THE LOADSTAR
LongRead

LongRead Vol 10

Writer: Alex Lennane

Production: David Badger
Design: Alison Rolph

Railway Arch 13, Almond Rd,
London SE16 3LR

www.theloadstar.co.uk
@TheLoadstar

© Rawpixelimages | Dreamstime

E-commerce logistics: shopping and shipping

By the time you read this, you will have already seen the press reports on the top-selling e-commerce days of 2017. Singles Day in China reaped an astonishing $25bn in sales. Last year's Thanksgiving holiday weekend garnered some $12bn in online sales – in the US alone. Even in the UK, which doesn't celebrate Thanksgiving, on Black Friday some £1.74m was expected to be spent online every minute of the day.

Inside

These figures speak volumes, in more ways than one.

First, let's put it into context. While global e-commerce has grown 20% a year over the past 10 years, its share of the total retail trade is pitiful. In South Korea, which has the highest percentage of retail sales online, e-commerce accounted for just 18% of total sales. In the US, it is 10%. There is enormous room for growth, as well as market maturity.

The second thing those spikes in revenues reveals is that e-commerce, (and the companies behind it), have been extremely adept at targeting specific days to encourage sales. And that has mightily significant repercussions for those involved in the fulfilment of those sales.

Going for growth

There are numerous forecasts for the growth in e-commerce – it is broadly expected to double its market share to about 16% of the global total retail market in the next four years. A combination of factors, such as the increasing spending power of ageing millennials, who have always shopped online, in combination with a growing middle class in developing countries

From cross-border to final mile

Free shipping, promised by companies such as Amazon, does of course, not exist. Labour costs are rising, although automation may reduce that problem - but only with investment. There is pressure (of their own making) on e-commerce companies to deliver cheaply – but with thin routes to the end customer, it's hard to make the last mile pay.

"Everyone thought final mile was the key to e-commerce," says Stephane Rauber, vice president strategic business development for CEVA. "But the volumes are not there. Not many organisations can make money on the final mile."

And of course, that varies between countries. Douglas Piagentini, business development director for CEVA Latin America, says: "Last-mile is one of the biggest challenges. Some areas are hard to get to. Local mail can support it, but there is still an issue in some places."

That makes delivery homogeneity, the holy grail for etailers, hard to achieve. Global 3PLs talk to local forwarders, but the fewer partnerships, the better for standardisation.

There are also the integrators – but they do not suit all purposes, or budgets.

"Some logistics providers are very standardised," says Christophe Cachat, CEVA's chief information officer. "But many came from acquisitions and carry countless systems and many silos in their operations. It's very hard for them to have an entity, coordinate the others and become the sole e-commerce provider."

But local 3PLs, which may cover three or four countries, can struggle with cross-border shipments – unless they are in a global network.

"You need teams around the world to cover cross-border. You have to make sure it's all integrated – customs, pick and pack, distribution. In many 3PLs you'll find that that is different business lines – but in e-commerce you have to make that all work together," explains Rauber.

In fact, cross-border is more prevalent than most consumers know. Some estimates say it is about 15% of the total e-commerce market, others think it is higher, and with ever-increasing numbers of vendors, another trend in e-commerce, it is only set to grow.

"There are thousands of vendors around the world, e-commerce is driving the marketplace. Most people don't realise when they buy online that the goods are located in China. Sellers answer questions using translation tools. Technology is fuelling this trend," adds Rauber.

As are 3PLs, which have the ability to expose etailers (and retailers) to markets new to them, but already covered by the provider's network. Instant globalisation is in the hands of the logistics service providers.

"Last-mile is one of the biggest challenges", says CEVA's Douglas Piagentini

Cross-border entails more customs processes and security – and thus adds cost. But providers must match the speeds that customers expect. MetaPack's survey shows that consumers were less keen on international shipments, with 45% stating that delivery was too expensive – up from 30% in 2016, 30% (up from 21%) said delivery was too slow, and 26% were irritated that they had to pay for international shipping at all – up from 14%.

