

RetailWeek

June 2017

PRODUCTIVITY



AI to the rescue

How artificial intelligence is driving gains in retail productivity

- **Future of labour:** How retailers are coping with rapid change in the workplace
- **Tech incubators:** Could accelerator programmes be the answer?



“In the current milieu of squeezed profit margins and mounting cost pressures, productivity is top of mind for retailers”

Laura Heywood, head of commercial content operations

Grappling with retail's biggest conundrum

In Retail Week Prospect's ranking of the top 30 most productive retailers in the UK, Asos sits in pole position. The women's and men's fashion etailer has maintained double-digit sales growth for well over five years. And, while a hike in its headcount in recent years has resulted in declining sales per employee, at approaching £550,000 the etailer still takes top ranking by a significant margin.

Measured by sales per employee, the list shows Farfetch and Missguided coming in close behind in second and third place, meaning the top three all operate within the fashion sector.

Online retailers also have a strong showing in the ranking, with the four retailers in the top 10 – Asos, Made, Victoria Plum and Yoox Net-a-Porter – all being pureplays.

Given its ruthless focus on efficiency, it is perhaps unsurprising that Aldi takes 16th place. It is, in fact, the only grocer within the top 30, underlining its tight control of all aspects of its operations.

In the current milieu of squeezed profit margins and mounting cost pressures, productivity is top of mind for retailers.

As leading names grapple with this challenge, many believe that, in the longer term, efforts to improve productivity will be influenced by government policy.

British Retail Consortium chief executive Helen Dickinson points out: “At a time when UK retail is having to find 20% of its current profitability to mitigate the impact of uncontrollable increases in its cost base, and against a backdrop of inflation and slow growth, the industry's commitment to improving productivity will require the support of government policies that allow room to invest in skills and technology for the digital age.”

Indeed, national minimum and living wage factors are likely to take their toll on low-skilled employment. Retailers may look to boost margins and productivity in the medium term through investment in technology to replace lower-skilled roles.

Our *Productivity* supplement is dedicated to exploring this very subject. We ask what the role of emerging tech will be in driving gains within retail productivity and if this might have an impact on the human workforce in the not too distant future.

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LABOUR

Is the productivity challenge threatening the livelihoods of vast swathes of the workforce, or is this an overdue streamlining of operations? **Ben Cooper** reports



The labour market of the

FUTURE

From shopfloor to top floor, we need to reclaim social mobility in retail,” said Matthew Blain, head of HR operations at Boots, at the British Retail Consortium (BRC) Retail 2020 conference in May.

Even during a special event dedicated to the retail workforce – and, notably, the threats facing it – this was a telling admission, partly because of the key question it poses.

In an industry that prides itself on a high ratio of top executives who started at the bottom, why is there a need to “reclaim social mobility” at all?

Could it be that, after a decade of torrid competition, digital disruption, productivity drives and even scandals over retailers paying less than the minimum wage, employees are being forced into vulnerable, low-paid, temporary positions or – in the worst cases – made redundant?

Grappling with rapid change, and the little matter of the national living wage, no option is off the table when it comes to retailers finding the extra margin and boosting productivity. So where does this leave the most vulnerable, low-paid workers, and what might the labour market of the future look like after an era of so much change?

Structural change

Describing the current evolution in the retail labour market as a paradigm shift may not be a resort to hyperbole.

Speaking in September last year, John Lewis Partnership chairman Charlie Mayfield referred to a “level of structural change not seen before” and was frank about the potential consequences.

“We all need to rethink how our businesses operate,” he said. “What our customers need in the future and what this means for the

skills of the people we employ. We don’t believe the transition will be easy, but we are committed to ensuring that in the future there will be better jobs in retail.”

In the current conversation, “better jobs” does not mean more jobs. Indeed, three months later, new John Lewis managing director Paula Nickolds had the invidious task of announcing 800 job losses, with the prospect of more to come.

Not that JLP is alone by any means. With the national living wage now in play, Jason Shorrocks, vice-president of EMEA retail strategy at software firm JDA, says that when it comes to working practices for those that do keep their jobs, things could “change quite dramatically” in the coming years.

“The challenges are the fact that, not only is the living wage increasing labour costs, there is a hugely challenging retail environment at the moment with the pureplays, particularly

Amazon, and disruptors coming in and squeezing retailers,” he says.

