

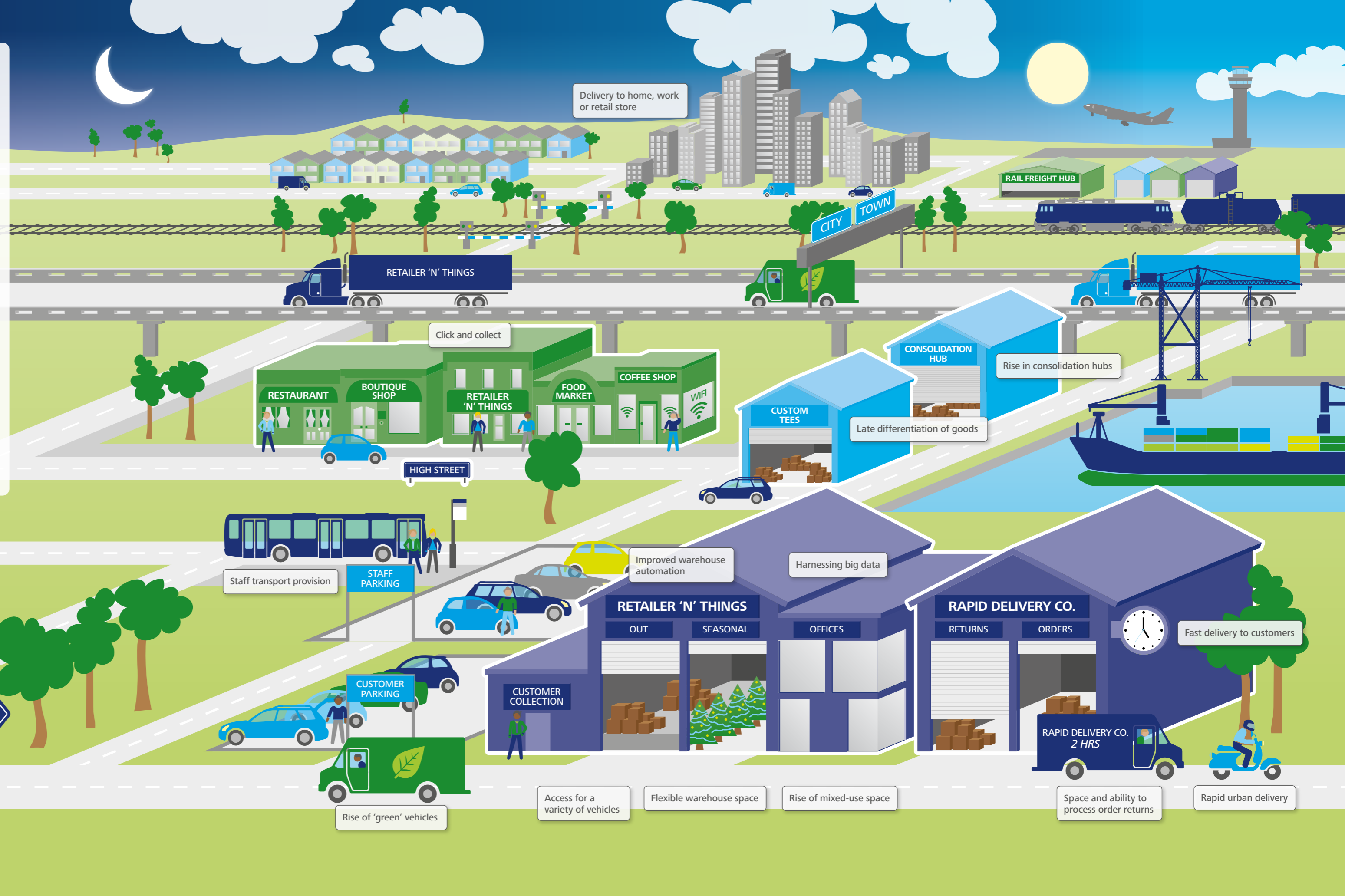
The shed of the future E-commerce: its impact on warehouses



Evolving real estate for supply chains in the digital age

E-commerce and other digital technologies have provided consumers with a multitude of ways to select, buy, and receive goods and have simultaneously fuelled an expectation for this all to take place within ever-shortening timescales. However, offering the convenience and service that is now taken for granted has become an increasingly complex process for retailers. This has elevated the importance of distribution networks within their businesses.

