Retail Week CONNECT
REPORTS

In association with Osborne Clarke

Preparing for tomorrow's supply chain

Embracing innovation in a world of disruptors

RETAIL WEEK FOREWORD

LAURA HEYWOOD
HEAD OF COMMERCIAL CONTENT OPERATIONS, RETAIL WEEK CONNECT

Logistics has never been more important to retailing than it is today. True, it has always been essential to keep the wheels of a retail business whirring away – beyond the shop floor, en route between stores and in huge warehouses up and down the country.

But in 2017, retailing and logistics are merging into one: shoppers order goods online direct from the warehouse aisle to be dispatched by increasingly intelligent automated systems, barely touching human hands along the way. And if Amazon Go tells us anything, it is that with a certain inevitability, the boundaries between the shop floor, the supply chain and the technology that connects them will blur.

It's a complex new world, rich with opportunity. This report, in association with Osborne Clarke, takes a look at some of the most exciting innovations in retail supply chains from recent years.

It presents an overview of the emerging technologies changing the rules of the game; the ambitious disruptors with innovative ideas to improve things; the complexities and pitfalls of taking your business overseas; the immense power of data at a retailer's disposal; and the newest trends in warehouse management. If you're committed to preparing for tomorrow's supply chain, you can't afford to not take serious note.

We discuss what you need to know to keep up and adapt. Managing the vast amounts of customer information that can be accessed through social media and external geopolitical and environmental databases is as much of a challenge as it is an opportunity, and we offer some vital advice from the people at the cutting edge.

The Internet of Things is bringing it all together in ways entirely unprecedented for sheer scope, power and systematic control. In the following pages, you will get a sense of what is changing and what you need to know.

We present an overview of the latest gadgets and technologies, from the driverless car to the 3D printer and blockchain systems – unfathomable 20 years ago but before long to become common sights and normal practice.

Many of the tools, gadgets and expertise retailers need to do business in such a rapidly evolving logistics environment are already with us and many more are just over the horizon. We've spoken to the experts behind them, the thinkers and doers shaping the next generation of technology, and the retailers that have already taken big leaps into a future currently being written.

RETAIL WEEK CONNECT: PREPARING FOR TOMORROW'S SUPPLY CHAIN

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RetailWeek CONNECT

PARTNER VIEWPOINT

WILL ROBERTSON
LOGISTICS PARTNER, OSBORNE CLARKE

Disruptive technologies are transforming the supply chain. What's more, the very nature of, and science behind, logistics puts innovation front and centre of this adaptive sector. We are in the midst of a quiet revolution turning supply chains from an invisible force into an active and differentiating experience that drives economic success and shapes global brands.

This report is the essential guide to the risks and rewards of that transformation. Today, businesses across the supply chain that embrace new technology can gain a crucial edge over their competitors, and digital innovations have the power to make data a new commodity.

By knowing where every item is located, its dimensions and even customer preferences expressed on social media, companies can dramatically reduce costs ranging from excess packaging to unnecessary warehousing.

Of course, many of the latest innovations in the supply chain – drone-based delivery, in-shop 3D printing and the like – are not new, but are now being deployed at scale. So perhaps the greatest change will be in the way data is collected and put to use.

All this opportunity doesn't come without risk. While big data brings huge opportunities, it means that cybersecurity is key and data protection breaches will be one of the biggest threats to businesses.

Retailers and supply chain providers will need to study how they can collect the data they need without putting themselves at risk of compromising consumers' private data, or their own commercially sensitive information.

Information security needs to be high on the agenda. Global variations will also need to be considered; while new data protection and consumer rights laws may harmonise the legal position across Europe, brands operating further afield will require more complex compliance processes.

Beyond data, disruptive technologies like self-driving trucks, blockchain and artificial intelligence systems present regulatory, contractual and procurement challenges for everyone involved in the supply chain.

As the supply chain is transformed, the legal landscape will shift with it. That's where we come in. We are helping countless businesses prepare for the supply chain of tomorrow. Let us know if you'd like us to help you too.

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Osborne Clarke

CHAPTER ONE

TECHNOLOGY SHAKING UP THE SUPPLY CHAIN

Speaking at a major retail logistics event in January, Sainsbury's Argos chief digital and marketing officer Bertrand Bodson made a very telling remark. The company, he said, is becoming "a tech company as much as a retailer".

As little as 10 years ago, the idea of Sainsbury's as a tech company would have been difficult to comprehend. But then there are lots of new ideas to get your head around in modern retailing, including a raft of new technology. Driverless lorries, 3D printing, blockchain technology, open-source systems where retailers share data: new innovations are emerging at a rapid rate, rewriting every rule in the supply chain book.

So how can retailers navigate the mass of new logistics disruptors and, more to the point, how can they harness new technologies cost-effectively to gain that crucial edge?

DELIVERY CHALLENGE

Arguably the biggest challenge currently facing the logistics sector is how to make deliveries not only more convenient, but more profitable. As David Jinks, head of consumer research at courier firm ParcelHero, says, in retail logistics "time is money".

"Consumers increasingly expect same-day and even same-hour deliveries. Consumers now also expect to know where their delivery is currently, exactly when it will arrive and whether they can re-route it 'in flight'," he says.

In the next decade we might see driverless trucks in action. Trials are already under way

around the world, with companies like Tesla, Uber and Amazon now looking seriously at the technology. There's plenty still to be worked out – not least safety concerns – but with such huge time efficiencies to be made, there's every chance deliveries of the future will arrive at the hands of a robot.

How packages arrive at the end of the process is contingent on operations behind the scenes being managed to the finest detail. One of the keys to this, says Zalando vice-president for logistics products Jan Bartels, is to have the most up-to-date warehouse management systems (WMS) in place to enable the fastest possible transition of goods.

"Having a customised WMS allows not only a highly efficient process, but it is even possible to realise bigger integrations, such as the implementation of a fully automated process with a bag sorter in our 1,400,000 sq ft warehouse in Mönchengladbach, Germany – while a less automated process is running in parallel in the same fulfilment centre," he says.

