

# AI Adopters in Retail

Upp.ai

Transforming eCommerce Advertising

Produced in association with Retail Week



# Contents

<b>Foreword - The power of adaptive AI in a data-driven world</b>	3
<b>Intro</b>	4
<b>What is Adaptive AI</b>	6
Intro	6
History	7
Use in UK Retail	7
<b>Meet the AI Adopters</b>	8
1 B&Q	9
2 Boots	10
3 Charles Tyrwhitt	11
4 John Lewis	12
5 Marks & Spencer	13
6 Next	14
7 THG	15
8 The Very Group	16
9 Specsavers	17
10 Ocado	18
<b>The Future of AI Adoption</b>	19
<b>What we expect to see more of in UK retail</b>	22



# Foreword - The power of adaptive AI in a data-driven world



Drew Smith  
Upp.ai  
CPO and Co-founder

Modern ecommerce marketing faces the challenge of shifting from correlation-based assessments to understanding the causation behind performance metrics. Adaptive AI addresses this by continuously analysing demand, competitor actions, market conditions and consumer behaviour. This technology employs sophisticated algorithms and machine learning models to uncover the root causes of market shifts, providing actionable insights and making real-time adjustments to marketing programmes, ensuring businesses remain competitive.

For example, most modern retailers use pricing algorithms to compare their product prices with competitors. However, understanding the causal impact of being cheaper is often missing. Does a lower price guarantee more customers or are other factors at play? Adaptive AI uses advanced statistical techniques and causal inference models to answer these questions, focusing on causation rather than mere correlation. We are witnessing a significant shift from a creative approach to a mathematical one in paid media. The sheer volume of data points and vectors of information creates a compounding problem. With many factors influencing performance, achieving optimal results through insights alone is impossible.

Automation is essential to adapt to these complexities. Adaptive AI enables marketers to respond to constant market changes and optimise real-time campaigns. Leaders who swiftly adopt adaptive AI can leverage these causal insights to fine-tune strategies, enhance targeting and maintain a competitive edge in a constantly evolving landscape. In a data-driven world, adaptability is crucial for sustained success.

“Leaders who swiftly adopt adaptive AI can leverage these causal insights to fine-tune strategies, enhance targeting and maintain a competitive edge”

# Time to make adaptive AI pay

Retail, both in the UK and globally, has transformed rapidly in recent years from a business primarily focused on real-world interactions to one led by technology. The latest stage of the industry's digital acceleration is coming from the adoption of artificial intelligence technologies.

One specific branch of AI technology that is able to learn and change its behaviour as it performs tasks – known as 'adaptive AI' – is being implemented by some of the UK's most cutting-edge retailers.

Adaptive AI presents a major opportunity for businesses able and willing to research and adopt similar techniques. It is also a challenge, demanding the rapid acquisition of new skills and judicious investment. But for those retailers willing to take on the challenge, there are clear benefits.

"There's quite a big gulf that's emerged between retailers who really understand the technology, who see the potential benefits that it can offer, and those that don't," says Richard Lim, chief executive of consultancy Retail Economics, on the changes he's seen in AI adoption over the last 18 to 24 months within the UK retail sector.

"So, you've got a really uneven landscape across the industry," he says, with some businesses "really leaning into this kind of technology" while others fall behind.

"The next wave of digital acceleration is coming from AI technologies and I can only see that gulf widening, between those that are really embracing it and those that are not."

Speaking to the mindset of those slow adopters, Lim says the very real risk of pitfalls and unintended consequences is, in some cases, combining with resistance to change, fear and lack of resources, holding back those retailers.

This report aims to be a guide to best practices for adopting adaptive AI, looking at some of the most inspiring examples in UK retail today.

We deep-dive into 10 of the UK's best AI-powered retailers and their winning ways, to help businesses make informed decisions regarding their own tech investment strategies. We also feature the unique insights of industry leaders and experts we interviewed.

*"The next wave of digital acceleration is coming from AI technologies and I can only see that gulf widening, between those that are really embracing it and those that are not"*

**Richard Lim, Retail Economics**

# Who we spoke to for AI insights



Paula Bobbett  
Boots  
Chief Digital Officer



Richard Lim  
Retail Economics  
Chief Executive Officer



Luke Dickens  
University College London  
Lecturer in Machine Learning



Jo Drake  
The Hut Group  
Chief Information Officer



Lynn Beattie  
B&Q  
Technology and  
Product Director



Paul Hornby  
The Very Group  
Digital Customer  
Experience Director



Drew Smith  
Upp.ai  
CPO and Co-founder



Darshan Chandarana  
PwC UK  
Partner - Emerging  
Technologies Leader



Owen Eddershaw  
True Global  
Innovation Associate



Lisa Byfield-Green  
Retail Week  
Data and Insights Director



# WHAT IS ADAPTIVE AI?

In this report, we make the distinction between three types of AI: adaptive, generative and traditional. This is not to say these are the only types of AI that exist, or even that everyone would agree with these designations.

“It’s a very, very fast-moving field, and it’s very broad, with many tens of thousands of people working on different parts of it,” says Luke Dickens, lecturer in machine learning at University College London.

“Everybody defines their terms differently, and that’s just the nature of the beast, of research in general, and AI and machine learning in particular.”

Adaptive AI is an artificial intelligence tool that uses machine learning to adapt its behaviour after it is deployed. It does this by continuing to analyse new data and make small modifications, within guidelines set by its original coders. The idea is that it continues to improve over time, rather than losing efficiency, as AI trained on a static dataset might – for example, due to the dataset getting stale or unforeseen circumstantial changes, such as a pandemic. The technology does not, however, make wild or unexpected alterations; nor can it be manipulated by rogue data aberrations or other factors.

So, a robot packing boxes might change “the order in which it picks up items in the warehouse; or it might learn to delay picking up certain items in certain situations, even though it hasn’t been pre-programmed to do that,” says Dickens. But the changes will only occur within a predetermined scope. “It cannot use its wheels to drive up the wall. It is always going to travel along its permitted routes.”

