NAVIGATING THE AI REVOLUTION

How retailers are embracing change and rising to challenges

Honeywell | onepoll.

INTRODUCTION

Artificial intelligence (AI), machine learning (ML) and computer vision (CV) technologies are rapidly advancing and redefining industries, capable of performing complex tasks many wouldn't have dreamed possible a few years ago.

Retail is no exception to the AI revolution, with the growing popularity of cashier-less stores, customized shopper interactions and demand forecasting just some of the ways it's transforming the dynamics of the sector.

A Honeywell survey of 1,000 retail directors across the United States and EMEA in IT, operations and customer experience roles validates the strategic importance of AI, ML and CV and explores how retailers are navigating the evolving technologies.[1] Almost half of the respondents (48%) said that they believe AI, ML and CV will be the top technologies impacting retail in the next 3-5 years, followed by IoT (14%) and extended reality technologies (10%).[2]

As AI increasingly permeates the industry, we explore how retailers are currently implementing these technologies, how they plan to use them to accelerate business ambitions, and the role they are set to play in tackling challenges.

SURVEY[1]

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[1,2] Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.

NEXT STOP AI
RETAILERS' JOURNEYS TO NEW TECHNOLOGIES

As they get set to build resilience for the near term, many retailers are planning to invest in emerging technologies to mitigate pressures such as increasing operational costs, supply chain uncertainty and rising customer expectations. AI, ML and CV are taking the top spot, with 59% of retail decision makers preparing to deploy these technologies in the next year, followed by extended reality tools (40%) and mobility devices and wearables (37%).[1]

Leveraging large amounts of data with rapid processing and intelligent algorithms, artificial intelligence (AI) is commonly used to support problem solving and decision making – whether that's to enhance anything from inventory management or personalize customer experiences using machine learning (ML) algorithms.

Computer vision, on the other hand, is a type of AI that enables computers to interpret and analyze visual information. For example, when installing CV cameras in store, retailers gain visibility of customers' movements and purchase patterns, giving them the means to make strategic improvements in store layouts. Alternatively, it can be deployed to optimize stock levels on the shelf and ensure customers don't walk away empty handed.

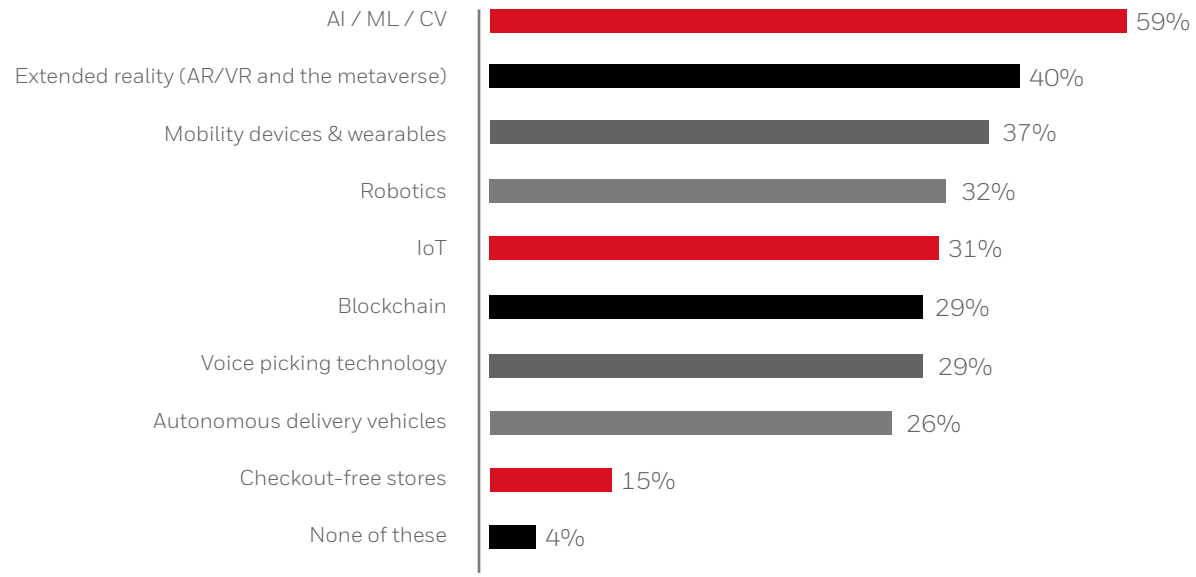


Figure 1: The technologies retailers are planning to deploy in the next 12 months

