Körber Supply Chain

Return to peak

Using innovative technology to cope with seasonal peaks and returns

Ecommerce and retail are, technically, two separate things. But the lines are becoming more and more blurred, creating specific and often conjoined challenges for both.

These challenges can be answered with innovative technology, applied strategically along the supply chain: a worthy investment, considering the existing – and projected – global ecommerce market share.

“Retail” refers to the “offline” sale of products from a physical store, while “ecommerce” refers to sales made exclusively online, fulfilled through door-to-door delivery. Separating the two is becoming harder, as there is now an emerging third channel, known as “omnichannel,” which collates the two methods together.

Omnichannel gives the customer more choice as to how they wish to place, fulfill and receive their orders, and allows businesses to offer more options and reduce barriers to sales. This is great news for the consumer, and for the businesses that supply them, facilitating a faster, cheaper and more seamless buying experience. However, this has led to several new challenges for the supply chain, which providers must be quick to adapt to in order to remain competitive.

There was a time when retail and ecommerce were fulfilled by separate sites, specializing in either bulk orders or smaller “convenience” ones. But this emerging new channel incorporating the likes of “click and collect,” third party couriers, and other fulfillment methods means that distinguishing between “retail” and “ecommerce” from a supply point of view is becoming harder to do.

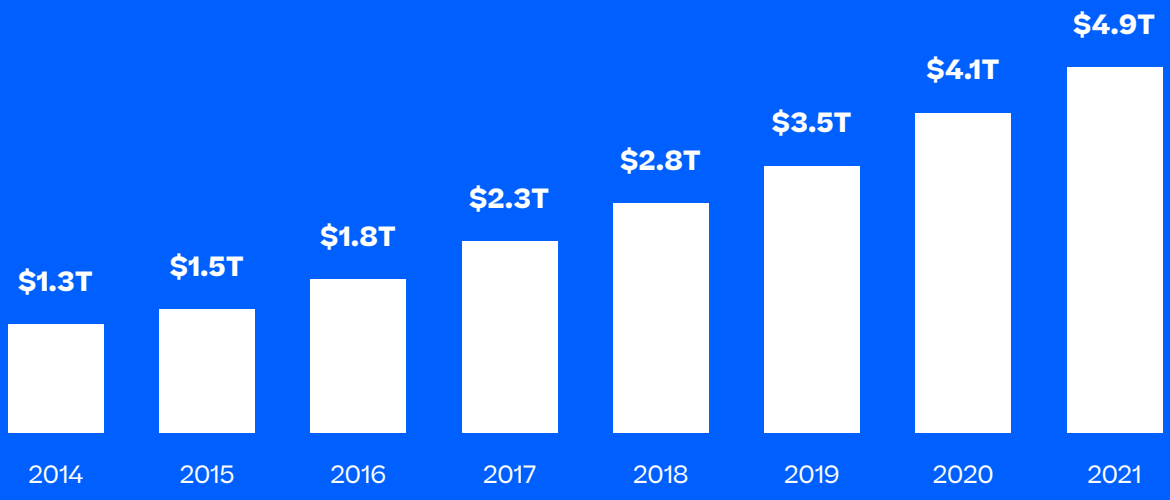
Nonetheless, emerging innovative technology is available to help you ease the pressure on the ever-complex warehouse floor, no matter what the channel.

“Many organizations are still operating with a retail channel and an ecommerce channel, and for omnichannel to be fully realized you need to be able fulfill the two in the same fashion, giving the customer the same experience.”

John Santagate
VP of Robotics for Körber

Retail ecommerce sales worldwide

2014 – 2021 by trillions of USD



Source: www.shopify.com/enterprise/global-ecommerce-statistics

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The challenges

The impact of the omnichannel pressures on the supply chain is wide-ranging and diverse. While there are many benefits, there are also many risks to mitigate.