## A (VERY) BRIEF HISTORY OF AI

The concept of artificial intelligence goes back to the 1940s and the birth of computers, when Alan Turing OBE FRS first began imagining how the computers of the future could be programmed to adapt, or even 'think', autonomously. It now refers to a whole suite of ever-changing technologies, of which machine learning is one of the biggest.

Machine learning can be traced back to pre-1990s, but it was around that decade that it became really established. By 2010, big breakthroughs in 'deep learning' – which employs 'neural networks' that mimic the complexity of the human brain – were being made and variants of that technology are now widely used today.

*“With adaptive AI, the system learns on the job and disseminates its knowledge. Its potential applications go far beyond moving robots”*

Conventional machine learning systems are trained on large, static sets of data, to spot and exploit patterns. Dickens uses the example of a clinician training a computer to recognise cancers in radiography images. In that case, it would make sense to train the computer using a large set of high-quality, curated data. However, once deployed, it would not be wise to allow the programme to keep learning and changing, since the stakes are too high and mistakes could be fatal.

This is an example of traditional AI, trained using a discrete dataset and unable to change its behaviour once deployed.

However, many AI-driven programmes do continue to absorb new data and adapt their behaviours as they do so. One example would be a warehouse robot arm, picking up and packing lightbulbs. If one robot in the system breaks a globe-shaped bulb, the system might use the information to pick globes up more gently in the future or pack them in a different way. And if that result might modify their behaviour to pick up globe-shaped bulbs more gently.

This is what we mean by adaptive AI: the system learns on the job and disseminates its knowledge. However, the potential applications go far beyond moving robots, ranging from customer service and marketing to supply chain management, and beyond.

Finally, let's consider generative AI, which is also trained on data, but with the aim of producing intuitive content that a human might otherwise create, such as longform text, images, or even poetry. ChatGPT is a good example: it uses a huge dataset to learn how to write sentences and paragraphs, which are often indistinguishable from answers written by humans.

Although generative AI has some incredible applications, we will look at the ways in which it interacts with, and is used by, retail-specific adaptive AI systems.

## ADAPTIVE AI IN UK RETAIL

“AI is a big topic for retailers at the moment,” says Lisa Byfield-Green, research director for Retail Week. Many of the biggest, most successful retailers are investing in the technology for a wide range of applications. “They might be using it for operational efficiency; particularly, things like supply chain, or understanding their customers better, [or] identifying new opportunities for products and ideas,” she says.

Every individual we interviewed was keen to emphasise that the use of AI in retail, and adaptive AI specifically, is not likely to be a passing fad. Nor is it possible to simply implement it once and then continue with business as usual.

Rather, AI is a practical and rapidly evolving technology used by retailers to improve performance across a wide spectrum of business areas. Its reach and impact is likely to only proliferate and increase.

“Adaptive AI is best suited to environments that are dynamic and constantly evolving over time – an environment that may sound familiar to retail businesses,” says Owen Eddershaw, associate and AI lead at investment and innovation advisory firm True Global.

“Consumer-dependent aspects of retail, such as customer service, fraud detection and marketing performance, are all fertile grounds for the application of adaptive AI systems that can edit their outputs to mirror the dynamic nature of consumer needs and behaviours.

“We're seeing a lot of interesting solutions emerge in the marketing space, leveraging adaptive AI to continuously learn from existing and historical campaign performance to predict the success of and optimise new creative content,” he says.

*“AI is a rapidly evolving technology used by retailers to improve performance across a wide spectrum of business areas. It's likely to only proliferate”*



# MEET THE ADAPATIVE AI ADOPTERS

So which UK retailers are using these adaptive techniques in the most interesting and exciting ways – often in conjunction with other technologies – to improve their bottom line?

**SAY HELLO TO 10 OF THE UK'S BEST MACHINE-POWERED RETAILERS...**



# 1 B&Q

- **Personalisation is a central focus for B&Q's AI strategy**
- **Retail media and pricing among other areas being targeted with AI solutions**
- **Improving staff productivity is next on the agenda with new AI trials underway**

For B&Q, AI and machine learning are playing an “important role” in its tech strategy according to Lynn Beattie, the retailer’s tech and product director.

Beattie says that AI is making it easier for its customers to shop through better, and more focused, targeting. With 1.2 million products now available via the B&Q marketplace, this is a key advancement to helping consumers find the products they need.

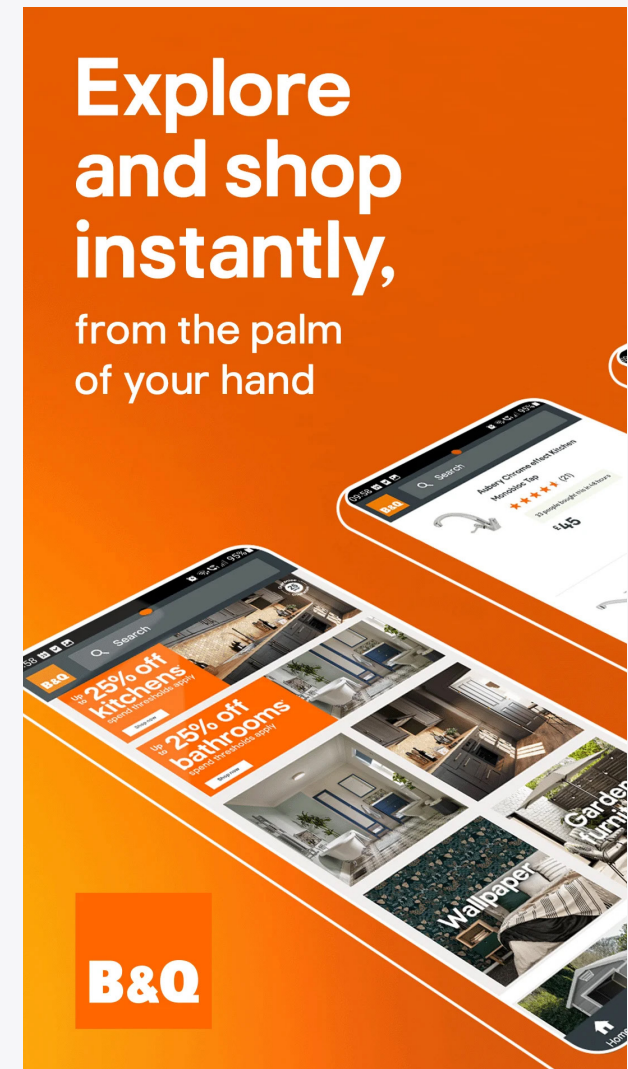
“By using AI, we can connect data across multi-channel touch points throughout a customer’s journey and respond to their behaviours with personalised communications and offers in real-time, such as through direct marketing, emails and coupons at till. We retain and engage customers, driving loyalty and more sales through more frequent visits and increased spend.”

