

AI in the Real World

Canadian Tire | Retail



SCALE|AI

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Written in collaboration with tech and business journalist Vawn Himmelsbach.

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Jump ahead of the competition by making the most out of artificial intelligence now.

The Competition Is One Step Ahead of You

This is something no CEO wants to hear.

Retailers have either thrived or survived during the COVID-19 pandemic, but one thing has been consistent: they've all needed to speed their transition into the digital realm. Maybe they beefed up their ecommerce offerings, started offering customers the option to purchase products online or began taking online orders for curbside pickup. Whatever the case, they couldn't stick with the status quo.

Some thrived, such as grocery, hardware and sporting goods retailers—though they've had to deal with supply chain issues and inventory shortages. Others that were more reliant on foot traffic, such as mall-based apparel and specialty retailers, struggled to make ends meet. New ways of doing business helped them to survive a period of ongoing disruption, but advanced technologies such as artificial intelligence can build resiliency and fuel future growth.

While AI will impact every sector, it will be a competitive differentiator in retail. Retailers have already been using advanced technologies, such as chatbots, recommendation engines and price personalization platforms, which are helping them find new customers and keep existing customers happy. But that's only the beginning.

AI can provide accurate predictions based on real-time data, right down to the store level—helping retailers gain a competitive edge as the economy recovers, whether they're looking for new customers, new markets or supply chain efficiencies. AI can also help retailers gain insights from the disparate data it collects, from their stores to their supply chains.

Data may be the new oil, but it's only useful if retailers can glean insights from it.

For example, AI is being used in retail for demand forecasting, helping to predict how much product a retailer will need at a given point or during a given period. Historically, forecasting has been based on sales figures from previous years, but this data is based on a pre-pandemic world and may not be relevant anymore. AI, on the other hand, can analyze real-time consumer, marketplace or competitive data to forecast demand at a much more granular level—and make proactive changes to business or marketing strategy if necessary.

AI, in combination with data analytics, can help retailers better understand customer behaviours in different markets, demographics and geographics. Incorporating AI into inventory management can also ensure that retailers have the right product mix for the right customers at the right time—a critical issue for retailers right now with global supply chain disruptions and inventory shortages. And it can also be used to rethink traditional supply chains, empowering more flexible logistics to better respond to customer demand.

In the coming years, AI will offer new experiences such as intelligent retail spaces that adapt displays, pricing and service—even unlocking promotions for loyal customers—to create a more personalized shopping experience. Eventually, retailers will be able to minimize out-of-stock or overstock scenarios through better forecasting, while using AI-based inventory management to quickly replenish their shelves.

Ultimately, this will help to drive more personalized experiences for customers across both digital and physical retail channels while boosting profits for retailers.

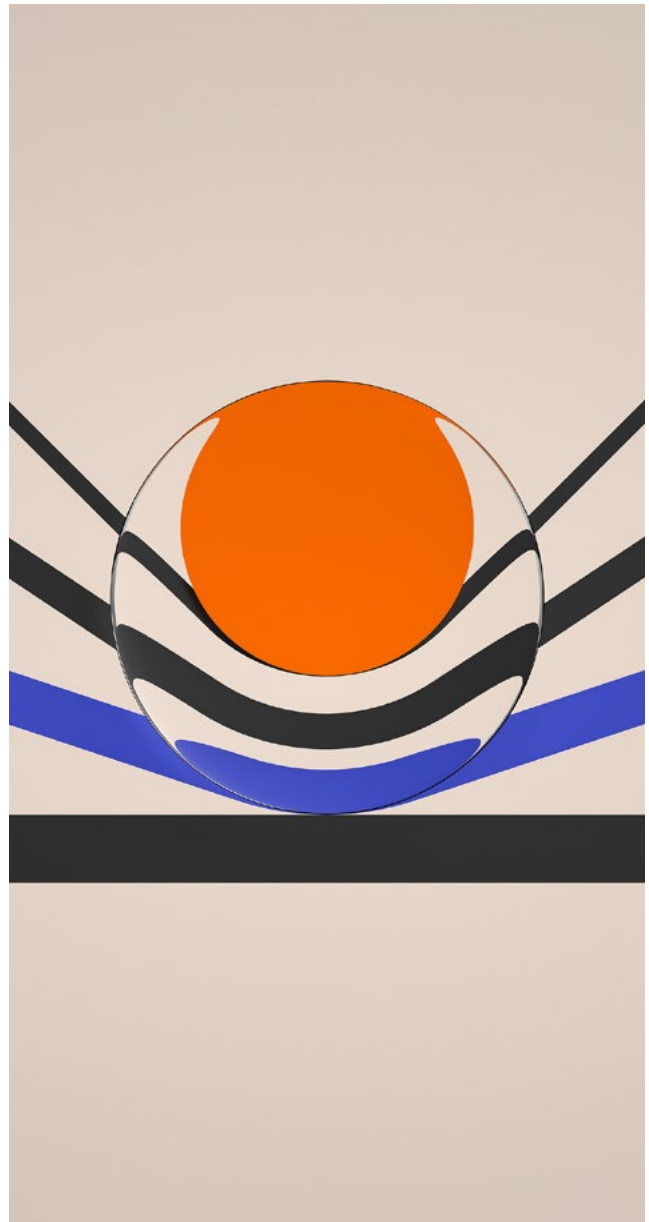
Whether you're a CEO or an IT manager, keeping up with digital transformation in retail is no longer a competitive differentiator, but table stakes. If you're not already making the leap to AI, then you're already falling behind. That's because AI models are trained on new data and, over time, become more and more accurate. Those who choose not to invest now will be much less competitive than retailers who leverage their data and digital tools now.