Once stock is out of the door, a whole new challenge begins. Very few retailers manage their entire delivery network themselves and, as a result, thousands of logistics providers are doing a roaring trade, from giants like DHL and DPD, to smaller courier companies and some true fledgling innovators such as ToBoot, which will drop packages directly in shoppers' car boots.

There are abundant solutions available but, retailers won't need to be told, each involves relinquishing a degree of control. Once the stock is out of your hands there are plenty of things that could still go wrong.

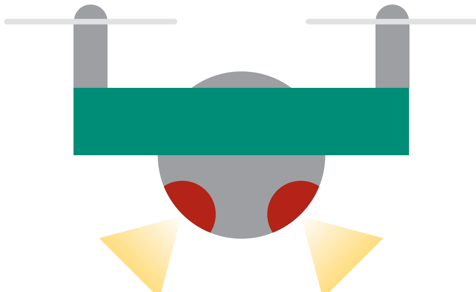
But Alan Holland, business unit director at Segro, says there are ways that retailers can keep control and where technology can play another vital role. "There is a lot of inventory knocking about the system not in retailers' hands," he says. "We've got to face the way we are dealing with that. There are things in the process lines that can be improved, such as cross-docking. Retailers need to use these new systems to get that operational advantage."

SMART SOLUTIONS

With etailers like Zalando advancing at a phenomenal rate and serving a disparate and varied shopper base, some very smart solutions are needed to keep the whole thing flowing. Cue another major disruptor: artificial intelligence (AI).

Bartels says: "To allocate our items efficiently, we need to know today what Italian, French or Swedish customers will need tomorrow. With machine learning we are able to forecast market needs and allocate products in a reliable way."

"INSTEAD OF A 'DELIVERY' BEING BROUGHT TO YOUR DOOR, IT WILL ARRIVE DIGITALLY TO YOUR 3D PRINTER, WHICH WILL MAKE THE ITEM THERE AND THEN"



And then there's the concept of removing the delivery process altogether. It's already perfectly conceivable – many say inevitable – that instead of a 'delivery' being brought to your door, it will arrive digitally to your 3D printer, which will actually make the item there and then.

AI and 3D printing are two solutions among a whole cornucopia of headline-grabbing gadgets typified by Amazon's drones. But as is so often the case with logistics, one of the most valuable commodities of all is simply good data. It's become one of the most useful things a retailer can draw on to understand their shoppers, so it should be one of a business's most closely guarded secrets.

Or is it? Another nascent trend in logistics is the concept of 'open' systems – huge collaborative databanks into which retailers and third-party logistics firms contribute and extract vast quantities of customer information.

Blockchain, another technology that relies on collaboration, is also tipped to transform retail logistics. In short, blockchains enable parties – such as retailers and shoppers – to transact online quickly, securely and directly, bypassing traditional fee-charging third-party intermediaries such as banks.

It may be a long way off mainstream use, but more forward-thinking retailers are considering using the technology. Blockchains fit with one of the internet's core paradigms that power, in this case over transactions, can always be decentralised and shared. With third parties out of the picture, the savings on retailers' bottom lines could be immense.

Whether it's Adidas's ecommerce app aimed at trendy 20-somethings, Screwfix's slick multichannel trades service or the bold steps that Dixons Carphone has made with its multi-brand stores, it's behind the scenes, in the supply chain, where retail operations can be made or broken. Cue the age of the innovators and the disruptors with the answers.

COMMENT
KATIE VICKERY, PARTNER, OSBORNE CLARKE UK

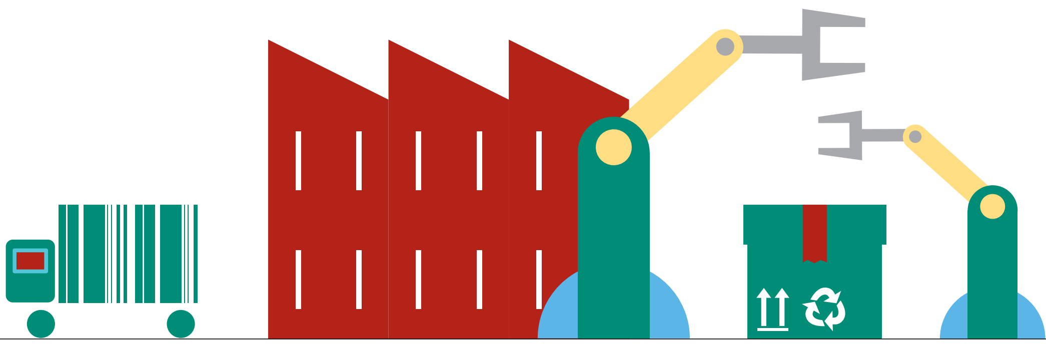
"Disruptors are revolutionising the supply chain and retailers who embrace the new technology may gain a crucial edge over their competitors. A good example is 3D printing.

"Retailers are excited about its potential, not only as part of a comprehensive supply chain but also as a means to provide customers with bespoke products quickly. With 3D printing, the supply chain alters so the printer becomes the manufacturing source. The actual printing could occur in store, a distribution depot or even the customer's home.

"However, retailers need to be wary that printing a design file sourced from a third party may mean unwittingly taking on product compliance obligations, by becoming the designated 'manufacturer' or 'importer', that may not have applied if the third party had supplied the actual goods.

"It is important from a quality and safety perspective that the printed product is viable. But design files can be defective or there could be an error in the printing itself. While software is being developed to help identify such defects, quality and risk teams need to think about new ways of meeting product safety requirements and, for certain products, CE-marking requirements.

"Regulation will be behind the advancement in this technology, but that should not hold retailers back. Businesses can apply existing product safety principles and intellectual property law to develop the compliance systems needed to support innovation in this area."



CHAPTER TWO

THE INTERNET OF THINGS: SUPPLY CHAIN'S BIG LEAP

Tales of robot armies were once the stuff of science fiction, not the retail trade press. But in 2016, online grocery specialist Ocado publicised its automated warehouse system for online deliveries, hoping to sell the technology to other retailers around the world.