[1] *Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.*

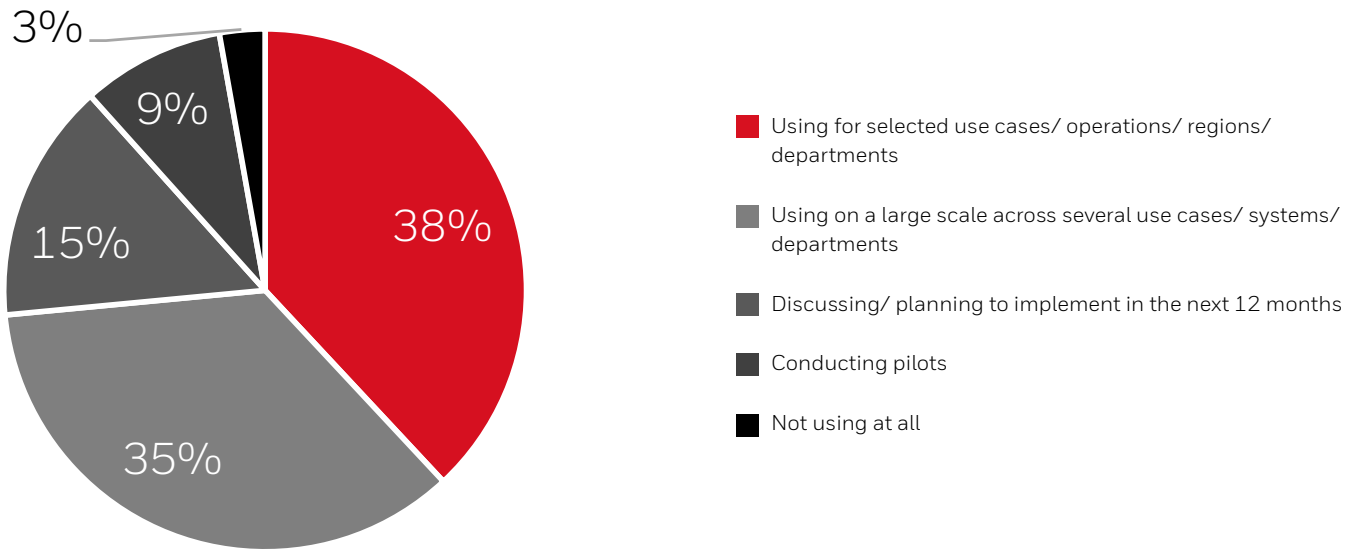
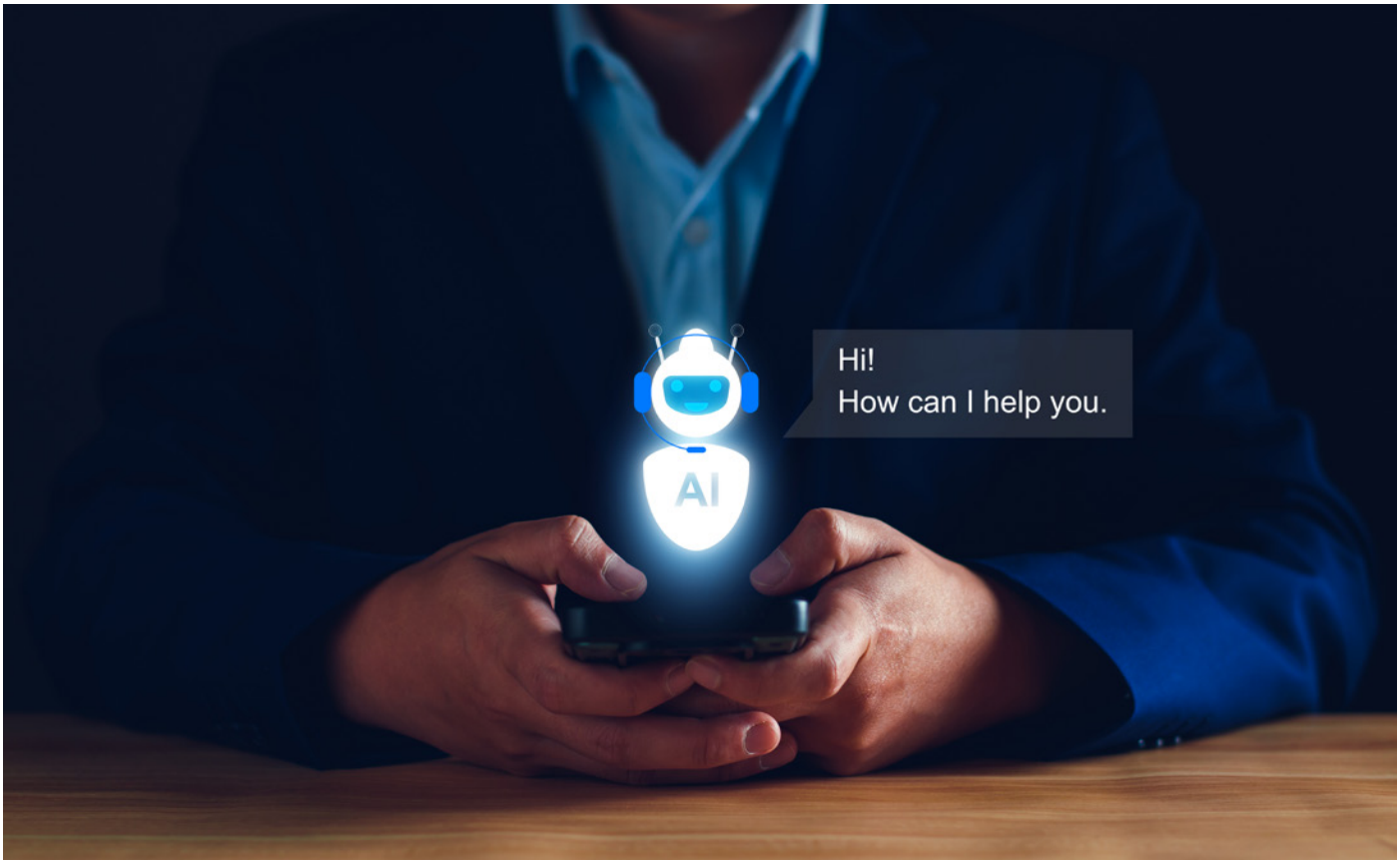


