



White Paper

Auto-Insurance Customer Retention with Continuous, Explainable AutoML

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SUMMARY

Customer churn is a dynamic and important problem to solve for insurance. The acquisition cost for each customer, combined with cross-product churn and the potential increase in risk of the unknown vs known customer, drives the need to proactively predict and prevent churn. Churn prevention is more beneficial than constant acquisition of new customers to replace the churners.

In this paper, we outline how TAZI's Customer Retention Solution works. This solution is based on TAZI's Continuous and Explainable, No-Code, Automated Machine Learning (AutoML) platform. We describe how continuous learning helps discover new evolving churn micro-segments. We also describe how business units, such as customer outreach teams, can take churn prevention actions easily and quickly using Explainable AI.

Please see the resources at the end of the paper to see how much you could save with a tool like this and how you could create a customized churn prevention solution.



INTRODUCTION

We all know that the cost to retain a high LTV customer is significantly less than that to acquire a new customer. The carrier also has an established track record with the existing customer and there are many unknowns associated with the newly acquired customer. Wouldn't it benefit the business if there was a system available that monitored your existing book of renewal business and easily identified those medium to high LTV customers that might churn?

Many companies have dabbled with building customer lifetime value models (CLV) but even more rare are those companies that have been able to operationalize these models in a way that allows call center agents or agency personnel to easily and effectively take the right action to prevent the customer from leaving.

Machine Learning can detect complex patterns in data and make accurate predictions. However, opaque reasoning or complexity of most ML approaches hamper their use and benefit to the business. Tazi's AutoML system is designed from the ground up to be understandable by business users, enabling them to trust machine learning and stay in synch with continuously changing business dynamics. TAZI operationalizes machine learning models that enable business users to receive alerts or lists of who will churn, recommend the right action to take using the right channel, and save your most valued customers.

When TAZI is deployed to reduce churn, your retention rates increase, your acquisition costs fall and your expense ratios improve. Imagine if you also used Tazi to help your marketing team find those high-value prospects that look like your highest LTV already on the books and convert them too.

In this paper, we give details on the use and benefits of TAZI's Continuous and Explainable No-Code Automated ML platform for Customer Retention.



Churn Problem Statement:

The Insurance Company needs a mechanism to detect predicted churn and take the right action to retain the customer across various micro-segments. The Company needs to take action in advance, before the customer leaves, since it is nearly impossible to persuade a customer who has already left to buy again [1]. To be able to take the appropriate business actions for each churn micro-segment of customers, the retention messages generated by machine learning models used for churn prediction must be understandable by the retention agent.

Churn risk varies in time and is based on many parameters such as, total premium, premium increase, competitors' pricing revisions or sales cycles, new regulations, agent service, economic conditions in the region, type of vehicles driven, location, and weather conditions, etc.

Traditional machine learning models are not updated frequently, and they are updated usually after they fail. The updates require huge time and effort of the data science teams. Traditional machine learning models are black boxes, the business receives churn scores, but doesn't understand why churn is happening, if the machine learning models are right and trustable and what the right churn prevention actions are.



TAZI Churn Reduction Solution:

TAZI utilizes the Automated Churn Reduction Workflow shown in Figure 1.

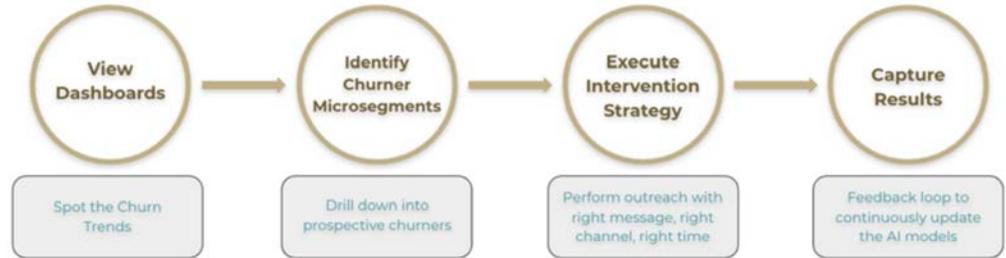


Figure 1: Automated Churn Reduction Workflow

TAZI's continuous machine learning technology allows churn prediction models to be updated continuously, so that they can predict increasing churn trends (Figure 2). The churn behavior changes due to a myriad of factors ranging from demographic, economy, competition against the company's own product or marketing actions. Tazi helps automatically and continuously determines the level of contribution of each of these factors that drive churn behavior.