Elsewhere, AI-powered pricing is a focus for the broader Kingfisher parent company and Beattie notes that AI has been helping “effectively manage markdown clearance pricing” and “forecast demand to inform supply management and manage availability”. This has freed up staff to have more time to interpret and act on data as opposed to working on administrative tasks.

Retail media is another area of focus with AI being used to develop B&Q’s offers so that its adverts are displayed and personalised to the customer.

The group has also developed Athena, an in-house AI orchestration framework, that helps it “integrate multiple AI technologies, allowing [the business] to quickly adopt new AI tools as they are developed”. This includes a Kingfisher Group-developed recommendation engine, implemented in 2023, which Beattie reveals has driven a higher click-through and add-to-basket rate, as well as much faster response times.

For B&Q, AI is by no means a fad. “We’ll keep learning through trialling AI so that we can enhance the processes we have and implement new ones,” says Beattie. B&Q is part of an Early Access Program with Microsoft enabling the retailer to trial different ways of working to understand where the business can best leverage generative AI for productivity.



Explore  
and shop  
instantly,  
from the palm  
of your hand

**B&Q**

10% of B&Q sales now come  
via its AI recommendations

## 2 Boots

- **AI is playing a part in its warehouse transformation plans**
- **Using AI to support its online search functionalities to improve CX and personalise the shopper journey**
- **Gen-AI also a focus to save time and resources**

“I honestly think AI is going to be completely transformative” says Paula Bobbett, chief digital officer at Boots.

“When you think about the advent of the internet, and how that has changed our lives, AI is the next step along. There are so many things I can see where it makes life so much easier for the people who work in the teams,” she says, adding that AI is commonly removing manual tasks from colleagues “to allow them to do more value-added tasks.”

A prime example is in Boots’ warehousing, which Bobbett has said is one of the most advanced systems in Europe. Small robots buzz around the Burton-on-Trent warehouse, able to avoid humans walking in their path, and removing the need for pickers to do so much carrying. As a result of the use of the 150 robots – called ‘co-bots’, although some have human names – accidents at the warehouse have been significantly reduced.

Boots is currently testing a robotic arm, designed by Austrian firm Knapp, which can pick products fast and carefully, using AI to learn from its experience. Further examples of AI use at Boots abound, demonstrating a

mix-and-match trend of adaptive, traditional and generative AI technologies combining to achieve more impressive results.

Boots’ online search function now uses adaptive AI to personalise the shopping experience. If a customer searches for lipstick, the engine uses up-to-date data to make sure the results are as relevant as possible, that the products are in stock, and recommending shades popular with other customers and therefore more likely to be on-trend.

In forecasting, up-to-date information about the weather feeds into predicted sales. Data for what then sells well is also constantly updated via machine learning.

Over in generative AI, the retailer is trialling a ChatGPT-based chatbot that can answer customers’ conversational questions. It might, for example, respond to a question like “How do I develop a skincare routine?” by recommending appropriate products. Similar technology is also being trialled for internal communications, such as answering HR or procedural questions that employees would otherwise spend time searching for. And, in marketing, the company is using AI to optimise ad placements. It even used virtual production and AI to create some of the images for its 2023 Christmas advertising campaign.

Bobbett says this is a particularly useful service at a time when people are seeking verifiable information online, where they might once have relied on frontline health services.



Boots is partnering with Austrian firm Knapp on machines using AI to learn from experience (photos: Knapp/Niederwieser)





# 3 Charles Tyrwhitt

- **Leveraging AI to improve its search targeting**
- **Has reduced its customer cost per acquisition by 74%**
- **Optimising performance, supported by AI, is key**

Men's clothing brand Charles Tyrwhitt generates over 80% of its sales online, so optimising its digital advertising spend and making sure customers find the right product line is a key goal.

Charles Tyrwhitt uses our adaptive AI to analyse market data in real time. Working with our AI-driven retail inventory and intelligence solution, retailers can cross-reference market data with other up-to-date data, such as inventory, to make sure the right products are being targeted to the right people in the most efficient way.

"With so many product lines, it was impossible for us to manage, and at the same time get the valuable insights we needed to unlock potential and find hidden opportunities to improve," says Joe Bloomfield, global head of digital marketing at Charles Tyrwhitt.

Since working with us, the business has reduced the cost of acquiring new customers in the UK and US, increased the amount of daily spend for each customer via Google shopping, and boosted the visibility of product lines that were doing less well than others.

Our co-founder and CPO Drew Smith explains: "Our adaptive AI technology significantly improved Charles Tyrwhitt's performance by uncovering opportunities within a larger range of inventory. By addressing three key questions we identified overlooked inventory and product pages: What is the probability of sales from a given action? What would be the cost?"

And what would be the efficiency? We also evaluated the types of customers buying certain products to discover new customer preferences and drive Google to focus on high-potential inventory. This resulted in a 60% sales increase in the US and 40% in the UK while reducing the cost per acquisition by 74%."