The move shone a spotlight on the Internet of Things (IoT), a concept that promises to connect a vast range of sensors, robots, displays and navigation systems to the internet to help manage businesses more intelligently.

Ocado built a system that controls 1,000 robots running on a grid of rails to help pick and distribute online deliveries. But it also collects all the data from the system to understand and improve performance, according to Ocado's technology head of data Dan Nelson.

"We go back and look at the data. Our newest robot warehouse in Andover allows us to do advanced analytics through visualisation or machine learning to optimise component parts on robots and communication systems and see how they interoperate," he says.

Nelson adds that Ocado also stores and analyses GPS data from its delivery vehicles for later analysis to understand how it might have better optimised routes, almost down to the individual customer.

MAKING DATA WORK

Despite its slight space-age connotation, the ability to connect intelligent devices to the internet has been around for some time.

Transport companies in the retail supply chain have been collecting data about location, but also driver behaviour, and, in the case of foods, product temperature. But retailers can find it difficult to gather and analyse data because different companies use it for different functions and can sometimes be reluctant to share it.

GateHouse, a Danish software company with a background in tracking global maritime freight, is trying to solve this problem.

Søren Danielsen, strategic sales manager, says the transport sector is very fragmented, with thousands of companies running hundreds of different tracking systems.

GateHouse aggregates the data and combines it with information from planning systems within its retail customer base, including Dansk Supermarked Group, which owns Netto.

The retailer runs around 400 stores and three distribution centres, and uses up to seven transport companies. Once each transport supplier's vehicle gets within a certain distance of one of its distribution centres, GateHouse publishes the data to the retailer and then tracks the vehicle on its journey from store to store, updating the retailer on any delays or more serious problems.

The information is displayed on a screen at the back of each store, rather like an airport departure board. It tells staff about delays and disruption, and they can then update the planning system, says Danielsen. "The main benefit is store staff spend a lot less time on the phone finding out where deliveries are, and can concentrate instead on adjusting their own plans to accommodate updates from the distribution systems, which can mean trucks spend less time waiting at the back of stores," he says.

The data is also collected for later analysis to improve distribution and store performance.

The difficulty in establishing the system has not been in the technology, but getting all parties in the supply chain to share data in a way that does not disadvantage them.

"Supermarkets were asking their transport companies for all their GPS data, but they were reluctant to provide it because this could also give away information about how they work with other customers and their internal costs. We make it clear we are neutral and retailers only see the data relevant to them," says Danielsen.

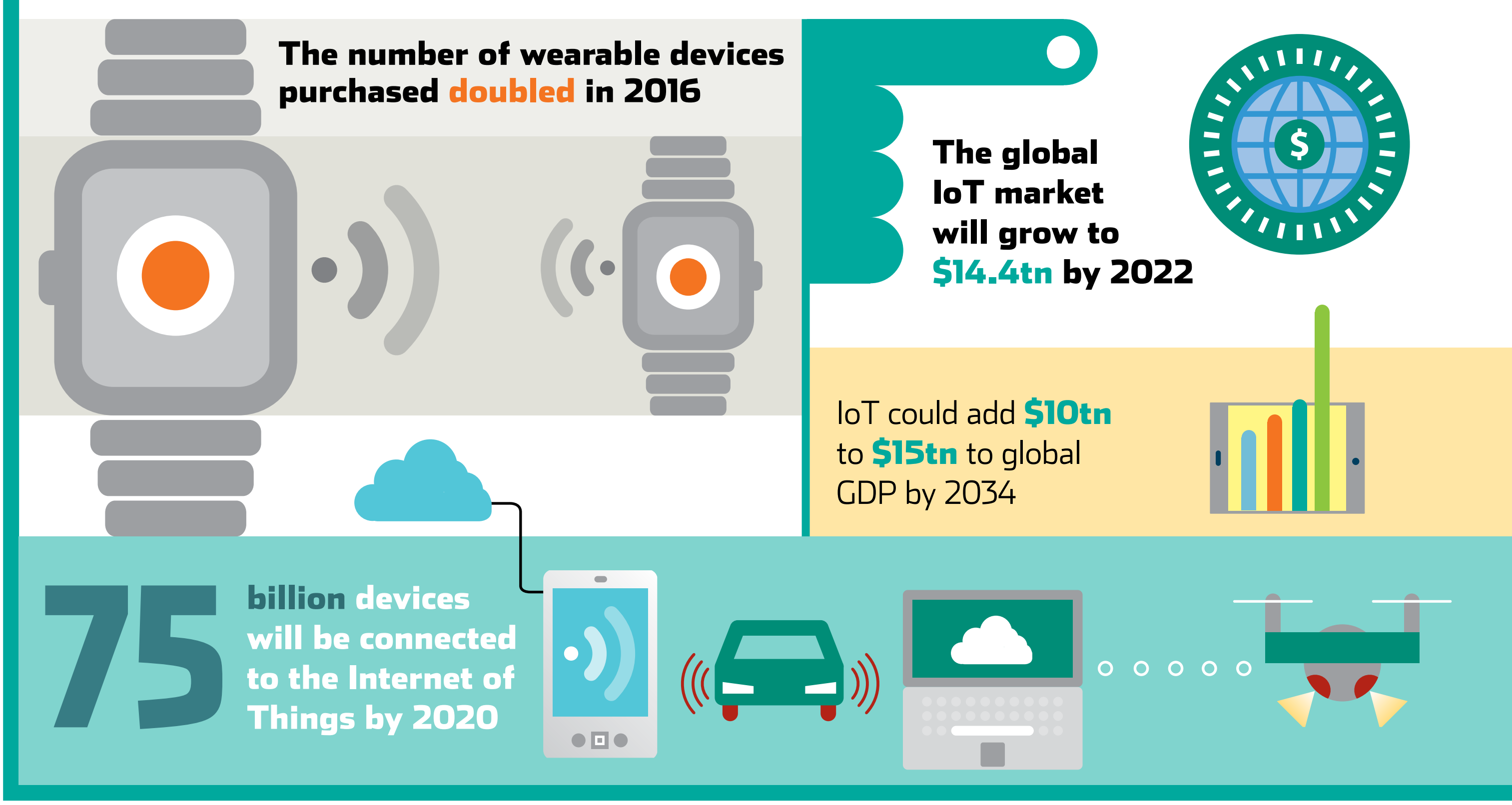
A REALISTIC PICTURE

But the IoT goes well beyond determining the position of trucks and temperature of goods in the supply chain. It allows a more realistic picture, at a pallet or item level, to be collected and analysed.