The impact on the real estate that makes up these networks is particularly significant. Today, retailers are being forced to think differently about the location, size, specification, and even operation of warehouses. How will they optimise delivery efficiencies within strict time constraints? Are traditional 'mega sheds' still the only viable option for national distribution networks? What is the result of bringing more labour-intensive processes into the warehouse? These are just some of the questions and challenges that we will explore over the following pages.



THIS WAY TO THE SHED OF THE FUTURE

Delivery to home, work or retail store

RETAILER 'N' THINGS

Click and collect

RESTAURANT

BOUTIQUE SHOP

RETAILER 'N' THINGS

FOOD MARKET

COFFEE SHOP

WIFI

HIGH STREET

CUSTOM TEEES

Late differentiation of goods

CONSOLIDATION HUB

Rise in consolidation hubs

Staff transport provision

STAFF PARKING

Improved warehouse automation

Harnessing big data

RETAILER 'N' THINGS

OUT

SEASONAL

OFFICES

RAPID DELIVERY CO.

RETURNS

ORDERS

Fast delivery to customers

CUSTOMER PARKING

CUSTOMER COLLECTION

RAPID DELIVERY CO. 2 HRS

Rapid urban delivery

Rise of 'green' vehicles

Access for a variety of vehicles

Flexible warehouse space

Rise of mixed-use space

Space and ability to process order returns

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Contacts

Anthony Duggan
Partner – Research
+44 (0)20 7303 3134
aduggan@deloitte.co.uk

John Rodgers
Partner – Investment
+44 (0)20 7303 3278
jrodgers@deloitte.co.uk

Ed Thomason
Industrial – Agency
+44 (0)20 7007 8211
ethomason@deloitte.co.uk

Mike Darby
Partner – Consulting
+44 (0)20 7007 6161
mdarby@deloitte.co.uk

Hugh Nicholson
Consulting – Supply Chain
+44 (0)121 695 5028
hughnicholson@deloitte.co.uk

Julia Chowings
Director – Planning
+44 (0)20 7303 3498
jchowings@deloitte.co.uk

Authors

Will Matthews
Research
+44 (0)20 7303 4776
wmatthews@deloitte.co.uk

Shaun Dawson
Research
+44(0)20 7303 0734
sdawson@deloitte.co.uk

Digital disruption

The rapid adoption of digital technologies is transforming the way consumers learn about products, make choices, complete purchases and ultimately want to receive goods. This report highlights the challenges that retailers face as a result of digital disruption and how real estate plays a fundamental role in their response.

Convenience is competition

Despite the pace of growth in e-commerce, physical stores are not necessarily redundant, but they are increasingly becoming just one of many routes to market. Empowered to locate and buy what they want, when they want it, consumers are now expecting to access products rapidly and conveniently, anytime, anywhere – rather than just in ‘traditional’ shops.

Indeed, the ability to provide customers with a variety of easy ways to collect or receive goods has emerged as a major point of competition. Convenience, in a variety of forms, is now one of the defining measures of customer service, and has propelled retailers’ supply chains to centre stage.

Consumers have high expectations, but retailers that respond by offering flexible and more immediate pickup and delivery options are likely to win customers and deepen loyalty: witness the explosive rise in popularity of the click and collect concept amongst consumers.

A major challenge for retailers, is that the supply network of the future is moving from a linear flow of goods from ‘factory – to distribution centres – to store’, to products moving across a complex network of interconnected-facilities, including stores, distribution centres and click-and-collect points.

For online retailers, the difficulty is in delivering orders quickly and efficiently without the luxury of an existing store network to enable a store-based click and collect service, and without the benefits of brand recognition that comes with a physical retail presence.

For traditional bricks and mortar retailers, implementing some of these new propositions introduces significant pressures on supply chains that were designed to efficiently replenish a relatively small number of stores with large volumes of stock on a regular basis.