Charles Tyrwhitt can now keep up to date with how things are going via a live dashboard; its easy-interactivity is a feature increasingly prized by companies. The AI "keeps learning about our product and business performance over time, so it continues to optimise our performance, while giving us control over what targets and thresholds to set for success," Bloomfield says.



Charles Tyrwhitt uses adaptive AI to analyse market data in real time



# 4 John Lewis

- **Improving ecommerce UX is a priority**
- **Seeking to reap rewards from £100m Google AI deal**
- **AI-driven warehouse robots mark latest AI investment**

John Lewis has been through some challenging times recently, but its full-year results to January 27, 2024, tell the story of a retailer returning to profitability.

As part of its turnaround plan, headed by new executive director Peter Ruis alongside chief executive Nish Kankiwala, the business is prioritising investment into its technology stack, including AI.

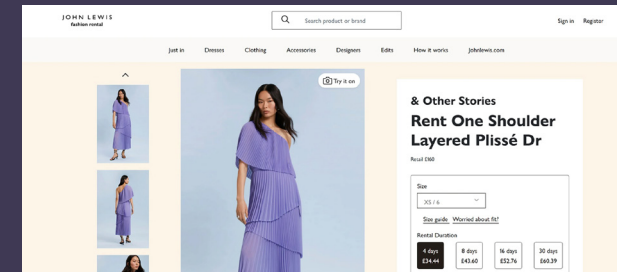
The brand plans to spend £542m on modernising technology, refreshing shops and simplifying the way they work – an investment increase of 70% over the previous year. In its results, the retailer said it was focusing on improving the customer experience, including creating a better online experience through easier navigation and more personalisation.

That would follow a successful trend for John Lewis, which in July 2023 announced it was partnering with AI-powered imaging company Zyler to allow customers to virtually try on its range of UK rental outfits. Three months later, its rental arm had seen a 30% jump in sales. The platform asks that users upload their clothing size and a photograph, and then uses AI to create and virtually clothe an avatar.

The results exceeded expectations: “It has been so exciting to offer styling support in a digital environment using the Zyler technology, and the impressive results we’ve seen from the first few months shows it’s resonating with our customers too,” says Danielle Gagola, innovation lead at John Lewis. Retail Week’s Lisa Byfield-Green noted that the service has made a big impression on her as a customer, where she found herself trying on most of the rental collection simply because the AI technology was so enjoyable to use.

John Lewis has also shown it is willing to invest in cloud technology, announcing a £100m deal with Google Cloud to help boost its AI capabilities, in August 2023. In March 2024, it made a further significant move into robotics, signing a deal to use Locus Robotics robots at its Milton Keynes warehouse.

Much like Boots’s co-bots, Locus describes these as “AI-driven, intelligent autonomous mobile robots (AMRs) that operate collaboratively with human partners to dramatically improve product movement and productivity.” The robots remove the need for workers to push heavy trolleys or lift boxes.



John Lewis teamed up with Zyler to allow customers to virtually try on its range of UK rental outfits





## 5 M&S

- **AI is enabling its frontline staff to maximise inventory**
- **Supply chain management optimised by AI is a priority**
- **Launched first academy for data science and AI in retail last year**

M&S is partnering with AI providers in several different ways to enhance everything from store logistics to supply chain efficiency.

In a partnership with US-based Symphony AI, announced in September 2023, M&S is using AI to compare what is on the shelves in a store to 'planograms' – store-specific diagrams showing where every item should sit on a shelf – helping workers to best place inventory to maximise sales.

Employees use handheld devices to scan shelves, finding out what needs to be moved or replenished. This shelf-edge technology, which combines data from cameras affixed to shelves with information about what sells best in certain positions, plus data showing what is in stock in the warehouse, is just one of the adaptive AI technologies that retailers are becoming most excited by, according to Richard Lim at Retail Economics.

A second area of investment has been in supply chain management. In April 2021, M&S partnered with Finnish AI firm Relex, which uses both internal data, such as how much of a particular foodstuff – say, avocado – was sold in store, and combines it with external data, such as weather reports, that might give clues as to when avocado shortages might occur.

The idea is that the tool can produce better and faster forecasts than a traditional process of analysis, helping

M&S predict what it might need to re-stock, where and when. This, in turn, should lead to greater efficiency and less waste.

In its half-year results last September, M&S announced that new food forecasting, ordering and stock allocation systems had been rolled out across roughly 60% of categories. Though it did not specify that the systems were AI-based, this is a particularly fast-growing use case application for the technology.

Speaking at the time, Rob Barnes, then M&S chief technology officer, said the brand was “investing in technology that will create greater efficiencies and a more connected in-store experience for our customers.” Its capital expenditure on IT and online platform M&S.com to the year ended April 2023 was over £109m.

M&S has also committed to helping its staff gain the skills to best work with these incoming AI technologies. The retailer has said that it wants to “raise the bench strength at M&S through a relentless focus on talent and to make M&S an exceptional place to pursue retail and technology careers,” with AI a focal point. To that end, in September 2023, it announced what it said was the first academy for data science and AI in retail, training a first wave of 10 colleagues in machine learning and other AI skills.



**M&S is using AI to help workers best place inventory to maximise sales**

# 6 Next

- **Boss Lord Wolfson in process of modernising legacy system and incorporating new solutions**
- **Has doubled its technology spend, which includes investment in AI**
- **AI is helping the retailer forecast trends and gather sales data**

Over the last five years, Next has more than doubled its spend on technology from £97m in 2019/20 to £203m in 2023/24, and has almost doubled the number of tech professionals it employs, scaling from 1,000 to 1,900.

