Managing The
Machines

ARTIFICIAL INTELLIGENCE, OR AI, IS CHANGING THE WAY THAT GROCERY RETAILERS MANAGE THEIR STOCK, OFFERS, CUSTOMER DATA AND MORE. **ESM** *REPORTS ON THIS FASCINATING AREA OF RETAIL TECHNOLOGY.*

The rise of the machines looks set to bring big opportunities to retail data. For years, major retailers have been using robotics in distribution centres. However, in the near future, robots will increasingly take centre stage as part of the in-store experience.

According to insights from data-visualisation software firm Tableau, 'We'll see machines, robots, and artificial intelligence begin to help retailers with routine tasks, such as taking physical inventory, offering promotions, and even taking surveys and orders. These robots will begin to serve as new data touchpoints, gathering vital information about customer behaviours and interactions that companies can eventually leverage for insights.'

In this future-store vision, retailers will continue to work to extend loyalty way past the point of purchase, and customer-service data gathered from robots will be one of the differentiating factors between success and failure, helping stores to engage more with shoppers.

'As social robots encourage customers to interact,' writes Tableau, 'they'll offer additional value, such as advice, recommendations, reviews, and real-time information, creating a more authentic relationship between shoppers and retailers.'

Amazon Go

We are already seeing hints of the robot retail revolution. Denis Baranov, principal retail-team lead at technology consultancy firm DataArt, believes that the checkout-free grocery-store concept launched by Amazon, Amazon Go, is the most impressive technology innovation in retail in recent times.

"The idea is simple, yet groundbreaking: consumers come into the store, pick what they want from the shelves, and leave. That's it. No cashiers, no queues, and no waiting," says Baranov.

This innovation, he argues, is providing an amazing customer experience and huge savings, representing a significant opportunity for retailers.

"From a technology perspective, this mix of artificial intelligence and machine-learning represents a best practice for adapting new technology to the real world and using it to develop solutions that create real benefit for businesses and consumers."

However, the jury is still out as to whether Amazon really intends to push ahead with Amazon Go as a physical store roll-out, or if the e-commerce giant will look to market it as a software solution that it can then sell on to retailers seeking to boost their e-commerce potential.

Better Vision

Beyond supply-chain management, the big retail brands are actively working on AI-driven social analytics and visual listening. Analysing content from social-media platforms can provide retailers with previously unavailable insight into customer satisfaction, market trends, shopping habits, and so much more.

"I am always amazed by how much information AI can get from an Instagram photo or Facebook post," says DataArt's Baranov.

In retail, AI will be increasingly used in planning, from both supply-chain and customer perspectives.

Baranov says, "Through analysis of customer behaviour, market trends and the like, retailers will be utilising artificial intelligence for things like enhanced product selection, gift suggestions and targeted offers."

We can also expect an increasing blurring of boundaries over the next few years.

"AI is already part of our lives, with Siri on our phones, Alexa in our homes. In only a few short years, more and more AIs will surround us," says Baranov. "These will give consumers increased personalisation of products. This is a key trend in retail – building an AI that knows your preferences better than you know them yourself."

Like many new technologies, this may sound creepy, but it will make our shopping experience significantly better and more suited to what we actually want.

Online Leadership

Pure-play online retailers are leading the way in this exciting area of retail tech.

"Our applications of AI fall into four main categories: predictive analytics, monitoring and oversight, managing complexity, and real-time optimisation," says Paul Clarke, CMO of UK online grocer Ocado. "For example, we use machine learning to offer personalisation and tailoring of our service to fit the needs of individual customers."

One such service built around the idea of AI-based personalisation is the grocer's Instant Order option, "[which] anticipates the needs of our customers, based on previous buying behaviours," says Clarke. "In addition, we have created adaptive user interfaces, which can learn whether our customers are new or experienced, understand whether they are doing their full shop or a top-up shop, and so on."

Ocado also uses AI to optimise the layout of its warehouses, forecasting demand for its range of 50,000 different grocery items and optimising its delivery routes. These technologies have improved its operations, and the service it offers to its customers, in numerous ways.

"Being able to accurately predict the demand for our range allows us to be more efficient in terms of storage and maintenance costs," says Clarke.

Ocado, in turn, is then able to pass on those savings to customers, who are then able to access more affordable groceries.

"In addition, we are able to offer fresher groceries faster to consumers, compared to a traditional supply chain. In the case of the contact centre, using AI has allowed us to reduce the time it takes to reply to an urgent email in half," says Clarke.

Easy Accessibility

So what does the future hold for AI in retail? According to Clarke, the emergence of cloud computing has completely opened up accessibility to AI, commoditising it.

"Now, for a few cents, you can call a cloud API, pass in some data, and get back a smart prediction or insight," he says. "If your applications are not taking advantage of this new smartness, then they will probably not be best of breed."

