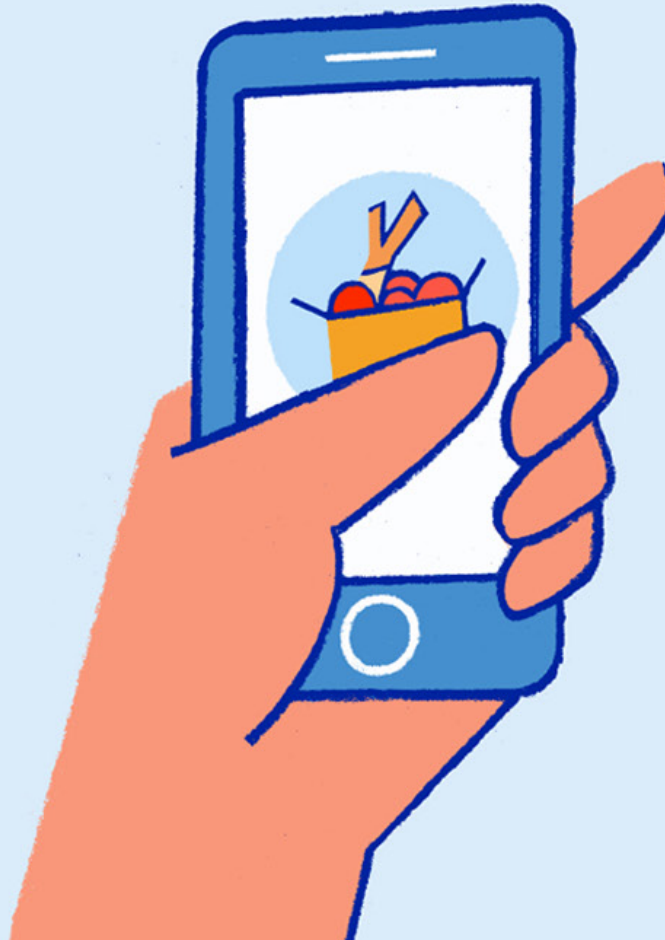


INSIGHTS & OPPORTUNITIES

Online Grocery



Thoughts from Dennis



Welcome to the 11th annual Tetra Pak Index, which focuses on the rise of online grocery and the unique opportunities it presents for the food and drink industry.

The power of the internet is transforming the grocery trade, just as it has revolutionised so many other retail sectors. There were some initial challenges. But with most of these now addressed, online grocery shopping is on an unstoppable march, taking an ever-greater share of the food retail market.

Physical stores are also being reinvented through digitalisation, providing consumers with extra information on products, personal offers and recommendations, automated cash-free checkout and more – as well as supporting hubs for rapid local delivery. Indeed, offline and online are now merging into an “omnichannel” age, where consumers expect to be able to buy whenever, wherever and however they choose, with the ubiquitous smartphone acting as their compass.

This year's Tetra Pak Index provides insights into this new omnichannel world of grocery shopping. It's based on consumer research conducted in five countries, plus interviews with e-retailers in North America, Europe and China, and a global market segmentation study.

It highlights four key trends. Convenience, which is driving online demand in all geographies, as consumers look for ways to make their time-crunched lives easier. Technology, which is transforming both supply chains and the consumer experience. Sustainability, as environmental issues become more important for consumers, brands and retailers, and governments alike. And personalisation, as marketers look for new ways to attract consumers online, build relationships and drive loyalty.

Packaging has a key role to play in all of this. It's part and parcel of home delivery, impacting significantly on both customer satisfaction and logistics (light weight and space efficiency are key factors). And while its primary purpose will always be one of protection and preservation, it now offers rich potential for personalisation and a consumer experience that can both surprise and delight. Thanks to smart technology, every package sold can now carry a unique digital identifier, creating the opportunity for direct one-to-one conversations with consumers (as well as helping drive efficiencies across the entire supply chain).

Looking ahead, this omnichannel revolution in grocery is not merely going to continue, it's going to accelerate. We look forward to working with our customers to harness the opportunities it presents.

DENNIS JÖNSSON
PRESIDENT & CEO, TETRA PAK GROUP



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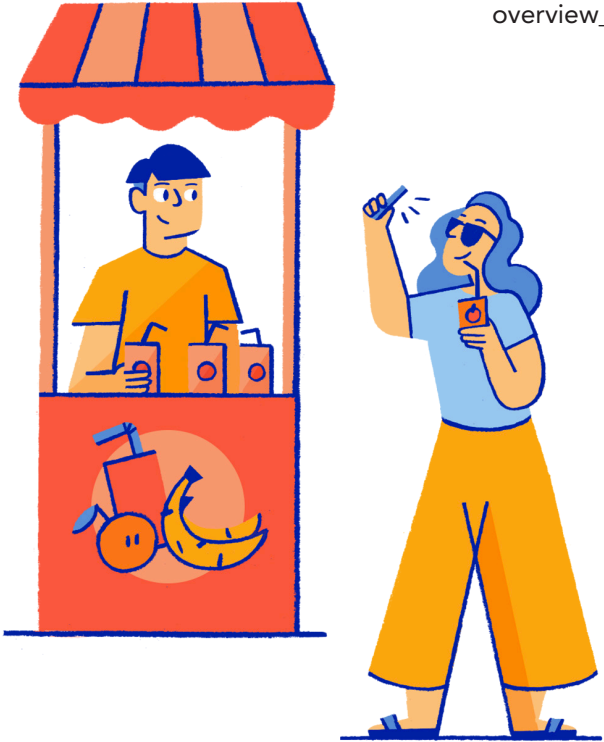
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Overview

E-commerce is by far the fastest-growing channel for groceries today. It also has a much wider impact, influencing physical stores – and more. It's part of a transformation that's redefining the way consumers buy, experience and react to products, driving innovation and disruption throughout the value chain.

Growth & disruption

Online is by far the fastest growing channel for groceries today. Looking at Kantar's latest figures for the global fast-moving consumer goods (FMCG) market as a whole, online sales grew 30% in the 12 months to March 2017, double the figure for the previous year, compared with just 1.3% growth in all FMCG channels.¹ And while the picture is very different from market to market, online grocery is expected to continue to grow much faster than any other channel, albeit from a fairly modest base – 4.6% globally. (See also Planet Retail figures, below. For more on individual markets and their growth prospects, see page 11.)

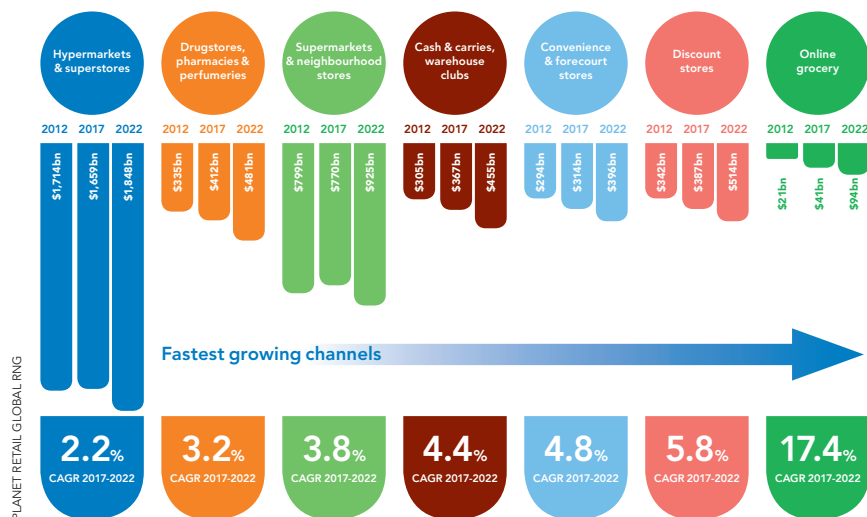
Not only do retailers and brands now see online as a crucial sales channel, they also see it as having an impact far beyond e-commerce: its disruptive influence is affecting investment and future plans for all channels. Online grocery is being seen less as a battleground between insurgent pure players and incumbent bricks and mortar vendors, and more as a catalyst for a wider transformation. "It's about how online and offline together can create both a better customer experience and better efficiency for the entire supply chain," says Stéphane Roger, Global Director of Shopper and Retail, Kantar.²

We're now seeing the emergence of online/offline alliances everywhere, as "bricks and clicks" emerges as the business model of choice in the shift towards an "omnichannel" approach to retail. "Our strategy is to serve customers through e-commerce and our stores in a seamless way," says Walmart CEO Doug McMillon.³ "Customers are time-crunched, so we want their shopping experience with us to be fast and easy – truly seamless – in all the ways they want to shop: in stores, on their mobile device, or through pickup and delivery."

To that end, Walmart has acquired e-commerce companies such as Jet.com and made significant investments in IT to raise its capabilities. Coming from the other direction, Amazon spent \$13.7 billion to buy Whole Foods, not only to establish a physical consumer-facing presence, but also to turn its stores into a network of hubs close to urban consumers. It's now rolling out free two-hour delivery from the grocery chain to Prime subscribers in various US cities, increasing pressure on traditional retailers to look for ways to promptly and profitably deliver their own fresh food and pantry items.

In China, e-commerce market leaders Alibaba and JD.com are also investing heavily to build an offline presence (see page 08.) "We service every piece of the consumer journey," says Kurt Li, Head of Business Intelligence at Alibaba.⁴ "Now, with our bricks-and-mortar retail presence, our touchpoints are no longer limited to online: we have managed to digitise offline behaviour too."

Meanwhile, brands are becoming e-retailers too, and many (if not most) major consumer packaged goods (CPG) companies are expected to experiment with the direct-to-consumer model over the next few years. "This is, without a doubt, the greatest retail revolution we've seen over the last 50 years," says John Carroll, Vice President and General Manager E-commerce, The Coca-Cola Company.⁵ "The bricks-and-mortar world and the online world are merging. And it's all being driven by how and where people are shopping."