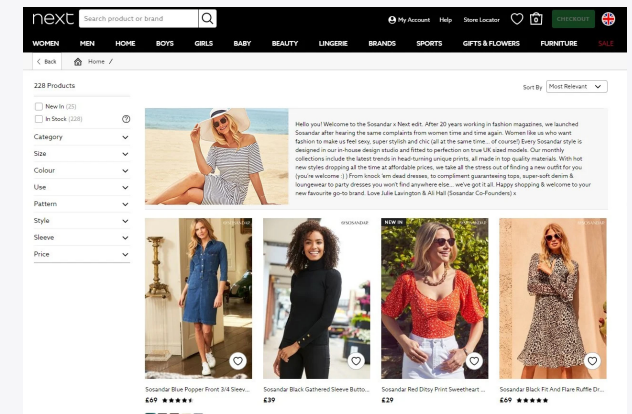
In fact, in its March 2024 results, the retailer said that it now employs more people developing technology than in its product teams. While not all its technology development is AI-focused, the retailer is certainly experimenting with the technology and implementing it across a range of business areas. For example, Next is using AI in forecasting, gathering sales data, and using machine learning to identify what it needs to re-stock, when and where.

Speaking in March 2023, Next chief executive Simon Wolfson was bullish on the broad uses of both adaptive and generative AI, with the latter being used to write to customers. “We write thousands of emails to our consumers answering queries,” he said. “AI is the perfect tool for improving the content of those letters to make sure that what we’re writing is good, clear, understandable English and pointing the operator in the direction of the right solution.”

Next has expanded its technology-based offering hugely since the pandemic in 2020, striking deals with other retailers whose goods it then sells through its online platform, as well as buying other brands. These acquisitions and clients include Cath Kidson, JoJo Maman Bébé, and Reiss, all of which are brought together under Next’s Total Platform, where customers can access and order these third-party brands in a single place, while the brands benefit from Next’s warehousing and logistics capabilities.

The company forecasts that Total Platform will add £77m to the group’s profits in the year ahead. The likelihood is that some of the investment the group is pouring into it will go on AI technology, with Wolfson stating that AI is “a really incredibly valuable way of spotting patterns and working out solutions to problems that we face every day”.

Wolfson said in the company’s latest full-year results that “developing applications in-house has been key to our success over the past 30 years” with the big job of modernising legacy systems and the potential to keep incorporating new ones – such as AI – still ongoing.



**Next’s Total Platform, which provides services such as websites, will add £77m to the group’s profits in the year ahead**



# 7 THG

- **Early mover in AI having adopted the technology since 2016**
- **AI is contributing “significantly to THG’s overall site revenue”**
- **Personalised shopping experiences powered by AI have been a major benefit**

THG has told Retail Week that AI is its number one investment priority, and in an interview for this report, chief information officer Jo Drake was happy to go into plenty of detail about where it is being used.

“Using AI at THG has yielded numerous benefits, enhancing both our revenue and operational efficiencies,” Drake says. The company uses a range of generative AI tools alongside, and often interacting with, machine learning and other adaptive models. “Recommendations generated by AI contribute significantly to THG’s overall site revenue, highlighting their significant impact on driving sales and enhancing the customer shopping experience.”

One example of this is the Outfit Builder currently available on THG flagship brand site Coggles. The tool uses AI to recommend “curated outfit suggestions” which, Drake adds, both improves the shopping experience and fosters deeper engagement with the brand.

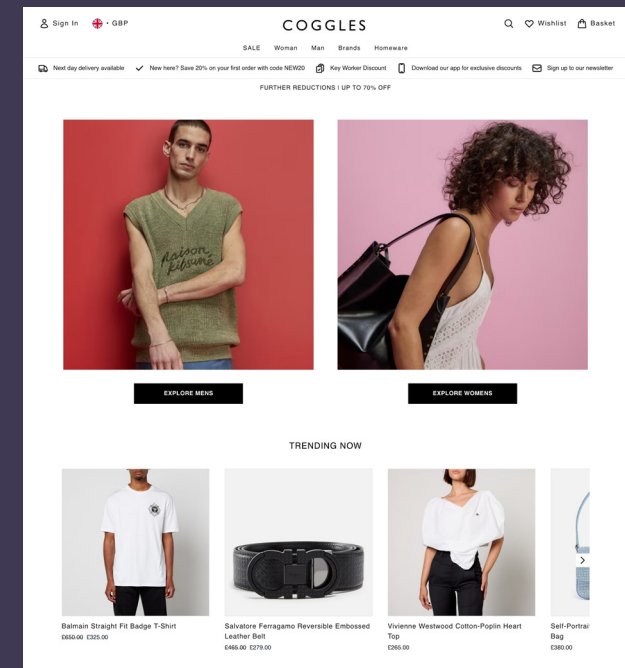
THG has been using AI since 2016, embedded in a whole range of processes. Natural language processing is enhancing search, so that customers can interact with the product more conversationally – for example, a user typing the word ‘sunburn’ would be recommended sun creams.

The brand also uses adaptive AI to gather and process data about its customers, creating richer profiles. These might include information on journeys, add-to-basket activity and purchases, as well as predicting a customer’s ‘lifetime value’ based on their behaviour.

THG uses AI to smooth its business processes. Drake says these range from using machine translation to translate copy about products into other languages using the brand’s house style, to fraud detection, a normally detection and profanity detection in comments, which it has working in over 78 languages.

One of the most interesting use cases for adaptive AI is in THG’s influencer revenue forecasting. “Influencer marketing has become an increasingly important strategy for brands and businesses in recent years,” Drake says. “However, selecting the right influencer to work with can be a very time-consuming [and] subjective process.” By using AI to predict the revenue an influencer can be expected to generate, campaign managers are able to make informed decisions, leading to better return on investment.

Drake also adds that while AI is leading to huge enrichment for the group, it needs human refinement to ground it in quality, authenticity and brand ‘voice’. “By customising these models to suit brand needs, we can deliver experiences that not only meet but exceed customer expectations,” she says.