Although the ability to locate goods through radio-frequency identification (RFID) has been around for more than 15 years, the technology has become better and cheaper, says Emile Naus, technical director with supply chain consultancy LCP.

"The main thing we're seeing with RFID is an improvement in stock accuracy: understanding where stock is, mainly in store. The tags are

IoT BY NUMBERS



Sources: Morgan Stanley, IDC, Cisco and GE

COMMENT

WILL ROBERTSON, PARTNER, OSBORNE CLARKE UK

"IoT is completely transforming the market and businesses need to start harnessing the power of data if they want to hold a competitive advantage. Retail is at the start of the curve heading towards business-changing data intelligence. Now is the time to carefully plan your data strategy to ensure it has legal longevity as the law tries to keep pace.

"In May 2018, new European-wide data protection laws arrive (the General Data Protection Regulation). These laws will transform the landscape (and, yes, as you might have guessed, add extra burden) for any collection, storage and use of personal data. Plan now or risk difficult conversations in the near future about non-compliant datasets.

"We're seeing more challenges around who 'owns' business data within a supply chain, and also who has rights to use that data. It's often taken for granted that data flowing through your systems can be used for business intelligence or development purposes, but that may not always be the case. Contracts often explicitly prevent exploitation, or otherwise the confidentiality provisions can bite.

"Data security is higher than ever on the legal radar. Any form of business-sensitive or personal data needs a thick wrapper of security around it. Yes, there can be serious legal sanctions for security breaches, but often brand damage hits harder."

now much easier to read and have become much cheaper," says Naus, who was formerly head of logistics strategy at Marks & Spencer.

For example, clothing firm Levi Strauss & Co built a system with Intel that offers near real-time inventory visibility of every item in its flagship store in San Francisco. It identifies all items with an RFID tag and uses readers to disseminate item-level data to its analytics systems. The store team gets visibility about on-shelf availability and what is running low, making inventory replenishment more accurate.

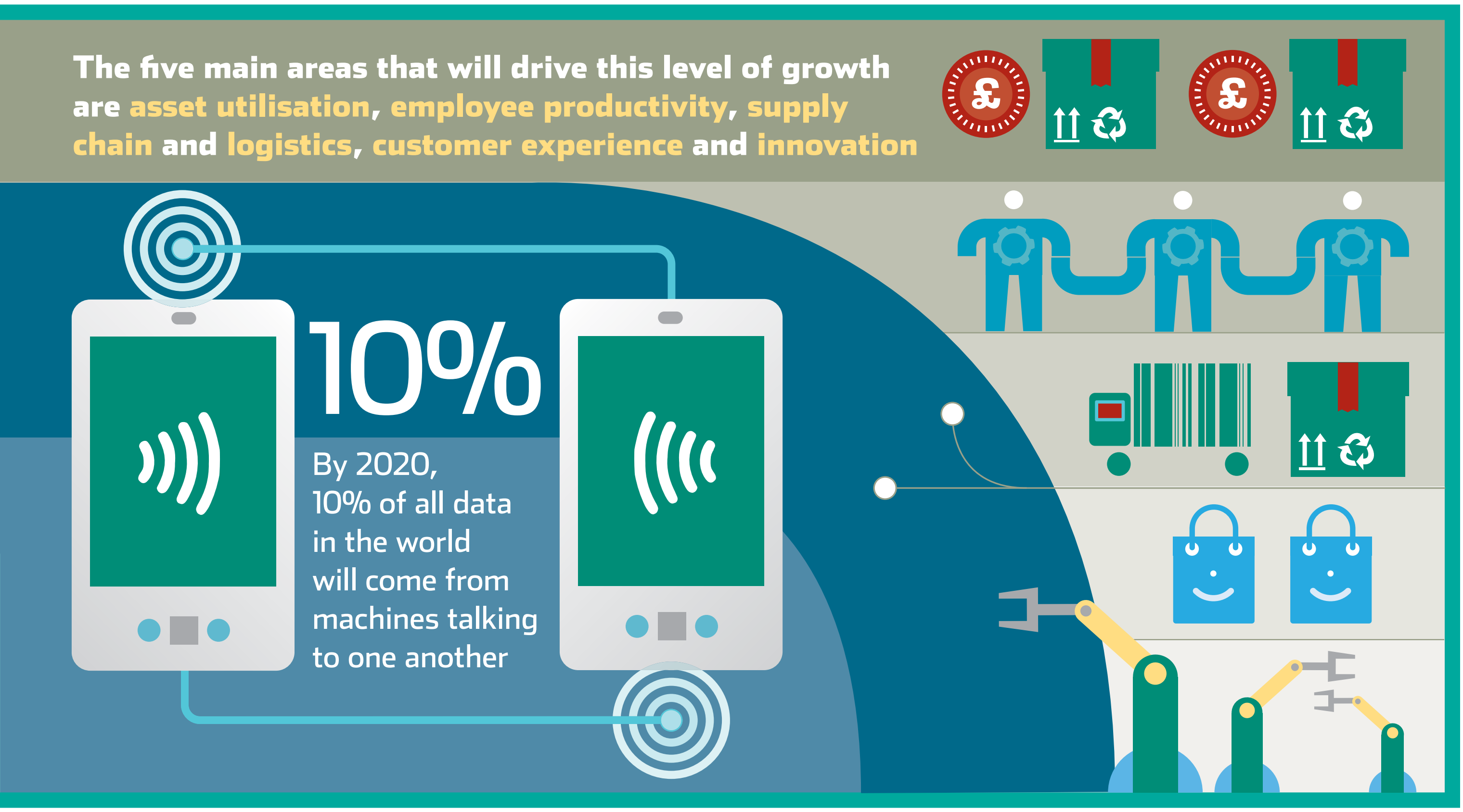
In store IoT can offer another advantage aside from stock management. Sensors in store, dubbed beacons, can locate each individual customer via their mobile phone, providing they grant permission. In-store cameras can also be hooked up to back-end artificial intelligence to track footfall in real-time.