Hyper/supermarkets are still the largest channels globally, but growth is slow. Convenience and discount are the fastest growing physical formats, while online is growing far faster still

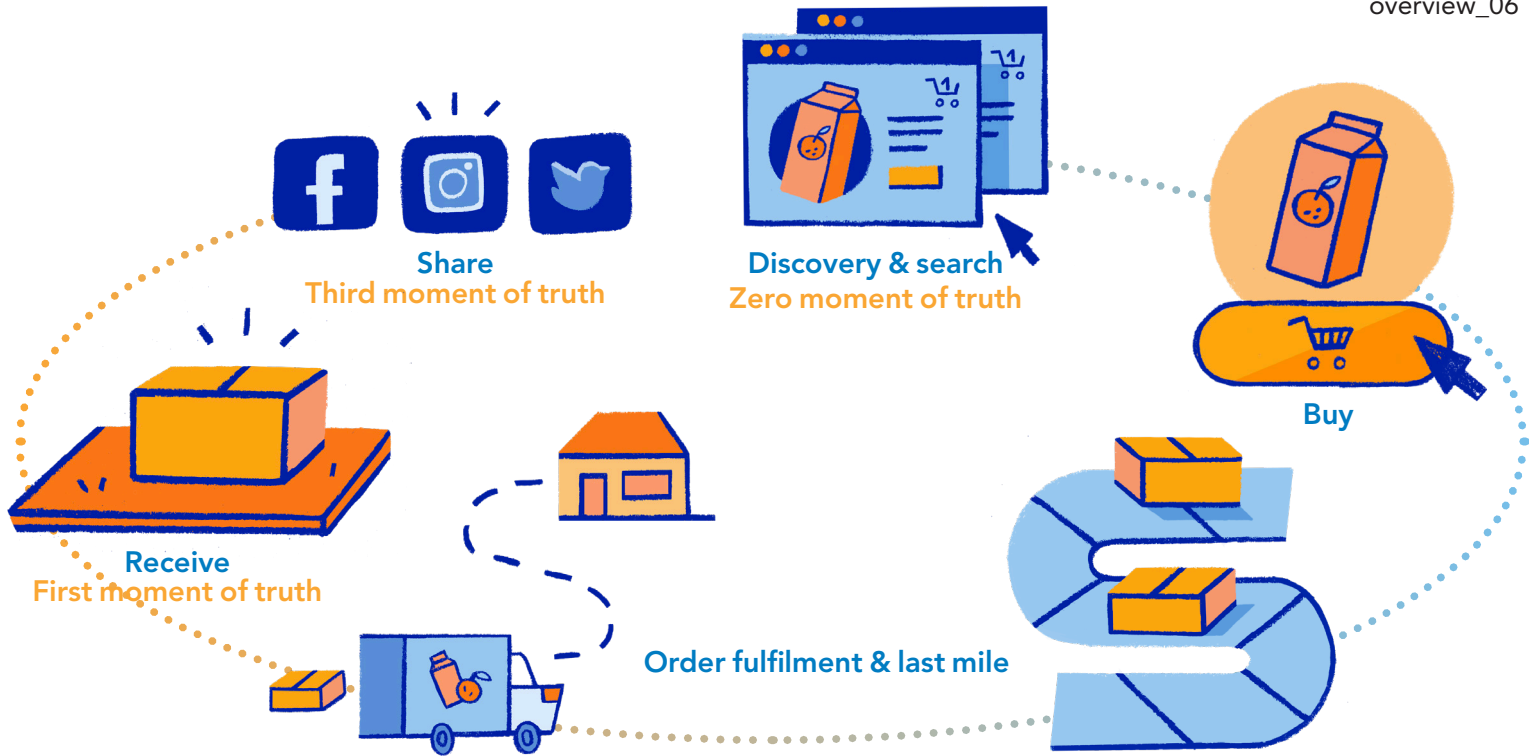
Business models

Currently there are a variety of online grocery models:

- Home delivery. Retailers are increasingly prioritising home delivery due to consumer demand. But it's costly, making it difficult for retailers to make a profit, especially as consumers are resistant to delivery charges.
- Click and collect. Allows consumers to browse and buy online then collect from a physical outlet, such as a store, petrol station, post office or other commuter-friendly locations. It's appealing to traditional chains with a wide footprint and is particularly popular in the US, where superstores are larger – Walmart now offers a drivethrough service in more than 1000 stores, for example.
- Third party/personal shoppers. Services such as Instacart that pick up from retailers and deliver to consumers are increasingly popular, not only with consumers but also with retail partners: Sam's Club, Target and Costco all use Instacart for fulfilment and delivery in the US.
- Direct to consumer. Many (if not most) major CPG companies are expected to add direct-to-consumer services over the next few years. Some, such as The Coca-Cola Company, Unilever, Procter & Gamble, are doing so already. For example, for the first time in The Coca-Cola Company's more than 100-year bottling history, bottlers are now delivering select brands directly to consumers' homes via a pilot called eFulfillment.

Redefining the consumer experience

E-commerce redefines the way consumers receive, experience and react to products, creating a new circular model with constant innovation and disruption at almost every stage. With more ways to buy and more places to get information than ever before, brand to consumer engagement throughout the path-to-purchase, and afterwards, becomes essential. In fact, the more touchpoints a brand makes with its consumers, the better the impact on perception and satisfaction.



Discovery & search

As consumers spend more time online, so it becomes a key source of product discovery, often via blogs and social media, and research (which typically means search, via Google or, increasingly, Amazon). As we reported in last year's Tetra Pak Index, 80% of the most active and influential consumer group online read reviews/ratings on food and beverages monthly and 70% do so weekly – rising

to 97% and 93% respectively in China. Such independent reviews and comments are now rated the most influential marketing influence after a recommendation from a family member or friend.¹ Given the amount of information consumers are exposed to online, brands need to work harder than ever to capture attention and get their message across. Arresting and, crucially, simple messaging is vital, particularly as mobile is increasingly the device of choice.

Hence Facebook now talks about "the three-second audition" and "thumb-stopping content". "If it's too complex for mobile, it's too complex," says Matthew Lowe, Head of Online Content & UX at UK supermarket Iceland.²

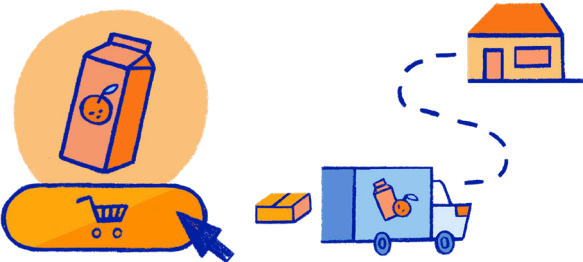
Best versus brand

Google believes that the way consumers shop for online groceries is changing, with the starting point increasingly being specific products rather than a destination where they fill their basket. It argues that search is a strong proxy for consumer demand: for example, if searches for a product are growing, sales

probably will be too. Google is now seeing a strong rise in searches for the term "best" in relation to products, even for traditionally low consideration items such as toothbrushes (up 100% in two years), deodorants (up 180%) or olive oils (up 110%).³ Brands still dominate search terms over generic products today (70% versus 30%) – but growth is

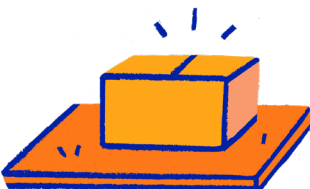
overwhelmingly stronger for generics than for brands (81% versus 2%). "Consumers are increasingly starting their grocery shopping journey without a destination – the starting point is the product," says Harry Walker, Head of Industry – Retail at Google.⁴ Or, to put it another way, they find the key product they're looking for via

a search engine and build their basket around that. This is particularly true for searches for niche specialist products, such as those with perceived health benefits as food increasingly evolves into "foodcare". Hence a simple tip: experiment with using common search terms in the title of the product itself to drive sales.



Buy
 Online shopping drastically reduces the visual real estate for products, especially on mobile. So it's important to ensure that they are instantly recognisable and consistent wherever they appear. Copy is also crucial, especially in categories such as baby food where nutrition and ingredient information is paramount. New ways of ordering, such as subscriptions, voice and auto-replenishment via Amazon Dash and smart appliances (see page 16), are making an impact too, changing the consumer's relationship with products and brands. "It's all about convenience – making your life easier and getting away from the 90 minutes a week you have to spend in the store," says The Coca-Cola Company's John Carroll.¹

Order fulfilment & last mile
 There is considerable ongoing innovation (and investment) in order fulfilment and the last mile, particularly in technology development. For more on this, see the Technology & performance trend, page 19.

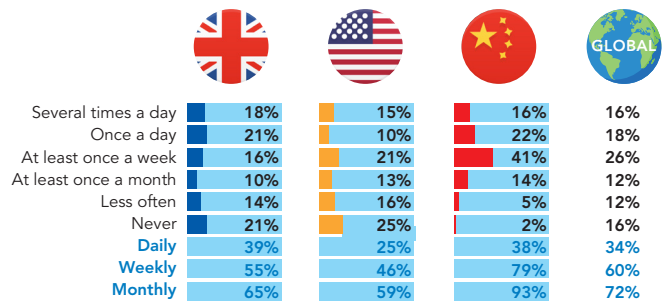


Receive
 Receiving and unpacking e-commerce goods is now literally part and parcel of the first moment of truth. In a survey of US CPG companies last year,² 95% agreed that "bad" packaging (defined as a package that's hard to open, unattractive, or results in damage including breaks or leaks) can have a negative impact on an online customer experience. Moreover, 71% said it can ruin an otherwise positive online purchase experience. However, 97% agreed that a "good" packaging experience can have a positive impact, with 70% saying it can even create a memorable experience. Crucially, 86% say improved e-commerce packaging is the responsibility of the brand, not the e-retailer. Secondary packaging is also a key issue today (see page 23), while personalisation and custom unboxing experiences are tipped as trends for the future (see page 26).

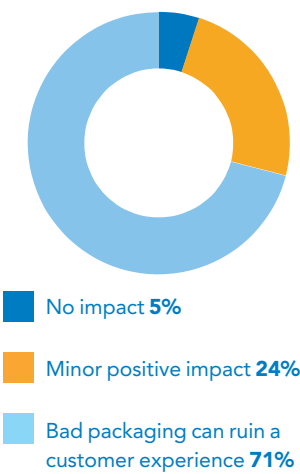


Share
 As we reported in last year's Tetra Pak Index, connected consumers are increasingly sharing opinions and experiences of food and beverage brands online. This is particularly true of the most active and influential online consumers: 68% globally (and 90% in China) write reviews at least monthly, with 57% doing so weekly. And 72% globally post images/comments on food and beverages monthly – rising to 93% in China, led by commenting on or reviewing a product (68%) and showing something new (60%). Moreover, 49% of CPG users say their e-commerce customers are not only sharing their experiences with online purchases online, they are including photos and commentary about packaging on social media, making packaging, both good and bad, more visible than ever before.³

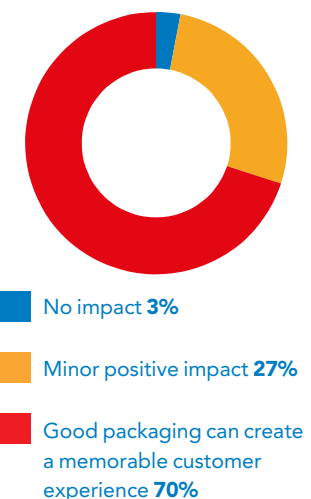
Consumer posts of images/comments on food and beverages
 How often?