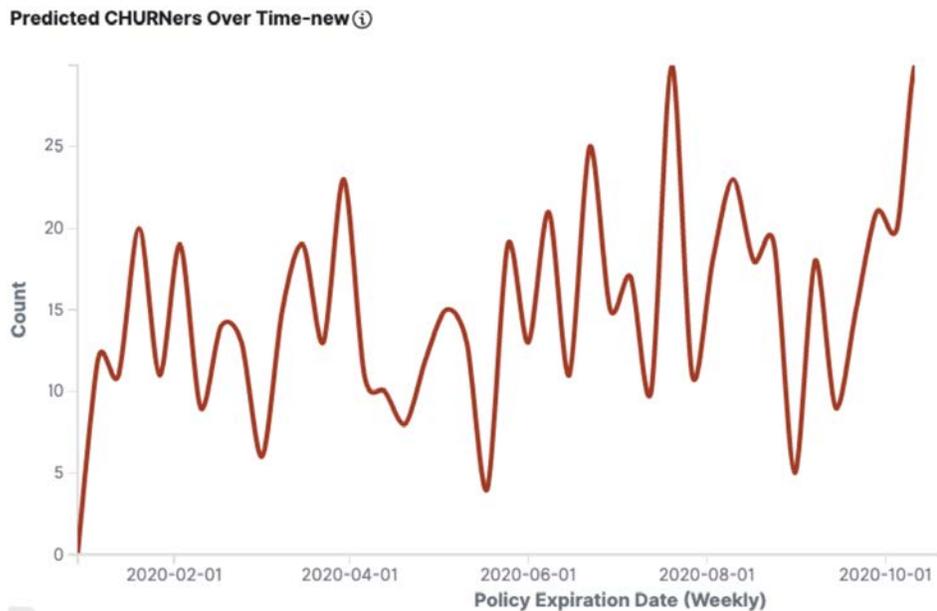


Figure 2: Identification of increasing predicted churn trends.



The customer retention model explanations provide insights on churn within specific micro-segments. A micro-segment can be a class of customers that are of a certain demographic that is being recently targeted by a competitor who has just dropped their rates for this territory or region. A micro-segment can also be those customers that have the highest propensity to churn due to poor claim service or agent inattention. In Figure 3, the areas shown in red are micro-segments highlighting potential churners. An example micro-segment of predicted churn based on agency type, vehicle model, and commission rate changes is highlighted in the Figure below.

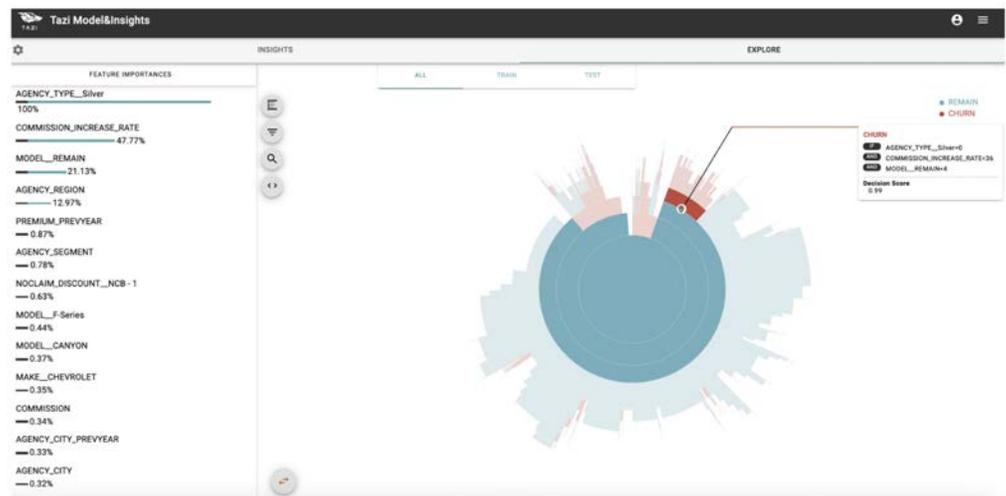


Figure 3: Explainable AI interface showing predicted churn micro-segments (in red) and highlighting a particular micro-segment. The variables used by the churn prediction model are shown on the left.