But there are ways to improve this, according to the survey. As logistics providers examine ways to consolidate e-commerce better, it turns out that the consumer, too, would prefer it – a move which could take some cost out of final-mile at least. And this is where 3PLs need to be close to what the customers want – and where 3PLs have the advantage, as they do in traditional forwarding.

71% of online shoppers said that when ordering multiple products from multiple retailers or brands, they would prefer to have all the purchases delivered in one go, by a single carrier. And when adding in delivery times, 57% said they would still prefer it in one delivery, even if some items were available sooner.

Home delivery is also in decline – albeit from a high point. In 2016, 92% of online shoppers had packages delivered to their homes, but this has fallen to 82% – with 44% collecting in-store, 39% from a local pick-up point, 19% to the workplace and 11% to a locker.

Choice is key, and any provider that can offer options, as well as the technology to consolidate where possible, will be a popular one.

and wider internet penetration globally is expected to give e-commerce further fuel for growth.

Nevertheless, most observers agree that it will not kill off the bricks-and-mortar (B+M) game.

"Online shopping will get bigger and bigger – but it won't be 50:50," says Professor Michael Bourlakis, head of logistics, procurement and supply chain management at Cranfield School of Management.

"Both types will be used in future: the traditional retailing market will be there as well. It'll be complementary."

Alibaba clearly believes so: in November it invested some $2.88bn to acquire 36% of Sun Art Retail Group, a Hong Kong-listed business that operates 446 hypermarkets across 224 cities in mainland China.

Some retailers, while not spurning e-commerce, are also convinced of the benefits of staying in B+M. German discount retailer Lidl plans to open a new shop every week in the UK over the next two years, in a £1.45bn investment – it already has 670 stores. It has no online presence in the UK; Christian Härtnagel, chief of Lidl UK, told *The Daily Telegraph* last year: "I'm convinced that if we just focus on our core supermarkets we will have so much more to gain."

But according to Professor Bourlakis, B+M retailers will have to get more creative to attract shoppers.

"Traditional retailers will have to work harder to provide an experience for consumers in store. They'll need activities; you have to make it more fun to go there. There will be more entertainment and personalisation, and different services for different consumers.

"So there will be a balance between online shopping and traditional retail. It'll depend on the country, the environment, the consumer."

Toys R Us, which filed for bankruptcy in the US in September, one of about 20 US retail chains to do so this year, is

focusing on just this balance. Once out of bankruptcy, it plans to tear away the boxes in its shops and put the toys in the hands of kids in a try-before-you-buy experience. It will also change the shop floors to allow for play zones, while also offering multi-channel sales.

Other methods to encourage footfall include using supply chain technology, linking online and offline, to stock stores with specific goods which are in demand online, which could even be determined by location.

Blurring the lines

While e-commerce has disrupted the bricks-and-mortar business, it is not only retail that has changed – the lines between all sorts of once-easily defined sectors are blurring.

"To some extent, we are a utility company," Alibaba chief executive, Daniel Zhang told *The Economist*. "We are trying to provide an infrastructure for digital commerce."

Meanwhile Amazon is often referred to as a logistics company – or a technology company – or a retailer.

"It's not easy for traditional retailers," says Professor Bourlakis. "Some, like Tesco and Walmart, are making good progress."

So what does good progress consist of?

Frank Diaz, executive vice president of Price Smart, a US-headquartered Latin American warehouse chain with both an online and offline presence, says: "E-commerce is generally difficult to make profitable".

"You have to do all the things the customer used to do – go to the store, drive home with the goods. The challenge is to make that profitable, and we are relying on the logistics industry to help us with that."

Professor Bourlakis agrees: "Getting the supply chain right is make or break for e-commerce. The supply chain and the IT are important."

And that's what seems to define e-commerce – the ability to deliver, quickly and cost effectively. And that's where 3PLs come in, adding to the blurring of the lines.

"Not many companies have invested in proper logistics," explains Stephane Rauber, vice president strategic business development of CEVA Logistics. "But the success of e-commerce is intrinsically linked to logistics."