In your opinion, what is the impact of BAD packaging on an online customer experience?



In your opinion, what is the impact of GOOD packaging on an online customer experience?



Physical retail: reinventing to stay relevant

Physical stores are experiencing slow growth rates due to the impact of increased consumer spending online. Consequently, retailers are scaling back new store expansion, closing or investing in smaller formats. But even though there be fewer outlets in the future, they will still account for the bulk of spending: shoppers clearly still want to see and feel goods, receive inspiration and advice – and also pick up goods ordered online. However, such offline spending may well be influenced by online, before or during purchase.

To ensure they continue to stay relevant in the digital age, bricks and mortar stores are working hard to reinvent their offering. They are starting to use their stores as social hubs, creating memorable experiences that can't be replicated online. They are also now beginning to digitalise the in-store experience and better integrate it with online. Personalised digital marketing is starting to happen in-store, too (see page 25).

Digital stores

A key player in the reinvention of physical retail is Amazon, which gained much attention for its moves into the offline space, both through its acquisition of Whole Foods and also its Amazon Go checkout-free concept store. The first of these opened in Seattle in January 2018 selling ready-to-eat foods, meal kits and grocery essentials, including its own brands such as Wickedly Prime. The store employs the same types of technologies used in self-driving cars: computer vision, sensor fusion and deep learning (see box, right).

Similar moves are happening elsewhere, notably in China, which is setting the pace globally for omnichannel retail innovation. Alibaba first announced its “New Retail” concept – integrating online, offline, logistics and data across a single value chain – back in 2016. Alibaba became China's e-commerce leader by building asset-light marketplaces, notably Tmall, its B2C online retail site, the app for which has been downloaded by some 500m Chinese consumers. Driven by the slowdown

in China's e-commerce growth, Alibaba has expanded its remit, and in 2017 alone, it invested \$21 billion in deals as it moved into logistics and bricks and mortar retailing.

Its Ling Shou Tong programme is helping to upgrade China's 6m small family-run convenience stores, injecting modern logistics to revitalise their supply chains and analytics to help them better understand the buying behaviour of their customers. But its New Retail flagship is its Hema supermarkets, which offer smartphone-enhanced shopping via an app that offers personalised recommendations and offers based on captured data. Consumers can scan any product to find additional information, and cashless payment through the Alibaba platform is also embedded.



“China is moving much faster than the West in this retail evolution because the Western retail model is built on legacy systems. China's model is disruptive. China does not have the legacy of malls and big-box stores like the West. China has no traditional retail model to defend.”

Frank Lavin, CEO, ExportNow¹



The Amazon Go store in Seattle is checkout-free. It uses Just Walk Out Technology that detects when products are taken from or returned to the shelves and keeps track of them in a virtual cart. When the consumer is finished shopping, they just leave the store and their Amazon account is charged later. The store offers ready-to-eat items, Amazon Meal Kits (see page 17) and grocery essentials, such as Amazon's Wickedly Prime private-label brand. The range includes soups, which are packed in Tetra Recart® cartons with the tagline “Time to kick the can”.

Each Hema store has its own warehouse and logistics centre that fulfils and delivers local online orders – as customers stroll below, bags of shopping destined for delivery speed by over their heads – within 30 minutes. The stores are designed to be inviting retail destinations, with super-fresh produce, notably seafood, which can be prepared and served on the spot. Alibaba aims to have around 50 Hema stores by the end of 2018.

Meanwhile, in January 2018, online retail giant JD.com opened its first supermarket 7fresh as part of its own “Boundless Retail” omnichannel vision, which is backed by Tencent, the giant Internet services conglomerate that owns WeChat. JD.com is also rivalling Alibaba’s convenience store programme, aiming to have a million franchise outlets, run by independent investors, in the next five years or so, half in rural areas.



Smartphone payment

Mobile payments have become so common in China that it is fast becoming a cashless society. The mobile payment market is dominated by two apps, WeChat Pay and Alipay, which have hundreds of millions of users. Paying by phone became popular partly because the infrastructure was in place for online, and partly because credit cards never caught on here. Smartphone-scannable QR codes are widely used and mean that anyone can become a merchant, since there is no need for hardware such as card or chip readers.

The format is already proving to be hugely popular, especially among Chinese migrant workers who want to return to their rural town of origin, with JD.com saying it receives 50,000 applicants from potential franchisees every day. Such stores are currently opening at the rate of a thousand per week, expected to rise to a thousand per day by the end of 2019. JD.com, Alibaba and others are also busily opening self-service cashier-less convenience stores, some more like walk-in vending machines than traditional stores.



“Over the last decade, we have used up benefits provided by China’s rapid e-commerce growth. No matter how we look for growth opportunities, we are limited to that 15% of China’s retail business. Now we want to bring our online tools to the entire retail sector, and this is a huge leap for us.”

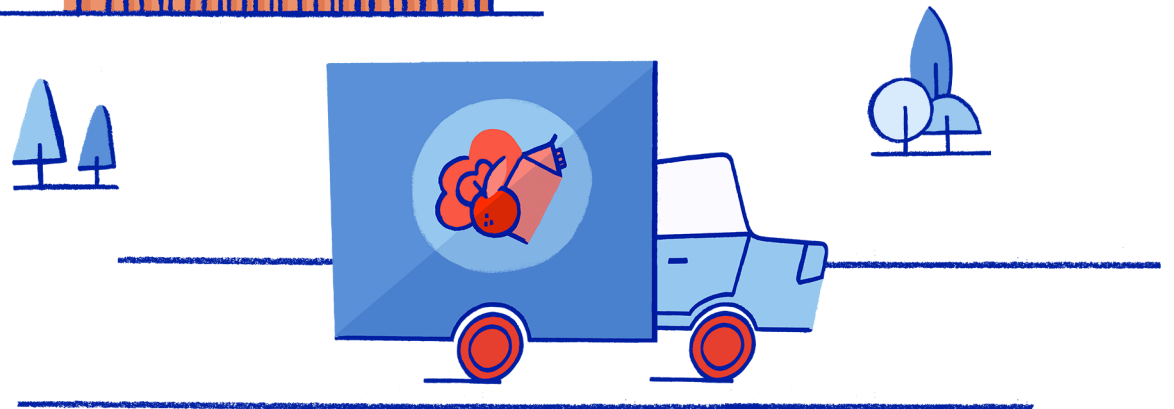
Chang Bin, Vice President of Strategy & Investment, JD.com¹





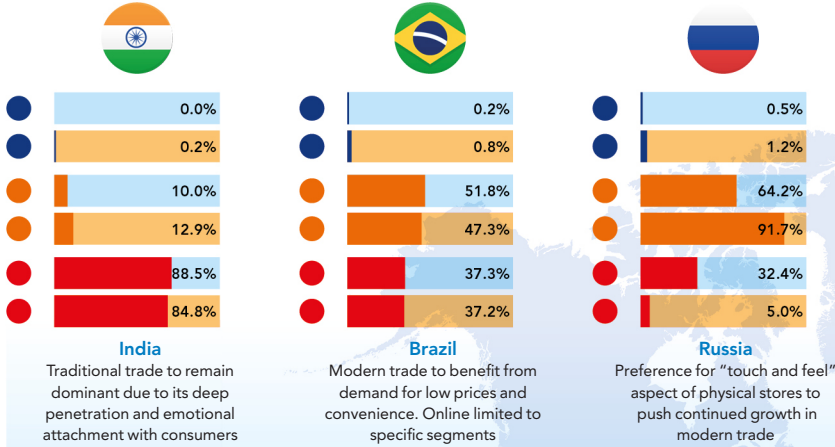
Analysis

To understand the global trends of today and tomorrow, and also the key differences from market to market, we commissioned consumer research in five countries, along with a global market segmentation study and interviews with e-retailers in North America, Europe and China.



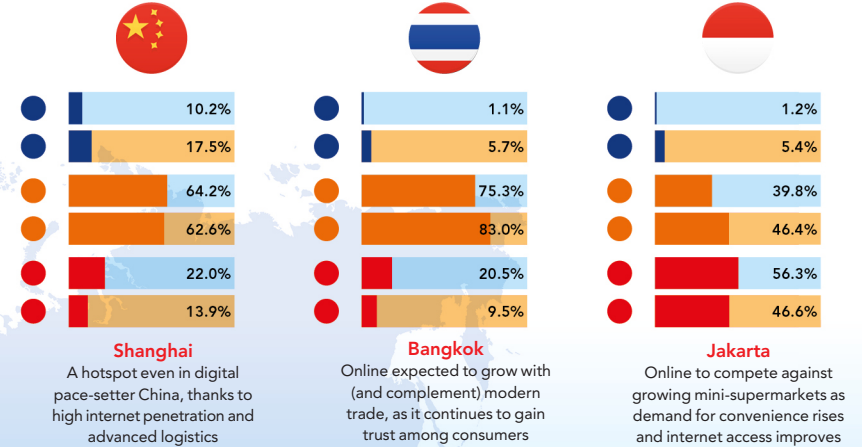
Resisters

Developing markets with slow growth in online grocery, due to abundance of physical stores and associated buying experience



Leap-frogging pioneers

Developing markets with fast growth in online grocery, driven by infrastructure development and demand for convenience



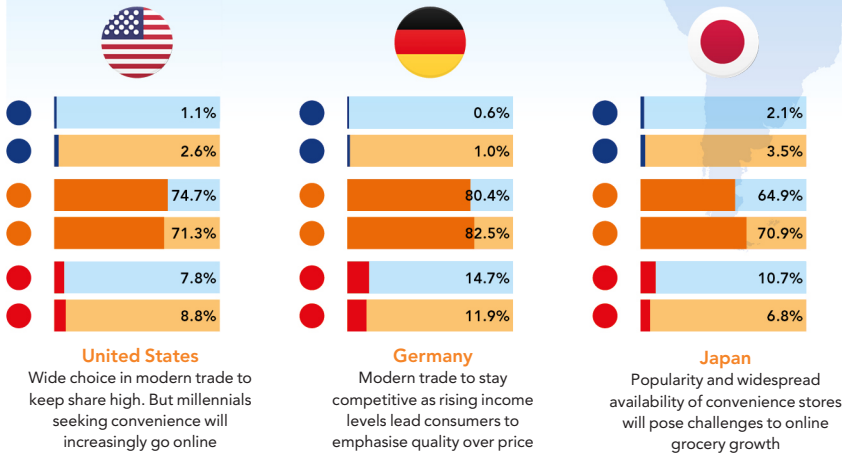
Market forecast

Tetra Pak-commissioned research by Euromonitor International forecasts the growth of online grocery in key markets by 2030