The appropriate actions for churn prevention may depend on the micro-segment definition. Sending agencies a monthly list of which customers to call with the right message and the right channel could be an action. Another action might be to send a list of outbound calls for a call center agent, or system generated emails with tailored outreach messages based on that micro-segment's churn reason. Competitor pricing changes may require actions such as policy rate plan review, suggest cross-sell for package discounts, or even review and update of the existing pricing models.



Figure 4: TAZI suggests the right channel at the right time for retention intervention.

In addition, especially when there are abrupt changes through competition, economic conditions, and risk levels, there might also be emerging micro-segments with small amounts of data where traditional machine learning models are not able to detect these new patterns. For these situations, the Tazi self-updating models can be fine-tuned by business SMEs who are able to detect newly emerging patterns for improved performance.

With TAZI, the business analyst is now able to drill down into the micro-segment to view specifics around the churners along with the most likely churn reason and the intervention strategy with the highest probability of success. Based on the historical service patterns, the system recommends the right channel with the right offer that has the highest probability of success. For the example churn risk report in Figure 5, Jennie will respond favorably to a multi-policy discount, Bill will stay with a claim-free credit and Kevin will remain with a payment plan based on previous retention strategies that worked for similar customers.



CHURN RISK REPORT					
Agency Name: The Insurance Store Main Contact: Bill Simmons <u>BSimmons@TIS.com</u> 312-549-3768					
Customer Name	Policy	LTV	Churn Reason	Offer	Contact Method
Jennie Hill	Auto	9.5	Service	Multi-Policy	Jsmith@gmail.com
Bill Hosket	Home	9	Price	Claim Free	312-009-3904
Kevin Rall	Auto	8.5	Claim	Payment Pln	630-490-0094

Figure 5: Example Churn Risk Report.

When continuously self-updating machine learning models are deployed to predict and reduce churn, the dashboard in Figure 6 outlines the predictions and outcomes on reducing the churn:

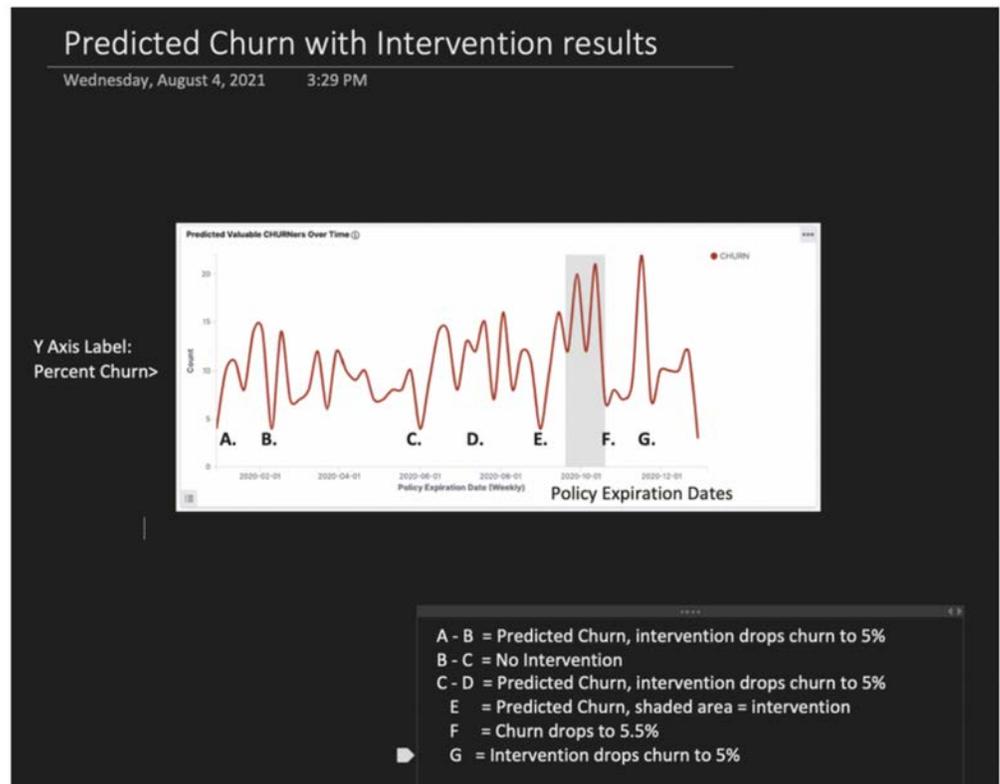


Figure 6: Predicted Churn with Intervention Results.

CONCLUSION

TAZI AI with its automation can help you identify those customers that are ready to churn, provide the reason(s) for the churn and recommend the right intervention to keep them on the books.

We now quantify what the value would be if you could easily identify and retain more customers. Figure 7 is an example of the Tazi impact on a \$100M auto book of business with an 8% churn rate on the overall book. You can see the tremendous impact of reducing churn by 14% to 50%.



	Cuurent Churn Rate:		8%	
	Ave Annual Premium/Policy		\$1,100	
Churn Rate after Tazi	7%	6%	5%	4%
Policies Saved	830	1,660	2,490	3,320
% Churn Reduction	14%	27%	41%	55%
Annual Premium Saved	\$ 913,000	\$ 1,826,000	\$ 2,739,000	\$ 3,652,000

Figure 7: An Example Savings Analysis with TAZI's Churn Reduction.

To understand and quantify the impact on your book of business, please visit the Tazi ROI calculator web page to estimate the tremendous value of saving your most valuable customers.

Curious:

- if you have enough and clean data to predict churn?
- how can you build your own evolving customer churn prediction models within 10-30 days?
- how can you start preventing churn within 1-2 months?
- how you can up-skill your business and data teams to adopt machine learning?
- any other questions?

References:

[1] Techsee.me, 2019 Customer Churn in the Insurance Industry Survey Results, <https://techsee.me/resources/surveys/2019-insurance-churn-survey/> accessed on August 21, 2021.

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For more information visit our website tazi.ai



ABOUT TAZI

Artificial intelligence (AI) is a source of both huge excitement and apprehension, transforming enterprise operations today. It is more intelligent as it unlocks new sources of value creation and becomes a critical driver of competitive advantage by helping companies achieve new levels of performance at greater scale, growth, and speed than ever before, making it the biggest commercial opportunity in today's fast changing economy.

TAZI is a leading global Automated Machine Learning product/solutions provider with offices in San Francisco. TAZI is a Gartner Cool Vendor in Core AI Technologies (May 2019) and is considered as "[The Next Generation of Automated Machine Learning](#)" by Data Science Central.

WHO WE ARE

Founded in 2015, TAZI has a single mission which is to help businesses to directly benefit from Automated Machine Learning by using TAZI as a superpower, shaping the future of their organizations while realizing direct benefits like cost reduction, increasing efficiency, enhanced (dynamic) business insight, new business (uncovered), and business automation.

WHAT WE OFFER

Through its understandable continuous machine learning from data and humans, TAZI is supporting companies in banking, insurance, retail, and telco industries in making smarter, more intelligent business decisions.



TAZI solutions are based on a most compelling architecture that combines the experiences of 23 patents granted in AI and real-time systems, proven at different global implementations.

Some unique differentiators of TAZI products are:

- Business users can automatically configure custom ML models based on their KPI and the available data. TAZI's Profiler accelerates this process through data understanding and automated cleaning, feature transformation, engineering, and selection capabilities.
- TAZI models learn continuously, and are suitable for today's dynamic, realtime data environments.
- TAZI models are GDPR compliant (no black-box models). They provide an
- explanation in the business domain's terminology for every result they produce.
- TAZI supports multiple (heterogeneous) data sources, i.e.,...: external, batch, streaming, and others.
- TAZI can learn both from human domain experts and from data, which speeds up accuracy improvement.
- TAZI's hyper parameter optimization feature reduces human time spent for model configuration. TAZI products contain algorithms that are developed and coded to be lean, efficient, and scalable.