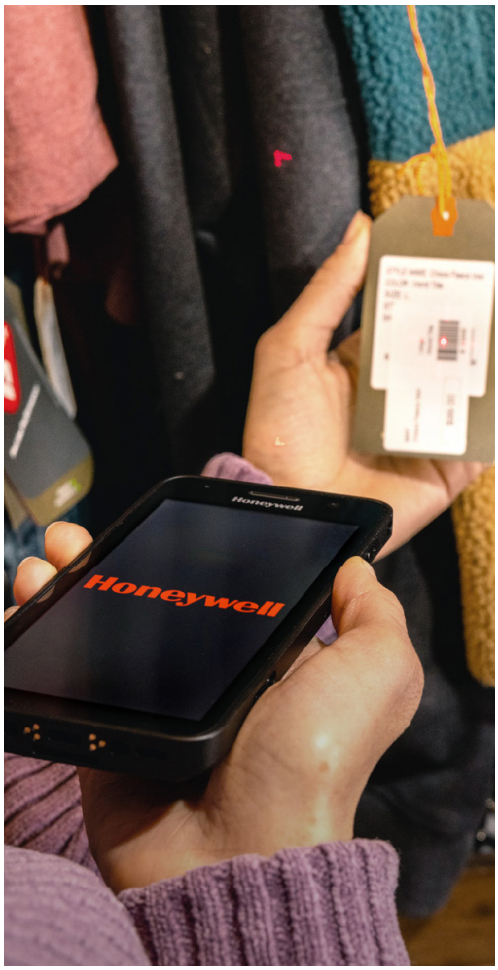
DEEPER RETAIL DATA: OPTIMIZING OPERATIONS FOR THE NEW RETAIL ECONOMY

Honeywell

A FRESH LOOK AT DATA-DRIVEN RETAIL

The focus on data in retail is not a new idea...



Not only that, in recent years, there has been a lot of conversation and innovation around how shoppers' needs can be met more effectively, stock managed more efficiently, and staff deployed more flexibly. In fact, the industry's direction towards data was set long before anybody thought of it as a "data strategy".

One of the most influential moments for the modern retail store came on June 26, 1974. That was the day when, for the first time anywhere in the world, a product was processed through a checkout by scanning a barcode.

That packet of chewing gum represented much more for retailers than a faster way of processing customers. With barcodes and UPCs in place, retailers could later build digital representations of their stock status which update as and when customers purchase items. That meant they could start to order stock with a leaner mindset, analyze purchasing trends, and create more flexible and attractive special offers.

> Today, ten billion barcodes are scanned every day, and that flood of data has transformed the retail experience in countless ways, large and small.

Online retail has emerged, exploded in popularity, and started to blend back into traditional physical retail. Flexible and self-serve checkout options have shifted the dynamic of the shop floor. Data analysis has expanded to guide not just short-term stock decisions, but whole corporate strategies and ways of targeting customers.

Now, it seems like each passing year comes with a new idea that retailers can add to their toolkit in the race towards winning competitive advantages.

But even with these advantages, retailers continue to face immense pressure. The economic landscape is incredibly volatile, in ways that affect both shoppers' wallets and the realities of international supply chains.

Consumer expectations are more than keeping pace with technological change, turning against even relatively modern retail experiences as they start to become outdated. In competitive labor markets, attracting and retaining skilled employees has become a major crunch point for many.

As droves of unexpected challenges continue to mount, disparate data tools and solutions on top of existing workflows cannot be the answer.

Instead, retailers need to flip the script: finishing the job of bringing data into retail that was started in 1974, put digital on the ground floor of operations, and become truly data led.

Soon, the top performers will be businesses that invest in the infrastructure to harness holistic data in real time. As artificial intelligence tools massively amplify the demand for high quality data inputs, those top performers will see multiplied returns on their investments.

In this eBook, we will explore five key questions that retailers should ask as they assess their current data maturity, identify operational blind spots, and build a roadmap toward data-driven retail excellence.

HAS THE POTENTIAL FOR DATA CAPTURE BEEN MAXIMIZED?

