

AI TRANSFORMATION



AI Strategies in Insurance

Executive Brief



Executive Summary

The insurance industry is evolving rapidly with large volumes of data and increasing challenges from new technologies. Early adopters of Artificial Intelligence (AI) in the Insurance space are reaping the benefits in customer loyalty and adding to their bottom line results, and everyone is taking notice. These companies are using AI for scenarios including managing claims, detecting fraud, improving analytics, and personalizing customer experiences. H2O.ai, the open source leader in AI, is empowering leading insurance companies to deliver AI solutions that are changing the industry.

AI Transformation in Insurance

The modern consumer is digitally savvy with multiple insurance options at their fingertips. The days when local insurance agents sold policies based on personal relationships are long gone. Insurance companies must adapt to the changing needs of customers in this highly competitive landscape. Traditional processes for claims management, fraud detection, and even customer experience management have been very manual and rules-driven. Today's consumer, however, requires access, flexibility, and speed; and traditional processes no longer meet their needs. Those companies that can successfully adopt new technologies to improve customer experiences and reduce costs will be able to increase loyalty and market share.

The Insurance industry is ready for a change. With telematics, historical data and access to third-party sources, the insurance industry has a goldmine of data. This data can be used to drive critical outcomes that will increase market share and profitability. The key to unlocking this data and solving essential issues for the industry is AI driven by data science and machine learning. The industry can benefit across many areas including:

Customer Experience – Increase loyalty through effective bundling and cross-selling the right products to the right customer at the right time.

Financial – Decrease fraud and increase profitability through increased fraud detection and improved claims management.

Operational – Improve agent productivity and satisfaction through augmentation of existing practices with intelligent assistants and automation of tedious processes, which allows agents more time to manage customers.

AI in Insurance Today

AI is expanding the opportunity and decreasing risk in Insurance today. Insurance companies are increasingly using AI in a range of applications including claims management, fraud detection, and personalization. The list of insurance use cases continues to grow. A sampling is summarized below:

Preventing Fraud with AI

Before: New fraud techniques quickly outmode rule-based fraud detection.	With AI: AI models can find where fraud is likely and route claims for review.
--	--

→

According to the FBI, the total cost of insurance fraud (non-health insurance) is estimated to be more than \$40 billion per year, which costs average U.S. family between \$400 and \$700 per year in increased premiums. AI is ideally suited to fraud detection for insurance claims. Machine learning models can be used to automate claims assessment and routing based on existing fraud patterns. This process not only flags potentially fraudulent claims for further review but also has the added benefit of automatically identifying good transactions and streamlining their approval and payment. With AI based fraud detection, fraudulent claims can be evaluated and flagged before they are paid, which reduces costs for insurance providers and helps reduce costs for consumers.

Preventing Customer Churn with AI

Before: Customer churn prediction based on rules and historical patterns.	With AI: AI models can easily predict behavior using time-series analysis.
---	--

→

It is widely known in the Insurance industry that retaining a customer is much more cost effective than acquiring a new one. Rule-based systems for churn prediction are inflexible and generate false positives that end up giving expensive incentives to customers who do not need them. AI is an excellent solution for customer churn prediction as the problem involves complex data over time and interactions between different customer behaviors that can be difficult for people to identify. AI can look at a variety of data, including new data sources, and at relatively complex interactions between behaviors compared to individual history to determine risk. AI can also be used to recommend the best offer that will most likely retain a valuable customer.