ResearchNow's latest data, collated for MetaPack, reveals that delivery options ultimately determine whether the consumer presses 'buy'. Sixty percent of online shoppers will switch to another seller if the delivery options aren't to their taste, and 77% expect delivery options to be shown on the product page.

It's called 'the Amazon effect'.

"Amazon has made products perishable," explains Rodrigo De Narvaez, business development director for Latin American logistics company 21 Air. "You want your Halloween costume in time – a day late and that sale has effectively perished."

The delivery has become as much a part of the sale as the product itself.

"The major e-commerce players are game changers for us and are embedding us in their supply chain, not only for delivering the products interfacing their ERP with our systems, but they also include supplier pages in their own public web sites for tracking and tracing. We blend in, but we are part of the overall user experience," says Christophe Cachat, CEVA's chief information officer.

"Shopping from the living room has changed the way we do logistics. We'll be left on the sidelines if we don't embrace it."

Become a retailer

If delivery is half the sale, and the lines between traditional businesses are blurring, then there is no reason why 3PLs can't, in effect, become the retailer, or at least closer to it.

"You can build an export company in a day, without leaving your living room," says Cachat. "There is a place for logistics companies to start retailing themselves, effectively a reverse move from Amazon going into logistics."

Those companies unable, or unwilling, to jump into e-commerce themselves can do so through acquisition: Unliever bought Dollar Shave Club, an innovative marketplace based on an online subscription model and viral marketing campaigns; and Walmart has invested in Chinese online company JD.com.

But if not through acquisition, retailers can partner with 3PLs to enhance their delivery process.

"As a technology company, we need a logistics service provider that has high quality of service and can deliver," says Leandro Bassoi, marketplace delivery director of Mercado Libre, a Latin American online marketplace.

"There is still a lot of room for growth in e-commerce in Latin America, and we are trying to plan for those numbers. We approached it by making a decision to start with technology.

"We don't have plans now to operate logistics ourselves. But we like to know what our partners are doing – the main thing outside of technology is having the right partner and working closely together."

By the same token, 3PLs need to get closer to the ultimate customer – because the customer experience, along with logistics, is key to

"Not many companies have invested in proper logistics, but the success of e-commerce is intrinsically linked to logistics."

Stephane Rauber, vice president strategic business development of CEVA Logistics.

"Data is the new currency, some say religion; blockchain and AI are the next game changers, especially for the supply chain"

Christophe Cachat, CEVA's chief information officer.