Postal Service holiday peak projections

Fiscal year 2019

910M
Packages

14.9B
Mail

5.5M
Returns

8M
Average Sunday volume

Nearly
16B
pieces of mail and packages delivered in total during holiday season

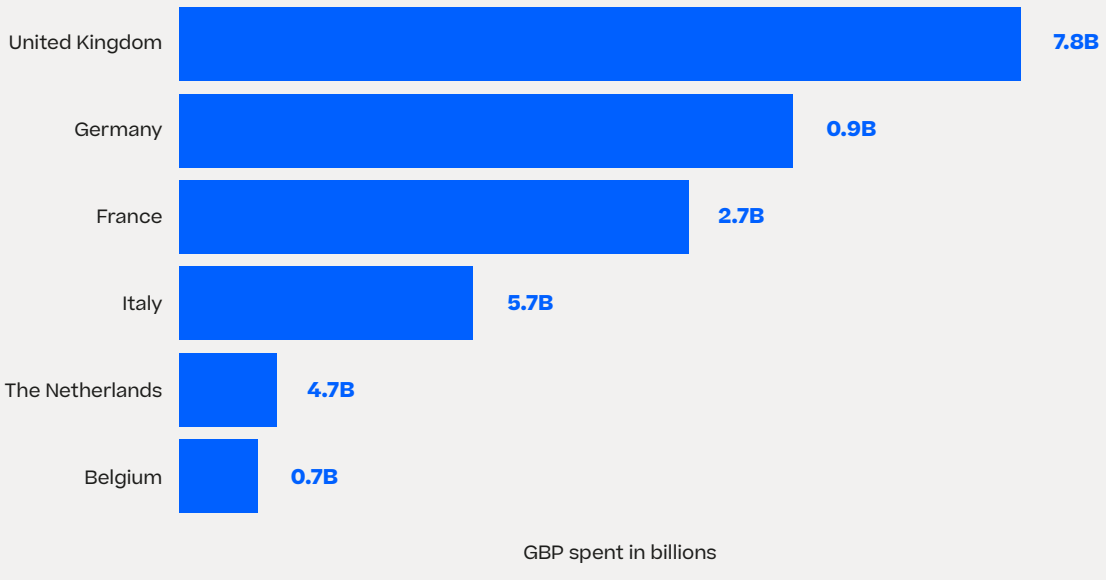
Source: uspsblog.com/holiday-shipping-stats/

Seasonal peaks

Seasonal peaks are an omni-industry problem. Each industry feels its peaks at different times, and many experience multiple peaks throughout the year – not necessarily isolated to the holiday seasons. With each peak comes a consistent set of challenges for every warehouse.

Total sales on Black Friday weekend

2017



Source: www.paazl.com/blog/guide-peak-season-spending-europe/

Labor shortages
Retailers can now forecast when each peak is going to occur and how, which effects how they handle inventory for that period of time. But that doesn't mitigate the ongoing problem with labor shortages in warehouses during peak times.

Most warehouses and distribution centers typically need additional seasonal workers at the same time. Not only that, a strong economy and low unemployment rates mean that the talent pool is becoming increasingly small.

It's a challenge that comes with many expensive pitfalls, including recruitment and training costs, and all for workers who will usually elect to move on when the season ends, or when another warehouse makes them a better offer.

Onboarding

If you are successful in fulfilling your labor needs with each peak, you will still need to bring each new team member up to full productivity. On average, this can take up to four weeks. So, by the time that team member is performing at full capacity, there's every chance the peak has passed.

Cost-management
Recruiting and training new workers, who are more likely to make mistakes as they get used to the processes, is costly. Mis-picks will always result in returns, which will ultimately cost the business in terms of time, resource and capital.

"Slotting" and storage
Every season is different, and involves different product lines each time, with increasing levels of SKU proliferation. Summer is different from winter, Halloween is different from Black Friday, and the SKUs are different each time depending on what's "fashionable" at that moment.

This produces a challenge known as "slotting", which relates to the way a warehouse is organised. Popular peak products are placed near the packing area to reduce travel time for the team, while less popular ones are moved further away. This reduces movement during the peak, making operations more efficient.

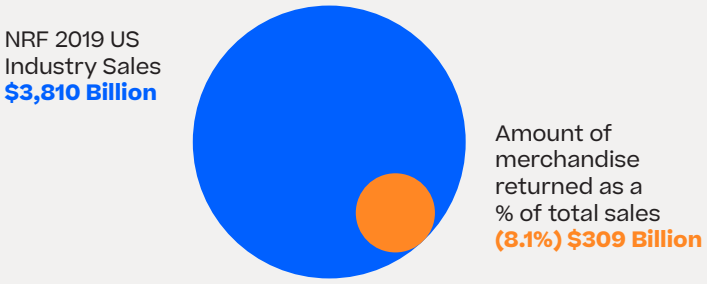
However, once that peak has passed, the warehouse will have to be completely rearranged again to accommodate either the next peak, or the "business as usual" movement of products. This can be a huge operation in itself. It also means a large amount of space is taken up by products which will only sell during their specific seasons.