Perhaps unsurprisingly, many retailers are reaching the limits of what can be achieved with their existing supply chains, and therefore the next stage of evolution within the retail industry will focus on logistics and the wider real estate network in helping to meet some of these challenges.

Digital disruption and the growth of omnichannel



Source: Deloitte Consumer Review, Digital Predictions 2014

The retail challenge

A fundamental feature of the online marketplace is that comparison shopping is much easier and quicker than a traditional walk down a high street or a drive to a shopping centre. In addition, lacking human interaction, there is a risk that online channels become commoditised, as consumers differentiate only by price. Indeed, internet price transparency is often much higher than in traditional forms of retailing, as it is much harder to justify higher prices on the grounds of service, for example.

Consequently, with online retailers all offering very similar pricing for comparison goods, many have explored ways to set their online offer apart from other retailers. The ability to deliver orders to customers rapidly via a method of their choosing is now a major point of competition.

Fulfilment has become the differentiator, and many retailers are responding to this challenge by adopting an omnichannel approach, connecting the store, online presence and social media to all parts of the supply chain.

The implications of changing consumer shopping habits are creating significant headaches for retailers, but as complex as the questions are, ignoring them is not an option. Retailers that cannot adapt to the changes taking place in their industry will struggle to survive.

So far many retailers have rightly focused on the 'sell' side of the customer journey, but the changes in behaviour require retailers to innovate in three key dimensions: location, immediacy and cost, all of which can in part be addressed by real estate solutions.

Retailer challenges

Location	Immediacy	Cost
Proximity of retailers' real estate to customer base	Reducing the lead time between capturing and delivering an order	Understanding fulfilment costs; store vs E-commerce
Accessibility of warehouse for deliveries and staff pool	Flexibility of delivery options – convenience, choice and precise timings	Ensure supply chain does not impact profitability
Closer collaboration with all supply chain partners from start to finish	Provision of click and collect as part of retail offering	Timely stock knowledge – understanding product movements and ensuring returned stock becomes available
Ensuring that 'last mile' delivery solution is in place		Moving from traditional logistics model to an omnichannel environment
Using 'big data' to understand customers		

The impact on real estate

The effects of the changing retail environment are driving the evolution of the physical retail distribution network. The characteristics of the real estate that forms part of the optimal distribution network will be different depending on the type of retailer in question and its particular goals and challenges. However, the following considerations will all be relevant to some degree.



Location, location, location

One of the primary questions is the location of the warehouses within the network. With convenience fast becoming one of the main points of competition for online retailers to gain market share, in

many cases, the pressures of ever shorter delivery time requirements means that the need to be closer to the consumer is paramount. This may involve increasing the number of larger regional hubs, but arguably the most significant change is at the other end of the size spectrum, with the rise in demand for smaller urban logistics warehouses.

Urban logistics facilities are rapidly growing in importance as they have become recognised as a way to facilitate the drive for convenience and faster delivery times. Located on the doorstep of both residential and business customers, the urban industrial building will increasingly serve as an integral part of the 'last mile' delivery process. With the potential to help slash delivery times, these smaller warehouses will play an important role in the battle for online market share.

However, urban warehouses will require thoughtful design and locational planning if they are to be considered 'good neighbours' – especially in higher density environments. Consequently, such locations will come with planning restrictions on usage imposed by factors such as the capacity of the local road network at peak times, and the views of local residents and businesses.

This step change in infrastructure location will allow for greater efficiencies for many retailers; however an increase in demand for urban property comes at a time of limited supply, especially of well-located stock with the appropriate specification.

Whilst some retailers and e-fulfilment specialists can rely on existing networks of traditional stores in urban locations, the strategy for others will have to continue to rely on the development of regional networks – either as a solution to increase coverage, or to complement existing network locations.

Regional distribution centres tend not to be in urban locations and can therefore be larger and accommodate greater volumes. The drive for efficiencies means that, for all the interest in urban locations, demand for larger warehouses will continue as well, as retailers seek to consolidate existing warehouse locations.