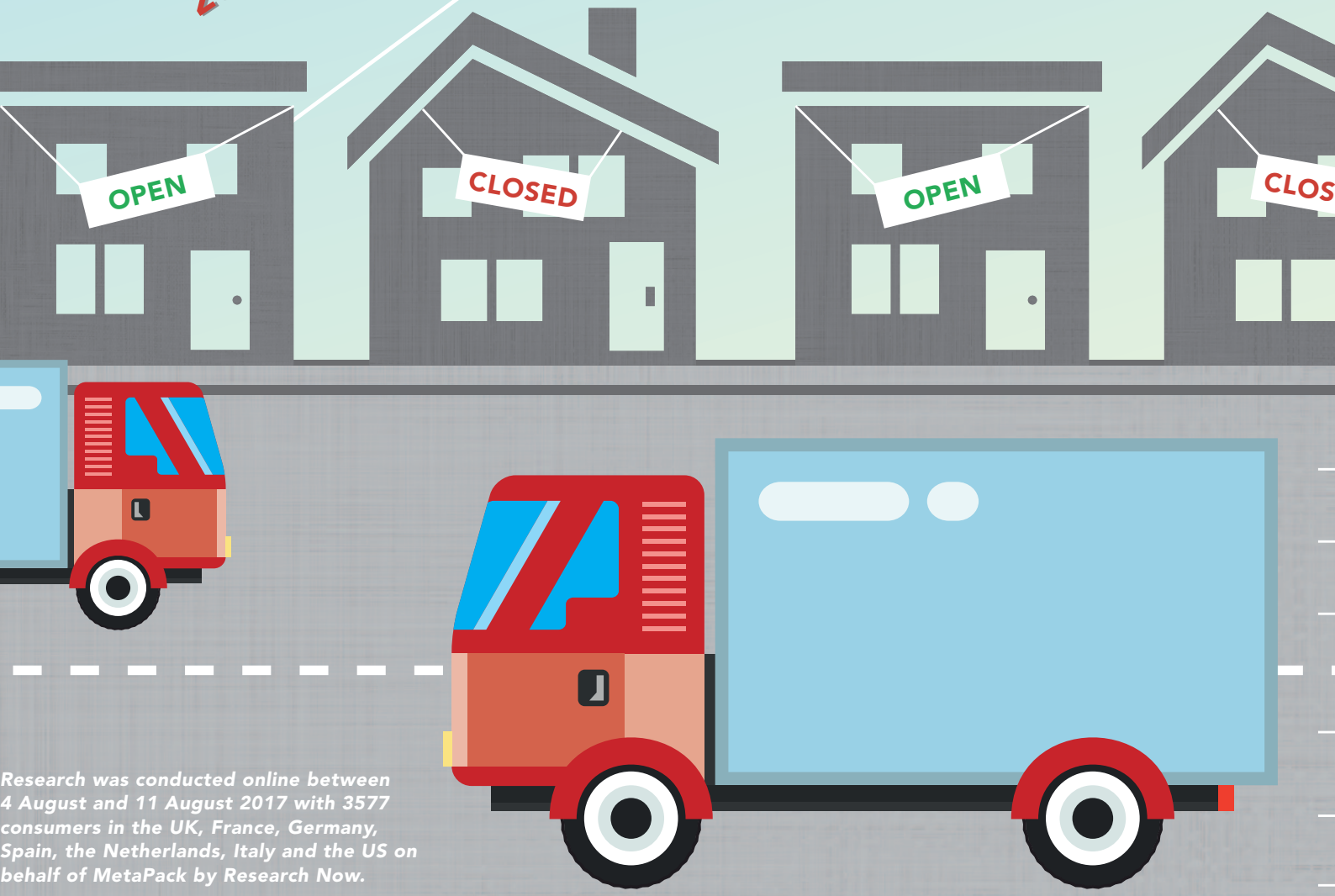
ECOMMERCE

CROSS-BORDER ECOMMERCE

45% Said delivery was too expensive (up from 30% in 2016)

30% Said delivery was too slow (up from 21% in 2016)

26% didn't want to pay for delivery



Research was conducted online between 4 August and 11 August 2017 with 3577 consumers in the UK, France, Germany, Spain, the Netherlands, Italy and the US on behalf of MetaPack by Research Now.

CLOSED

50% of shoppers abandon online orders because the delivery choices were unsatisfactory

27% said they had abandoned an online retailer's website because same-day delivery wasn't available

25% had abandoned shopping because a nominated-day service was not on the delivery menu

28% abandoned an online order because the carrier used by the ecommerce provider was one that had let them down in the past.

39% will never shop with a particular retailer again because of a bad delivery experience

OPEN

82% want home delivery

71% Of consumers said they would like to have all their online orders delivered in one go

71% When ordering multiple products from multiple retailers or brands, would like to have all their online purchases delivered in one go - and by a single carrier

27% Care about the environmental toll of their online deliveries

47% were aware deliveries contributed to increased traffic congestion and carbon emissions

73% bought more to qualify for 'free delivery'

54% say the delivery options define who they shop with

50% would like to be able to change the date/ location of a delivery

42% said they want to choose their own carrier

44% want a collection point in-store

39% want a local collection point

19% want workplace delivery

Many happy returns?

The returns element of e-commerce is perhaps the most shocking – from labour, cost, inefficiencies and environmental standpoints. Some 25 to 30% of online purchases are sent back, reckons Worldwide Business Research – three times the rate for items bought in a shop. That rises to as much as 30-50% for some sectors, notably apparel.

That relates to some $260bn-worth of stock – in the US alone – every year. But it rarely gets re-sold. The National Retail Federation claims that 95% of that doesn't go back to shelves. Instead it goes to warehouses – but not necessarily those from where sales are distributed – taking up both space and cost. And 30% of that ends up in landfill, adding a further, significant, and inexcusable, environmental cost to a reverse supply chain that is already emissions-heavy.