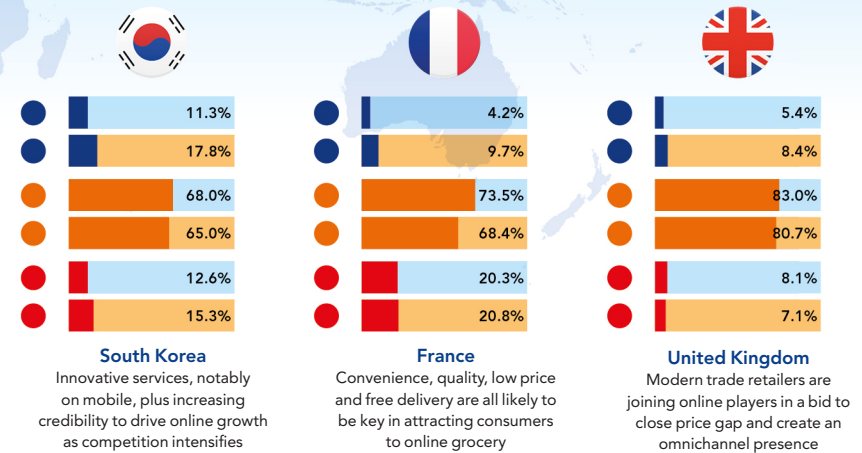
Laggards

Developed markets with slow growth in online grocery as rising emphasis on quality and innovation expected to keep modern trade competitive



Pioneers

Developed markets with fast growth in online grocery, thanks to rising consumer confidence in online delivery and quality



Retailer & consumer needs

A Tetra Pak-commissioned study carried out in February 2018 interviewed leading e-retailers offering online groceries in North America, Europe and China. Its goal was to understand their sales channels, value chain and packaging needs, as well as to get their perspective on the needs of consumers in their geographies, both now and in 2025.

For consumers everywhere, the main purpose of packaging is to protect and preserve. Durability of primary packaging is a major basic requirement for e-retailers everywhere, but the need for secondary packaging varies by region: in North America it is often avoided as an unnecessary extra cost for e-retailers who may need to repack and aggregate products, whereas in China, branded secondary packaging is seen as a marketing opportunity.

Environmental concerns are growing too, impacting on the use of secondary packaging (see page 23). Demand for sustainable packaging generally is on the rise globally: in Europe, recyclability is a basic factor¹ and it is likely to become so for American consumers by 2025. However, it looks set to remain a value-added factor² in China due to slow take-up by manufacturers.

For e-retailers globally the most important performance factors remain speed of delivery and quality of products shipped to consumers, along with space-efficient packaging to optimise logistics. Space-efficient packaging appeals to consumers, too, particularly in urban areas where living space is often tight: it is viewed as a performance factor³ and is in demand for consumers in North America and in China, while in Europe it is seen as a nice-to-have.

Currently, safe delivery is seen by e-retailers as more important than providing a specific benefit for consumers, such as an “unboxing” experience. This is true across all geographies but is expected to change once high-tech supply chains and logistics make super-fast deliveries the norm.

When it comes to design, although European consumers appreciate “eccentric” design for food and beverage packaging and are predicted to see “tasty” (multisensory, even edible) packaging as a performance factor by 2025, they prefer a unified design across all distribution channels rather than online-only packaging and products. Chinese consumers also appreciate design but they, and their American counterparts, show a strong preference for online-only products and for unique, premium and/or personalised packaging for e-retail. This trend is expected to continue, with e-retailers predicting that the offer of online-only products will be a key decision criterion in consumers’ choice of vendor by 2025.

Smart packaging, with features that enable digital purchase and enhanced consumer experience, is particularly highly regarded by Chinese shoppers (where scanning QR codes is already commonplace). It’s also welcomed by e-retailers in the region as it allows them to experiment with new business models and payment methods. As technology advances it seems likely that smart packaging will become ever more significant globally in both upstream and downstream logistics through unique data codes, as well being used increasingly to position online grocery items as premium products.



Looking ahead: 5 hot factors for 2025

- 01 Augmented reality via smart packaging
- 02 Unboxing experience of online grocery packages
- 03 Super-fast delivery
- 04 Personalised packaging and online-only products
- 05 Tactile technology that allows consumers to “feel” the product at the zero moment of truth

Understanding online grocery consumers

Online grocery is a highly distinctive channel, demonstrating consumer behaviour that's often strikingly different both to physical retail and to other e-commerce categories. To understand this better, Tetra Pak commissioned a consumer research study conducted in five countries: the US, UK, China, South Korea and the Kingdom of Saudi Arabia.

Drivers & barriers

Our research shows that convenience is by far the main driver of online grocery everywhere. But there are other drivers that vary from market to market. In China, for example, wider choice is key, particularly the availability of international brands. Promotions are important in Saudi Arabia, and Americans are also focused on saving money, with coupons and vouchers playing a big part in their choice of retailer. Discounts and the ability to buy in bulk without the hassle of having to carry too much weight particularly appeal to consumers in South Korea, the world's most highly developed online market by far, accounting for nearly a fifth of all FMCG trade.¹

Clearly, grocery shopping has an inherently physical nature with often strong emotional and cultural overtones too. The inability to inspect goods is one of the biggest barriers for online grocery, with quality the leading concern for consumers everywhere. A desire to see and touch the product is particularly apparent in the UK, while consumers in the US want to pick out products themselves. Delivery is cited as the next biggest barrier, with cost and issues around delivery slots and reliability cited as key concerns by consumers.

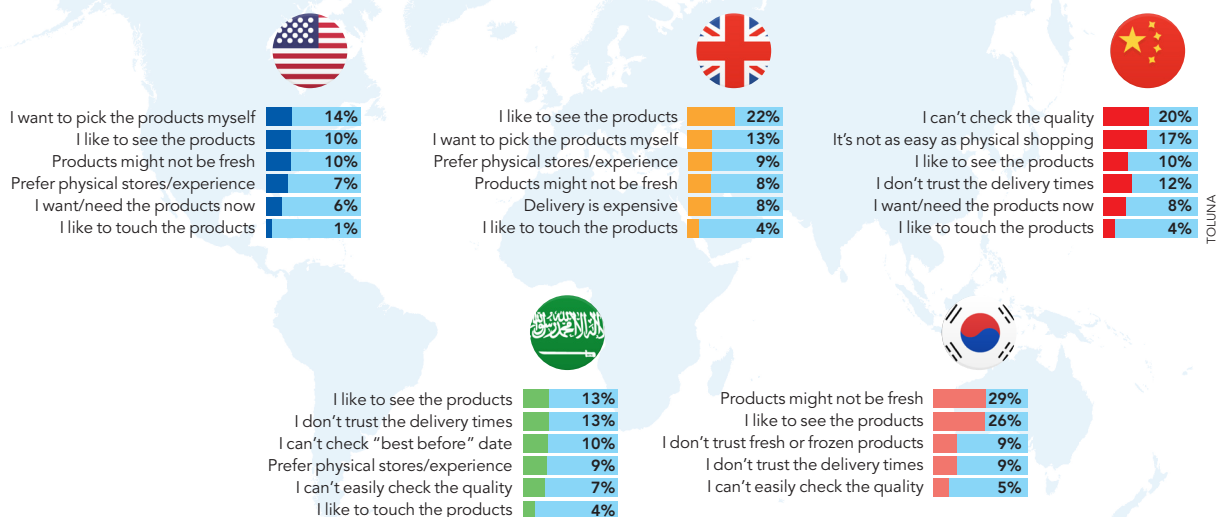
In almost all countries "bricks and clicks" are largely preferred to pure online players for grocery shopping. Such retailers have an opportunity to create more convenient and efficient omnichannel fulfilment options, demonstrating the relevance of the trend for merging offline and online discussed earlier.

Shopping behaviour

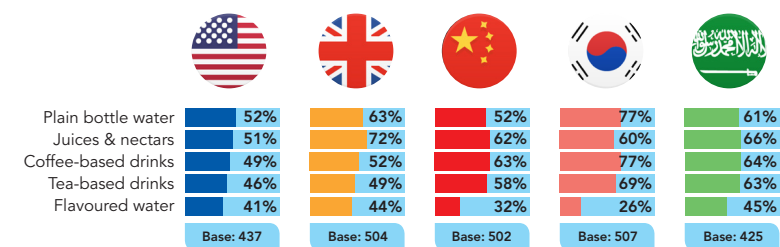
Online grocery is not yet as mature as other categories in e-commerce, and consumers can be quite traditional in their shopping behaviour. While the trend in physical retail is a shift away from supermarkets towards more frequent top-up shopping in local convenience stores, online grocery shopping is much like the traditional weekly trolley shop.

Consumers often buy to stock up, trading up to bigger package sizes and looking for competitive pricing. They also like multipacks, with consumers in our research highlighting that individually wrapped portions help minimise food waste, are highly suited to modern consumption habits (on-the-go and out of home) and also help with diet control (in particular when it comes to snacking). The key life stage that converts consumers to online grocery is starting a family, when the scale (and bulk) of shopping becomes bigger, and convenience is arguably even more important.

Key barrier to online grocery is inability to see the product



Food is widely bought for stocking up, even when not heavy or cumbersome



Consumers tend to be loyal both to their familiar brands and their choice of retailer as they move to online grocery shopping: in the UK, for example, a loyal Tesco store shopper is nearly twice as likely to choose Tesco.com for groceries.¹ By and large, they are repeat shoppers, with little browsing involved. Most online grocery shopping starts from (and stays with) the website of their e-retailer of choice, where smart players do all they can to make them feel at home, understanding their needs, analysing their past shopping behaviour, and offering them a contextualised, personal shopping experience to make the process as simple and straightforward as possible.

Finally, while online grocery is less affected by mobile than other e-commerce categories, mobile is growing rapidly here too. For example, in the UK, a relatively mature market, 40% of online grocery purchases in 2017 were made on mobiles,² so it's vital to ensure that content is optimised accordingly and user-friendly apps are available.

Looking ahead

As speed of delivery and/or collection continue to be improved and the online grocery channel matures, consumer behaviour will increasingly follow the offline trend for smaller basket sizes, increasing the pressure on margins for all players.