Nevertheless, the desire to avoid having a single point of failure in the supply chain will limit the pool of potential occupiers for warehouses dubbed 'mega sheds'.



Links to the network

Whether small, urban warehouses or large national mega sheds, a major factor in identifying suitable warehouse locations is the quality of access to and from the site.

Depending on the requirements of the retailer/logistics provider, a location must demonstrate that it can provide the ability to not only reach the main consumer base efficiently, but also receive goods from suppliers.

Access to both a national and local road network is the most obvious consideration for many, as the majority of product movements through the supply chain are still by road. However, there is an increasing appetite to have proximity to alternative transport modes such as rail, air and sea. Such approaches allow international shipments to be quickly moved across a regional network, and potentially onwards to urban warehouses.

As the green agenda becomes ever more ingrained in business strategies the diversification of transportation to achieve greater green credentials may also emerge as a stronger factor in warehouse location decisions. Added impetus from UK government policy to reduce road congestion and carbon emissions in addition to supporting efficiencies in rail freight will see elements of the supply and distribution chains explore other means of movement. From the point of import to distribution, various transport models and subsequent connectivity to such hubs will impact the choice of warehouse locations in the future.

Drivers of warehouse demand

Warehouse type	Demand driver
Urban Warehouses	Demand for urban warehouse will rise as proximity to customer base becomes paramount
Regional Hubs	Need for efficiencies and volume will maintain demand
Multi Modal	Greater coverage and supply chain efficiencies make multi-modal hubs appealing

Flexibility



Flexible space

As retailers increasingly take their businesses online, warehouse flexibility is becoming a more important issue. Whether a large

distribution centre or a smaller urban warehouse, the building must be able to cope with the demand volatility imposed by e-commerce, as well as trends driven by social media.

Two key differences between physical store retailing and online retailing are capacity, and product ranges. Consumers are accustomed to the fact that an individual store can only accommodate a certain number of customers before it gets too crowded, and may not stock every item in the retailer's range, but they are less forgiving when shopping online. The difficulty for online retailers is that, theoretically, there are no physical constraints to the number of customers an online store might generate, and that customers expect to be able to order any item from an extensive range, without any consideration for its location in the national supply chain.

Similarly, while seasonal demand is not limited to online retailers, in some cases it can be more pronounced. If not accounted for, there can be an acute pressure on warehouse capacity, potentially damaging the ability to maximise one of the most important retailing periods of the year, and ultimately, reputation.

Online retailers may therefore value the ability to be flexible with the amount of space they take.



All under one roof

To achieve a greater degree of operational agility warehouses must be included at earlier stages of the retail process. One way is to shorten

the process involved in taking items from design phase to production and subsequent display within stores or online.

Some retailers are responding by moving certain stages of stock preparation into warehouses. For example, the photography of new items for display online can be done in studios located in warehouses, rather than in facilities located elsewhere. This cuts out a separate process that could have added a few days to a product's journey from design to shelf.



Returns

The need to deal efficiently with returns is a growing part of providing convenience. Online customers in particular value the ability to return items quickly and

easily, whether to a local store or via a return delivery to the warehouse. For retailers, the ability to manage this process quickly and efficiently and get returned stock back into the inventory system is becoming more important as growth in e-commerce increases the amount of items returned. This increase will not only lead to a greater space requirement for returned stock but also a need for more staff in order to handle this additional step in the retail journey.



Personalisation

Demand for personalised goods is increasing, from computers to t-shirts, thanks to digital technology. Personalisation, however, adds further complexity

to the supply chain. Whereas mass-production can take place in one location, personalised items may have two or more production processes, all potentially taking place at different facilities. In many cases, the final stages of production takes place relatively close to the end user, but the location of the different processes is another function that needs to be optimised. Importantly, however, late differentiation requires that some stages of production are located in warehouses. This will not only put pressures on the space availability onsite but could require additional technology to be housed in the warehouse alongside staff to undertake such jobs.