But AI isn't just a technology strategy; it's a business strategy. And to be successful, the two must work in tandem. It requires a long-term investment not just in technology, but in human capital. Most AI projects don't fail because of the technology; they fail because the technology isn't integrated into the company's processes and workflows.

That's why leadership plays an essential role in driving AI strategy throughout the retail organization and why IT leaders should have a seat at the table. If done correctly, retailers can reduce risk (and costs) while gaining new flexibility to meet customer demands—and not just survive a period of disruption, but come out of it stronger and ready for growth in a post-pandemic world.



Julien Billot, CEO at Scale AI



5 Ways That AI Creates Business Value in Retail

01

→ To gain a competitive edge and fuel future growth, despite disruption

02

→ For more accurate, granular demand forecasting based on real-time data

03

→ To provide the right product mix in different stores to best serve customers

04

→ To glean insights about shopping behaviours and drive customer loyalty

05

→ To build resiliency, redundancy and flexible logistics into supply chains

AI Success Story

An In-depth Look at Canadian Tire

Canadian Tire is one of Canada's largest, most recognized retailers, with more than 500 stores from coast-to-coast. With a multi-category product assortment across its Automotive, Living, Playing, Fixing and Seasonal categories, the retailer offers products and services that prepare Canadians for life in Canada.

While Canadian Tire has always been a data-driven organization, they're becoming increasingly more structured in how they're leveraging data to optimize shelf space and create efficiencies. Prior to the pandemic, they started looking at whether they could use AI as part of a planogram optimization solution to make better use of their data.

"In the past we would use a planogram that was based on average store size. As our customer demands continue to become more localized it is increasingly important to ensure we have the right product on the right shelf at the right time," says Cari Covent, who leads the enterprise data strategy and insights enablement team with Canadian Tire.

Covent's team works closely with the Network Performance team at Canadian Tire, led by VP Shawn Spenler. As part of their mandate, the team is using advanced analytics and artificial intelligence to solve complex problems—such as optimizing product placement in the store to reduce cost, maximize sales and improve the overall customer experience.

THE PROBLEM

Prototypical planograms are generated every one to two years for limited store sizes due to complexity and expense. Store staff then have to manually fit the planograms to individual stores based on space available to sell inventory and on customer demand.



In addition, Canadian Tire loses sales due to stock-outs and that causes customers to be disappointed. Finally, there is higher inventory costs from over or under ranged products as a result of not being able to reset planograms in real time.

Each Canadian Tire store is owned and operated by an Associate Dealer who will equip the store to meet the unique needs of their community. And while dealers are very proficient at ensuring they have the right product on the right shelf at the right time, there are thousands upon thousands of data points on a planogram, so it would be next to impossible for a human being to sort through them all and make sense of it. That's where AI and the compute power of a cloud environment have a key role to play.

THE SOLUTION

Canadian Tire was looking to optimize product placement by specific features and constraints, such as responding to local market needs, seasonality, store space, inventory supply and desired assortment, to improve the customer shopping experience. So they embarked on a project prior to the pandemic that would use AI as part of a planogram optimization solution. “AI was a lever to drive efficiencies within our stores and improve the customer experience,” says Spenler. Then the pandemic hit.

“We called it Tetris, since it’s like a puzzle.”

The proof of concept was built out over six months. Then, the vendor they were working with was sold to another company, which put a pause in the work and forced the Canadian Tire team to pivot. In February 2021 they started working with Montreal-based

Ivado Labs, a provider of AI-driven supply chain solutions that takes a collaborative approach to help organizations accelerate their digital transformation journey.

Ivado Labs helped them scale their proof of concept and apply those learnings to begin production of an AI-based planogram optimization engine. “We’re still very much in the development phase,” says Spenler. “Ivado Labs has brought specific scientific research and experience to the solving of this optimization problem. And we’re complementing that with our own data scientists.”

CRITICAL SUCCESS FACTORS

Canadian Tire partnered with Scale AI, Canada’s AI innovation supercluster, which connects large corporations, innovative start-ups and researchers to shape a more competitive supply chain that leverages AI solutions. Scale AI invested \$2.2 million in the project for a total investment of \$5 million. This partnership also provided access to the Scale AI ecosystem, including Ivado Labs and Spacefile, a North American manufacturer of high-density storage solutions.