1

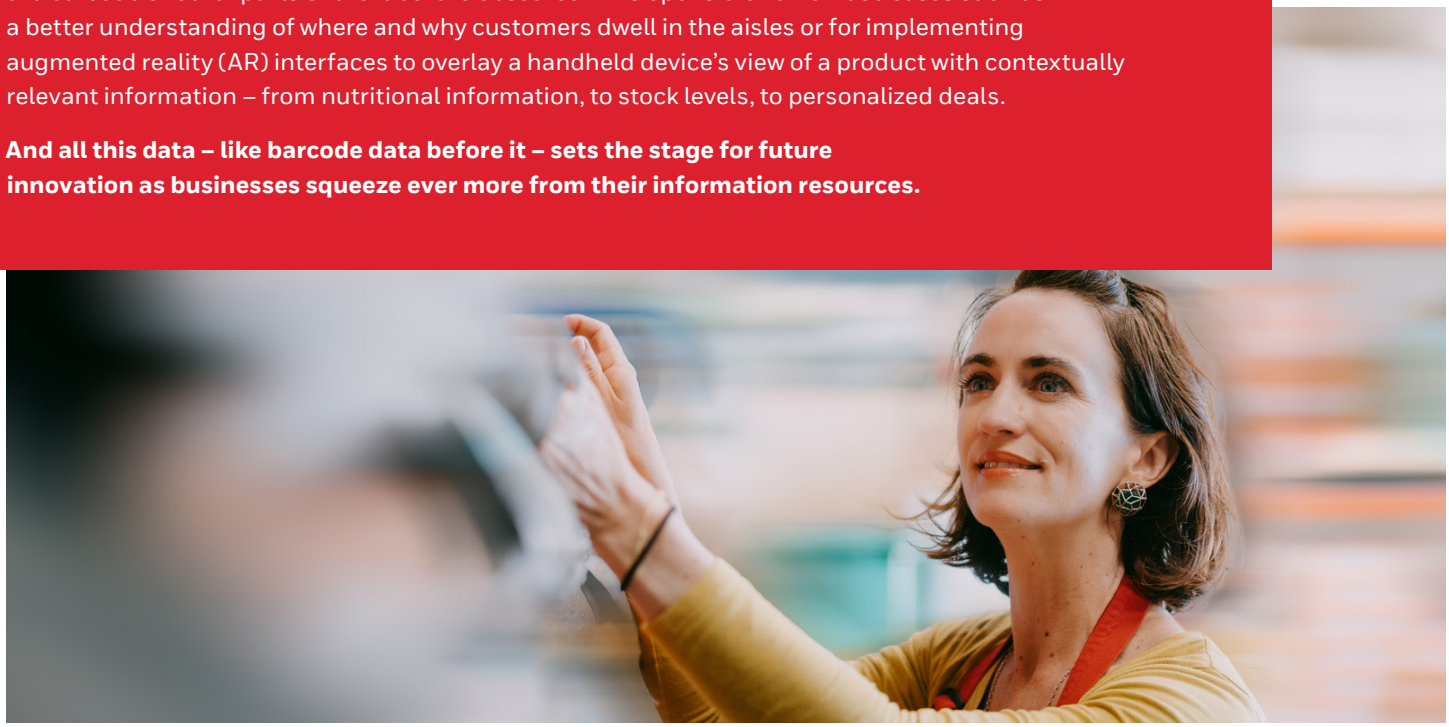
Barcodes may have seeded the data revolution, and it came alight with digital platforms that unify different stages of the retail workflow, but the industry still has vast and untapped data resources to explore. Everything that happens in a retail space, whether digital or physical, can in theory be captured in a way that transforms the retail experience.

Extreme examples of this are experiments around checkout-free retail locations, with items being tracked as they are selected and automatically charged as the customer leaves. But this is far from the only model for data-rich retail experiences: it just proves how much information is generated in shopping interactions that most retailers still don't capture.

Advanced RFID technology can flexibly and passively track goods and orders as they move, reducing points of failure and potential friction where associates must manually scan and record items in transit. This can mean better insight into which items are in back-end inventory and which are currently visible on the shop floor and can help make picking and notification procedures for click-and-collect offerings significantly more accurate and efficient. And, as an added upside, the more flexible tracking that RFID enables can also be used to alert staff to misplaced items or potential theft, helping retailers to reduce overall shrinkage.