“At first, retailers were slightly changing their working conditions and productivity to absorb the first steps of the national living wage. But, in the last year, there’s been a huge increase in the number of retailers looking to automation in stores and warehouses.”

But how does this play out in reality, for staff on the shopfloor and in the warehouses? Jasnam Sidhu, artificial intelligence and disruptive innovation consultant for PwC, says there are a range of new systems and tools at retailers’ disposal.

He says: “We’re seeing businesses use technologies such as artificial intelligence (AI) in order to augment their abilities in being able to meet ever-growing customer demands, such as instant and more tailored offerings. An example of this is using chatbots to support with handling customer queries.”

Threat of automation

You only have to look at the Amazon Go store in Seattle – and, coming soon, London – to see just how far automation could go in stores. And in warehouses the change is likely to be even more dramatic.

Shorrock says that, in many cases in the future, staff could be reduced to being chiefly supervisors of technology.

He says: “A number of retailers are coming to us to ask about ways to improve costs, and that’s by implication about the number of staff they need to have. Retailers and logistics companies are expecting more and more from warehouses as things continue to get more sophisticated. The staff that are left have the job of overseeing the automation.”

But is it really doom and gloom for human beings? Kevin Connor, director of product strategy at Retail Pro International, says no.

“The retailers I work with are using tech to leverage the customer experience,” he says. “From our perspective, we see that tech has made things more efficient and there is a fear



“We have a choice between better jobs, innovation and new skills, and a shrinking UK retail workforce”

Helen Dickinson, BRC

that the workforce will shrink. But it’s more of a learning curve and understanding how tech can work for you to help you focus on the consumer. I think tech has made human contact more important.”

Indeed, one of the findings of the BRC’s recent study into automation and technology, released at Retail 2020, was that, rather than simply stripping jobs away from retail, some 100,000 new positions have been created in the past five years alone as a direct result of technology.

These are what Mayfield and others have described as the “better jobs” in retail – more highly skilled, technical roles that didn’t exist before tech arrived.

And with the savings – both in time and money – that technology can bring, says Sidhu, there are cases where this can actually mean more jobs being created as a result.

He says: “By making the workforce more productive, companies can also afford to hire more staff. For example, AI applications are now extending to using predictions to lower the number of returned items.

“Otto, a German ecommerce retailer, uses AI to predict, with 90% accuracy, what merchandise will be sold within 30 days. Interestingly, it did not fire anyone as a result of the algorithmic work and actually hired more people.”

However, there’s no denying that automation poses a threat to the human workforce, the implications of which are far and wide.

Not least because, with the majority of people in the lowest paid jobs being women – BRC research identifies 135,000 women are “particularly vulnerable” from both future job losses and tax-credit cuts – the risk of the gender pay gap is widening, not shrinking.

For retail, moving “from the industrial revolution to the digital revolution”, as former Waitrose boss – now trade minister Lord Mark Price – puts it, is fraught with complications and, for the workforce, risks.

Creative solutions

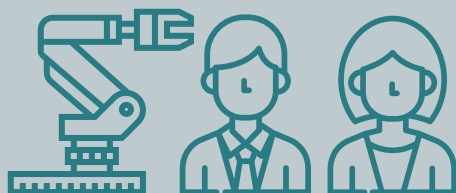
For losses to be mitigated, the most vulnerable staff to be protected and productivity to be raised, more creative solutions are needed.

The BRC’s recently launched Retail Pioneer Programme – with the backing of, among others, B&Q, Dixons Carphone, Tesco and John Lewis Partnership – identifies how retailers can unlock the potential of their part-time staff and raise them out of the low-wage cycle.

Announcing the initiative, BRC chief executive Helen Dickinson said: “We have a choice between improved productivity driven by better jobs, innovation and new skills for the digital age, and improved productivity driven primarily by a shrinking UK retail workforce.”

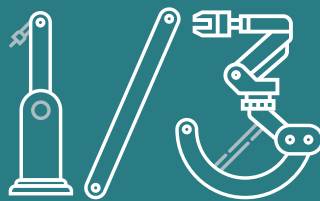
It’s a stark crossroads to be at. Even starker decisions will need to be made by retailers now, in order to decide which of the two future outcomes is the most likely.