Figure 2: Retailers' usage of AI, MV and CV

While many have their sights set on investing in AI, ML and CV, the results in figure 2 show that the majority have already experimented with the technology for certain use cases (38%).[1] This suggests that the tools have been deployed in siloes and are yet to realize their full potential. As such, maturing and integrating AI applications throughout the retail value chain will be a key priority for sustaining results.

For example, mobility devices and wearables, IoT and robotics can form key components in a wider AI strategy – feeding data insights across the business to perpetuate efficiencies from the warehouse to the checkout. As the sector progresses from a dependence on manual data collection, tools such as AI, ML and CV can enable IoT and robotics solutions to come into their own, including to generate real-time actionable insights on customer preferences and to proactively manage inventory.

[1] *Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.*



BARRIERS TO ADOPTION

Only 3% of retailers reported that they either haven't used AI, ML or CV at all or just 9% are conducting pilots with the technologies.[1] However, it's important for these organizations to understand the roadblocks to accessing these tools or increasing their usage to ensure they don't get left behind.

With cost implications at the forefront of what's holding retailers back, a greater understanding of viable early adopter use cases is needed, together with how these use cases align with budget priorities. For example, one AI application that is highly likely to deliver business value for years to come is AI-powered live chat services to provide rapid responses to repetitive customer queries. This means customer service teams can scale efficiently during peak periods without increasing employee headcounts – a benefit that's widely sought after amid labor shortages and growing costs.

Other ways for retailers to get their foot in the door with AI include targeted marketing and offers using data from customer purchase history. AI algorithms can develop strategic offers based on each customer's unique behavior on ecommerce platforms, putting the retailer at the forefront of customers' minds.

Because retailers often lack the internal skills to maintain such tools (21%), strategic external expertise will be crucial to optimizing usage, unlocking long-term cost-efficiencies and improvements in AI, ML and CV.[3]

BARRIERS TO ADOPTION[2]

Survey respondents offered the following three primary barriers to adoption:

39%

Budget restrictions

29%

Difficulty in demonstrating business value

21%

Lack of internal expertise to maintain the technology

[1,2,3] Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.

THE CATALYSTS FOR CUTTING-EDGE TOOLS

SURVEY RESPONDENTS LISTED THEIR TOP THREE MOTIVATIONS FOR DEPLOYING A NEW TECHNOLOGY:

- **Improving customer experiences (59%)**
- **Driving greater productivity (49%)**
- **Igniting cost efficiencies/ROI (44%)[1]**

When asked specifically about perceptions of AI, ML and CV's greatest value in the retail chain, retail decision makers' highest-ranking answers centered around minimizing manual tasks, supporting customer service functions and optimizing efficiency:

- **Automating and supporting day-to-day tasks, such as picking and scheduling (19%)**
- **Supporting customer service/live chat for digital channels (18%)**
- **Customer profiling/targeted marketing campaigns (15%)**
- **Improving inventory management (12%)[2]**

When used to solve issues with daily operations such as order picking, ML not only speeds up the process through automation, but empowers retailers to adapt to changing variables. ML can identify and predict high volume products based on factors such as seasonality and promotions, before recommending re-slotting items in locations to minimize distance and time to pick orders. Wave picking is another way ML can help retailers take different influencing factors and changing demand in their stride, grouping synergetic orders in a wave to streamline picking.