Retailers can store data from both sources to spot long-term trends using analytics and artificial intelligence, says Mike Bell, executive vice-president for devices and IoT at Canonical, a company that supports such devices.

"The purpose is end-to-end integration of data, monitoring changes from the back-end systems to customer management systems. The analytics are critical to be able to react in real-time and also spot bigger trends in the long term," he says.

"The vision is to create a system that can predict and respond to changes in customer behaviour and rapidly push information through the distribution system and supplier networks to ensure the right product is in the right location at the right time," he adds.

While this may be some way in the future, the technology is already available to start to pilot IoT to benefit supply-chain efficiency and response in retail. Those who have not started to work with it may already be behind.



CHAPTER THREE

EXPANDING ACROSS BORDERS IN 2017 AND BEYOND

If you want to know what a successful supply chain set-up looks like for an international business, you don't have to look much further than Primark, according to leading retail analysts. The value retailer has seen its international sales soar by more than 150% over the past five years to an estimated £3bn, Retail Week Prospect data shows.

According to John Bason, finance director of parent company Associated British Foods, Primark's "responsive supply chain" is key to riding out unpredictable weather patterns and shifts in customer behaviour in the 11 global markets in which it operates.

Of course, nothing is ever as simple as it sounds. According to the experts, what are the areas retailers need to prioritise when expanding abroad?

1. GET THE MINDSET RIGHT

"One of the big challenges of globalisation is that it can be the UK business that is doing international on the side, so they are structured as a UK business," says Paul Martin, UK head of retail at KPMG.

Where retailers are truly successful as international businesses is when they think as global organisations, Martin believes.

What this means is that, rather than having a UK hub from which everything is run, you need a completely agnostic view of the supply chain. When individual countries have their own facilities and stock, they can go to any one of those countries from manufacturers and move between countries as needed.

Getting that right should be retailers' first priority. So how do they do that?

2. LOOK FOR A BESPOKE SOLUTION

Unsurprisingly, there is no single model to ensure expansion success. The big multichannel retailers such as Amazon tend to opt for multiple distribution centres. Martin says that, combined with accurate technology, this gives them greater flexibility.

"[Amazon] will invest ahead of the curve in distribution centres," he explains. "They know exactly where the stock sits within their ecosystem and they are very quick at moving it around. You will often order something on Amazon and it may come from another Amazon country.

"It enables them to hold a lower level of stock than other retailers. If they know they can get it from France or Spain if they need to, they do not need to hold as much of it in the UK. One of the biggest costs for retailers is stock-holding."

Lidl adopts a similar model by investing in distribution centres in advance and 'hangs' stores off that centre. At the start, the distribution centre is under-utilised, but as the stores expand, the company is able to scale up distribution, too.

For Dorota Stoinska, spokesperson for Ikea purchasing, decisions about where to locate production facilities are taken very carefully at the retailer. "[We take] conscious decisions about the location of the production – close to sales markets or close to raw material sources," she says.

The opposite approach is that taken by UK dancewear specialist International Dance Supplies (IDS). For IDS, what works best is a central hub at headquarters from which products are distributed around the world.

It's something that quite a few clothing retailers do, particularly when they have a fledgling presence in overseas markets.

> "WHEN RETAILERS SEEK INTERNATIONAL EXPANSION, THEY NEED A LOGISTICS PARTNER WHO HAS A GLOBAL NETWORK AND LOCAL EXPERTISE"
>
> Robert Berger, Kerry Logistics

3. START SMALL AND WORK UP

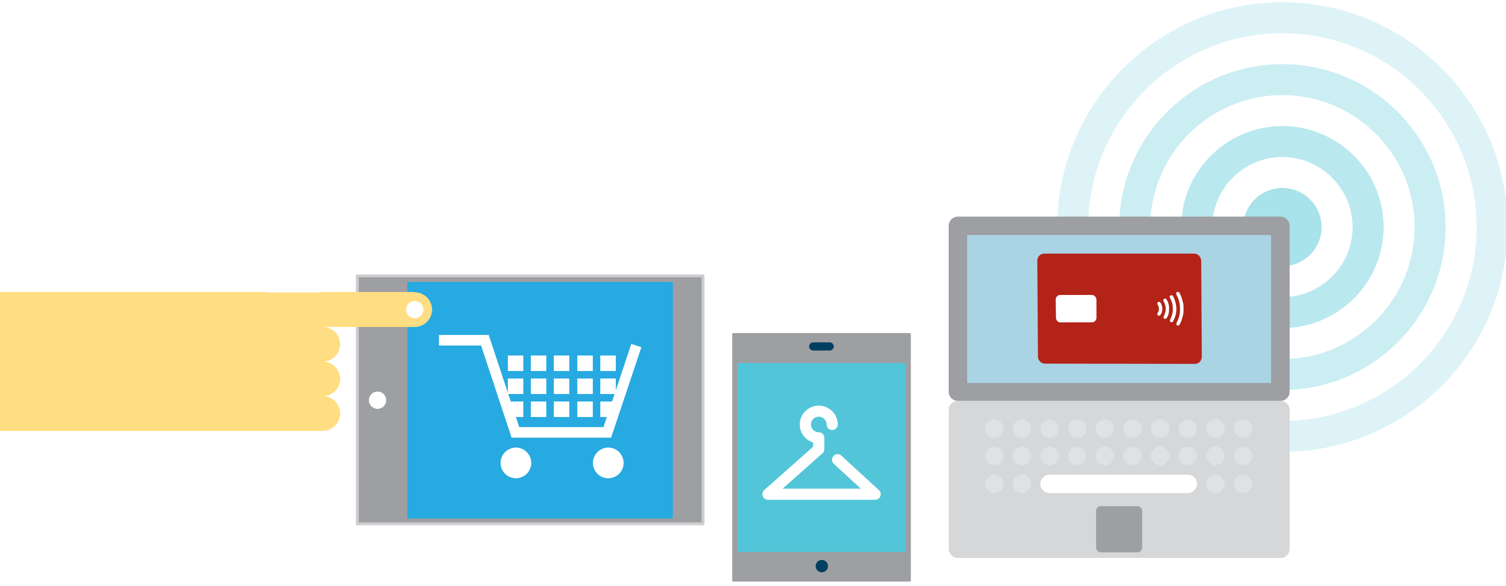
This is a mantra all retailers looking to expand abroad would be wise to take heed of. "If you are going into a market and you are testing the market, it is quite a good thing to use a third-party supplier," advises Martin.