Inconsistent and fickle consumers, meanwhile, with one hand plead for free shipping for returns, and with the other, worry about the green cost of e-commerce. Just over a quarter of online shoppers said they cared a great deal about the environmental toll of their online deliveries, yet 57% said they would be very likely to use a 'try-before-you-buy' service, which could perhaps reduce returns, but could also fail to do so, while simultaneously passing on the cost of delayed payment to retailers for stock they have already shipped out.

Globally, returns and excess inventory cost retailers $1.75trn each year. The 3PL that can help reduce that will be much in demand.

Mercado Libre's Bassoi explains: "Return flows are much more physical and require a considerable effort – but it is intrinsic to e-commerce."

The biggest challenge is the amount of processing, a labour-intensive job not yet replaced by automation.

"We've done returns for years, but volumes have exploded with e-commerce," says Rauber. "It needs lots of manual processes.

"It's important to have access to a good labour pool. The returns centres are mainly in countries with cheap labour costs, such as the Czech Republic and Poland.

"From the UK, there are hundreds of thousands of returns each day, and they are put on trucks and sent to Eastern Europe. They are processed, moved to a different distribution centre and possibly sent back to the UK."

With technology providing assistance in other inefficient areas, it must be a matter of time before it improves the returns process.

"I am quite sure it could be improved by technology," says Bassoi. "The sizes of clothes are not standardised, for example, so there are more returns. Technology could deal with that. There are other ways, which logistics companies can support.

"Different options will co-exist, and there are things such as artificial intelligence. It all needs to be considered."

e-commerce success. Nearly 40% of online shoppers claim they would not buy again from anywhere which gave them a poor delivery experience. And again, Amazon has set the bar high in terms of customer experience and expectations.

Price Smart's Diaz says: "Disruption is the challenge presented to retailers, but in logistics it is about how to deliver goods faster and cheaper, while retaining the strengths the retailer already has.

"If we collaborate, we have the opportunity to improve the customer experience. It's about customer-centricity, and the most successful companies have focused on that."

Amazon's stated pledge is to be "Earth's most customer-centric company". And it has put its money where its mouth is, spending some $13bn in the first half of last year on its cloud and e-commerce business, nearly 20% more than Google has spent. That kind of money makes it hard for competitors to keep up.

But 3PLs can help.

"We have to give our buyers a good experience," says Mercado Libre's Bassoi. "The main objective is to improve the customer experience, make it homogenous in each market, and very good."

The key for 3PLs is technology and network.

"There is a very short turnaround time: you need to undertake an inventory check, work out transit and delivery times and immediately come up with a firm price. From a data point of view, you need roughly the same information as for a traditional shipment. It's the same process when a company wants to sell its products over the internet versus traditional channels," explains CEVA's Cachat.

Speed is of the essence. With Amazon offering two-hour delivery, everyone has upped the pace. With a 24-hour day spanning Asia to Europe to the US, the databases now follow that pattern.

Rauber notes that there are other differences with traditional retailing. With thousands of orders a day requiring pick and pack, some automation and mechanisation is required – needing a fixed investment cost. Yet the flexibility required by e-commerce also means companies must invest in people too. And as demand for e-commerce products

Modal moves?

Air freight is flying high on the back of e-commerce demand. Parcel volumes have more than doubled in 10 years. Air freight saw e-commerce demand grow 20% in 2016, while the integrators have seen a compound annual growth rate of 5.6% in the international express market since 2011.

Amazon's Prime Air is going up to 40 aircraft this year in the US alone; domestically express air freight is thriving, as it is in China.

Michael Steen, COO of freighter operator Atlas Air, which has seen its customer base shift from scheduled airlines to express and e-commerce players, says: "This is a true paradigm shift and we haven't seen anything like it before."

But will it last?

If you look at the peaks of air cargo, at the various, one-off times when margins grow and planes are full, there is something of a pattern: hi-tech product launches; different perishables in newly found markets; pharmaceuticals.