A variety of transport methods

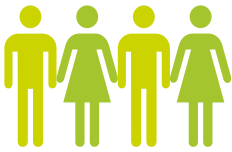
Gone are the days when warehouses were serviced only by large articulated lorries. Today,

there is a wide range of vehicles that warehouses can expect to have to accommodate, and this must be reflected in their design.

In particular, the rise of e-commerce, and the growth in small, fragmented orders, has driven an increase in the number of small vans making deliveries. Orders that are extremely time-dependent and may even be dispatched individually via motorbikes or scooters.

Careful thought must be given to the way in which to best accommodate the increasing variety of vehicles if they are all to be efficiently loaded and unloaded. This may require changes to the layout of an existing warehouse.

Finally, another consideration must be the ability to charge-up green vehicles, either delivery vehicles, or passenger cars. The drive for cost and fuel efficiencies will see many more delivery vehicles convert to green power.



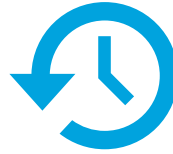
Staff and visitors pass

A greater variety of processes that occur within warehouses is leading to growing warehouse workforces. It is

therefore important that the warehouse design reflects that the trend towards more labour intensive uses is met with adequate staff welfare provision. This includes the number of toilets, space for breaks, changing facilities, cycle storage and potentially outside space. These elements are vital to create a good working environment and aid staff satisfaction.

Whilst the choice of logistics property is heavily swayed by the location and transport connections, consideration also has to be given to transport links for staff, which are vital to enable staff to commute. It is therefore important that an adequate number of car parking facilities are provided for workers, some of which may have to travel according to shift patterns early in the morning or late at night. Whilst journeys by car are sometimes the only option, adequate local transport may need to be factored into property decisions. The ability to increase the accessibility of the labour pool will in the long run benefit the warehouse operator.

However, as the warehouse in some cases becomes an extended version of the shop front, the building must also be able to accommodate a variety of people and uses. This variety that can include visitors such as suppliers, or if click and collect from depot is offered, then customer car parking is required. The flexibility of the warehouse for these requirements should be included in property decisions.



Open all hours

The internet never sleeps, and neither does e-commerce and consequently warehouse working patterns are shifting. Increasing pressures on delivery times means

there is a greater imperative to prepare orders overnight for delivery the next day.

Larger distribution centres have been moving to this model over a number of years. In many cases these buildings are situated in industrial locations, and so the impact on neighbours from operating through the night is likely to be minimal. However, this could become more of a concern as demand for urban warehouses increases, as they may be located near to residential areas. There is the potential that site deliveries may disturb residents, or cause congestion.

Although this is factored in when planning new developments, existing buildings, especially those that are located near to residential areas may well face local resistance to more intensive use due to increased traffic and noise. Changes to the existing planning consent and conditions may be required.



Consolidating the benefits

Consolidation centres, in which a single warehouse deals with deliveries for a variety of retailers, are likely to increase in number as end users and local

communities identify the benefits of shared services. Indeed, there are already a number of successful examples of consolidation centres, and they are of particular benefit when trying to make deliveries to dense urban locations, or historic towns with narrow streets.

Local stakeholders are likely to prefer this option as a way of limiting road congestion, pollution and noise.

There are also a number of benefits for retailers. In many cases, stores have to help supply broader product ranges in line with retailers' online offers. Yet with often limited space to hold stock, and manage an increasing volume of returns, consolidation centres can help address space issues with the added benefit of being in convenient locations with fewer delivery restrictions. They could, for example, provide a solution to late night deliveries as these centres can be staffed and operated outside of store hours.

Technology & big data



Technology

The implication of changing warehouse uses is not just a question of floorspace, but one of design. The

warehouse must be primarily designed in a way that it can accommodate short term changes in space requirements. New buildings can factor this in whilst existing industrial buildings must either employ a change in working practices to achieve flexibility or invest in new technology to work within the existing confines.

Technology solutions can range from robotic stock picking to software which enables workers to maximise space availability, through narrower aisle widths as well as more effective staff deployment. Although costly warehouse automation will continue to improve and increase in popularity in order to achieve maximum efficiency.