"Those agencies are going to be increasingly important," adds Ray Gaul, vice-president of research and analytics at Kantar Retail.

"They do almost everything – property development for the retailers, manage the staff, manage the stock, distribution – what they do not do is design of the stores, visual merchandising and marketing."

Successful logistics service providers help retailers "enhance their supply chain efficiency, reduce overall costs and improve response time to market" by offering highly customised supply chain solutions, Gaul says.

They also play a vital role in "dealing with trade disputes, quota issues, customs and quarantine procedures, ever-changing trade and tax policies and emergency measures", according to Robert Berger, executive director of Kerry Logistics (Hong Kong). "When retailers seek international expansion, they need a logistics partner who has a global network and local



expertise to sort out the best logistics solutions when products land in a new market," he adds.

Using a third-party supplier is certainly a safer way to start than extensive capital investment, and when they become more established, retailers can move to have their own teams in place.

"Depending on the market, the retailer may look to buy out the distributor over time," explains Gaul. "For the first three or four years you establish the brand, then over time when the business is built up, you buy the distributor."

4. BE CAREFUL WHEN IT COMES TO RETURNS

"Simply applying the returns process that has worked in the UK won't wash once you leave these shores," says Andy Richley, marketing manager at software specialist Khaos Control.

One of the biggest pitfalls that UK multichannel retailers experience when expanding into the US, for example, is the unexpectedly high cost of processing and handling returns.

"Consumer rights in the US mean that returns must be paid for by the retailer," Richley explains. "That means that if a customer from Connecticut is returning an item to you in the UK, then you will have to foot the bill. This often leads to multichannel retailers selling into the States choosing to simply refund and write off returns, rather than worry about getting goods back."

5. BE WARY OF 'UNSEEN' CHALLENGES

These come in various forms. For example, Martin warns of large capital investments in more volatile countries where the risk of having to write off that asset might be high.

Retailers must also be aware of the unpredictable impact of natural disasters and humanitarian crises, such as the ongoing influx of migrants moving into south-eastern Europe and recent terrorist attacks, leading to supply chain delays and a need to reassess inventory strategies in the future.

There are also political issues around Brexit that need consideration, Martin explains. "You could end up paying a tariff to get things into the UK, a tariff to then send it to a customer in the EU, then a tariff if that customer sends it back to the UK," he says.

Due to this triple tariff, Martin believes it's vital that retailers set up regional distribution centres. Technology can also be a major concern. Different countries are at different stages of technological development and so a desire to get a clear sight of stock and supply chain can be thwarted when using a third-party logistics provider, unless you are careful.

Gaul says retailers therefore have to insist partners use the technology they specify.

For retailers still unsure of the urgency of getting every single priority above absolutely right, just consider the implications when you don't.

Time and time again, retailers' plans to expand and dominate in international markets have resulted in failure a few years later.

Think about these well-known brands: Tesco ditched its US venture Fresh and Easy in 2013, and Kingfisher sold a controlling stake in B&Q China in 2014 after failing to gain traction there. Don't be one of them.

Osborne Clarke

COMMENT
JEROEN LUB, OSBORNE CLARKE THE NETHERLANDS

"As businesses increasingly eye up cross-border expansion, the saying 'think globally, act locally' has never been more important. Traditional supply chains have focused on local distribution arrangements, but today's complex international supply chains revolve around global trade compliance, ecommerce and multi-jurisdictional consumer regulations.

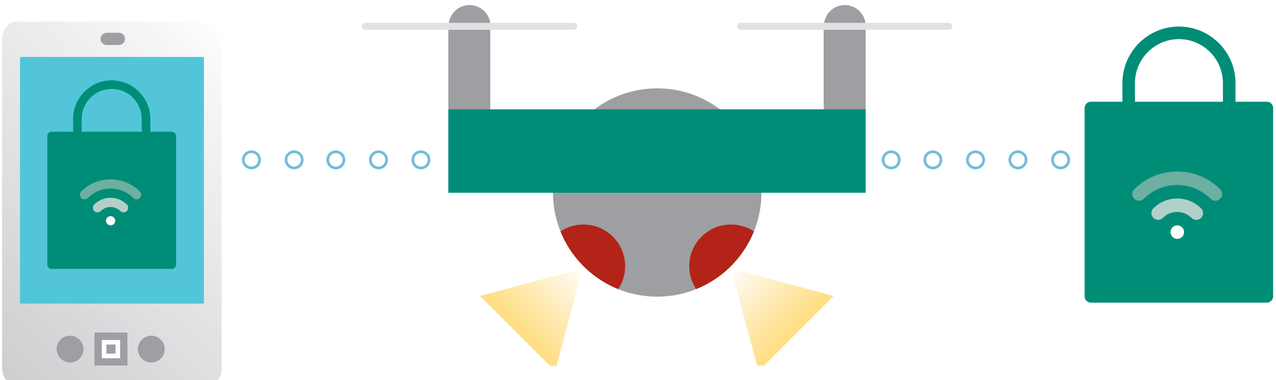
"European laws are adapting to address the interconnected and interdependent supply chain landscape. For example, the roll-out of the Digital Single Market strategy seeks to harmonise consumer laws across Europe, but there are wider variations, such as those in the US, that need careful consideration.