As a further step forward, machine imaging and vision technology means that products can effectively become their own barcodes – identifiable from their appearance, regardless of whether the barcode or other parts of the label are obscured. This opens brand new use cases such as a better understanding of where and why customers dwell in the aisles or for implementing augmented reality (AR) interfaces to overlay a handheld device's view of a product with contextually relevant information – from nutritional information, to stock levels, to personalized deals.

And all this data – like barcode data before it – sets the stage for future innovation as businesses squeeze ever more from their information resources.



HOW DO INSIGHTS FROM THE CENTRAL PLATFORM GET BACK TO THE FRONTLINE?

2

Deeper, more unified data is great for the head office, where analysts can consume and digest data to report on emerging challenges and opportunities, and business leaders can use it to make more informed and adventurous decisions about where the retailer should go next.

However, it can be harder to ensure that the employees whose work produces that data are also benefiting from it. Ultimately, they want their heads up, able to interact with customers and deliver better experiences – not to be sitting at a screen and combing through the numbers.

The answer is to be more creative about how data impacts frontline operations. Mobile point of sale (POS) solutions free employees from the checkout line and make them more flexible, and these can be further enhanced to offer information on anything the employee might need to know: stock status, current deals, insights on the customer's account with the retailer, and more.

Solutions like automated voice guidance and wearable computers can take this further, ensuring that associates can always make customers and goods on the floor their priority while also staying informed about the retail location's status in real time.

In-store guided voice solutions enhancing productivity in retail

masymas SUPERMERCADOS

Mas y Mas is a Spanish grocery retailer with over 1,400 associates serving over 150,000 families with high quality produce. After a transformation initiative to digitalize its stock management workflows, they found that workers were struggling to juggle tablet computers with the hands-on labor of assessing and stocking shelves, and therefore resorting to traditional printed work orders which they later copied over to the digital system.

This not only created double work for shop staff, but also eliminated many benefits of the digital system by making it less dynamic and more error prone. Mas y Mas needed a better solution, which they found in **Honeywell Voice Guided Work.** With a microphone-equipped headset, staff can now receive interactive audio guidance while they are carrying out checklists, leaving their hands free and eyes up on the job. Procedures can now be amended on the fly as new data comes into the system, and staff can process them much faster

OVERALL, TIME SPENT ON CHECKLISTS AND AUDITS HAS BEEN REDUCED BY 75% ACROSS THE BUSINESS.

DOES IN-STORE BROWSING AND PAYMENT FEEL AS MODERN AS ONLINE?

3

Recent years have seen huge innovations around in-store payments, from self-checkout lines and scan-as-you-shop options to mobile POS terminals and automated no-checkout systems. That means that there is now a huge diversity in how retailers can pick and combine their payment solutions, which is a big benefit for the customer experience, but can also make navigating this space more difficult for businesses.

Whichever set of options you offer customers, though, the goal is clear: **retailers need to ensure that in-store options match up favorably against the experience that consumers have become used to with eCommerce.**

Achieving that doesn't just make existing purchasing habits more efficient; it changes how shoppers think. Removing delays from payments can capture impulse sales more effectively, giving customers a sense of freedom, and making the retail experience less of a task and more of a pleasure.

Regardless of your existing payment systems or the routes to purchase that your business offers, a payment platform paired with a mobile computer can streamline a retailer's approach into a unified, adaptable point of contact for customers. A solution like this consolidates payments into a single device, simplifying the payment process for both employees and customers. Pairing this with a high-quality mobile computer ensures continuous operation throughout the day, minimizing interruptions.

Using a software-based payment solution means being up to date with the methods that customers want to use, from being pre-approved with all major credit card brands, through EMV and NFC compatibility for contactless and mobile wallet interactions, all the way to keeping pace with new payments technologies as they emerge. Likewise, it enables sophisticated security methods that can sense tampering and attacks through detailed data analysis, rather than just locking down the physical device.

And, of course, the data-rich nature of digitalized payments can open the door to understanding more about how customers are behaving, with less effort, feeding vital analytics and insights work in the future.

IS THE TECHNOLOGY HARDENED AGAINST DISRUPTION?

4

Data is only useful when it's used. That means that retailers have to work hard to get relevant data into the right hands at the right time – but it also means that, as they become more data-reliant, they have to be highly proactive about ensuring that the data services that staff and customers need are never disrupted.