Deloitte's report Global Powers of Retailing 2014 highlights how technology will be the building blocks for the future of the retail industry. The research highlights technologies that will offer competitive advantage and a greater awareness of products both in a retail and supply context. One such application is the use of RFID (radio frequency identification), storing and collecting data which can be attached to individual objects. Not only can this be useful in keeping track of stock through the supply chain, but it can also be used as a potential resource for consumers, allowing them to access information about purchasing, instructions and recycling etc.



Big data

Beyond designing high quality transactional websites and apps, the operational challenge for retailers comes from trying to integrate the various channels to market, with the supply chain.

If physical retailing and online channels are to operate seamlessly, then retailers and their supply chains must have far greater stock visibility than in the past. They need to know where in their network of stores and stock locations an individual item is located, in order to be able to guarantee availability.

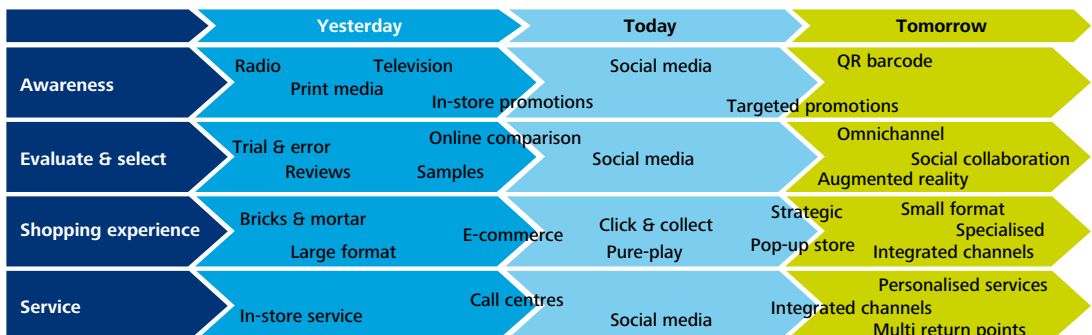
In a short time frame, the retail supply chain has seen a considerable increase in complexity – increasing the benefits to those retailers that can integrate channels efficiently, and increasingly penalising those that cannot.

Part of the solution involves greater use of 'big-data' and associated technology to enable a better, more holistic understanding of the exact location of individual stock items. In order to achieve this more granular understanding of stock levels, ongoing investments in technology will be required.

Another area in which a data driven approach will be beneficial is in dealing with the added demand volatility introduced by the growing influence of social media, which has the potential to rapidly trigger new trends. To make the most of any demand spikes, retailers need to be able to respond quickly to rapid changes in demand for items, which means ensuring that the right stock is available across the store network, and is easily accessible within warehouse locations for delivery.

To aid this, some retailers are using increasingly sophisticated analytics to identify which products are likely to be frequently picked at any given time, and making them more accessible to stock pickers.

Changing customer experience



Source: Deloitte Global Powers of Retailing 2014

Efficiency



Operational efficiencies

Another area in which big data can help is in generating efficiencies. Part of the response lies in effectively measuring costs at each stage of the supply chain using detailed data analysis to pinpoint supply chain inefficiencies.

This includes using accurate data to help forecast inventory requirements, and associated space requirements across the network. With the right contracts in place, it may be possible for retailers to adjust the amount of warehousing space that they utilise and pay for relatively quickly. In reality this is only likely to be achieved if retailers' supply chains form a significant, integrated part of their internal functions.

Creating a more agile or responsive business, however, is not enough. Adding to the complexity is the need to maintain or improve efficiencies. This is not only a legacy of weakness in the consumer sector, but also because e-commerce can introduce high costs for retailers. Picking orders for individual customers can be more complex than delivering in bulk to the store network, while orders may be smaller in size, more frequent, more fragmented, and offer less scope to create economies of scale. Above all, the internet is in any case a very transparent and competitive marketplace.

The drive for operational efficiency is therefore strong, and one impact has been a greater focus on core capabilities, with both retailers and producers outsourcing non-core activities, such as supply chain management, to third party logistic providers (3PLs) and other specialists where possible.