Amazon already reports that around two-thirds of deliveries for its Prime Now service, which can deliver in less than 60 minutes in some areas, is groceries: not just one-off small items, but baskets. This subscription-based service removes key barriers to purchase associated with delivery – speed, finding and planning slots, cost, etc – and opens the door to the top-up/convenience and impulse shopping which increasingly accounts for so much of grocery sales. For example, two-thirds of Britons now shop for groceries more than once a day, treating stores like “walk-in fridges”, and one in 10 people decide what to buy for an evening meal just before they eat it.³

Generally speaking, the online grocery landscape is expected to continue to change at a pace even greater than before as the various players continue to invest in technology and infrastructure as they strive to appeal to consumers, combat competition and maintain profitability. It's also important to note that while many in the West look to Amazon as the main disruptor, the view looks quite different in the East, where e-commerce penetration is much higher.

For example, China's online giant JD.com which, like Amazon, has invested heavily in building its own integrated, high-tech logistics network, has its own global ambitions. It aims to bring its e-commerce platform and delivery services to the US in the second half of 2018 and Europe as early as 2019, aiming to be ubiquitous across the continent within “a few years”.⁴ It plans to spend €1 billion over the next two years in France to set up its own logistics network, and is likely to follow suit in the UK and Germany.



Tetra Pak & bigbasket, India

UHT milk has been selling well on online platforms in India, especially in metropolitan areas, driven particularly by convenience and food safety factors. As part of its strategy to convert consumers in India to UHT milk from other formats, Tetra Pak partnered with bigbasket, the country's #1 online grocery platform with around 0.5m consumers ordering every month across more than 25 cities.

The joint campaign targeted 100,000 non-buyers of UHT milk in New Delhi, Mumbai and Bangalore, with banner advertising on the bigbasket portal and mobile app offering free samples of Amul Tazaa and Nandini branded milk in Tetra Pak® packages. Tetra Pak sponsored the cost of the initiative, while bigbasket managed the logistics, delivery and data analytics.

Bigbasket tracked six to eight weeks of purchase data to check the uptake in UHT purchases and increase in average business. The result? More than 15,000 new UHT milk buyers after the promotion period.



Maeil Dairies, Korea

Maeil Dairies launched the first organic flavoured milk on to the Korean market under the Sangha Farm brand back in 2013. An innovative product, it's sold in the innovative Tetra Prisma® Aseptic 125 Square package: easy to hold for the target consumers – children aged from one to eight – and perfect for single-use consumption. It also uses Forest Stewardship

Council™ (FSC™)-labelled paperboard, another first for a Tetra Pak® package on the Korean market, all of which help to position the product at a premium price compared with the chilled flavoured milks that previously dominated the market.

Sangha Farm was originally promoted in-store, but with the rapid growth of e-commerce here – it now accounts for almost 20% of the FMCG total,⁵ and around 14%⁶ of beverage – online has

become increasingly key. The brand's online growth has been so rapid that e-commerce has now overtaken hypermarkets in channel share, rising from 38% in 2015 to 57% of the total by 2017. Key online sales drivers include convenience, lower price and tailored offerings targeted at families with young children – classic online grocery shoppers – Generally speaking, ambient milk – especially in lightweight, logistically efficient cartons –

is ideally suited to online and around 66% of all Tetra Pak ambient white milk sales in South Korea are now sold via this channel.

Maeil Dairies has built on its success by expanding its Sangha Farm range from the original two to four flavours – white milk, cocoa, banana and strawberry – in Tetra Prisma® Aseptic 125 Square packages.



Trends

We see four key trends shaping online grocery. Convenience, which is driving demand in all geographies. Sustainability, as environmental issues become ever more important. Technology & performance, with both supply chains and the consumer experience being transformed. And Personal & unique, as marketers look for new ways to attract consumers online and build lasting relationships.

01

Convenience

Convenience is the main driver of online grocery in all markets. Consumers are looking for a shopping journey that's ever faster and easier and they expect a seamless, friction-free experience, not only across devices, but also across online and offline. The easier brands and retailers can make this experience, the more successful they will be. "Assistance is the new battleground for growth," says Harry Walker, Head of Industry – Retail at Google.¹ "Consumers expect to be assisted. Brands that win will provide assistance in the moments that matter: during inspiration and discovery, planning and shopping." Here are seven ways brands and retailers are doing just that.

01. Easy replenishment

Ease of replenishment is one of the main reasons cited by consumers for shopping online. Favourites – a personalised shopping list of products based on past purchases – has long been a way for consumers to streamline online grocery shopping. And automatic replenishment, such as via subscription and Amazon Dash buttons (a wi-fi-connected device that reorders a particular favourite product with the press of a button), is growing.

Amazon says that more than 55% of its delivery subscriptions last longer than 12 months and build loyalty for the long term. It also says that its Dash buttons, both physical and now virtual too, are one of its fastest-growing services and that many brands are now seeing more than half of their Amazon orders placed via such devices.

Meanwhile, more than 100 hardware providers are working on building the Dash Replenishment Service into internet-of-things-enabled smart appliances, from fridges and dishwashers to electric toothbrushes. "Dash replenishment solves a big problem for manufacturers that make smart machines but don't want to get into the e-commerce and fulfilment business," says James McQuivey of Forrester Research. He adds that most people who use Dash Buttons rarely diverge from the one product those buttons apply to, effectively "locking in" consumers.

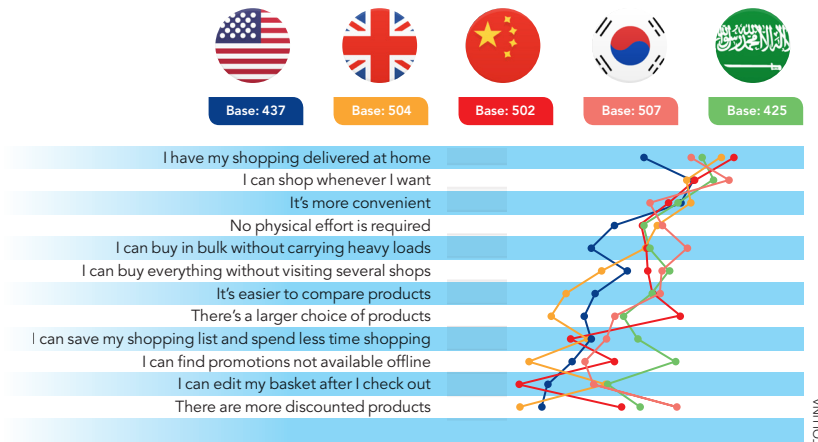
Looking ahead, both auto-replenishment models and smart appliances that can sense and reorder products that are running low will continue to be key trends going forward to 2025, according to our e-retailer survey.

02. Super-fast delivery/collection

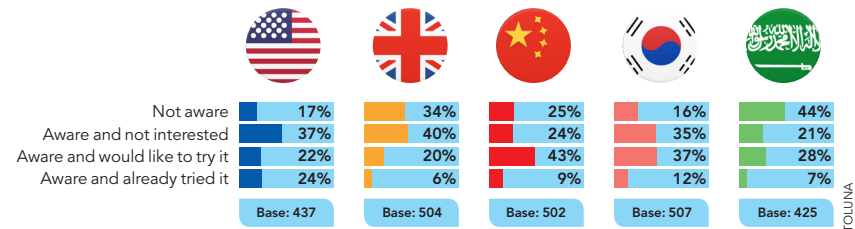
As discussed, super-fast delivery is a game-changer as it removes a major barrier to online grocery and opens the door to impulse and convenience shopping, rather than just stock-ups. Looking ahead, our e-retailer survey suggests that super-fast delivery (within as little as 10 minutes) is expected to be a value-added service in Europe by 2025, with fast delivery a performance factor in North America and China.

An alternative is super-fast click and collect. For example, Sainsbury's in the UK has trialled a service that enables customers to order their shopping via their Chop Chop app and pick it up from a store just 30 minutes later.

Convenience is driving online grocery shopping



Interest in auto-replenishment is strongest in China and South Korea



Amazon says Dash buttons are among its fastest-growing services



03. Convenient packaging

The trend for smaller families and urbanisation is causing homes to become smaller, with less storage, making frequent, smaller shopping trips more common than the traditional stock-up. It also makes consumers more appreciative of space-efficient packaging – in particularly strong demand in China and North America, and treated as a nice-to-have feature by Europeans, according to our e-retailer survey.

Carton packaging has an advantage here, as it is already designed to be space-efficient to maximise logistical performance. Looking ahead, space-efficient packaging is expected to be a basic requirement by 2025, according to our e-retailer survey. Convenience is also key in secondary packaging. “Frustration-free” (easy-to-open) packaging is reported as key by e-retailers in our survey.



Di Carlo Extra Virgin Olive Oil, Italy

Convenience, sustainability, quality and innovation are all key selling points for Di Carlo Extra Virgin Olive Oil – Italy’s first ever extra virgin olive oil to be packed in Tetra Pak® packages. Available online via Amazon, ease of delivery is key to the product offering, hence the importance of the logistical and distribution efficiency of cartons over the alternatives – traditionally heavy, breakable glass in the case of olive oil. The environmental benefits of the packages,

04. Buy it now

As part of their omnichannel strategy, brand owners are looking to create consistency and enable conversion to sales wherever possible. Social commerce – buying direct from a social media feed – is increasingly common, notably in China through WeChat, but also in the West, with the addition of buy buttons in social posts on the rise here too.

Software company Adimo is working with major brands such as Nestlé and Beyer to make all forms of marketing, from brand websites to social media, shoppable via partner online retailers. Consumers just click an “Add to basket” button, select their retailer of choice and choose the products they want, which are then added directly to their online basket for later purchase. This is part of the trend towards experimenting with

manufactured from FSC™-certified and controlled sources paperboard, are also cited in its marketing, along with the ability of the multiple layers to protect the contents from oxygen and light – the main causes of olive oil oxidation. A premium product made with 100% Italian, cold-pressed olives, it was launched in Tetra Prisma® Aseptic 100 Square packages with a convenient, easy-to-open and reseal cap in January 2018.

direct-to-consumer models: a major development for CPG companies going forward, according to our e-retailer survey.

05. Meal kit services

A relatively new, fast-growing segment that offers consumers a convenient way to cook at home without the planning and shopping: they just choose from online picture menus, and pre-measured fresh (and typically high quality) ingredients along with recipes are delivered to their home.