However, few see the value of AI, ML and CV in areas such as **loss and theft prevention (4%), optimizing shipping processes (6%) and price optimization/ forecasting (7%).[3]** As such, retailers may be overlooking a number of impactful applications in these areas. Firstly, at a time when store margins are strained, integrating AI and CV with security systems can help retailers prevent thefts by monitoring in-store movements. Retailers can also use AI authentication and cameras within self-checkouts to detect suspicious transactions.

To accelerate shipping processes, ML can anticipate bottlenecks and suggest alternative delivery routes in real-time. Not only does this data and visibility support the driver's productivity, but it can also be utilized to provide real-time updates to the customer.

Lastly, only 7% cited price optimization as a primary benefit. But since consumers are more price conscious than ever before, having the right analytics in place to keep product pricing strategies competitive is essential to staying profitable.[4] What's more, when using AI solutions to optimize pricing based on market shifts, consumer and competitor data, AI can continually 'learn' from each pricing change to keep maturing and improving.

[1,2,3,4] Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.

WORKING SMARTER TOGETHER

THE RELATIONSHIP BETWEEN AI AND ASSOCIATES

As burgeoning demand for AI grows, data from our survey suggests that some retailers are seeing this as an opportunity to augment their employees and maximize their impact. Just 7% saw the technology as a way to reduce human labor and a marginally higher percentage (12%) saw AI as an opportunity to help the workforce improve customer satisfaction and service.[1]