**THG uses AI to power its Outfit Builder on fashion retail site Coggles**

## 8 The Very Group

- **Stock forecasting and customer search are the biggest AI investment areas**
- **Business wants to use AI to keep on learning about its customers**
- **Training staff in AI to collaborate with the technology**

“We’re using AI across different parts of our business to enhance the customer experience,” says Paul Hornby, digital customer experience director at The Very Group. He told Retail Week that the biggest AI areas for the group are in stock forecasting and customer search.

“Partnering with Amazon Web Services, we use AI for time series modelling and seasonality profiling, allowing us to better forecast stock levels and improve customer availability.” This capability was of key importance during the company’s peak trading period around Black Friday and Christmas 2023, Hornby says.

He adds that the group is using an AI system designed by US-based Constructor to make search results more personalised and relevant. Hornby noted that the AI’s ability to adapt was key to its success: “Constructor’s AI-powered system learns intent and boosts the more relevant products to the top of the results,” he says.

“Multiplying this across all search, browse, and recommendation areas means that AI can constantly re-merchandise all our product areas, making it easier for our customers to find the products they love, regardless of how big our range gets.” The capability went live in 2023 and The Very Group’s results state it hopes to see increased conversion and more sales, though it does not provide any numbers.

Investing in AI is a key part of The Very Group’s strategy, as chair Dirk van den Berghe made clear in the company’s latest results statement for the period 2022-2023. With AI and machine learning, he said, “We are finding new and exciting ways to further our understanding of who is shopping with us and how. The challenge now is to use this learning to better inform how we serve our customers, through stock and inventory management to marketing, to how we extend our ways to pay.”

Hornby has also made it clear that taking the group’s employees and managers along on the AI journey is paramount. The technology improvements come alongside “investing in up-skilling our people with new learning and relevant tools,” he says.

Our CPO and Co-Founder Drew Smith says: “Search engine platforms, social media, and marketplace platforms are increasingly using AI to govern paid media performance. For paid media experts, this shift presents challenges as the required skill set is now vastly different and more laborious. Allowing AI to handle the monotonous tasks of data computation and performance assessments frees up paid media managers to focus on strategy. This includes evaluating the market, understanding their organisation’s position and developing effective strategies. This synergy between AI and human expertise ensures more efficient and impactful paid media campaigns.”



AI allows online customers to see what beauty products would look like on them



# 9 Specsavers

- **Retailer has been experimenting with AI since 2018**
- **AI has been a trusted tool to help optimise its marketing and advertising strategies**
- **Has advanced its use of AI for paid search to drive in-store appointments**

While it often flies under the radar, eyewear retailer Specsavers has been quietly experimenting with AI in a couple of different areas of its business for more than six years, including in marketing and business efficiency.

The business was ahead of the curve back in June 2018 when it released Frame Styler, which uses AI technology to allow iPad users to try on glasses virtually.

In October 2022, Specsavers partnered with Ekimetrics for a three-year project to use data to better drive its marketing across a range of channels, including television and the optician's "growing digital activity". The project aims to bring all of Specsavers' marketing data into one central place where it is constantly updated and allows colleagues to query it easily using analytics tools. The tech enables marketing managers to plan and forecast spend and expected return on investment.

"The ability to refresh models more frequently and responsively will help us establish a stronger marketing effectiveness culture," Iain Stanfield, senior insight manager at Specsavers, said at the time.

"Marketing contributes significantly to the Specsavers brand position and sales growth. We strongly believe that a data driven approach will help us go beyond our current trajectory of organic growth by anticipating changes in market conditions and consumer behaviour."

Since June 2020, the retailer has been using AI to optimise its advertising strategy, targeting ads at geographical locations where appointments are available. The brand has partnered with media agency MG OMD on a paid search campaign with the aim of encouraging customers to book eyecare appointments.

The campaign's 'keyword bidding' – where budget is allocated to individual words in a Google Ads campaign – is based on which of Specsavers' more than 900 stores have more available appointments, with data constantly updated in the cloud-based system. The results in 2020 pointed to a 34% increase in store appointments – and a 23% decrease in cost per acquisition of customers – highlighting the ROI from using AI. Specsavers told Retail Week in April 2024, "We are still running it now, albeit a more advanced version."



**Specsavers has offered its AI-powered virtual try-on tool since 2018**

10

# Ocado

- **Ocado Solutions business is predominantly built on AI**
- **AI-powered robots and machines are integral to its warehouse operations**
- **AI 'co-pilots' are the next big focus with global ambitions for the tech**

Ocado is at the front of the pack when it comes to AI adoption in UK retail. Its February 2019 tie-up with M&S effectively split the business in two, with Ocado Solutions focusing entirely on the technology innovation to be used across the group.

In June 2022, Ocado raised £575m through share placements to help expand its technology offering, in large part via Ocado Solutions and its 13 international partners, which include retailers in Sweden, Canada and Catalonia.

Ocado has been particularly future-focused when it comes to AI and robotics. In November 2020, it acquired two robotics firms: Kindred Systems, which specialises in designing piece-picking robots, and Haddington Dynamics, which makes highly dexterous robotic arms. In April 2021, Ocado Technology announced a partnership with Oxbotica, makers of autonomous vehicle software, investing £10m in a project to design vehicles for use in the online grocery space.

These partnerships and acquisitions mean Ocado has been able to create a system it calls 'Re:Imagined', in which Series 600 bots pick products from a grid in its 'hive' warehouses, assembling orders quickly.

Robot pickers use machine vision, deep reinforcement learning and sensing capabilities to “pick tens of thousands of products of varying shapes, sizes and weight [...] and pack them densely in bags with human accuracy and precision,” it said in a 2022 presentation. In its latest results statement, released in February 2024, Ocado said that it continues to focus on the development of its Swift Router technology. This is a sophisticated AI-driven system that allows customers “to shop until the last minute, simultaneously with picking and loading the van moments before dispatch.”