Bridging the gap between home-cooked meals and takeout, while also minimising food waste (see page 24) and removing the barrier of picking out produce, meal kit services are already worth about \$5 billion in the US alone, according to Packaged Facts.¹ Meal kit users are likely to be younger – adults between 25

and 44 are twice as likely to use them as older consumers – and to have ordered goods and services online in the previous three months.

In addition to convenience, some say these services appeal to younger consumers because they have not been taught how to prepare meals by their parents. These consumers also have a tendency to lean toward natural foods, hence organic, local, farm-to-table and speciality diets are all likely to be fruitful niches going forward.



Hello Fresh is the world’s leading meal kit subscription service, operating in nine countries, notably in Europe and the US, where it is the market #2 after Blue Apron. It delivers pre-measured “high-quality ingredients sourced straight from the farm” – some of which are packed in Tetra Recart® (pictured left) – complete with recipes in a convenient box that fits “perfectly in the fridge”. In 2017, HelloFresh delivered more than 137m meals (up 51% on 2016) to its approximately 1.45m customers.

06. Voice

A lot has been written about the impact of voice. Some see a threat to the very concept of brand. They argue that consumers will ask voice apps to add products (milk, juice, washing powder) rather than brands to their shopping list, trusting to the e-retailer's AI to choose for them, creating a key private label opportunity – particularly for Amazon, which is by far the early leader in voice technology with its Alexa voice service and Echo speakers.

Partnerships are already forming between e-retailers and voice technology providers. Ocado recently launched its own voice-driven shopping app for Amazon's Alexa, while Google has partnered with Walmart to offer voice-enabled shopping via its Google Assistant. Meanwhile in China, Alibaba

recently launched its low-cost Tmall Genie, reporting 1m sales of its X1 smart speakers in just the last four months of 2017, double analyst estimates.

Our consumer survey shows that attitudes to voice vary from market to market, and there are clear concerns, particularly about the potential for mistakes in ordering. However, those that have tried voice seem to like it a great deal, indicating its potential. According to Google, 72% of people who own a voice-activated speaker say their devices are often used as part of their daily routine, while 41% say it feels like talking to a friend or another person.¹

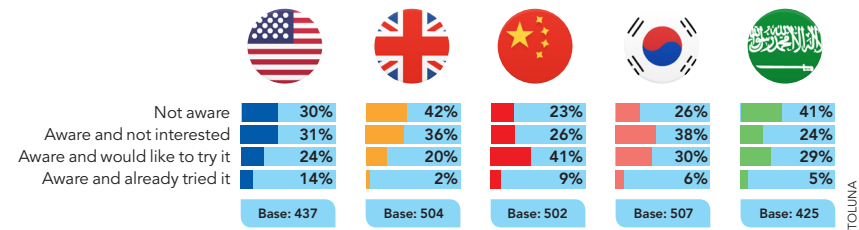
Moreover, 62% say they are likely to use it to buy something in the next month, while 44% say they order products such as groceries at least once a week – a potentially potent combination. Many are open to welcoming brands as part of the experience. They are particularly open to receiving information that is helpful and relevant to their lifestyle, such as updates on deals and promotions, and personalised tips to make life easier.

07. Takeout partnerships

According to NPD, 50% of dinners ordered from restaurants in the US today are eaten at home – and that figure is expected to grow. Meanwhile, digital ordering has posted rapid growth in the last five years, and now represents 53% of all delivery orders, up from 33% in 2013. To exploit this trend, The Coca-Cola Company is piloting partnering with restaurant delivery services such as Uber Eats and DoorDash – and with meal-kit delivery service Chef'd – to add beverages to food orders. It estimates that as little as 10% of all delivery service orders include its products, so the opportunity is "huge."²



Interest in voice ordering is particularly strong in China



What voice users would like to receive from brands



02

Technology & performance

Technology is transforming both supply chains and the consumer's relationship with shopping and products alike.



“The key to success in e-commerce is winning in logistics and supply chain,” says Marc Lore, President and CEO of Walmart eCommerce.¹ Generally speaking, there have been two models to address this: physical retailers leverage their store network with products picked, largely manually, at the store nearest to the consumer and sent out for delivery from there or set aside for collection; while e-commerce pure players use high-tech, highly automated central warehouses, also known as customer fulfilment centres (CFCs).

For example, at Ocado's 18-acre CFC in Hampshire (one of three in the UK), hundreds of robots process and pick around 65,000 customer orders per week, assisted by just two or three maintenance engineers on standby. Ocado not only uses its own infrastructure to offer fulfilment as a service to domestic rivals, it's also now turned solution provider, selling its Ocado Smart Platform (from mobile app to automated warehouse technology to van routing software) to give retailers worldwide a “more cost efficient and lower-risk way of launching or improving online grocery businesses with limited capital investment”. It has already signed a number of deals, notably with Kroger in the US.

Not surprisingly, automated pick rates in the latest CFCs are many times higher than the manual equivalent. CFCs also have much better demand management, lower waste, and better picking accuracy and consistency: substitutions (a major issue in our consumer survey) are also much lower, as the consumer can see what's in stock almost in real time – if it's not available, it can't be ordered.

However, Amazon's \$13.7 billion acquisition of Whole Foods has added a new twist to the logistics models, as has Alibaba's New Retail drive in China. Such moves are not only about moving into physical stores, they're also about building a network of delivery nodes closer to consumers for rapid grocery delivery. This suggests that the traditional store network (for example, 90% of Americans live within ten miles of a Walmart) may be the best approach for e-commerce, not to mention omnichannel, after all. But the challenge remains to make the execution sufficiently efficient to remain competitive and profitable, especially as basket sizes fall and consumers prove stubbornly resistant to delivery charges.

Data carriers

Value chains are being transformed by a raft of technologies that interconnect via the internet of things² to allow consistent data to be used throughout, boosting efficiency and transparency, and ultimately allowing every product (and indeed their component parts) to be automatically tracked and interacted with from end to end.

The #1 technology trend identified in our e-retailer survey is a key enabler of this transformational data chain: data carrier systems such as RFID (Radio Frequency Identification) and QR (Quick Response) codes. As its name suggests, RFID uses radio waves to automatically identify and track tags attached to objects and has a huge array of both upstream and downstream applications, from inventory management to anti-counterfeit measures to smart store enablement.

RFID functionality

- Automated identification
- Medium-distance geo-tracking
- Real-time product tracking
- Quality monitoring
- Readable information no matter the position of the package

upstream

Applications/benefits: supply chain management

- Increase inventory accuracy
- Avoid out-of stocks
- Increase product availability
- Speed up receipt product process and warehousing
- Reduce shrinkage (expiry, loss, theft)
- Enable automation for shipment, warehousing and delivery

downstream

Applications/benefits: retail

- Store management improvement
- Anti-theft security
- Data collection on sales performance
- Anti-counterfeit measures
- Smart store enablement

Applications/benefits: consumer

- Augmented reality and product engagement
- Internet of things devices in home, such as smart fridge
- Waste management
- Retrieval/collection of product after online purchase

In our survey, individual e-retailers reported that RFID implementation had:

- reduced the risk of out-of-stocks by 20%;
- reduced inventory costs by 10%;
- reduced labour costs by 10% to 20%;
- increased sales by 20% by significantly improving inventory.

Looking ahead, as the shift towards omnichannel introduces further complexity, RFID benefits will increase, while continued falling costs of tags will allow them to be applied at an ever more granular level. Currently the cost is still generally too high to place on individual items (unless they are very high value); the usual application today is pallets and sometimes boxes. QR codes are a more affordable solution for tagging on an item level, also allowing for innovative interactions with consumers through smart packaging (see page 22).

RFID at Tetra Pak

Tetra Pak is currently piloting using RFID to transfer packaging material information between its factories and filling machines at customer sites, which promises a number of benefits:

- Reduction of operator dependence through automatic reading of tags
- Mitigation of incident risk by automatically matching packaging material and filled product content
- Increased traceability
- Optimised logistics and warehousing
- Waste reduction.

Robotics

Looking ahead, the increased use of robots to pick and pack products for shipment emerged as the #1 trend for 2025 in our e-retailer survey. As already mentioned, robots are already widely used by Ocado, and also by Amazon, which has deployed more than 100,000 Kiva robots in 25 of its around 150 CFCs worldwide, helping to cut the “click to ship” cycle from roughly 60-75 minutes to 15 minutes.¹ Amazon is now running competitions to encourage researchers and engineers to build a robot that can identify, sort, and pack goods from items they see on warehouse shelves, automating the majority of the work required to fulfil an Amazon order.

But the most advanced use of robotics and automation today is arguably in China. In August 2017, JD.com, China’s second-biggest e-commerce player after Alibaba, announced it had inaugurated its first unmanned sorting centre in Kunshan, near Shanghai, as a key part of its strategy to build an intelligent and highly efficient logistics system.

The whole process, from parcel sorting to loading on to trucks, is fully automated. The first of its kind in the world, the centre has a capacity of about 9000 parcels per hour – around four times the volume of its old human-run centres. Its Delta robots can pick 2000 to 3000 items per hour – 10 times more than human workers, representing a \$15,000 saving in labour costs per day. Orders are packed in the right-size box automatically, reducing corrugated cost by 20%.

Automation and robotics adds to e-retailers frustration with secondary packaging on inbound goods from suppliers, which needs to be removed prior to repacking for dispatch to consumers – a significant cost. As Sverker Lindbo, Head of Concept Development at Ocado, put it in last year’s Tetra Pak Index: “In time, all products supplied to us will need to be unpackable and pickable by robots (they hate shrink wrap!).”

Last mile

Last-mile delivery – the shipment between the final storage hub and the customers’ home – is the most expensive and inefficient part of order fulfilment. Hence the appeal to traditional retailers of click and collect services, which are often now widely available both at stores (where collecting consumers can often be tempted to make additional purchases) and other convenient sites. Alternatively, as mentioned, retailers can utilise delivery service partners such as Instacart.

Concepts

Over the last year, Tetra Pak has been working on a research project with a design consultancy to explore new ways of creating and capturing value in an increasingly omnichannel marketplace, and to identify potential areas for R&D. A number of concepts were developed and tested with both e-retailers and consumers. Here, and on the following pages, are four of them.

01. Ready meals

Concept: Given the growing trend for prepared food, a logical next step is for pre-packed meals that are delivered from e-retailers hot and ready to eat, complete with drinks, disposal cutlery and serviettes. These could include long-life products that are designed to be heated through

the package during the fulfilment process, rather than in the home.

