

AI TRANSFORMATION



# AI Strategies in Retail

**Executive Brief**



## Executive Summary

The retail industry is evolving rapidly with large volumes of data and increasing challenges from new technologies. Early adopters of Artificial Intelligence (AI) in the retail 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 many scenarios including assortment optimization, product recommendations, fraud detection, customer retention, and optimized marketing. H2O.ai, the open source leader in AI, is empowering leading retail companies to deliver AI solutions that are changing the industry.

## AI Transformation in Retail

The modern consumer is digitally savvy with multiple retail options at their fingertips. The days of shopping at local stores are long gone with online titans using advanced technology to take market share and provide superior customer experiences. Retail companies must adapt to the changing needs of customers in this highly competitive landscape. Traditional processes for customer experience management, inventory management, and fraud detection are very manual and rules-driven. Today's consumer 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 the only ones standing in this competitive marketplace.

The retail industry is ready for a change. With online clickstreams, in-store purchases, third-party household information, and rich historical data, retailers have a goldmine to work with. 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 personalization and cross-selling the right products to the right customer at the right time.

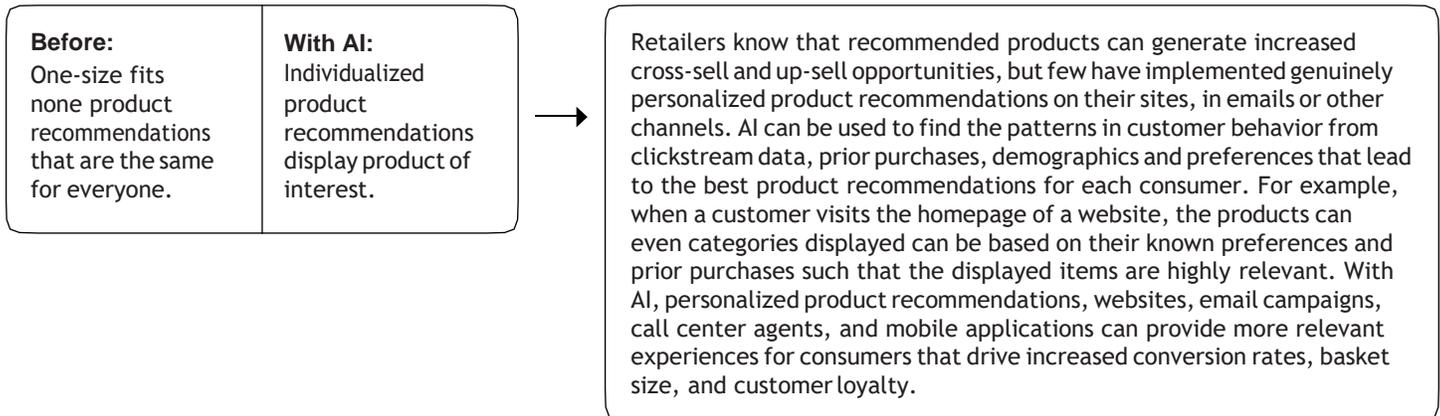
**Financial** - Decrease fraud and increase profitability through increased fraud detection and improved inventory management.

**Operational** - Improve in-store productivity and satisfaction through augmentation of existing practices with intelligent assistants and automation of tedious processes, which allows salespeople more time to manage customers.