Air freight tends to catch new markets, new products, before they reach maturity. It changes its strategies accordingly, hoping for a long-term run of success, only to find that better forecasting, improved supply chains and inventory management, new technology and an increasingly close eye on costs sends the shipments on a different route, usually by sea.

Take flowers and fish: improved technology has found a way to ensure that freshness, even for tricky varieties, lasts as long at sea. The introduction of RFID, and Maersk's remote container management technology, meant that pharmaceutical companies felt as safe putting their expensive, high-maintenance products on containerships as they did on air freight. Even the hi-tech market, with better planning, is opting for longer transit times, with rail happy to pick up some of the volumes. Air freight takes the lead in new markets – and then watches it seep away.

One of the USPs of e-commerce is speed of delivery – but only from warehouse to door. As forecasting gets better – after all, Amazon's Alexa will know what you want before you do and consumers will end up one step behind predictive analytics – it's not too much of a stretch to think that in combination with changing warehousing networks, air freight could cede some ground to its modal rivals. Add the "free shipping" element and air freight again looks set to lose.

"It's possible to imagine e-commerce using ocean freight if our forecasting methods become so accurate as to mitigate what, in comparison, seems like an endless transit time," says CEVA CIO Christophe Cachat.

Rail is a more obvious alternative, for now at least.

"Rail is somewhere between the two – and we are organising shipments by rail already. It has been looking for a role."

builds, the density of supply chains also builds up and becomes easier to fulfil.

"We are starting to see maturity in the e-fulfilment process," adds Rauber. "Best practice is becoming the same everywhere, so we are approaching a standard.

"Five or six years ago, no one quite knew what was needed – but we worked with a huge e-commerce player which gave us good insight."

Multi-channel supply chains

With the complementary aspects of multi-channel retailing, most 3PLs are required to offer two streams – e-commerce and bricks and mortar – for the same client.

"Five years ago no one thought of e-commerce as a threat. They thought it was just a new selling channel. But big brands are turning towards it because their core business is so affected," explains Rauber.

This is where the challenges come in for a logistics service provider.

"It's not a challenge to manage two streams together," he claims. "You need storage and security for both. You then set up one flow, pick and pack for traditional bricks-and-mortar shops, and you set up another for e-commerce.

"It's more of a challenge when you have a customer that has done B+M for years – and then e-commerce sales start booming. You may have had 1,500 deliveries for B+M and then you get 10,000 for B2C.

"If you are already running the operation, you have to change the logistics set up. That can be a challenge, and you have to work hand in hand with the customer over everything. And this is where IT is important – you need to be able to manage multiple deliveries and locations, and have all that infrastructure in place.

"Our intention is to get closer to the order, catch it as soon as possible. We are working on this; we are from the fulfilment industry but are coming closer to the end customer. This is where the market is going to go."

Forecasting

Getting closer to the habits of the end customer could also support etailers in perhaps the most critical difference between traditional retailing and e-commerce – forecasting.

Rauber explains. "Previously, you had a new product, and a market. If you wanted to launch a product, you had a TV campaign and looked for say $10m in sales. It was all controlled by the producer and manufacturer; it was a machine.

"Today, the end user is deciding. We had an unexpected rush on a product in California – we couldn't understand why until we realised it was being promoted by a blogger in South Korea. You are exposed to really globalised markets. It is no longer controlled by the marketing departments of big companies. E-commerce is total disruption."

That means a 3PL worth its salt will be watching for signs of demand closely.

"We have started to find solutions," adds Rauber. "We help our customers improve their forecasting, but you have to monitor Facebook and Twitter – it's all new. Forecasting is totally different, and I don't think serious resources have gone into it. "

Cachat adds that while there are vast amounts of data related to e-commerce, interpretation is still lacking.

"There is a big shift from data to quality data. Now data is getting better at identifying trends. Algorythms are capable of finding patterns, but you need to employ experts to identify trends and ensure it's not a coincidence.

"Data is already helping with some forecasting, such as Chinese New Year trends. We are doing some pilots with

customers, but you cannot create false expectations – you have to be sure.