Feedback: E-retailers recognised that ready meals in various forms would be a key part of their future business, and that appropriate packaging would be key. “One of our biggest concerns for e-commerce is to

solve packing of ready meals in a nice-looking and efficient way,” said one. “Ready meals is the disruptor of e-commerce,” said another. Younger consumers without families – a group that already orders a lot of takeaways – particularly saw the benefits.

Automation is another way to lower costs: Deutsche Bank has estimated that automation through the use of drones and robots can reduce the last-mile delivery cost by as much as 80%. To that end, JD.com and Amazon have both set up special divisions to investigate intelligent and unmanned logistics. Both are experimenting with drones.

In February 2018, JD.com was awarded a trial licence to test unmanned drone delivery on a large scale in China.¹ Depending on the success of this pilot, JD.com has said it aims to make delivery drone operations standard in two years. It has already partnered with US tech firm Nvidia to deploy a million drones in China over the next five years. JD.com founder and CEO Richard Liu said in 2017 that using drones in the delivery chain could reduce logistics costs by at least 70%.

JD.com is also working with Nvidia on a ground-based logistics robot called JDrover, which is already being used for delivery on university campuses across China. Elsewhere, the Co-op supermarket is trialling using six-wheeled robots from Starship Technologies to deliver chilled groceries in the UK. In a previous trial, the same robots were used to deliver hot takeaways.

Looking ahead, our e-retailer survey suggests that the use of technology in order fulfilment and the last mile could cut delivery times to within 10 minutes of purchase by 2025. This would significantly change consumer attitudes to online grocery shopping, driving them to buy in smaller amounts, more frequently, often for immediate consumption; to store less; and to be much more conscious of food waste.

02. Online grocery-ready package

Concept: Secondary packaging, such as film wrap on product trays, adds considerable time and complexity for e-retailers – some e-commerce pure players report that removing such packaging prior to repacking for fulfilment accounts for 10% of costs. This concept aims either to redesign secondary packaging to reduce such complexity, or to reinforce primary packs to remove the need for secondary packaging entirely.

Feedback: Retailers saw that this would minimise waste and improve storage handling. “It turns the pallet into a multipack,” said one, while an e-commerce pure player summarised it as “what comes in, goes out”. There was no direct consumer feedback as this concept is driven by e-retailer needs – although consumers are clearly sensitive both to damaged packages and to wasteful over-packing.



Adopt A Cow, China
Premium ambient white milk and yoghurt are growing categories in China, a market where concerns about food safety mean consumers particularly appreciate products that are fully traceable. As its

03. Repack for online grocery

Concept: Certain types of packaging are clearly unsuited for online grocery, due to their weight, lack of robustness and/or tendency to damage other items packed alongside them. Some e-retailers won't even stock cans or plastic cups for such reasons. Carton packaging, however, is one of the package formats preferred for this channel, being durable, stable, lightweight and space efficient. So the thinking behind this concept was simply to widen the category scope of cartons, packing products that might otherwise be packed in less suitable formats.

Feedback: E-retailers saw that this was good for their environmental image – particularly important online, due to the younger demographic. They particularly saw an opportunity for private label, which both sells well online and offers greater scope for innovation. And they saw the potential for improved package performance, with less waste.

name suggest, Adopt A Cow's innovative approach is to allow consumers to “adopt” a cow for a year, so they know exactly where their milk is coming from: in return, they receive 60 cartons of ambient white milk per year. Adopters can scan a unique QR code to view “their” cow via



Tetra Pak, Ads On Board & Shazam, France

Ads On Board is

a French startup that allows advertisers to reach consumers via messages on packaged/ bottled water distributed in taxis, on public transport, at events and outlets and more. It has partnered with Shazam, which is famous for its music recognition app but also offers image technology, allowing Ads On Board to print on-pack pictures that can be scanned by

a smartphone to drive traffic to a website, or create some other call to action or value-added activity.

In December 2017, Tetra Pak partnered with Ads On Board to promote the environmental benefits of carton packaging as part of its Good Packaging For a Good Life campaign. It distributed 30,000 free flavoured water packages, printed with marketing messages and a Shazam code that triggered an instant prize draw, via electric taxi and shared scooter services in Paris. The innovative prizes included table football tables, music amplifiers and bow ties, all made out of FSC™-certified cartons or packaging material.

The campaign reached 130,000 consumers, 25% of whom activated the Shazam code and spent 90 seconds interacting with the prize draw, generating 32,000 leads for Tetra Pak – and very positive feedback on social media.

webcam, 24 hours a day, and even pay a visit and stay at the farm for two nights a year. Seasonal and monthly schemes are also available. The company was financed via Kickstarter and all subscriptions and purchases were originally managed exclusively online, but now distribution has

been extended to offline stores. The product's price point is lower than premium ambient white milk, since the company claims its marketing approach saves on advertising costs, allowing them to provide both value for money and high quality.



The smart package

Packaging clearly has a key role to play in the optimised e-commerce supply chain. Cartons have always been particularly suited to the channel due to their light weight and logistical and storage efficiency. Now smart packaging allows each carton to be tracked, monitored and interacted with throughout the supply chain, creating new opportunities for efficient stock management, distribution and automation. It creates new opportunities for consumer interaction too. The key to the technology is digital printing, which makes it possible to print a unique digital code on each and every package. This can be scanned by both specialist devices and ordinary smartphones alike, allowing all kinds of innovative possibilities:

- With a supply chain that's interlinked from end to end, brands can make traceability more transparent, sharing information with consumers right down to the farm or grove that a particular product comes from.
- The package can be the gateway to a customer engagement programme: a lottery ticket, a unique identifier for an online competition, a loyalty token or a means of creating a one-to-one channel with individual consumers.
- The information flow can be two-way, allowing producers to capture specific, valuable information about their consumers as part of the digital code interaction.

With Tetra Pak alone producing some 190 billion packages per year, the potential reach of digital packages is substantially greater than any social media platform. As we reported in the Tetra Pak Index last year, 65% of the most influential online consumers in both the US and UK would be very interested in such package interactivity, rising to 89% in China, where QR scanning is more commonplace and where such digital packages are already proving successful.

Tetra Pak has developed a consumer engagement solution based on this technology, which integrates with its wider digitalisation offering (see diagram and case study, right).

How a Tetra Pak end-to-end solution delivers complete traceability and innovative consumer engagement



01 Upstream processing and filling traceability

Product can be traced throughout production, right back to the source

02 Digital printing

Unique code for every smart package digitally printed at Tetra Pak converting factory

03 Downstream package traceability

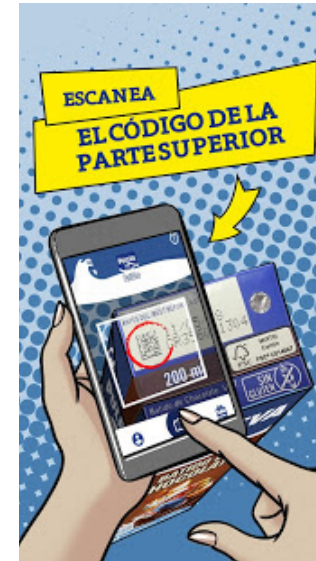
After filling, the smart package can be tracked right the way to the consumer

04 Consumer engagement

Consumer can scan package with smartphone to get product information or participate in engagement programme

05 Customer portal

Brand owner can access and analyse personal and sales data captured by consumer engagement solution



Puleva, Spain

Tetra Pak first piloted its unique code-based

customer engagement solution with Binzagr CoRo's SunTop orange juice in Saudi Arabia in January 2017. Following the pilot's success, the solution is now being used by Puleva, a Lactalis subsidiary in Spain, for a promotion for its market-leading flavoured milk drinks. Launched in March 2018 and running until June, its objectives are to increase both household penetration and average purchase. On a wider level, by being the first in Europe to use this kind of technology, the promotion also helps to position

Puleva as an innovation leader – an important consideration for this brand.

Consumers download the Puleva Tido app, available via Google Play and Apple Store, and use it to scan the unique code carried on the top of every Puleva Tetra Brik® Aseptic Slim 200 package. They get a point for every scanned code, enabling them to participate in draws for a range of prizes, including trips to Disneyland Paris, BMX bikes and hoverboards. There are also direct prizes for the 10,000 quickest users to scan six packages. Using the app is easy and fun, and any questions are answered in real time by the app's support team.

The campaign is promoted on the pack itself, on multipack secondary packaging, at point of sale in 250 hypermarkets nationwide, on the brand website and through Facebook, Instagram, Twitter and YouTube. The campaign is still ongoing, but early feedback has been highly positive.

"This technology gives our customers the opportunity to completely rethink the way they engage with consumers and their approach to business promotion," says Elena Moruzzi, Director Project & Portfolio Management at Tetra Pak. "It's really opening up a one-to-one communication channel between our customers and the end consumer in a way that hasn't been possible before."

04. Localised production

Concept: E-commerce is a great channel for small brands: they don't need to fight for shelf space and can be more visible online than in physical stores. However, such smaller producers often don't have access to their own processing and filling machines and so have to use co-packers, sometimes very distant. This concept is for a mobile processing

and packaging unit that keeps production local and investment low, while also being able to fill small runs to test new products in a targeted way. It minimises the need to transport the fresh product; it travels once ambient packed instead.

Feedback: Small brands, and startups in particular, saw this as "a dream come true". Retailers

also saw the potential, but as much for physical as virtual stores. For consumers, the concept met a strong desire for items to be fresher and for the supply chain to their doorstep to be reduced. Supporting local also has a big consumer appeal and is already a strong trend.

03

Sustainability

As sustainability becomes increasingly important for consumers, companies and governments alike, it is becoming a hot topic in many geographies and its impact can be felt in numerous ways.



Packaging is particularly important for e-commerce customers, due to the need for safe delivery. Not surprisingly, perhaps, our survey shows that consumers everywhere consider products being delivered intact and undamaged as overwhelmingly the most important criterion for a delivery service¹ – but environmental concerns are growing.

As the move to e-commerce and omnichannel makes supply chains more complex, this can have a negative impact not only on cost, but also on emissions, as deliveries become more frequent and fragmented – hence both brands and e-retailers need to be ever more focused on reducing carbon footprint.

Packaging can be a key lever in achieving this. For example, a life cycle assessment² of Tetra Recart[®] found that it accounted for five times less CO₂ emissions compared with cans and glass jars.³ Amazon uses Tetra Recart[®] for its Wickedly Prime soup range, marketed with the slogan “time to kick the can”.

Plastic spotlight

A recent report by Mintel⁷ made these predictions about plastic packaging:

- Increased consumer awareness of, and concern over, plastic in the sea will drive changes in consumer perceptions of packaging and result in greater importance being placed on “green”

packaging solutions at the point of purchase.