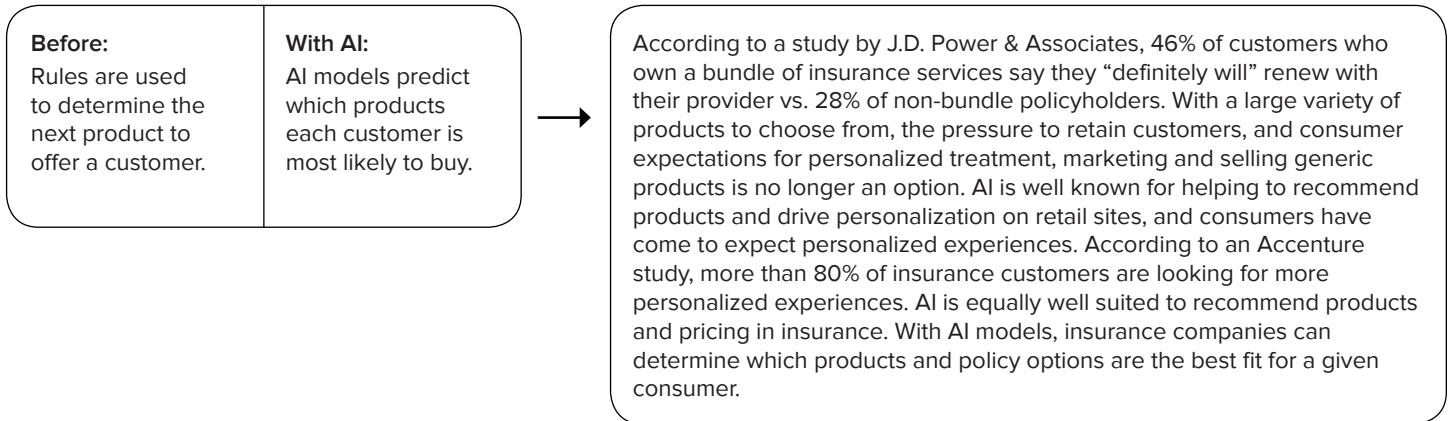
Personalized Rate Management

Before: Insurance rates are based on simple factors like the make and model of vehicle.	With AI: AI models can use individualized data to determine appropriate rates.
---	--

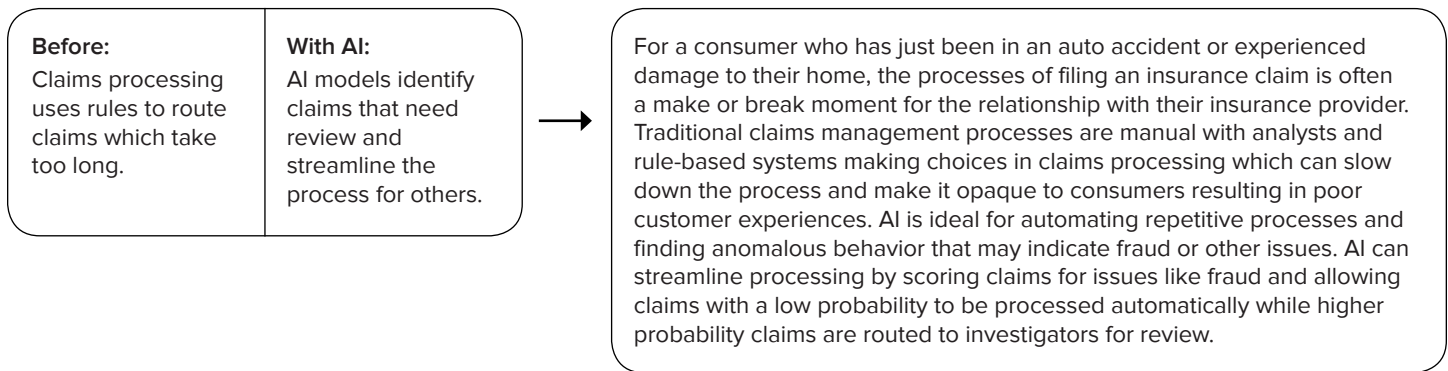
→

Simple factors have traditionally driven the rate for an insurance policy. For example, in auto insurance, the price was determined by the year, make and model of the vehicle. This method does not consider individualized factors such as driving behavior, location, weather, or time of day, all of which could have a significant impact on individual risk. AI is ideal for anomaly detection, clustering, and creating recommendations, which makes it suitable for finding the issues and developing more individualized insurance policies and rates. AI, for example, can also be used to evaluate a variety of factors when assessing the risk of a severe accident based on the location where most of the driving takes place: city versus highway, daytime or nighttime driving, and other factors. Using more data allows insurance providers to make an individualized risk assessment results and the create personalized rates for consumers.