This isn't just about cybersecurity. While those major attacks are what generate headlines, retailers are just as vulnerable to low-level disruption when devices break, connectivity falters, or centralized services go down. In today's fast-paced retail environments, downtime of just minutes can immediately translate into lost sales. When repeated across thousands of devices, small frustrations can quickly mount up into serious revenue impacts.

However, hiccups like these are not a necessary consequence of adopting digital, data-driven solutions. The answer is to choose technology developed with the unique pressures of retail in mind, from a partner with deep experience in the sector. Properly designed, a digital retail solution will offer a way of working that neither attacks nor accidents can easily knock off course.

Optimizing Retail Productivity through Mobile Computing Technology

A retailer with over 2,000 locations in North America was experiencing challenges with the consumer-grade devices it had deployed to staff as its mobility solution. Low battery life, frequent breakages, abnormal reboots, connectivity issues, and usability failures were combining to disrupt productivity. And relying on the devices for everything from item lookup to payment meant that every interruption to functionality triggered real bottom-line impacts.

Partnering with Honeywell, a two-part solution was developed to resolve the challenge. First, the retailer moved to an enterprise-grade device – the **Honeywell CT Series mobile computer** – to deliver the rugged durability that the environment demanded with a modern, Android™-powered interface familiar to store associates.

Just as importantly, the retailer adopted the **Honeywell Operational Intelligence** platform to manage its device fleet. This software offering captures and analyzes the full breadth of data available from mobile devices, enabling the retailer to predict when devices may fail, identify and address connectivity "dead spots" in stores, and even spot bottlenecks in workflows to help boost productivity.

As a result, the retailer has significantly mitigated the costs of replacing defective devices, and increased top-line revenues by enabling staff to focus more on customer service.

THE RETAILER ALSO IMPROVED SPEED OF SERVICE BY UP TO 93% THANKS TO MORE EFFICIENT PROCESSES

CAN DATA GET TO WHERE AI TOOLS NEED IT TO BE?

5

Industries everywhere, not just retail, are rapidly adapting to the new AI reality, and learning in the process about the differences between data and high-quality data. Where human analysts can look at data and apply their experience to correct errors, getting the full benefit of AI requires more correct data earlier in the workflow; something as simple as failing to see that "t-shirt" and "t shirt" refer to the same item, for example, can skew AI analysis and deliver counterproductive results.

Retailers do, however, have two advantages in this space which put the benefits of AI closer to hand than in some other contexts:

1 PRECISION IN DATA

Retail is an environment where precise, unambiguous data is possible: products already have SKUs to identify them, KPIs like revenue and staffing costs are highly quantifiable, and it is always clear whether a purchase did or did not happen. This means that systems can be built around clear definitions and targeted outcomes.

2 IMPROVED DATA HEALTH

Secondly, new AI tools can offer solutions to challenges that retailers might experience around data quality and completeness. Increasingly mature automated identification and data capture methodologies are now available to give businesses a much more holistic view of their operations.

These solutions bring inputs like RFID scanners, IoT sensors, and business performance metrics together with an integrated, centralized database that can automatically request and accept information from many sources, fitting them to standardized formats that can then be used to feed AI tools.

When they have adopted a unified approach to collating data which is sensitive to the higher quality requirements of AI, retail businesses can start applying new approaches to everything from predicting stock needs to offering personalized details on a customer-by-customer basis.

Getting there, however, requires careful planning from an early stage: that's why Honeywell offers a responsive and consultative approach that starts with understanding what retailers have, where they want to be, and how best-in-class solutions can be applied to their unique challenges.