Between 2011 and 2016, 100,000 new jobs have been created as a direct result of tech



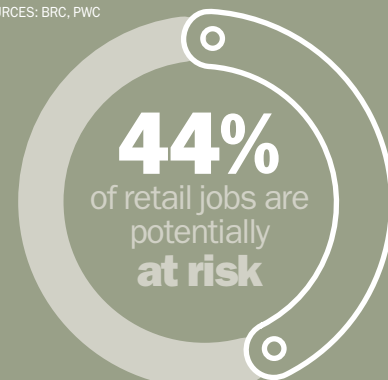
By 2025
900,000 jobs
could be
axed
from the retail sector

Automation alone
could **threaten**



one third of all jobs
in the UK economy by the 2030s

SOURCES: BRC, PWC



making it one of the most vulnerable sectors

TECH

As more retailers from the grocery and fashion sectors jump on the tech incubator bandwagon, **Nick Hughes** explores whether accelerator programmes could provide an answer to the productivity problem



Can tech incubators boost PRODUCTIVITY?

If there's one thing that puts the brakes on technological change more than anything else, it's the fear of failure. It's the reason why so many retailers stick to the processes and systems they know, even if these same processes and systems are making them less productive than their competitors.

But what if there was a way to capture the benefits of new technology without running the risk of investing millions in the wrong kind of innovation? Tech incubators are allowing retailers to do just that by matching them with young start-ups to collaborate on cutting-edge innovations and, in some cases, form lasting commercial ties.

There are clear productivity benefits to be unlocked by such partnerships. One example is N Brown's new Style Advisor service on the JD Williams website, which hand-picks products to suit customers' individual tastes and recommends key seasonal pieces to complement their style.

Style Advisor is a collaboration with a start-up called Dressipi, as part of N Brown's

JDWorks tech incubator, and is expected to boost conversion rates and customer engagement on the JD Williams site. The result is an improvement in the efficiency of online sales, which is a key indicator of a retailer's productivity.

Given such success, this feature asks to what extent can tech incubators provide the answer to retail's productivity problem and what are the golden rules for capitalising on such collaborations?

Learning from the best

John Lewis is one of the pioneers of the tech incubator, having recently launched its fourth annual JLAB start-up competition.

The company-wide programme, which is run in partnership with innovation specialist L Marks, gives between five and 10 start-ups the opportunity to develop their products in collaboration with – and using the resources of – the retail giant.

The chosen start-ups undergo a 12-week programme, based at either John Lewis or Waitrose's head office, and compete for an

investment of up to £100,000 from a total fund of £200,000.

Of the 2016 intake, three start-ups benefited from investment. One of these was Wedding Planner, an online platform that provides free planning tools as well as supplier listings, prices and availability, all helping couples to save time and stress when arranging their big day.

Wedding Planner's first collaboration with a major retailer has proved a valuable one – and not just in the form of a £50,000 investment. The company's chief executive and founder, Robin Weil, says participation in JLAB was an invaluable experience for the business. It allowed him and his team to gain access to John Lewis mentors on a daily basis and have the business idea validated by the retailer and its employees.

JLAB start-ups also get access to customer panels and research, and have the chance to demo products and services in stores to gauge the response from customers.

From John Lewis's perspective, innovation manager John Vary is keen to stress that the main objective of JLAB is not productivity

gains, which is a wider focus for the entire Partnership. However, it is clear that the coming together of an established retailer and a dynamic start-up can produce the kind of chemistry that will lead to improvements in ways of working.

As L Marks's chief operating officer Liberty Mawhood explains: "When you look at productivity, you think about what corporates are there for – they are set up to take a model that is working well, repeat it and make it much more efficient. Whereas start-ups, by their nature, are still trying to find a business model – they are constantly experimenting – and I think that's where you can get an increase in productivity, when the two come together."

Improving efficiency

Collaborations that have the potential to improve efficiency of sales and augment the customer service experience are of particular interest to N Brown.

"The goal is to address our customers' needs as easily as possible through the use of technology," says Tim Price, N Brown Group's chief technology officer. "We're also looking to enhance our use of data through advanced analytics and machine learning. This will allow us to further personalise our customers' experiences in real time."

Efficiency savings and improving shopper experience aside, one of the main attractions of



tech incubators for retailers is the opportunity to use the agility and dynamism of start-ups to help foster a culture of innovation across their own businesses.

Unconstrained by rigid structures and bureaucracy, start-ups can turbo-charge innovation in ways that large retailers can only dream of. Weil makes the point that it was hugely beneficial for John Lewis employees

to see how Wedding Planner worked and how it can be innovative, "almost proving to these individuals that they had the opportunity to make changes and developments much faster".