Personalized Product Bundling



Claims Management



Customer Case Study



Progressive Insurance is one of the largest providers of car insurance in the United States. The company is data-driven and has collected customer driving data for more than 20 years. With the introduction of the snapshot telematics devices, the company has accumulated over 14 billion miles of customer driving data that can be used to understand customer behavior and provide personalized rates.

Collecting data and using data are two entirely different problems. As a data-driven company, Progressive found that legacy analytics techniques could not keep up with business needs. The analytics group decided to use machine learning to accelerate time-to-insight using predictive models to understand customer behavior and the insurance marketplace overall.

Using H2O, Progressive Insurance creates models across a variety of topics including customer churn, billing, fraud detection, and threat analysis. With H2O, the data team was able to reduce the time to produce models and can solve more business problems for more business units with the same team.

Challenges of Implementing an AI Strategy

The adoption of AI is not without its challenges. First, there is a critical shortage of AI talent. An expert data scientist is by far the most expensive and challenging position to fill. There are a growing number of novice data scientists, but they lack the skills to create accurate models for mission-critical applications in the Insurance industry. The second challenge is the time that takes to develop and deploy AI models. Streamlining the model development and deployment process is critical to ongoing success with AI applications. The final challenge is trust in AI. For an insurance business to run on AI, key stakeholders must be able to understand how and why AI models make their decisions. Explainability is critically essential in insurance where regulations require transparency in decision-making processes.

Why H2O.ai for Insurance

The mission at H2O.ai is to democratize AI for all so that more people across industries can use the power of AI to solve business and social challenges. The insurance industry is a key focus for the company.

H2O.ai is the trusted, open source leader in AI with its visionary machine learning platform, H2O, which is used by hundreds of thousands of data scientists in more than 14,000 companies, and with its leadership in the 2018 Gartner Magic Quadrant for Data Science and Machine Learning Platforms. H2O is already used to create and deploy production AI models at top insurance companies including Progressive Insurance, Zurich Insurance, Change Healthcare, Kaiser Permanente and more.

Continuing to democratize AI and solve new challenges, H2O.ai launched H2O Driverless AI, a new approach to automatic machine learning that addresses the issues of data science talent, time to develop and deploy models, and establishing trust in AI. Driverless AI extends the ability to create trusted, production-ready AI models to many more users including data engineers, domain scientists, and statisticians. With Driverless AI, these users can create and deploy models in hours, not weeks or months. H2O Driverless AI also includes critical capabilities that are required for the insurance industry to create trusted AI models including best-practice machine learning interpretability reports and reason codes to ensure regulatory compliance and trust.

Get Started Today

AI is critical to success in the insurance industry. H2O.ai, the open source leader in AI, empowers insurance companies in fraud detection, managing claims, improve analytics, and personalized customer experiences. Contact H2O.ai for more details and to schedule a meeting: sales@h2o.ai

About H2O.ai

H2O.ai is the open source leader in AI. Its mission is to democratize AI for everyone. H2O.ai is transforming the use of AI with software with its category-creating visionary open source machine learning platform, H2O. More than 14,000 companies use open-source H2O in mission-critical use cases for Finance, Insurance, Healthcare, Retail, Telco, Sales, and Marketing. H2O Driverless AI, "Data Scientist in a Box", provides an easier, faster and effective means of implementing data science. In February 2018, Gartner named H2O.ai, as a Leader in the 2018 Magic Quadrant for Data Science and Machine Learning Platforms. H2O.ai partners with leading technology companies such as NVIDIA, IBM, AWS, Azure and Google and is proud of its growing customer base which includes Capital One, Progressive Insurance, Comcast, Walgreens and Kaiser Permanente. For more information and to learn more about how H2O.ai is transforming business with AI, visit: www.h2o.ai