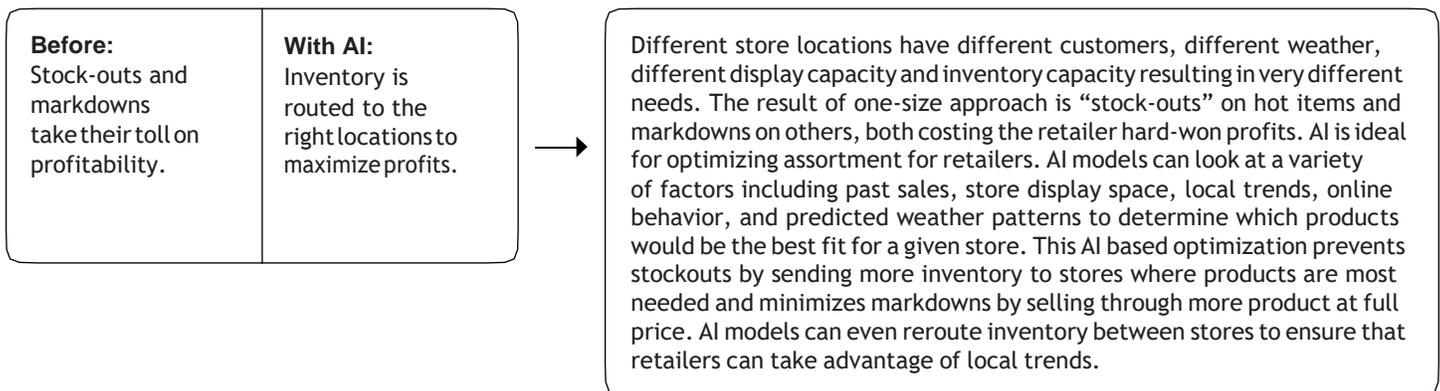
# AI in Retail Today

AI is creating an opportunity for retailers to regain market share and customer loyalty while improving operations. Retail companies are increasingly using AI in a range of applications including personalization, inventory optimization, and fraud detection. The list of retail use cases continues to grow including the following:

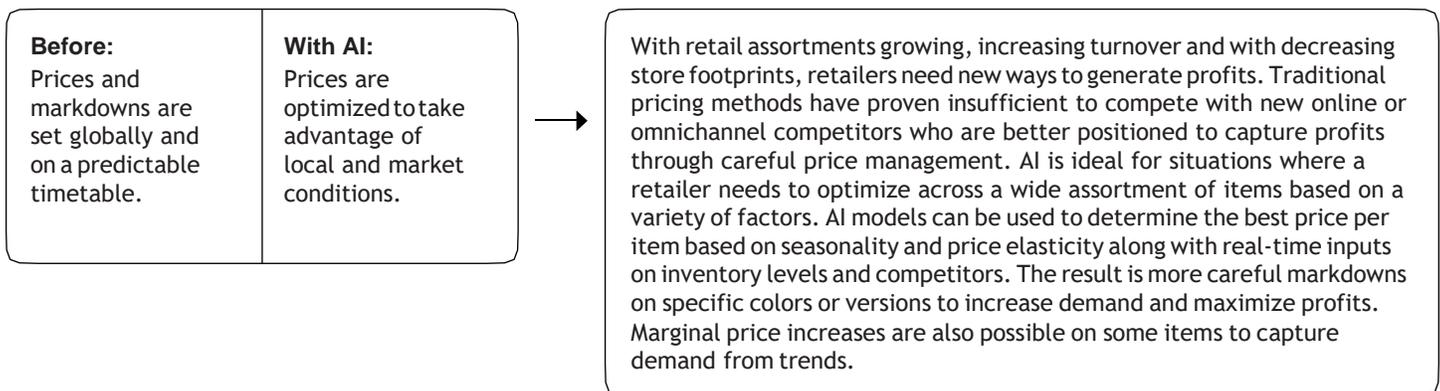
## Personalized Product Recommendations



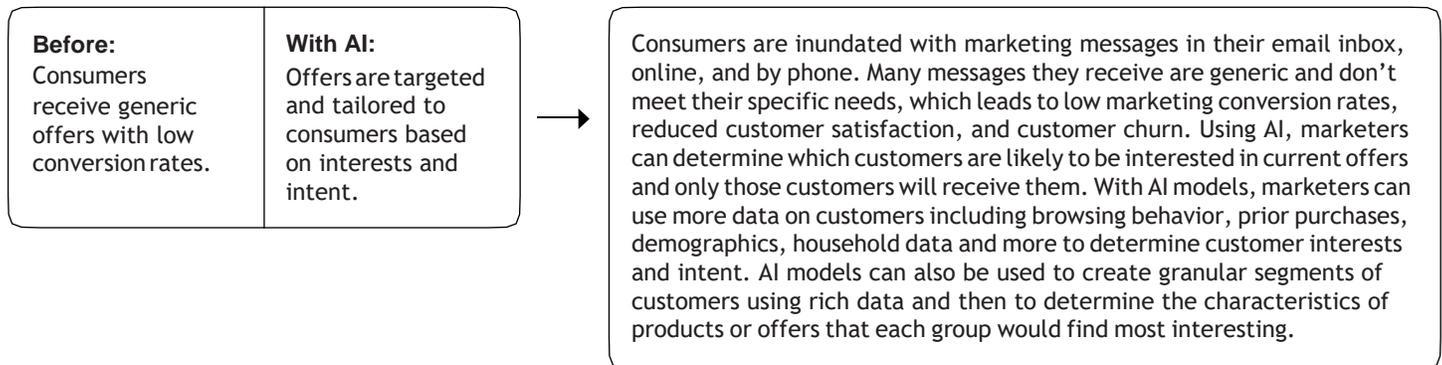
## Assortment Optimization



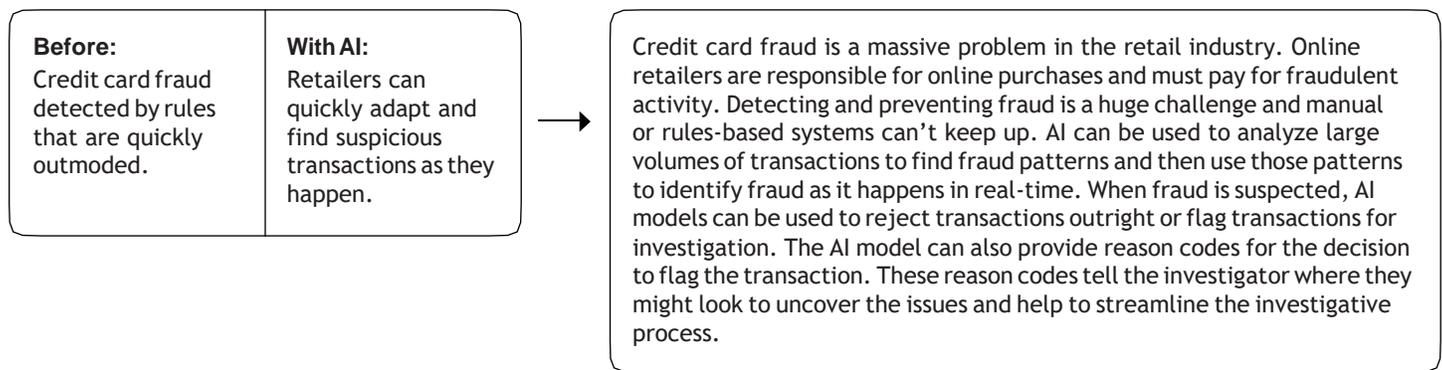
## Pricing Optimization



## Next Best Offer



## Credit Card Fraud Detection



## Customer Case Study



Macy's one of the largest omnichannel retailers in the United States. The company is data-driven and collects data from online and store operations. The data science team at Macy's is under increasing demand by the business to build high-quality models to help drive competitive advantage.

Scaling model development is a significant challenge. The data science team at Macy's realized that they would need to use a modeling platform rather than coding algorithms and creating models for production environments by hand. The analytics group decided to use H2O machine learning to meet the need for more, high-quality models to meet business needs.

Using H2O, Macy's creates models across a variety of topics including customer acquisition and retention, real-time product recommendations, and offer optimization. With H2O, the advanced analytics team was able to reduce the time to produce models and can solve more business problems 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 retail 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 a retail business to run on AI, key stakeholders must be able to understand how and why AI models make their decisions. This explainability of AI is critically essential for retailers where emerging regulations require transparency in decision-making processes.

## Why H2O.ai for Retail

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. 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.

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 retail 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 retail industry. H2O.ai, the open source leader in AI, empowers insurance companies in personalization, fraud detection, assortment optimization and more. Contact H2O.ai for more details and to schedule a meeting at [sales@h2o.ai](mailto: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](http://www.h2o.ai)