GET THE BEST FROM YOUR DATA WITH HONEYWELL

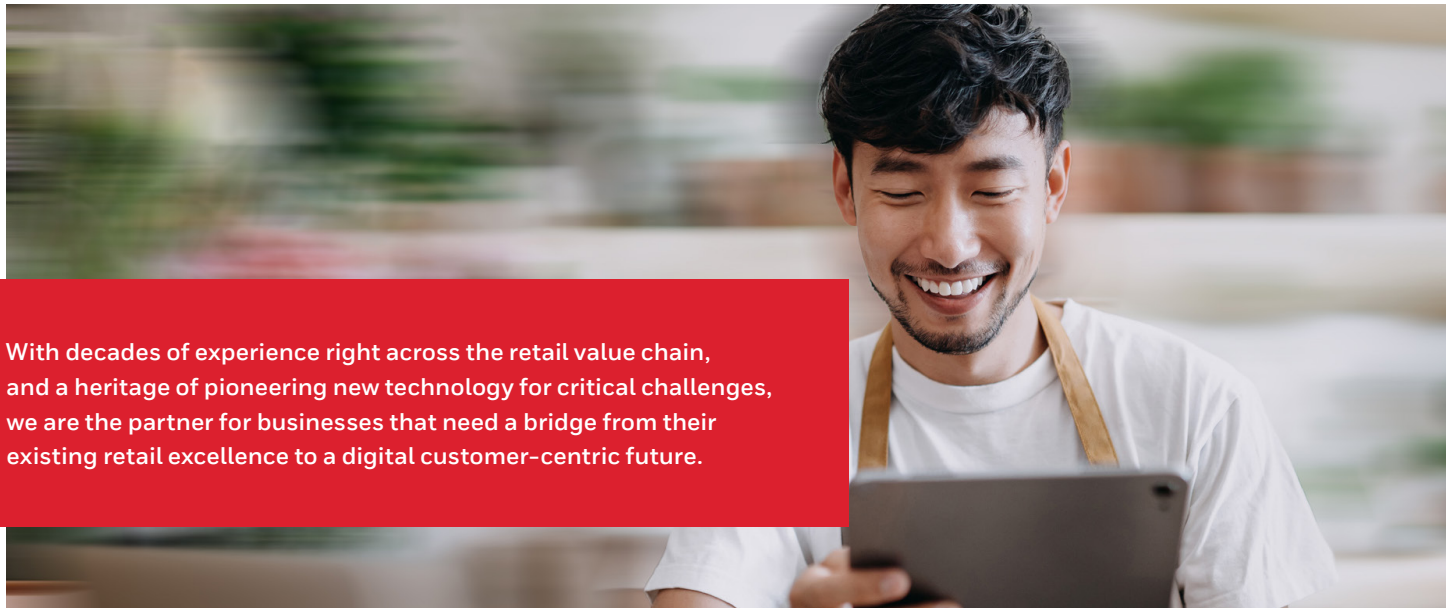
Retail innovation shows no signs of slowing down. The solutions that leading businesses are currently working to adopt aren't just meeting customer expectations today; they're setting the stage for what will be possible tomorrow.

That doesn't mean that retailers can't get on the front foot with data, however. The right strategy should prepare you to capture high-quality data from every available source, spread the insights that data creates right to the edge of the business, put digitalized experiences at customers' fingertips, stay resilient against potential technological disruption, and open up data resources to new AI tools as they emerge.

This is how retail businesses become confident, proactive, and flexible about innovation – and it starts with putting data at the heart of retail processes.

Honeywell's comprehensive suite of retail solutions – spanning connected hardware, software platforms, and consultative solution design – understands this. At every point of your retail journey, we provide leading solutions for the most ambitious retail transformation goals.

Honeywell SwiftDecoder™ offers deep flexibility in scanning, vision, and digitally interacting with goods. Where you need to keep employees hands-free and eyes-up, Honeywell Voice Guided Work joins the dots between the insights from your data and the workflow on the front line. With Honeywell Smart Pay, retailers can make mobile devices the next stage in their point-of-sale evolution, enabling more personalized routes to payment. And challenges around device management – from location tracking to predictive maintenance – are answered by the real-time monitoring offered by Honeywell Operational Intelligence.



With decades of experience right across the retail value chain, and a heritage of pioneering new technology for critical challenges, we are the partner for businesses that need a bridge from their existing retail excellence to a digital customer-centric future.

Transforming your business through smart solutions

Ready to unlock the future of retail?

Get in touch with one of our experts to learn more about how your business can take the next step forward.

For more information
automation.honeywell.com

Honeywell Industrial Automation
855 S Mint Street
Charlotte, NC 28202
800-582-4263
www.honeywell.com

Honeywell Retail Data | Rev A | 0703
©2025 Honeywell International Inc.

Honeywell