to process at scale. Verizon's raw web browsing data – representing an opted-in subset of its customer base – had over 2.5 trillion rows
- Extracting human meaning from these records is difficult and even more complex if you hope to build multiple models efficiently

This is where Intent HQ stepped in.
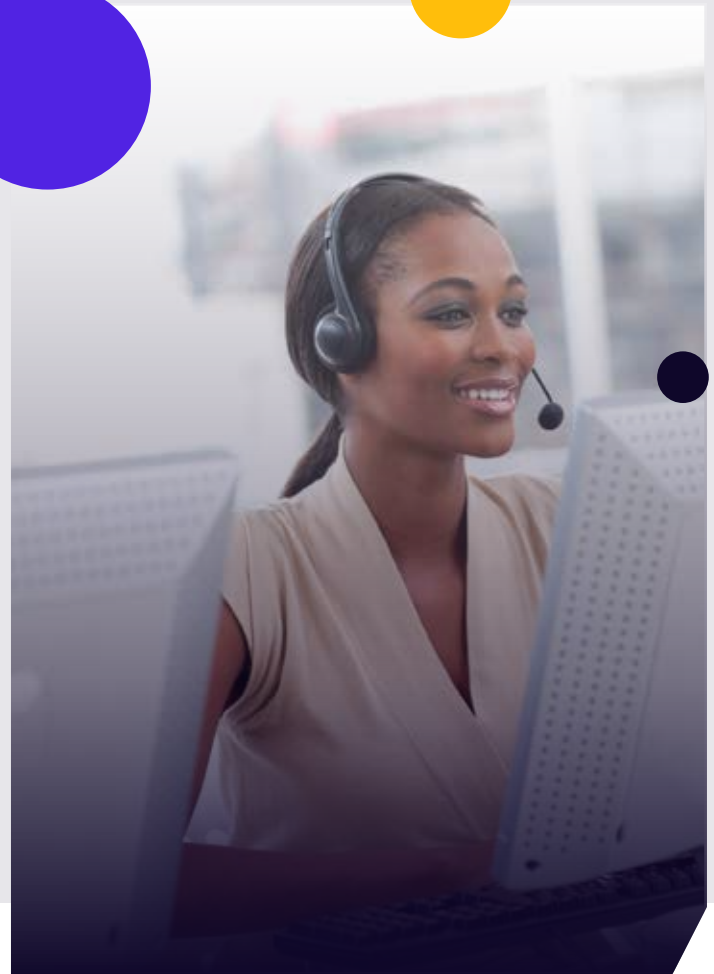
Making sensitive customer data available in a secure, scalable manner

- A Hybrid Processor sits behind Verizon's firewall to pre-process the sensitive data. The pre-processing is designed to ingest and process trillions of rows of sensitive data. It also merges customer data from other legacy systems into a conformed profile. The output is 900 billion rows, which are ingested by the Intent HQ platform.

- The output is stripped of personally identifiable information and tokenized so that only Verizon can re-identify customers and support personalized marketing.

- The platform includes a specially organized database with a customer-centric design.

- Advanced Machine Learning techniques further enrich customer profiles, resulting in a human-like understanding of each customer.

- The customer-centric database design makes it possible for Intent Workflow to recompute data in 250 milliseconds. With privacy designed in, modeled insights can be activated in near real-time.

- The platform maintains a set of features instrumental to improving model accuracy and providing a new layer of contextual understanding to the model output.

- Verizon can visualize correlations between churn risk and behavioral insights within Intent HQ's Insights Explorer for enhanced explainability.

The data we ingested

To create a rich human-like understanding of customers, many data sources were ingested in a privacy-safe manner:

- Web browsing data

- Call Detail Records (CDRs)

- CRM profile data from a dozen different tables and sources

- Quality of Experience Scores

THE RESULTS

Improving churn model performance through behavioral features

Verizon considers its predictive churn models to be among the best in the world. Over the years, many outside vendors have attempted to improve upon Verizon's internally-built models, and almost all have failed. After two decades of churn model refinement, the challenge Verizon gave to Intent HQ was enormous.

From the enriched behavioral attributes, Intent HQ validated data features against the existing churn model and identified a subset of features that enhanced churn prediction, driving a 3.5% uplift in the top decile: the most-at-risk customers.

> **Verizon started working with Intent HQ in 2018. Ronan Dunne, now EVP and CEO of Verizon's Consumer Group, challenged his team to become "Customer First" by delivering exquisitely personalized services and experiences.**
>
> **To help achieve this vision, Intent HQ transformed Verizon's behavioral network data into a powerful set of predictive "data features."** **Combining these with existing churn models, Verizon saw a significant improvement in model prediction even at the early proof-of-concept stage.**

The process was a success and resulted in:

• A 3.5% increase in accuracy in the highest decile

• Churn model accuracy improvement by 2.1% in the top 3 deciles, with a forecasted five-year value of $180 million

• Privacy-safe customer behavioral features were now available for modeling

• Combined with insight-driven offers also based on Intent HQ insights, this success translates to an estimated $12.3 million revenue upside per five million customers over five years

WHY INTENT HQ?

Verizon believed in the power of human-like insight, drawn from better behavioral intelligence. They knew that Network Data would be a powerful source of insight. But extracting meaning from this data and operationalizing it at scale for marketing and customer experience is difficult and requires exceedingly high standards of privacy protection. This was the challenge Verizon needed to overcome.

Intent HQ delivered a solution that allowed Verizon to understand its high-risk customer base like never before. The solution is now expanding to help Verizon achieve its goal of delivering true one-to-one personalization at scale through highly personalized services and experiences.

Intent HQ's expertise working with network data is founded on more than five years of focus on communication service providers. This domain expertise makes Intent HQ an ideal partner for CSPs already on a digital transformation journey. For CSPs, digital transformation should emphasize better use of first-party data to commercial effect. This data is too valuable an asset to ignore. However, the use of highly sensitive data must underscore privacy by design and default. Only then can they be leveraged to create personalized, relevant experiences that engage and delight customers.

**Want to see what the Intent HQ
can do for your business?**

Email us at **tellmemore@intenthq.com** or visit **www.intenthq.com**