Returns

Another big challenge warehouses continue to face is a significant increase in the rates of returns. This is frequently referred to as "returns culture", which is becoming more and more prevalent as omnichannel becomes the norm.

Merchandise returns

Total merchandise returns account for $309 billion in lost sales for US retailers. This revenue size would rank #2 on the Fortune 500.



Source: Appriss Retail "2019 Consumer Returns in the Retail Industry" (an analysis of profit and loss ramifications of US consumer merchandise returns)

This emerging consumer culture could be attributed to:

- The growth of omnichannel, making impulse purchases more frequent
- The "Amazon Effect" of retailers offering fast and free postage in order to compete with Amazon, minimizing the impact on the consumer
- Retailers frequently offering "order now pay later" deals, in which customers only pay for the items they keep, returning the rest

State of ecommerce returns

Returns are the new normal

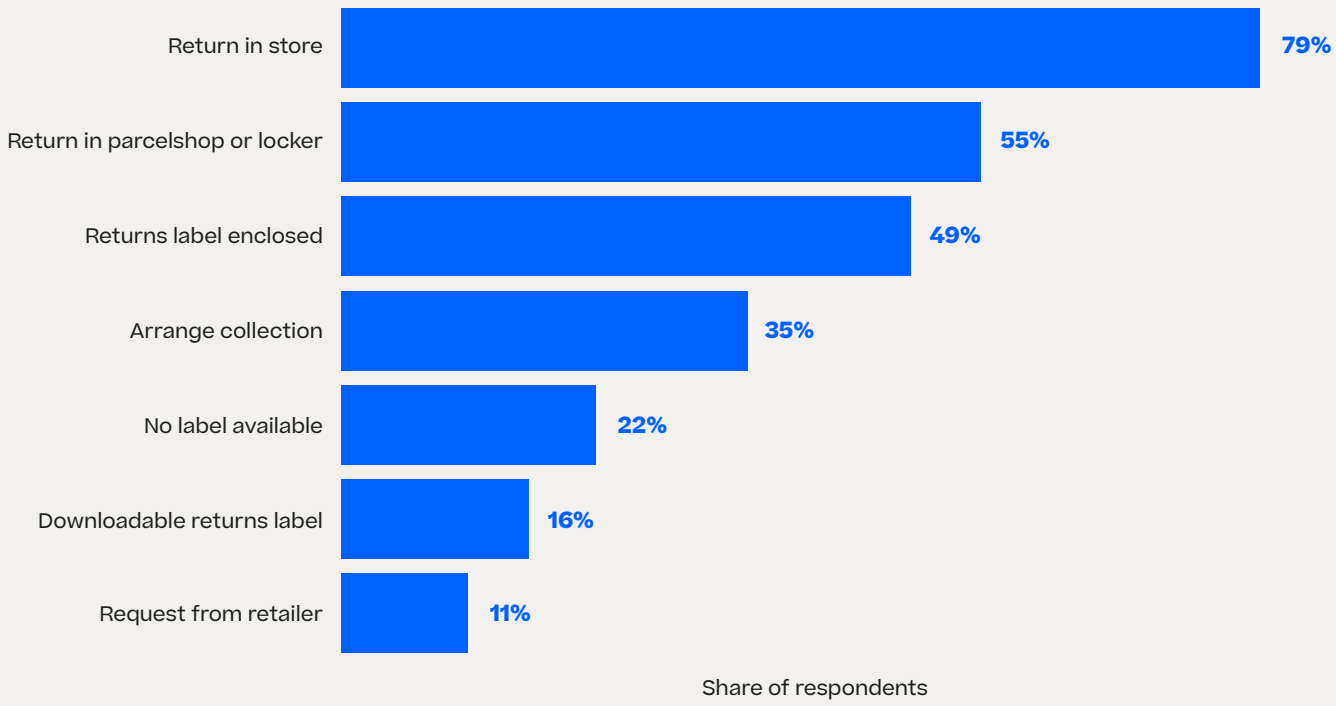
41%
Buy variations of a product with the intent of returning

42%
Have returned an online purchase in the last six months

89%
Have returned an online purchase in the last three years

Source: www.shopify.com/enterprise/ecommerce-returns

Share of leading online retailers giving return options in the United Kingdom in 2018



Source: www.statista.com/statistics/1015189/online-retailers-return-options-uk/

Labor-intensive working
This is creating an ever-growing returns process, which is a big challenge for retailers, especially with returns being such a difficult process to automate. Each returned item must be inspected, by a person, and assessed for its suitability to be resold. It is a labor-intensive process, which also suffers from the impact of labor shortages.