While tech incubators can put retailers on the fast track to successful innovation, the way in which they are helping to solve the productivity conundrum is another big bonus for the retail sector.



Case study: Asos

Asos is another business partnering with innovative start-ups to improve the way it does business. The fashion retailer has joined forces with Wayra UK, part of Telefónica Open Future, to find solutions to issues faced both by Asos and the communications giant Telefónica, which operates more than 472 stores under the O2 brand.

The programme has already resulted in support for a smart chatbot firm, a crowdfunding gift-purchasing platform and a last-mile delivery company. Meanwhile, a previous hackathon winner, Qudini, is

now Telefónica's global preferred supplier for queue management software. Together with another start-up, RotaGeek, it saves O2 around £1.5m a year.

RotaGeek is an online employee-scheduling tool that enables store managers to instantly schedule staff shifts and allow employees to swap shifts seamlessly.

It is a classic example of a technology that can have a positive impact on productivity, by cutting down on the time-consuming process of creating staff rotas and freeing up managers to get on with the job of managing,

The risks of tech accelerators

The danger of so-called 'start-up tourism' is a real one, whereby retailers rush to invest in the next big disruptor without keeping sight of their strategic objectives.

L Marks's Mawhood notes that corporate organisations are good at shutting down or delaying non-strategic projects before they get launched. However, Gary Stewart, director of Wayra UK and Telefónica Open Future UK, suggests retailers must clearly understand the business case, beyond PR and marketing, and set clear KPIs.

Not all tech accelerators will prove to be a success. Many start-ups will leave without an investment, although for the lucky few, such as Wedding Planner, it can prove a game-changing experience.

Retailers, for their part, shouldn't put all their eggs in one basket. N Brown's Price notes that, aside from working with start-ups, the retailer has talented people in place who make it their job to know about the latest technology trends.

"Whether that's looking to international markets, other retailers or attending events and seminars, we know that this area is constantly changing and you can't sit still in retail – or IT," he says.

AI From customer service robots in store to online chatbot assistance, artificial intelligence is playing a crucial role in driving gains in retail productivity. Retail Week investigates this potentially game-changing phenomenon



AI to the

RESCUE

Imagine your key assembly line has broken down. Now imagine a robot is on hand to tell your engineers where the problem lies and provide them with the tools to fix it. That's the power of artificial intelligence (AI) in action and just one example of how the technology could transform the productivity of retailers in the years ahead.

The robot in question has been developed by Ocado, which has established itself as a leader in the development and application of AI in a retail setting.

Next-generation technology is so central to the online retailer's business model that it has established its own technology division. Ocado Technology develops the software and systems that power the online grocery retail platforms of Ocado and Morrisons, as well as building systems for general merchandising retail businesses.

The robot engineer is part of an EU-wide research collaboration called SecondHands and has yet to be fully commercialised, but other AI applications are already delivering significant productivity gains to retailers.

Ocado also recently launched a machine learning-enhanced customer contact centre, which employs an advanced AI software model to categorise customer emails, ensuring that the most urgent enquiries are given priority and saving employees hours spent categorising thousands of emails manually.

Customer service is one area of the retail operation in which businesses have been most willing to experiment with AI-based solutions. The likes of eBay, North Face, Schuh and Shop Direct are among a number of retailers testing online assistants powered by AI – so-called chatbots – to carry out routine, repetitive tasks, thereby allowing employees to dedicate their time to more value-added work.

"It's not too hard to envisage chatbots allowing us to more efficiently handle routine site interactions with our customers in a way that is both more efficient, low-friction and enables us to free up our most precious resource – our people," says Sean McKee, ecommerce and customer experience director at Schuh.

Helpful robots

For customers who prefer their robots to take a more physical form, across the Atlantic the first wave of customer service robots are beginning to come on stream.

In 2016, US home improvement retailer Lowe's introduced an autonomous customer service robot in stores throughout the San Francisco Bay area after a successful two-year pilot. The LoweBot is able to navigate the store answering simple questions in multiple languages, freeing up staff to spend their time offering expertise and specialist knowledge.

82% of retail bosses think machine learning will have a disruptive effect on retail

There's no question that innovations such as the chatbot are reshaping the way customers interact directly with a retailer. However, for IBM's retail industry director Danny Bagge, although the business case for retail AI may currently be in chatbots, the really exciting opportunities lie in other parts of the business.