To this end, Ocado will use 'AI copilots' to balance forecasts for customer demand with shift plans, suggesting exactly what warehouses do and when. Because the technology can be rolled out to all Ocado Solutions partners in Europe, the Americas, and Asia Pacific, there is huge potential for expansion and enhanced efficiency; it has the “potential to more than double the addressable market in some countries”. Significantly, revenue for the Technology Solutions arm of Ocado has surged 44% year on year, up from £291m in 2022 to £420m in 2023.



Ocado has created the 'Re:Imagined' system in which bots pick products from a grid in its 'hive' warehouses





# THE FUTURE OF AI ADOPTION



Clear conclusions emerge from the study of the practical uses of AI by the 10 AI Adopters.

Among the retailers profiled, investment and experimentation in AI technology abounds. But that doesn't answer the question of where individual businesses should invest first, or how to start.

To help elucidate the sometimes confusing and always fast-moving world of AI use in retail, and adaptive AI in particular, we have identified the following key messages.

#### MIXING AI IS GOOD PRACTICE

"What we're seeing in the retail space is much more about the use case and the business case rather than 'I want to use this flavour of AI,'" says Darshan Chandarana, emerging technology lead for the UK at PwC.

Chandarana says that while different types of AI are common, choosing between them is not a matter of learning everything about every type and then investing deeply in that one thing. Rather, retailers and brands are using a pragmatic, mix-and-match approach, building a system that might use some elements of traditional AI, some adaptive tools, and some AI content generation, all to achieve the same end.

"Actually, what we're seeing, and the great conversations that we're having with a lot of retailers, is much more business-oriented," Chandarana says. "How can I use AI – and machine learning, and whatever [else] – in my supply chain?"; 'How can I use AI to detect weak signals in my supply chain [and] figure out what the threats are to me delivering the Spring fashion range, for example?'; or 'How can I use AI to generate content for marketing copy?'"

To take one example, personalisation is a key area in which retailers are beginning to see a compelling use case for AI. The ability to gather, store, and analyse data about customers' behaviours and preferences has already proven useful, allowing retailers to make more relevant recommendations. But it can still be clunky: customers are often advertised the very product they have just bought, for example.

Machine learning and other forms of AI could refine and smooth this process. It can ensure customers are only recommended highly relevant products, and even tailor ad copy to their personal preferences through generative AI.

AI's presence in logistics planning can then mean customers are delivered the desired product more swiftly, alongside other items ordered separately, with less carbon use. It is even likely that the shirt a customer has bought will fit them better, the shade of eyeshadow will suit them, or the paint for the kitchen walls will be guaranteed to match the tone of the cabinets.

Our AI Adopters also evidence how the journey to implement AI is just that: a journey. Retailers are at vastly different stages in adopting new technologies. Some are years ahead, but that should not put off those at the start of their journeys. It is heartening to know that it's possible to experiment and see what works and what does not, and to carefully assess where in-house investment would pay off versus buying a service from a company set up to fill the AI need.

#### AI DEMOCRATISES ACCESS TO DATA

As retail has expanded and big data has got bigger, the ability to analyse data has become more of a specialisation. But AI could reverse that trend, allowing more people to access the data in easily understandable ways, says Retail Week's Lisa Byfield-Green.

"Those large language models, and being able to use natural language, is a benefit on both sides," she says. "If you have that ability within your organisation, then it falls to everyone within the organisation to be able to access the data."

Whereas an IT department or professional analysts might have been the gatekeepers of data in the past, she says, AI offers data to users in very digestible forms. "You do not have to look at some dashboard that you might not understand to get the information that you might need. It democratises that access to the data to everybody."

John Lewis, for example, has talked about being able to generate ideas from anywhere, because AI makes it easy for any colleague to see something in the data that they really understand well – such as a particular category that they deal with.

In the best-case scenario, Byfield-Green believes the more AI is used to hone data, "the easier it is to make it accessible to anybody."



### AI WORKS BEST IN COLLABORATION WITH GREAT PEOPLE

Many of the retailers we spoke to describe the importance of hiring and retaining excellent human employees who work alongside the technology, and are not put off by it.

“Retailers are commonly reporting using AI in conjunction with really good people,” says Byfield-Green. “So, you cannot have one without the other. You’ve got to merge the two. You’ve got to have a really strong team that know what they’re doing, know what they’re looking for in the data, and know what they want to use AI for. And you’ve got to have a great system.”

She adds: “If you’re missing great people, then you’re going to miss the insights that come out of the technology. And if you’re missing the technology, then you’re still scrambling around in the dark, trying to get the insights, without the help of the technology.”

It is highly likely that some job numbers will be reduced by AI adoption. The experts we spoke to counselled on the need to recognise employees’ fear of being replaced and to tackle it head on. They advised countering any apprehension with training, transparency, and offering employees the chance of adding value when machines – whether in the form of software or physical technologies such as robots – take on certain time-intensive tasks.

### AI IS BECOMING MORE CENTRAL TO RETAIL

There are huge opportunities to be found in the adoption of AI technologies – as well as pitfalls. Yet the conclusion from our interviewees is that avoiding AI is simply not an option.

“The reality is that AI is touching every single part of the retail value chain,” says Richard Lim. “Those that don’t embrace it and have their head in the sand when it comes to this type of technology really risk becoming irrelevant within the industry.”

He adds: “There is so much pressure on profitability, and on using data to drive better business decisions, that the companies leaning in have a real, pivotal, competitive advantage over those that don’t.” In an ideal world, AI use will have very real benefits, not just for the bottom line, but for people and planet as a whole, Lim says.