Space and storage
As the returns process typically takes place in the warehouse, there is the issue of space and storage to consider. The returns process requires tables for people to stand at to inspect the products, as well somewhere to store returned goods before they are inspected and put back into stock – or scrapped. This is space that could be more profitably used.

"It's not just about the influx of orders during peaks, it's the 30% of those orders coming back into the process that really adds to the challenge. People are needed to execute both the amount of orders and amount of returns."

John Santagate
VP of Robotics for Körber

Solution 1: Voice directed work

Voice directed work (VDW) means hands-free and eyes-free operations for faster, more accurate work with less scope for error. It works by sending workers directions through a headset. Once the task, or the stage in the task, is complete, their responses are recorded in real time and sent back into the system so a new direction can be given.

"We've been so pleased with how voice has gone for picking that we are evaluating all areas of the distribution center to see if we can further the benefits. Right now, I'm looking at extending it into our replenishment workflows to work with our forklift operators, and possibly in our returns processes."

Paul Courchene
Logistics Core Team Leader, Patterson Companies

VDW ultimately leads to massive gains in:

Productivity

Accuracy

Training

Time spent training and onboarding

Answering seasonal peak challenges with voice

Labor shortages
Thanks to the significant productivity gains enabled by the "hands-free, eyes-free" nature of voice, you can do far more with your existing team, both during seasonal peaks and with business-as-usual activities.

With voice, your need for temporary workers to alleviate the pressure on the warehouse floor will lessen, or even disappear entirely.

Onboarding and training
Getting new and/or temporary workers, when they are still needed, up to full productivity within the space of a single shift is not only possible, but probable. Voice is incredibly easy to pick up, which means your most valuable team members can fill their time with more valuable tasks, rather than taking time out for onboarding activities.

Cost-management
Less reliance on temporary workers means less outgoing costs on recruitment and training. Using voice also means a much higher level of accuracy, which ultimately leads to fewer costly mis-picks. This is good news for both you, your team members, and your customers – who will be much less likely to receive the wrong item.

Answering returns challenges with voice

Labor shortages
While the returns process ultimately needs to be led by people who are able to inspect a product accurately, voice's productivity gains on the warehouse floor could mean you have more people available for a completely different process.

There are parts of the returns process which can be sped up by VDW too, with workers receiving and giving voice commands, as opposed to reading and inputting them using a screen.

As voice will support your returns team with a hands-free and eyes-free workstation, all hands and eyes will be focused solely on the products themselves.

Cost-management
Errors in the supply chain usually involve mis-picks, ultimately leading to a higher volume of returns, which are costly on multiple levels. Voice minimizes the risk and cost of a team member making errors, significantly reducing one of the most common reasons for a return, lowering the overall number overall.

Solution 2: Robotics and automation

Warehouse automation is using robots, autonomous vehicles and other specialized machinery to fill some of the more labor-intensive functions in a warehouse, such as:

- "Walking" to different picking points
- Pushing carts
- Finding the correct pick path
- Picking up heavy items

All of this leads to massive gains in:

- Efficiency
- Capacity
- Productivity

Types of robot

AMR (autonomous mobile robots)
These are "cobots": robots and people moving and working together on the warehouse floor. These take many forms, and enable many methods, including swarming, "follow the bot," and "goods to person."

For example:
A fleet of robots operate in the picking aisles and navigate workers to the correct pick locations, where the person performs the pick. The robot then moves on to the next pick location while the person moves on to the next robot. This method keeps the person picking while the robot handles the movements of the material through the process.

AGV (automated guided vehicles)
These are automated guided vehicles, such as forklift trucks or other forms of vehicle. These types of automated vehicles rely upon some form of guidance mechanism to direct their navigation.

For example:
Instead of having team members walking up and down long isles continuously, the robots bring the necessary rack to them – a system used by Amazon.

Piece picking robot
These are robotic arms equipped with sophisticated intelligence, vision, and "grippers." They are built to grab, move and manipulate the wide range of products handled in a picking operation.

For example:
Instead of having a person stand at a picking station, batch-picked items come to the robotic picking arm in a tote. The arm then picks the items and places them in the appropriate place for the next step in the process.