"Growing a worldwide omnichannel offering will require businesses to navigate these varying regulations, and this needs care.

"In the EU, we've seen increasing enforcement against retailers where consumer laws, such as the Consumer Rights Directive, have been breached over the past year, so anyone expanding cross-border needs to understand the markets they're entering."

CHAPTER FOUR

SECURING YOUR SUPPLY CHAIN FOR FUTURE SUCCESS



The retail landscape will transform more in the next five years than it has in the past 50 as seismic shifts in consumer behaviour occur.

This will have a profound and far-reaching impact on retailers' supply chain and security strategies in 2017 and beyond.

So what should they be doing now to prepare, and what are the most critical areas for future investment?

Here, we discover the three biggest trends predicted to have an impact.

1. THE GROWTH OF BIG DATA

Big data is critical to retailers' long-term success, both operationally and financially, but how do they turn it to their advantage?

The use of big data to optimise where products are sourced and how they are delivered is certain to become a key component in future supply chains, believes Neil Adcock, consulting partner of supply chain consultants BiS Henderson.

Retailers need to take information from a range of sources, including enterprise resource planning and supply chain systems, along with external geopolitical and environmental databases and social media, in order to better meet shoppers' changing needs, according to Adcock. "Big data is about bringing together all sources of information and using that to react to customer expectations," he says. This could be used to decide what stock to hold locally and what to re-order from overseas, or to make sure that promotional activity is supported fully by the logistics operation.

Greater use of geographic information systems (GIS) will also be vital according to Simon Weaver, analytics programme manager at mapping company Esri UK. Factors such as the size and weight of loads, emissions and fuel costs, along with risks from geopolitical unrest and natural disasters, can be taken into account to decide the correct mode of transport from particular markets. "There is a huge untapped potential that many people are not aware of and so much data that could be leveraged," Weaver says.

Many believe that big data could help personalise home deliveries. New Look is already offering one-hour time slots via a system called Precise from DPD and, in future, delivery options based on customer loyalty could be developed. New Look managing director of group operations Dan Monaghan says measures of return on investment (ROI) per order, rates of denial of delivery and customer satisfaction have all been positive. "In all the direct measures of ROI, we've seen good double-digit growth."

2. A NEW ERA OF COLLABORATION

In order to prosper in a retail environment dictated by consumer demand, it's critical all retailers' supply chains achieve industry-wide collaboration. This will provide their business with the best combination of cost control, quality delivery, and customer satisfaction and loyalty. But how do they achieve that?

Supply chain collaboration offers huge opportunities to both cut costs and improve availability for customers shopping online or in store, according to Siobhán Géhin, managing director of Kurt Salmon. "Retailers that are most successful are able to share information and interpret it both internally within their organisation and with their different partners: suppliers, third-party logistics providers (3PLs), carriers, etc," Géhin says.

As well as working with suppliers, some retailers are changing their attitude to working with other retailers, according to XPO Logistics business unit director for supply chain Peter Fuller. This could start with sharing transport, but can also encompass sharing warehousing and staff. "The opportunities are potentially enormous," says Fuller.

Toys retailer The Entertainer allows XPO, as its logistics provider, to use spare warehousing and transport capacity for its other clients with different trading patterns, with both companies sharing any extra revenue generated. The Entertainer logistics director Steve Williams explains: "We have a very distinct peak trading period between October and December and some XPO clients have an opposite peak to ours, so we use some of their transport fleet capacity during our peak and they use our resources during their peak."

Retailers can also gain commercial advantages from collaborating with their 3PLs. Clipper Logistics and John Lewis, for example, last year formed a 50/50 joint venture to provide click-and-collect services to other retailers, with Clipper operating the service and John Lewis providing retail expertise.

Some retailers also work collaboratively with their 3PLs in order to gain efficiencies. B&Q works with Wincanton and XPO to create what it calls a 'One Team' strategy. The collaboration includes 2,000 colleagues transferred across the three organisations, sharing assets including transport management systems and fleet capabilities, plus opportunities for Wincanton warehouse colleagues to train as large goods vehicle drivers via XPO's driver training programme. It has resulted in cost savings, higher productivity and environmental benefits.

B&Q believes that in the future there will be increasing scope for working with other retailers. "We have loaned fleets, including drivers, to supermarkets and other retailers – capitalising on their peak Christmas trading period during our off-peak season," says B&Q director of store distribution Kevin Bennett.

COMMENT
CARSTEN DAU, PARTNER, OSBORNE CLARKE GERMANY

"It may sound old-fashioned, but the key to improving supply chain security and at the same time making the most of the business opportunities, lies in having the right contracts in place. The trick is to find the right balance between commercial, operational, reputational and legal requirements.

"For instance, contracting with the cheapest supplier may be lucrative in the short term but may turn out costly in the long run, should the supplier collapse and disrupt the entire supply chain.

"Nowadays, we help our clients not only by drafting the best clauses for the best contract, but by building a legal framework that fully utilises the opportunities to help them succeed in this new era of collaboration.

"Ultimately, many retail companies need to work towards a sourcing strategy that puts much more emphasis on the long-term benefits of a collaborative relationship with their suppliers.

"Big data is a key element in this respect, because it will help monitor the relationships more closely than ever. And if the data flows are structured in accordance with privacy and competition law requirements, the opportunities to gain a competitive advantage are huge.

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3. EMERGING SUPPLY CHAIN THREATS

Retailers face a growing need to protect themselves against fraud, modern slavery, data breaches and insolvencies among the supplier base, as well as the threat to their brand reputation if suppliers are subcontracting to factories with unacceptable conditions.

Fostering a supply chain that is prepared for and can withstand these threats and can recover rapidly from disruptions is vital for today's complex global supply chain systems.

However, the British Continuity Institute (BCI) claims 40% of firms do not analyse the causes of any disruption to their supply chain and, according to former BCI chairman Steve Mellish "supply chain visibility is patchy, even [for] tier 1 suppliers". "Companies are exposed unnecessarily to risk," he adds.