Take merchandising, for example. IBM's Watson 'supercomputer' is opening up new horizons by allowing retailers to have a hyperlocal view of what they should be stocking, something Bagge says will be a "massive transforming space" in the way data is captured and used.

"We can now get down to the level of a store in, let's say, Reading, and say this is exactly your profile of consumer, this is exactly what's going to happen with the weather, this is exactly the footfall from your CCTV camera last week," he says. "So you can say, for that store, this is what you should be ranging."

Watson is also capable of ingesting imagery, from Paris or London Fashion Week for example, and using that data to suggest how high-street colour palettes will look next season.

The aim, according to Bagge, is not to replace the role of humans, but to augment the intelligence of a human merchandiser or buyer and transform the efficiency and effectiveness of the design process.

"Humans could do it, but it takes a long time," he says. "Supercomputers like Watson can do this in the blink of an eye."

Barriers to adoption

Bagge says we are currently only scratching the surface of the potential for AI to transform the way retailers work. So why aren't more businesses embracing cutting-edge tech to boost their productivity?

Cost – or the perception of cost – is often the greatest barrier. "Any upfront investment is always going to raise questions, especially for retailers where their cash flow is fundamental," says Rupal Karia, head of commercial sector for the UK and Ireland at Fujitsu.

"That said, the savings for retailers through using AI can be so significant, by helping them to reduce costs and focus on areas that will enhance their brand, that retailers shouldn't see cost as a deterrent, but see the long-term value that AI can bring."

Those retailers that have already embraced AI are constantly searching for the next possible application. Ocado, for instance, is looking to use it to solve challenges around vehicle routing.

"We have hundreds of delivery vehicles and tens of thousands of drop locations," says James Donkin, general manager at Ocado Technology. "Each order has a volume, a weight and a time slot within which it must be delivered, and each van has constraints around how much you can fit in it and how far it can drive. Once you

know this, you can then look at the optimal solution to deliver the most groceries in the shortest time using the least vans."

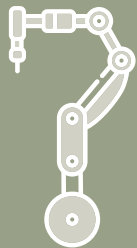
Where delivery is concerned, Karia goes a step further and suggests that AI-powered driverless vehicles could achieve even further gains in supply chain productivity.

"Automation of vehicles and delivery will allow retailers to deliver items at a cheaper

and faster rate, which will open up massive potential," he says.

Among retailers, there is a growing appreciation of the role AI will play in the retail industry of the future. A recent survey of executives by Retail Week found that machine learning is tipped to have an impact on the sector by 82% of the retailers surveyed – yet only 48% currently use it in their business.

If the remaining 52% are concerned with boosting their long-term productivity, maybe it's time they too joined the AI revolution.



Does AI spell the end for humans?

Amid the excitement about the transformational effects of AI for retail productivity, there is nervousness too

about the impact its adoption will have on humans themselves.

The narrative that more sophisticated machine learning will lead to mass redundancies has gained currency in recent years. However, both Ocado and IBM – two of AI's most enthusiastic proponents – insist that it is about enhancing the productivity of the individual and freeing them up "to do more of the interesting work and less of the grind work", as Ocado Technology's Donkin puts it.

Ocado's SecondHands project is a case in point. The goal of SecondHands – a collaboration funded through the European Union's Horizon 2020 Research and Innovation programme – is to design a robot that can offer help to a maintenance technician in a proactive manner. Rather

than fixing the problem itself, the robot provides a second pair of hands to the technician when he/she is in need of help.

IBM's Bagge agrees that AI is not about replacing humans.

"The best IBM Watson cases are all about augmenting," he says. "All our designing techniques are around finding the right colour matches, the right fabrics, the right patterns. It still takes a human to say, 'I think this is the right thing to build'."

Even if there's no net loss in human roles, it feels inevitable that some AI applications will result in a shift in people's work functions. Another Ocado collaboration, SoMa, is in the process of developing a robotic hand that is able to pick and pack groceries without damaging them – tasks still carried out exclusively by humans at Ocado fulfilment centres.

But even if robots ultimately take on these types of routine tasks, Ocado insists it will always need humans to do more advanced types of work. "The history of Ocado shows that with our continued investment in automation there's no drop in work being done by humans," says Greg Cempla, general manager at Ocado Technology.



Technology such as driverless lorries will impact the workforce