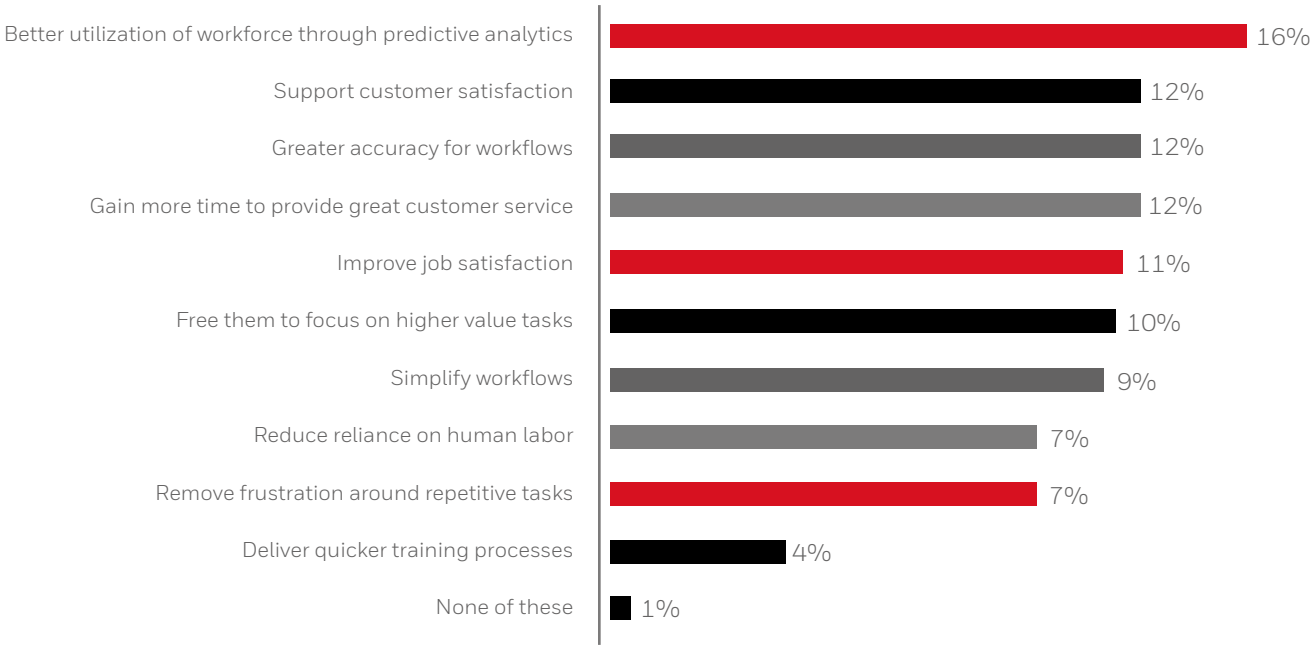


Figure 3: The perceived impact of AI/ML/CV on the workforce

In line with the top findings of 16% of executives perceiving the benefit of AI, ML and CV as improving workforce utilization, warehouse automation and labor management software will be central to optimizing productivity and costs.[2] While robotics can take the strain off the workforce for manual tasks in the warehouse, workforce management platforms can measure, manage and plan warehouse labor allocations for continuous productivity improvements and cost reductions.

Additionally, despite only 4% of respondents selecting 'deliver quicker training processes' as a key benefit of AI/ML/CV, robust solutions for labor management can streamline training with coaching and mentoring features.[3] This is especially important when the cost of attracting, hiring, training and retaining qualified associates is one of the highest expenses incurred by a typical distribution center. In addition advanced prediction models can identify risks for attrition. Implementing these tools can help businesses engage teams and make work more rewarding with performance related incentives, all while helping execute fulfillment tasks more efficiently.

Operational intelligence software is another invaluable tool for supporting the workforce not only through workflow automation, but by providing actionable data and valuable insights on asset performance. This means that employees can avoid frustrations from device issues and failures, focusing instead on delivering exceptional customer service.

[1,2,3] *Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.*

TAKING IMPLEMENTED TECHNOLOGIES FURTHER WITH AI

Two fifths of respondents (40%) said one of the greatest challenges around barcode scanning is that it requires too much intervention from employees and limits productivity.

Several others pointed to manual scanning being inefficient and time consuming (38%), and issues with poor barcode detection and performance (34%). When over half of the retailers surveyed (56%) said they have implemented self-scanning checkouts, the research suggests a need to improve how these checkouts operate.[1]

Yet again, AI and machine learning can help remedy the friction - enhancing retailers' scanning capabilities to improve barcode reading quality and reduce interference. Additionally when combined with edge-based mobile devices, retailers can use AI and ML to gather and analyze real-time data to reduce future errors. And as retailers advance their infrastructure, they can implement checkout-free stores where customers simply pick up items and walk out of the store with payments taken automatically – a process that leverages the power of AI, CV and data from sensors around the store.

[1] *Honeywell survey of 1,000 Directors in Retail in IT, Operations and Customer Experience across EMEA and the United States, OnePoll, April 2023.*

MAPPING OUT THE FUTURE

Our research indicates that retail directors expect AI tools to be central to stimulating new levels of productivity, improving customer engagement, and ultimately staying competitive. With such a wide and growing range of applications and use cases across retail processes, the opportunities and scope for improvement is seemingly endless.

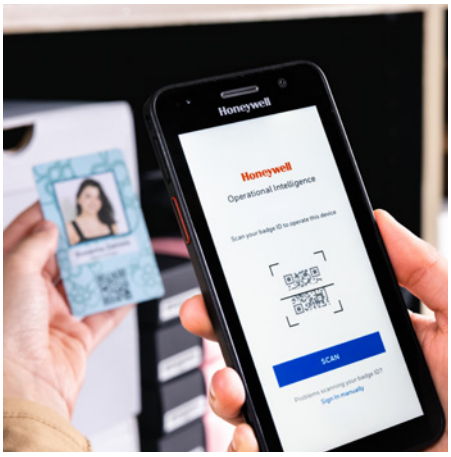
In a landscape that's shifting at breakneck speed, with developments such as generative AI becoming more sophisticated almost by the day, success won't be based on who is the first to dive in and implement them. Success will depend on strategic, long-term and bespoke approaches to fit each business's unique needs.

Success also demands that retailers do not become complacent with solutions, and instead seek a partner with strong R&D credentials to help them stay at the crest of opportunities. Honeywell is at the heart of these developments, constantly seeking out game-changing, yet practical uses for the retail arena and beyond.

"We keep a very close eye on future and innovative solutions, as well as current technologies that impact the industries we work within to help drive productivity. We continue to explore new methods to improve the overall experience for our customers and their services. Artificial Intelligence and related technologies are areas in which we are innovating and exploring to advance employee efficiency, and ultimately, for customer satisfaction."

Tony Boncore, Global Retail Customer Marketing Principal at Honeywell

Talk to a Honeywell expert to learn how your organization can develop an integrated and customized technology strategy for the future.



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