Supply chain consultancy Vendigital director Phil Bulman believes that retailers should counteract this by visiting key suppliers regularly, particularly in low-cost economies such as China, Vietnam or Bangladesh.

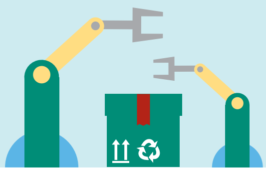
"This requires businesses to do much more than stating their expected standards and policies and expecting suppliers to comply," he says.

IT can help – software from Segura requires tier 1 suppliers to record every single purchase order placed on tier 2 and tier 3 suppliers. This allows retailers to map out their supply chain accurately, says Segura chief marketing officer Kosten Metreweli. "By following the money you gain an excellent idea of what is going on," he says.

Where possible, sourcing domestically could improve supply chain resilience. Morrisons revealed in February that it was looking for 200 local suppliers, which was partly influenced by a desire not to become over-reliant on food produced elsewhere.

The grocer's *British Food* report, commissioned from Professor Tim Benton at the University of Leeds, found that increased sourcing from the UK would improve the country's overall resilience.

"In the event of interruptions to trade (whether from currency fluctuations, disrupted trade relationships, or disruption to logistics), we would already have access to a range of locally produced goods," it states.



CHAPTER FIVE

CONCLUSION

In the complex business of modern logistics, knowledge is the most valuable commodity. Today, retailers must negotiate a multitude of devices, systems and warehouse management tools as baffling as they are exciting. The trick is knowing how to harness it all.

Many retailers have made the changes and investments they need. Whether it's Ocado's innovative automated warehouse system, Levi Strauss & Co's inventory visibility system or Primark's 'responsive supply chain', retailers are adapting to the times. But others still aren't up to speed – in these pages we've given an overview of what they need to know.

We've discussed some of the most crucial issues on the agenda: the ways in which retailers are employing cutting-edge systems such as radio-frequency identification (RFID) and GPS data to optimise delivery routes; the pros and cons of running multiple distribution centres compared with central hubs; the ways in which retailers are integrating data from end to end, and realising the benefits.

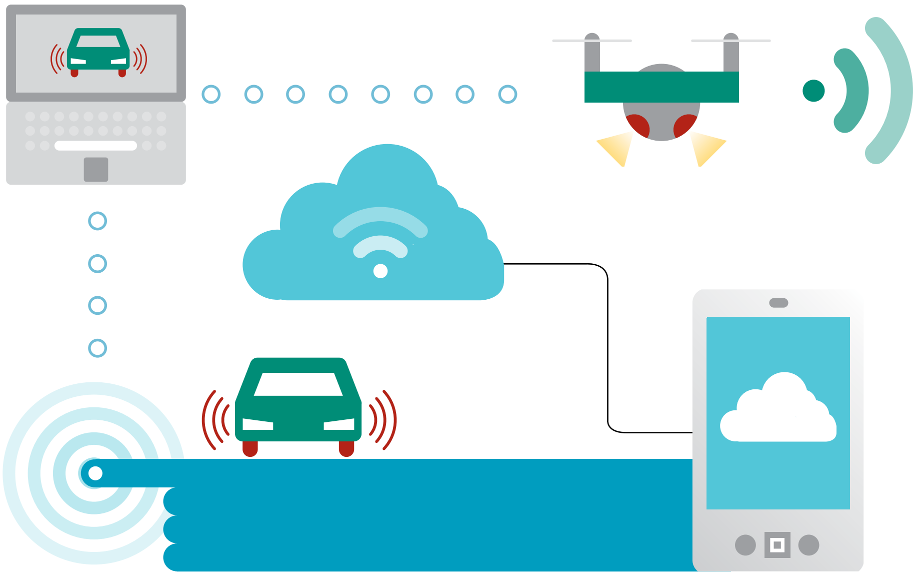
In fact, data is driving everything retailers do, from the first interaction on social media to the returns process after a sale. This has never been more crucial or more complex, particularly in a world where mishandling that data can have potentially devastating consequences for retailers' brand perception and loyalty.

And there are yet more things to consider, such as how to manage a supply chain overseas when expansion happens and dealing with the multitude of both expected and unexpected challenges that it brings. The key take-aways are clear: be agile, set up regional distribution centres, make sure you understand the markets you're operating in from a legal standpoint, and seek out a logistics partner who has a global network and local expertise.

Not all retailers will be aware of the unforeseen problems of fraud, supplier insolvencies and data breaches. We've revealed how a retailer can mitigate these risks by getting the perfect contract in place with a supplier and maintain close relationships with companies in their supply chain.

For other retailers, the vast potential of AI, driverless cars, 3D printers or blockchain technology is yet to be realised – in this report we've picked through the complexities to let you in on some of the key secrets.

Nobody is claiming that managing a supply chain is easy – unprecedented expertise and mastery of technology are required just to get started. But retailers know very well that this challenge is also an opportunity – which nobody can afford to miss. Prepare for tomorrow's supply chain and reap the rewards for years, if not decades, to come.



COMMENT
WILL ROBERTSON, PARTNER OSBORNE CLARKE UK

"Businesses will undoubtedly benefit substantially from the efficiencies new technologies and collaborative relationships can bring to supply chains, but with great opportunity comes legal risks. These risks can be managed. Getting it right means keeping in touch with technological developments, thinking through your policies and practices, and implementing them with care to ensure they are legally compliant and commercially sensible. Getting it wrong can be damaging, not just in terms of financial cost but also with regard to the reputation of your business.

"The law may lag behind the rapid advancement in technologies, but this should not hold back businesses from thriving. You can rely on existing legal frameworks to develop the compliance systems needed to support innovation in the connected supply chain industry. Our top five tips are:

1. Consider potential intellectual property and cyber risks and take real care to maintain confidentiality and protect your business.

2. Understand who has what rights in supply chain data and what you can you do with it (legally).

3. Understand jurisdictional variances and appreciate that you may need different policies for different markets.

4. Think about your obligations to ensure the quality and safety of products built using new technologies (i.e. 3D printing).

5. Deal with threats – update your contracts with supply chain partners to reduce and mitigate the new known risks."

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