



Case Study:

## B2B Customer Churn Prediction With AI

How a Multinational Industrial Supplier Saved \$200M Annually Through AI-Powered Customer Churn Prediction.



**\$200M** ANNUAL REVENUE RECOVERED

**10X** FASTER CHURN PREDICTION

**50** NEW CHURN RISK PREDICTORS IDENTIFIED

According to a Harvard Business Review article, “acquiring a new customer is anywhere from 5 to 25 times more expensive than retaining an existing one. Research done by Frederick Reichheld of Bain & Company (the inventor of the net promoter score) shows increasing customer retention rates by 5% increases profits by 25% to 95%.”

In markets where growth is slow but steady, acquiring new customers is a net zero-sum process where winning new clients requires taking them from competitors. Customer retention becomes a major priority in such economic climates, and customer churn is a significant risk.

Before the pandemic, the metal cutting tool market was showing moderate growth but softened due to supply chain issues, market disruption, and COVID-19’s impact on customers. In addition, increasing global competition within industrial markets impacted the price of goods, quality and quantity, and the demand for high-technology tools.

Acquiring new customers **is up to 25X more expensive than retaining** existing ones according to Harvard Business Review.

## ABOUT THE CLIENT

Industry: Industrial Materials  
Clients: 10,000+  
Annual Revenue: \$2B+

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## CHALLENGES

- A high volume of data for 10,000+ customers.
- Multifactor risk indicators require cohort segmentation.
- A short time-frame to institute and ongoing process.

## SOLUTION

- Customer cohort segmentation revealed high-risk groups.
- Two-step iterative analysis with AI and Machine Learning.
- Managed Predictive Analytics was applied to implement the AI models.

## BACKGROUND AND CHALLENGES:

Following the economic downturn caused by the COVID-19 pandemic, an industrial tool supplier had seen revenues drop by more than \$200M. Across 10,000+ clients, the company had seen 10% of customers reduce their orders resulting in a loss of over US\$200 million in annual revenue.

The company realized that churn reduction would be critical to reclaiming this lost revenue. If they could identify which customers were at risk of reducing their orders or leaving altogether, they could take preventive measures through targeted marketing campaigns or discount policies.

However, identifying “at-risk” clients manually was problematic. With over 10,000 customers, a high volume of accounts needed to be monitored at once. In addition, there were several different early indicators of churn derived from a host of data sources. Finally, it was necessary to spot these indicators in customers’ risk exemplifying behavior.

It became self-evident that manual processes would not suffice. The task seemed overwhelming until the company discovered that AI and machine learning could provide the answer.

### The Problem With Churn Prediction in Industrial Supplies

Churn behavior is challenging to identify and prevent, particularly with physical rather than digital products. Early indicators with materials supply are derived only from ordering behavior, payment data, and feedback on support forums and customer service portals. These factors produce thousands of data points and are not straightforward to measure, compare and analyze.

Most customers “vote with their feet” and rarely leave feedback on why they no longer use a product or service. Even if it were possible to conduct exit interviews to determine why customers left, it is usually too late to win them back. The client knew that it was vital to develop methods to provide early warnings for churn-like behavior so that customers at risk of defecting were identified and addressed as soon as possible.

Many companies lack workable strategies for churn reduction because they use reactive, costly methods to address the problem. While proactive customer engagement accounts for **more than a quarter (28%) of support interactions**, only 28% of companies have proactive engagement efforts in place.

## THE SOLUTION

Predictive Analytics leverages AI models to uncover behavior patterns used to assign risk scores. AI performs exceptionally well at pattern recognition and can detect patterns humans may not have considered.

A model is trained based on a pool of data of customers who have reduced their orders significantly, moved to a rival supplier, or otherwise demonstrated a high risk for churn. Using Machine Learning, the model identifies patterns of behavior preceding these signals, effectively learning what early warning indicators to identify.

When subsequently directed at the data pool of existing customers, the model can use these confirmed patterns to identify the cohort which is most at risk of churn. Identifying at-risk clients allows human customer support, marketing, or sales staff to intervene and hopefully turn some vacillating or withdrawing accounts around.

### Steps Taken to Implement an AI Solution

To make the above process work, several steps had to be undertaken:

- Available data had to be identified and cleaned to ensure proper comparisons. The team had to identify missing data, align formats, and ensure there was sufficient information to track patterns.
- The model needed training on a sample data pool to learn and generate the patterns against the entire customer data.
- The team determined a process for determining which customers flagged as “at-risk” would be part of a recovery effort.