The Canadian Tire team is also developing a user interface in conjunction with the Canadian Tire dealer community to understand what the user experience should look like as they use these AI-generated store specific planograms. By the end of 2022, the Canadian Tire team will take over the continuous development of the AI-based planogram optimization engine and look at opportunities to apply it to similar problems in the organization.

AI will help store owners make data-informed decisions about inventory and product placement. “It’s the blending of art and science, because the dealers have been doing their job for many years, so the AI that we’re building is not meant to replace their expertise—it’s designed to complement it,” says Spenler.



“The dealers have been with us every step of the way and they’re critical to the overall development of this solution. They’ve determined what it is that they need. And that’s going to make it successful.”

THE RESULTS

The AI-based planogram optimization project is expected to streamline store operations and increase sales based on meeting local customer demand—providing the right product mix in the right place, at the right time. “In terms of operating efficiencies, we’re making the placement of products more scientific,” says Covent. “But we’re still leveraging the experience of the dealer, so at the end of the day it will allow them to set up their planograms in a much more efficient manner.” Each dealer will have the option to automate their own merchandising principles allowing them to better respond to local demand, seasonal needs and store space in a much more dynamic manner.

Working with advanced technologies like AI also helps to attract and retain highly skilled talent. “We have not had a problem attracting the talent that we need,” says Covent. “This is very interesting work. When you get to work on cutting-edge projects, it brings in that talent.”

NEXT STEPS

Canadian Tire is continuing to build out custom planograms and working with six dealers to test out the technology. “As we look to 2022, the goal is to extend the solution to the remainder of our dealers in a very organized way,” says Covent. “We’ll continue the development of planograms until we reach our goal.”

The nature of machine learning is that it will ‘learn’ and get better over time, so Canadian Tire’s AI-based planogram optimization engine will continue to ‘learn’ and evolve. In turn, that will improve the customer experience, “which is highly relevant because as a customer you want to see what’s relevant to you in your local Canadian Tire store,” says Spenser. And while it’s early days, dealers are excited to see the project come together. “The benefit is ultimately to drive action through our data—and AI is a lever to do that.”



Introducing Canadian Supercluster Scale AI

Scale AI is one of Canada's five innovation superclusters, created to advance the Canadian AI innovation ecosystem. Scale AI offers funding, expert guidance and a community of like-minded peers, and invests in companies across a range of industries that are deploying AI to enhance their supply chain—with \$200 million of collective investment, and counting.



As Canada's AI innovation supercluster, Scale AI acts as an investment and innovation hub that accelerates the rapid adoption and integration of AI and contributes to the development of a world-class Canadian AI ecosystem. Based in Montreal, Scale AI is funded by the federal and Québec governments, with nearly 120 industry partners, research institutes and other players in the AI field.

Scale AI has invested in Canadian Tire's AI-based program optimization solution, which serves as an example of how an increasing number of Canadian companies are using the power of AI to boost productivity, strengthen competitiveness and secure long-term growth.

"We liked the idea of bringing in an ecosystem of partners—not only working with a Canadian third party but also looking at the bigger picture and leveraging Scale AI," says Covent, "because part of the goal of Scale AI is to ensure that artificial intelligence continues to thrive in Canada, that our AI talent stays in Canada and that we're building AI products together."



"Surrounding yourself with the right people is more than a strategy, it's the key to success for companies looking to integrate AI into their business."

→ Isabelle Turcotte, CMO at Scale AI

Scale AI's funding



In addition to funding, members like Canadian Tire can obtain guidance from the Scale AI investment team, and benefit from opportunities to partner with potential clients and service providers.

“When you’re investing in artificial intelligence and building a solution, it’s often a journey. It’s not like putting in a pre-built application and you know how it’s going to work,” says Covent. “So working with Scale AI has allowed us to experiment to the extent that we need to build this out properly.”



“You can’t speed up the training of your algorithm. So it’s important to start as soon as you can because every day that you lose, you’re losing ground.”

→ Clement Bourgogne, VP Strategic Programs at Scale AI

Since its inception



More than

303^{M\$}

in investments

More than

300

projects across Canada



Get Started With Your AI Project



Timeline



YOU ARE HERE

First, you must gather information on the project submission process.
In order to do so, you can:

- Sign up for a Scale AI membership
- Register to one of our weekly webinars hosted by a Scale AI investment director
- Join networking events to find potential partners
- Download our submission guide



PROJECT SUBMISSION FORM

Then, fill out the project submission form on our website.
You can contact us at any time if you need help at this stage.



DETAILED PROJECT PROPOSAL

After you have received the initial eligibility confirmation from Scale AI,
you can start working on your detailed project proposal submission.



PROJECT AGREEMENT

Once the Scale AI Board ratifies your project, you can gather resources
and collaborate to gear up for the launch.



LAUNCH

Your AI project is well implemented in your day-to-day operations and you can reveal
the latest news to your peers.





Reach Out ↓

For any question regarding project submissions: question@scaleai.ca

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