Answering seasonal peak challenges with robotics and automation

Labor shortages
The human value on the warehouse floor comes from the detailed and careful handling, and not the "movement" of products from place to place. Warehouse robots decouple the majority of the movement from the picking, meaning the most valuable stages of the workflow can be focused on by people. This is particularly essential during peak seasons, when your team's most valuable skills are needed the most.

Cost management
Aside from the productivity gains of ensuring only the most valuable work is done by human hands, robots are very flexible in terms of cost. The purchase, or hire, of robots to alleviate productivity pressures is completely scalable, and can adapt to your business' needs. Available as permanent fixtures, or only rolled out when required, they will come with the knowledge necessary to do the tasks at hand, and can be stored or even returned when not in use.

"Slotting" and storage
The benefit of robots lies in identifying movement opportunities, and decoupling that movement from people. This could be put to use on a grand scale when "slotting," so big shifts of product lines that no longer need to be close to the dispatch area, can be moved by AMRs, rather than by people.

Robots also make the storage of products more efficient too, throughout the seasons. If AMRs bring the goods to the people, there is no longer the need to have "people-sized" walkways between the shelves. This means more space can be dedicated to storing unsold products, ready for the next peak.

Answering returns challenges with robotics and automation

While many of the processes involved in returns still require human hands and eyes, there are a few ways that robots can ease some of the more movement-orientated activities:

AMR (autonomous mobile robots)
Robots bring the returned products to the workers at their tables, and either reshelve or scrap according to the outcome of the inspection. They can also take inspected products back to the shelves in the replenishment and put-away processes.

Robotic arms
Picking arms can be adapted to pick and sort returned items onto a conveyor belt, which will then move the returned item back to its determined location. The arm will pick the item and scan it, and the scan will then dictate where the robot will place it.

Storage
The storage solution provided by robots also frees up additional warehouse space, which means returns can be processed more effectively.

"While there are some elements in the returns process that robots can help with, the visual aspect is probably going to remain in the human's hands for the time being."

John Santagate
VP of Robotics for Körber

The future

Combining solutions

Voice and robotics are natural partners in terms of their co-operative benefits, particularly where the challenges posed by omnichannel fulfillment are concerned.

One of the reasons voice is effective is that people are generally better at receiving instructions aurally – i.e. by hearing them. Robots, on the other hand, currently require visual and manual engagement. As we move forward, the benefits of the two could be integrated to achieve even bigger productivity and efficiency gains when dealing with both seasonal peaks and returns.

It is widely believed that voice is both the safest and the most productive way for your team to operate. As it stands, most warehouse robots still require engagement through a screen interface. However, there is now an opportunity to use voice instead.

For example:

- The worker could "take the reins" and speak directly to AMRs, calling them over – and the goods they carry – by using their voices.

- AGVs could also be assigned to a voice-directed worker, to help them with product delivery, retrieval, or placement on high-bay racks.

"The two solutions, integrated, give the best outcome. If you add them together you get a cumulative gain."

Anton Du Preez
Group Sales Director for Körber Voice

The future of retail and ecommerce

While voice and robotics, both working together and separately, are indeed the future of retail, ecommerce and the combined omnichannel fulfillment, there is more to come in terms of innovative tech.

Recognizing the importance of the human element, and their individual and specific skills, plays into the use of combined solutions. New technologies will likely incorporate how people interact with the processes and the robots intended to help them.

There is scope, for example, for the workers to be individually identifiable via Bluetooth – so the robots know who is approaching/operating them, and can tailor instructions according to characteristics such as:

- Role
- Skill set
- Language etc.

As the ongoing percentage of "online" sales vs "offline" sales continues to grow, so will the need for speed and efficiency. Removing as many steps as possible from the supply chain process, notably the complexities brought about by omnichannel, is the secret to improving speed and efficiency.

"The consumer expectation of omnichannel is going to continue to force retailers to provide a consistent speed and efficiency of service. People have gotten a taste for the convenience of it."

John Santagate
VP of Robotics for Körber

Conclusion

The world, and how it consumes, is changing at an alarming rate. Only the most flexible and adaptable supply chain processes will be able to keep up with the demands created by the inevitable advance of omnichannel – be that in how it impacts seasonal peaks, returns or any other challenge.

For more information
Could Körber's versatile VDW and robotics solutions help you counteract omnichannel fulfillment pressures? Contact us to find out:
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