Because an AI-based model can perform the analysis in days or a few weeks, the business had to have ready processes to address at-risk clients as quickly as possible. If there are discount or retention campaigns, these must be ready to roll. The data can quickly become outdated, requiring the process to be rerun if the moment isn't promptly seized.

## WHY DOTDATA

dotData had developed its own proprietary “Managed Predictive Analytics” program for just such tasks. dotData provided the client with a unique approach combining business-focused assistance

## RESULTS

- Over \$200 Million of revenue savings annually.
- More than 50 churn risk behavioral patterns were identified.
- 10X faster analytics process was instituted (14 days vs. months).

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and technological automation. The business assistance consisted of identifying “soft business goals” and building a churn reduction strategy to be deployed as part of the company’s workflow. The automation component leveraged dotData’s patented AI Automation software to create a predictive model to score at-risk clients in a matter of days.

Beyond essential risk scoring, dotData identified the two most important risk reduction elements for the client’s particular case. These were:

- **Identification of the most impactful customer cohort.** This was the customers who purchased a specific stock-keeping unit (SKU) for more than 50% of their orders and had a total expenditure of \$20,000 or more annually. This cohort would significantly impact the client if they reduced their orders or adopted a competitor supplier.
- **Identification of over 50 customer behaviors indicating churn risk.** These behaviors provided crucial insight into the reasons for customer cancelations or reduced expenditures, empowering salespeople and customer success teams. It became possible to intervene to reduce the level of churn significantly.

#### **AI-Driven Churn Reduction 10x Faster than Manual Analysis**

Another major factor in the success of dotData’s churn reduction measures was how easily it could be incorporated within the client’s ongoing sales and marketing functions. Previously, tens of millions of data rows had to be scoured for self-evident risk indicators that human analysts could discover.

AI-empowered methods achieved the same task more than ten times faster than human counterparts while providing greater accuracy, better insights, and more in-depth analysis.

While manually analyzing order histories, calendar data, demographics, and customer complaints originally took six to ten months, after dotData, the process was performed in fourteen days.

#### **Creating a Churn Prevention Plan with Iterative Analysis for Deeper Insight**

The two-week analytic timeframe included iterative analysis, with the participation of LoB (Line of Business) officers:

- **First Iteration:** Customers were segmented into distinct patterns of behavior.
- **Second Iteration:** Cohorts that exemplified higher churn risk were identified amongst those segments.

For example, delayed deliveries of two days or longer would indicate high churn risk, as would a high volume of customer service complaints or an increase in goods returned. These indicators allowed the client to formulate churn mitigation strategies directly to target specific cohorts.

Identifying these high-risk incidents and behaviors allowed the client to create a churn prevention plan and take prompt action. This would simultaneously improve the client's services and processes while retaining more customers.

Using dotData's methods would achieve these ends over ten times faster than conventional human analysis.

## **RESULTS**

- Over \$200 Million of revenue savings annually.
- More than 50 churn risk behavioral patterns were identified.
- 10x Faster analytic process instituted (14 days rather than months)

These efforts resulted in over \$200 million of recovered revenue. After fourteen days, the company was left with a quick process to incorporate into their sales and customer service workflow regularly.

Furthermore, the client now had insights into what factors most frequently drove some customers away or led them to reduce expenditure. While some aspects would be challenging to mitigate due to an inflationary economy, other churn-related factors proved much easier to address. New insights allowed the company to sharpen the skills of customer service, sales, and marketing teams, empowering them with actionable insight and providing time to act.

## **LEARN MORE ABOUT DOTDATA:**

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# About dotData

dotData solves the biggest challenge of organizations of any size: Turning raw business data into valuable and meaningful data marts ready for Machine Learning (ML), Artificial Intelligence (AI), and traditional data analytics deployments and applications. dotData provides solutions tailored to the needs of companies that are just getting started with predictive analytics and companies with more mature data engineering processes. Our core technology allows companies to automatically convert data from data warehouses and data lakes into data marts and feature tables by exploring the relationships between varied data tables with hundreds of columns and millions of rows. Our global customers have used our platforms to accelerate their ML, AI, and Advanced Analytics adoption, achieving rapid ROI by lowering their dependence on scarce, costly expert resources.

Forrester recognized dotData as a leader in ML and AI in 2019, and CRN named dotData to its emerging vendors' list in for four years running and was named a CB Insights Top 100 AI Startups for 2020. The AI breakthrough awards recognized dotData as the "best machine learning platform" for 2019, and Fortune 50 clients around the Globe rely on dotData to help them accelerate their ML, AI, and Advanced Analytics projects. For more information, visit [www.dotdata.com](http://www.dotdata.com), and join the conversation on Twitter and LinkedIn.