Savings may have to be sought elsewhere to offset the higher costs of distribution imposed by e-commerce, and therefore the case for warehouse automation can be compelling.



The best distribution fit

The rigidity of supply chains are being challenged with the fast paced nature of e-commerce and changing requirements from traditional retailers, which now look for flexibility, not just in terms

of the physical building but also the way in which distribution contracts are fulfilled, down to the lease of a property.

These changes are partly due to 3PLs which have become more influential as the challenges of e-commerce has intensified and retailers have sought to focus on their core areas of expertise.

3PLs generally operate a retailer's own network of warehouses and rarely buy or lease warehouses themselves. 3PL contracts tend to be relatively short – often three to five years. In contrast, property leases tend to be for significantly longer terms. This, combined with the retailer's often stronger covenant, means that it is frequently the retailer itself that signs the lease on a warehouse, before handing it over to the 3PL to operate.

Indeed, this division could become more entrenched as the need for greater technology within the warehouse increases. As fit outs become more bespoke and costly, retailers are likely to find that they will need to foot this cost before 3PLs will become involved.

Nevertheless, in other respects the role of the 3PL has increased in scope, from providing the traditional distribution functions to additional services such as finishing products and packaging goods for stores.

It is likely that 3PLs will continue to be a major part of retailers' distribution strategies and processes. The initial cost efficiencies that can be gained can be of great benefit for new retail businesses when set against the alternative of developing an in-house distribution function.



Flexible leasing

While leases are expected to remain relatively standard, access to flexible space, especially on a seasonal basis could well open up the possibilities of more flexible leases.

The serviced office model is one that could translate to industrial space that is required on shorter terms and at short notice. Overflow space that may be required in addition to main warehousing facilities could offer the flexibility that retailers require to cope with sudden demand spikes or trends that they would like to provide for.

This type of leasing could also lead to multi-tenanted space, much akin to a consolidation hub as tenants partner with other operators or retailers to share space, and make efficiency or cost gains.

Leasing is also likely to be influenced by the high level of automation that fulfilment centres are requiring in order to stay ahead of the competition. Such investment could lead a retailer to commit to a site for longer, in order to recoup costs.

What will the warehouse of the future look like?

The fact that retailing is changing at a dramatic pace thanks to the proliferation of new digital technologies is now well understood. Consumer expectations have become ever harder to fulfil, and in response, retailers are making huge changes to the way they supply goods and the services that they offer. In supporting these changes, the retail distribution function has never been more important: creating the right distribution network now plays a critical role in any successful retailer's strategy, and a central strand of this strategy must encompass the physical facilities that make up this network.

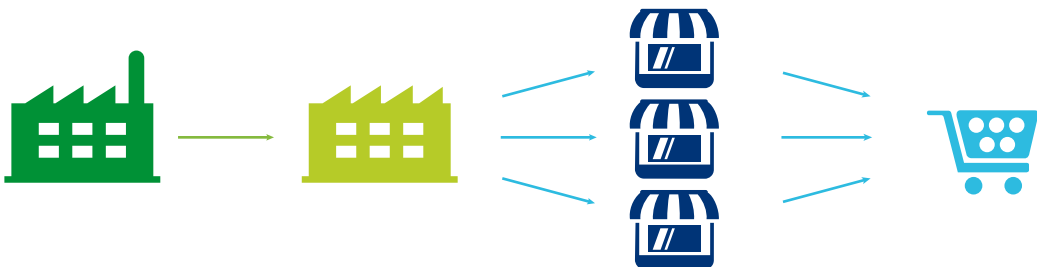
So what will the real estate in the supply chain of the future look like? The fascinating aspect of the changes taking place is that there is often no single 'optimal solution' to the new challenges of distribution. Although similarities will exist, what constitutes the most effective set up is likely to be different for each retailer.

Importance of mega sheds

What is clear, however, is that warehouses within existing retail distribution networks are often ill-suited to the requirements for speed and convenience demanded by consumers today. For a start, the buildings are not necessarily in the right place, or of the right size.

At one end of the size spectrum, large regional distribution centres will still be in demand, and could in fact become more important parts of retailers' supply networks if they continue to offer a clear way to drive efficiencies. However, after this period of structural realignment the 'big shed' market is likely to mature and demand will plateau.