With this in mind, everything either is, or soon will be, very smart – "from smart packaging, smart shelving, and connected or
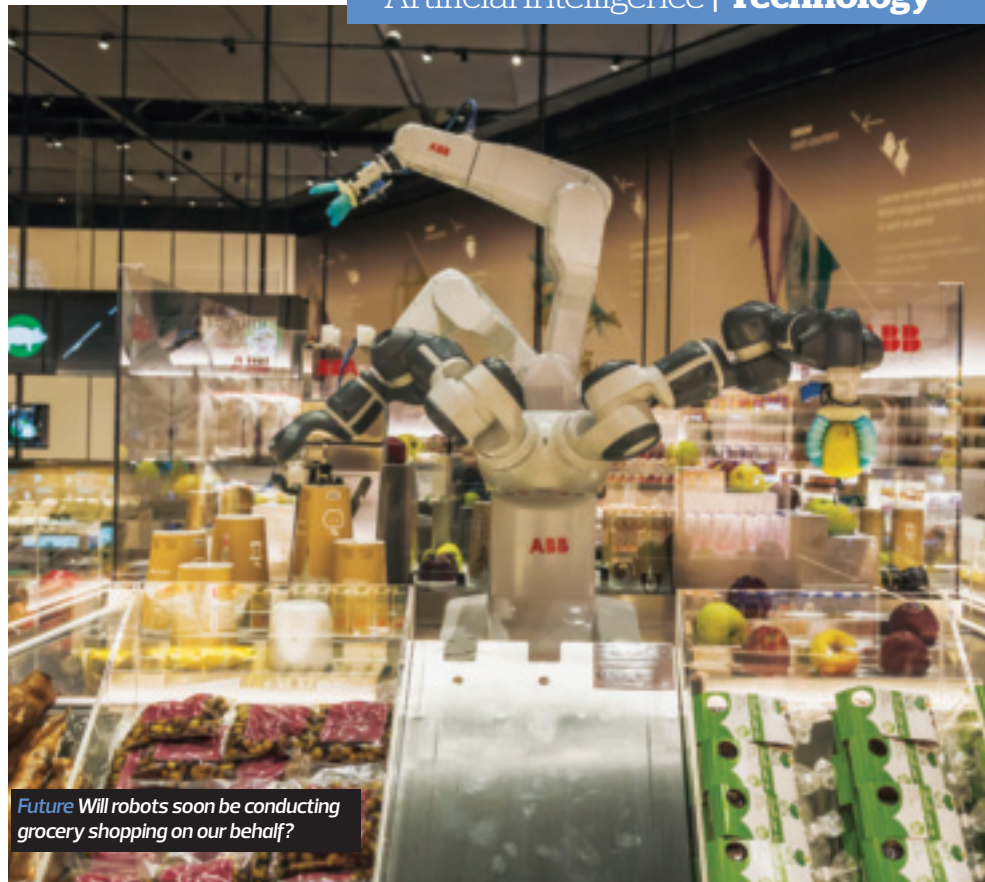
Future Will robots soon be conducting grocery shopping on our behalf?

"There is huge potential in many business areas for AI. Retailers who are still discussing the benefits are already behind the curve. It is here, changing the industry today."

Niilo Latva-Pukkila
Senior Data Analyst, Kesko

autonomous vehicles to smart kitchens, homes, shops, supply chains, communities, cities and countries," says Clarke.

Boosting Experience

Finnish grocer Kesko is also championing the benefits of AI in grocery retail.

"Our goal is to offer the best customer experience in the retail sector, and we are using AI-powered technology in order to boost business and customer experience through huge amounts of enriched customer data," says Minna Vakkilainen, VP, head of analytics and customer data, at Kesko. "For example, in Finland, we have 3.6 million loyalty-card customers. We are using our loyalty, point-of-sale and web-browsing data through our AI engine."

Examples of the solutions include personalised offers, product recommendations and personalised recipe recommendations.

With Kesko recently adopting a more tech-friendly approach to its business – the retailer recently announced the appointment of a team of 'digital recruits' to help its specialisation in IT projects – AI will, unsurprisingly, continue to play a significant role in the retailer's marketing plans.

"We have extremely strong data assets, and we are focusing on and heavily prioritising AI-powered applications in the coming years," says Niilo Latva-Pukkila, a senior data analyst at Kesko. "We know that there is huge potential in many business areas and processes for AI, e.g. price optimisation, assortment planning/optimisation, and automating decisions by using machine-learning. I strongly believe that AI technology has the potential to significantly change how retailers and consumers interact and purchase goods and services.

"Retailers who are still discussing the benefits of machine-learning and AI tech are already behind the curve. It is here, changing the industry today," she says. ∎