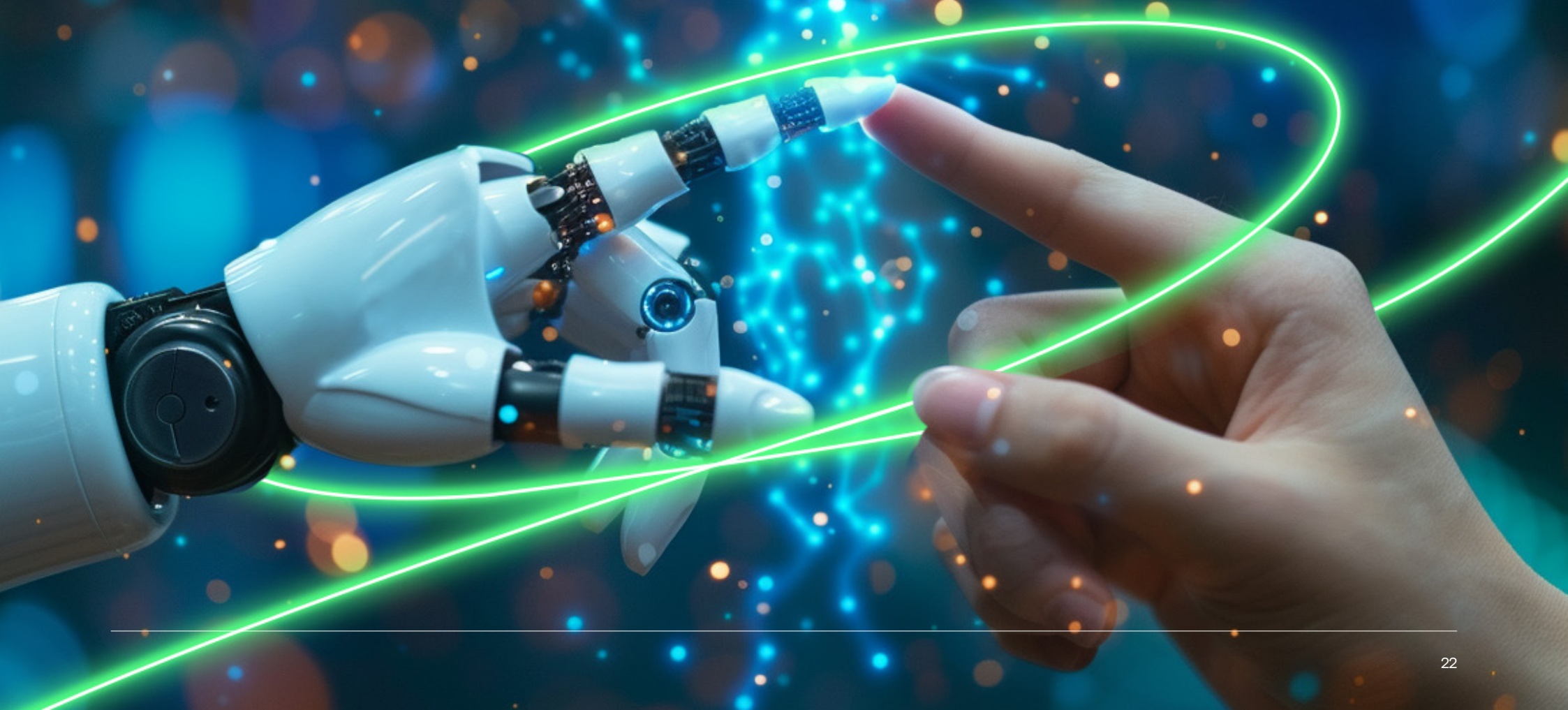
Looking to the future of supply chains, he believes there’s a very real possibility to imagine better, AI-driven data use leading to more accountability, such as carbon footprint, which has historically been very hard to track all the way through the complex supply chain of a product that might contain thread from one continent, metal from another, and sewing expertise from a third, for example.



*“What we’re seeing in the retail space is much more about the use case and the business case rather than ‘I want to use this flavour of AI’”*

**Darshan Chandarana, PwC**

# WHAT WE EXPECT TO SEE MORE OF IN UK RETAIL



# Lessons from the UK's top retailers

There are a vast range of technologies in the AI space. No retailer can expect to deploy everything all at once, nor should a business expect to figure it out alone.

The retailers profiled among our AI Adopters are using a mixture of in-house technology development and buying in services from AI specialists. Similarly, some have made new technology-focused hires, while others have embraced training programmes for existing staff.

What is markedly clear is the stand-out AI innovations being tried and tested by the UK's top retailers, giving us the key messages to take away from our AI Adopters.

1

AI-powered robotics are increasingly key to logistics

Boots and Ocado are using robot colleagues ('co-bots') and robotic arms alongside humans in their warehouses and packing facilities. While this represents a prominent level of investment, it is by no means the stuff of the future, but real, tested technology already in use every day.

2

Autonomous vehicles and other automation are on the rise

In a similar vein, autonomous vehicles and other AI-driven upgrades to the delivery process are on the increase, with Ocado leading the way in the UK.

3

Personalisation is improving, and thanks to adaptive AI, can only get better

As Charles Tyrwhitt, THG and The Very Group have discovered, adaptive AI can give a real edge when it comes to consumer personalisation, whether that's recommendations or the broader shopping experience. It is key for the customer experience and for brands' efficient use of marketing budgets.

4

We will keep seeing new uses for AI that no one has yet thought of

By this point, some AI technologies – even the ones that stunned industry experts when they first appeared not very long ago – are beginning to feel ordinary. Still, the business uses for them continue to surprise. Whether it is Specsavers' targeted appointments or THG's use of AI to evaluate influencers, there are new, innovative uses for AI emerging all the time.

5

Some AI use cases add value just because they're visible and fun...

John Lewis's AI-powered virtual try-on service drew customers that might not otherwise have come to the brand.  
...while others are 'under the hood'  
Machine learning and other adaptive AI techniques now underpin many of the services customers interact with daily and will only continue to proliferate.

6

Crucially, the smartest retailers will bring their people along with them

M&S has been one of the leaders in pledging to train its employees in areas such as data analytics. But staff from everywhere in a retail business, from the warehouse floor up, must be enfranchised if AI adoption is to work smoothly.



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