Traditional logistics model Single channel to consumer



The rise of urban sheds

The more significant change will be the rise in demand for smaller, urban warehouses close to major conurbations. Clearly, retailers will need to undertake rigorous optimisation processes to determine the location of the warehouses in their network. However, in many cases, it is likely that only by making use of such urban warehouses – which are by definition close to customers – that retailers will be able to compete effectively on delivery times.

As competition for urban warehouses picks up and demand for suitable sites intensifies, rental values, and therefore investment values will rise. Even so, in many parts of the country these facilities are competing for space with alternative, often higher value uses, primarily conversion to residential units – a much less common consideration for traditional regional or national logistics facilities. Consequently, urban sites which meet all the relevant criteria in terms of size, location and connectivity are likely to be in relatively short supply.

Operating a busy logistics facility in an urban environment presents its own unique set of challenges, from the obvious limitations of space, to delivery and operating time planning restrictions. Therefore we expect to see growth in the number of urban consolidation hubs, which are able to overcome some of these issues and will represent a viable alternative to single let warehouses for some retailers.

Even away from the urban environment, there is still the potential for successful hubs in which the warehouse facilities of small, perhaps fledgling, online businesses cluster around a provider of distribution services. Such a system may not provide the full benefits of a bespoke, national network, but it will be more cost effective, and suit smaller online businesses, which by the nature of e-commerce, are still required to operate on a national level.

Investing in the bigger picture

Requirements for what takes place within the warehouse are also changing and having a growing impact on building specifications. Increasingly, warehouses will have to accommodate a wider range of activities, cater for more people, and utilise a much greater amount of data, technology and automation than they have in the past. In short, warehouses will become more sophisticated and more tailored to individual occupiers, and this will have a number of knock-on implications.

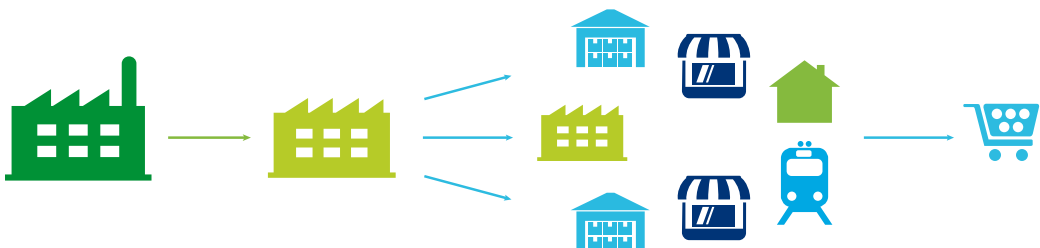
One is that a significant investment in warehouse fit-out could tie a retailer to a particular building for longer than normal. For retailers confident enough to commit to space for a period of ten years or more, for example, there may be rental incentives, while for investors, the attractiveness of longer leases may offset some of the potential downside of more individualistic buildings.

A second consideration is that improved data and interconnectedness of business functions, including those in the warehouse, will allow retailers to react increasingly quickly to changes in demand fluctuations. Some will be keen to use this knowledge to temporarily reduce or increase space requirements, and may therefore value the flexibility of a multi-tenanted warehouse offering some scope for expansion or contraction over time.

Taking this a step further, there is likely to be continued and growing demand for businesses that can consolidate the distribution needs of various online (or physical store) retailers. They will be able to charge a premium for offering short-notice flexibility, but to do so they will need warehouses that have the scope to be easily and quickly reconfigured.

Ultimately, retailers are already acutely aware of the challenges of e-commerce, and have rapidly elevated the importance of their supply chains as a result. As retailers seek to address these challenges, the next stage of the evolution will reward developers, operators and investors who recognise that specific requirements of online retailers are nuanced and different to those of the traditional supply chain, and provide them with a range of warehouses that address these needs.

New logistics model Multiple channels to consumer



Notes

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Tel: +44 (0) 20 7936 3000 Fax: +44 (0) 20 7583 1198

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