"We have seen some significant trends, but you have to be wary of using one to chase marketing or to build on it. We have to earn a reputation for being able to analyse. There is a lot of activity at the moment and we are breaking away from traditional concepts."

Forecasting – or lack of it – obviously has enormous repercussions for a peak season. But planning and design is the best way to cope with sudden surges of demand, says Rauber.

"The peak season is huge in terms of processes, and how you design your fulfilment centres. Design is one thing. The other thing you need is people.

"If you have an operation during the year which needs 300 staff, you'll need 800 in the peak. You also need to ensure the operation is sustainable. You can't afford to have an accident in the peak season.

"So there is a lot of pre-work. If you don't get the design and location right, it can be disastrous. The giants of e-commerce think about this every day."

Tomorrow's world

"When people think technology, they immediately think Google or Amazon. They don't realize how sophisticated our industry can be. We're cutting edge too," says CEVA CIO Christophe Cachat.

"FANG (Facebook, Amazon, Netflix, Google) traditionally share a lot of their software with the open source community and freight forwarders happily tap in."

Cachat spends part of his time looking at how emerging technologies can be applied to the supply chain world and how they will alter e-commerce.

"There is interest, and anticipation. It's the next step for distributed networks, involving the supplier, customer, bank, end user," says Cachat.

Blockchain was developed to support bitcoin – but together, while useful for e-commerce, reducing fraud and facilitating transactions, they threaten other industries.

"From a technical point of view, blockchain could support some of our processes and make them easier, but it's a bit like being a 4PL – you have to be independent to avoid conflicts of interest.

"There is also the question of what can be done to ensure blockchain becomes the backbone to connect all parties. We are active on that front – but we still have a lot of questions.

"Once you have the general ledger you can never go back. You can't roll back databases and transactions. And that is a problem for important players like banks – they have handled the trades, but you would be rendering them obsolete, and I don't know how they will react.

"But if everyone has a copy of the transaction, it's dream compliance."

Cryptocurrencies are very much in the public eye right now, an unexpected filip for the sector triggered by China's recent ban on residents from trading on cryptocurrencies.

As Forbes puts it: "Bitcoin prices fell. Ether prices fell. And then cryptocurrency start-ups shook it all off. It was as if they were punched in the face, shook the cobwebs out of their head, and remembered that this whole blockchain thing is decentralised and autonomous. That's the point.

"Banned in one country, move to another.

"Now they're back on their feet in most cases, like a terminator cyborg hard to knock down."

Cachat adds that the cryptocurrencies "are not going anywhere".

"It's the next revolution. But it'll be like the electric car, which is actually 30 years old, but was killed off by the oil and gas industry. But there is no escaping it."

A little more tangible, perhaps, is a change in the way warehouses are used and located. Dynamic warehouse allocations help create a supply chain on demand.

"You create a network of several locations. Different products follow different routes. Then warehouses will get smaller and closer. It's simpler for the end user, but more complex for the logistics providers."

While much of this is technology related, for now, the people feared that companies that created logistics market places, like GTNexus, would directly compete with forwarders. Though theoretically possible, having a global network to move the goods is what makes the difference.

3D printing is another potential revolution. But Piagentini doesn't think it will supplant logistics.

"I think it is part of the future, and it's difficult to say right now how big an impact it will have. But I don't think it will disrupt, I think it'll be part of the current way of serving customers. And if it solves customers' needs, it'll be big."

There are other external factors likely to impact e-commerce logistics, including the move towards greater urbanisation, from the 60 to 65% of people living in urban environments now.

Professor Bourlakis notes: "By 2050, 80% of people will be living in cities, and online retail will have to adjust to that structure. It will have a major impact, as you'll have to adjust things such as routes and warehousing."

Cachat concludes that technologies are converging rapidly. "Blockchain and AI are nothing new, we were developing their components back in the 80s, like cryptography and neural networks; what's new is the considerable amount of computer power and storage capacity companies can mobilise today. It's becoming more critical. Alexa and Siri are already anticipating your needs... and always listening. That's a bit scary. We have not caught up with ethics, laws and morals and it's accelerating."