- In the short term, solutions that currently appear niche, such as sourcing ocean plastic as a material source, will become mainstream and drive consumer expectation for novel brand-led solutions.
- In the longer term, focus

will increasingly shift to the circular economy, with the aim of increasing recycling rates to remove packaging waste from landfill and potentially from the sea. Brands will be expected to drive this change by committing to using a (significantly) increased proportion of recycled content.

Secondary packaging

Online grocery shoppers are highly critical of secondary packaging, which they often consider to be both unnecessary and environmentally unfriendly, not least because secondary pack bags are often made of plastic. According to our survey, 80% of consumers in South Korea – the most developed country for e-commerce – and 74% in the US say they would avoid goods that come in several layers for environmental reasons.

Generally, consumers prefer companies to invest in only one pack, as long as it can properly protect the product, according to our consumer research. And according to our interviews with e-retailers, most large players prefer to ship with only one pack for efficiency reasons; hence the durability of primary packaging is a major basic requirement. That said, some smaller e-retailers say they still use secondary packaging as they see it as a marketing opportunity.

Our research suggests that flexible packaging products, bubble packaging, air pillows, paper fill products and the like are expected to continue their dominance for the time being due to cost efficiency. Looking ahead, usage of moulded pulp and paperboard protectors is expected to grow dramatically in rigid packaging, due to its sustainable nature, as well as consistent pricing.

Pressure on plastic

Plastic packaging is under pressure, with high profile initiatives under way to reduce its impact on the environment, especially the oceans. This is particularly apparent in Europe. In January 2018, the EU adopted the first-ever European Strategy for Plastics in a Circular Economy, which aims to transform the way plastic products are designed, used, produced and recycled.⁴ A number of companies quickly pledged to support the strategy, including Tetra Pak.⁵

The UK is a good example of activity in this area, largely thanks to a wave of public concern after the issue was highlighted in a popular TV programme, Blue Planet – demonstrating just how quickly consumer opinion can change. In January, UK supermarket Iceland committed to become the first major retailer globally to eliminate plastic packaging from all of its own-brand products by the end of 2023, and most others have made their own pledges in this area.

Recycling

Our research shows that recyclability is increasingly important for e-retailers everywhere and that recyclability/easy to fit to local waste management system is a performance factor in North America and will be a basic factor by 2025 – as it is already in Europe.

“Focusing on innovation, better packaging design and end-of-use systems will not only generate long-term benefits for the environment, but is also a huge economic opportunity.”

Ellen MacArthur, Ellen MacArthur Foundation⁶

Looking ahead, as awareness of the circular economy increases, we expect awareness to expand from end-of-life to sustainable and renewable sourcing. Carton packaging already has a strong story to tell here. Tetra Pak® packages are largely composed of paperboard, manufactured from FSC™-certified and controlled sources, while the polymers for the coatings and caps are increasingly made from renewable sugarcane.

While sustainability generally is a less prominent issue in China today, growing environmental concerns and waste management improvement is expected to make sustainable packaging and recyclability an important value-added factor by 2025, according to our e-retailer survey.

Food waste

As awareness of food waste becomes more acute, brands and retailers alike need to demonstrate their efforts to reduce and even eradicate it. Almost 1 billion people today suffer food insecurity, while one third of food produced is wasted – about 1.3 billion tonnes each year. This goes hand in hand with wider environmental concerns: if food waste was a country, it would be the third biggest emitter of greenhouse gases globally after China and the US.¹

Food waste is an area where e-retailers can demonstrate a competitive advantage over traditional bricks-and-mortar stores. In March 2018, Ocado published food waste statistics for the first time, showing a total figure of 0.02% – just 1 in 6000 items among the 2200

tonnes of fresh and ambient food it distributed in 2017, which it says is thanks to its short supply chain and other efficiencies.²

Packaging can play a key role here. For example, 50% of US food shoppers believe that the right packaging can help to reduce food waste.³ Again, there is a wider environmental connection: eco-friendly packaging materials are the focus of the majority of new food and drink products released in North and Latin America that mention “waste”, for example.⁴

Looking ahead, as with public concern on plastic waste and other sustainability issues, we expect awareness of personal food waste to continue to grow. Aseptic carton packaging

has a valuable role to play here, reducing waste thanks to its long shelf life without the need for an energy-intensive cold chain. Complemented by resealable closures, these packages can help extend the life of products and reduce waste in the home, which is where most food waste occurs.

E-retailers may increasingly factor this into their marketing, targeting younger consumers who tend to be more sensitive to sustainability issues – and indeed the social media influencers who are likely to play a key role in changing attitudes to sustainability going forward.



Buzzbox, USA
Available direct from the brand website and through retail locations, Buzzbox positions itself as “the world’s first and finest eco-friendly cocktail” and leverages strongly on the positive image of its “recyclable, eco-friendly and energy-efficient” carton packaging. It’s the first spirit player in the US to use Tetra Pak® packages, which it claims require 40% to 50% fewer trucks, 54% less energy and produce 60% less solid waste compared with cans. Billed as “handcrafted premium drinks, made with only natural ingredients” and no preservatives or artificial flavours, Buzzbox’s eight premium cocktails were launched in the summer of 2016. “Buzzbox is committed to making great cocktails available in a sustainable way,” says Rod Vandenbos, Buzzbox founder and CEO. “We chose Tetra Pak because their commitment to a green lifestyle reflects our own convictions. We all need to do our part to safeguard our environment.”



Koita Happy Milk, UAE Consumers in UAE – a growth market for dairy – have a strong appreciation of milk’s health benefits. Koita, a relative newcomer, has introduced a local ambient milk brand that focuses heavily on the particular health benefits of organic, environmentally friendly milk. Founded in 2013, Koita spent more than two years using online social media and other innovative polling

techniques to research the attitudes of parents around the Middle East to a “clean milk” solution. Key demands included: no toxic pesticides/hormones/antibiotics; healthy yet long-lasting, to prevent spoilage in hot environments; rigid certification/production regulations with fair treatment of cows; and eco-friendly packaging. The result is Happy Milk: organic milk sourced from Italian grass-fed cows certified

free of artificial hormones and antibiotics, co-packed in Italy. All that is added are vitamins A and D3, which are welcomed in the local market. The range also includes lactose-free milk and non-dairy varieties, including non-GMO soya milk. Koita is now the #1 player in the UAE in organic milk sales. It recently introduced a regular milk delivery system for its customers, who can subscribe online, and it also sells through standard e-commerce channels,

accounting for 10% of total sales and growing. It also sells through traditional premium outlets in the UAE, with 22% weighted distribution in A class retail and hypermarkets. Dubai is its main market, where it has 40% distribution. It recently started to export to the Gulf Cooperation Council markets, where volumes are picking up, and it now has a presence in the Levant region too.

04

Personal & unique

E-retailers are using online-only items and personalised products and experiences to attract shoppers online and build loyal relationships.



Online-only products are used by e-retailers as a major driver for attracting shoppers online as consumers are increasingly interested in niche products (particularly relating to health and wellness) that can be hard to find in mainstream stores. For example, Ocado aims to have two products in every shopper's basket that are unavailable elsewhere, while Amazon is leveraging its "infinite shelf space", adding greater variety from iconic local shops to its Amazon Fresh grocery service, bringing a level of specialisation that traditional retailers can't match, especially when discounters are squeezing product choice.

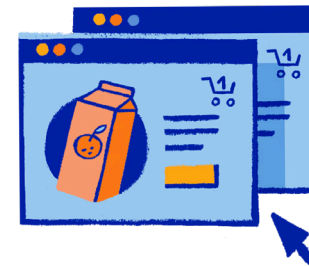
Private label is also healthier than ever, with e-retailers offering shoppers unique, high-quality, high-value goods to lock them in. E-retailers are able to leverage their rich customer data to identify the most desirable, and profitable, products for their private label – a threat to bricks and mortar supermarkets that have long relied on such products to offset loss leaders and remain profitable.

Looking ahead, e-retailers and brands are expected to appeal to consumers on an ever more personal level: customisation of products and personalisation in consumer journey and delivery are expected to be key differentiators going forward. This was identified as one of the main trends looking ahead to 2025, according to our e-retailer research. Indeed, the opportunities for personalisation are already apparent at every stage of the consumer journey:

Zero moment of truth: Research/buy

E-retailers are using consumer data to make the shopping experience ever more personal. "Personalisation is the buzzword for good reason," says Clodagh Moriarty, Director of Online at Sainsbury's in the UK.¹ "Consumers respond well to us knowing their context." Knowing current and previous baskets enables prompts to purchase before and while shopping, and after the basket is complete, offering reminders if favourites have been forgotten, plus other helpful, timely prompts: 20% of customers add an average of two extra items, says Moriarty.

Personalised digital marketing is also now happening in-store. The Coca-Cola Company has launched point-of-sale display systems that show personalised messages to approaching shoppers: proximity technology leverages built-in smartphone features and Google's Eddystone wireless beacon technology, allowing a store to receive and interpret their preferences and habits to deliver contextually relevant content in real time. Powered by Google Cloud, the system can offer custom branded video, e-coupons and other promotional content. A 250-store pilot with the Albertsons grocery chain delivered a one-month return on investment.²



5 ways to drive sales online

Clodagh Moriarty, Director of Online, Sainsbury's³

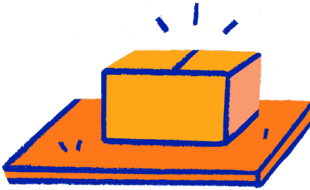
- Know the customer who is shopping and understand their basket
- Facilitate their ease of shop above all else
- Keep any messaging simple
- Be aware of the ecosystem in which the customer is shopping
- Get involved in A/B testing⁴

First moment of truth: unboxing experience

Our consumer research shows that unboxing impacts on the consumer product experience, and our e-retailer interviews confirm that it's perceived today as a value-added service. However, many e-retailers have been slow to explore the opportunity. An annual unboxing survey¹ in the UK found that while e-retailers have made "significant improvements" in their use of packaging to protect products, there is "considerable scope" to enhance the consumer experience by improving the way the secondary package looks and performs.

This is a key area that can be addressed by brands embracing the direct-to-consumer model. Purina is a good example. For its premium, all-natural Beyond range, it created a packaging design free from the traditional messaging needed on the shelf, plus a specially designed and branded shipper box and insert, resulting in a unique unboxing experience.

Looking ahead, the next step is personalised packaging: it's already seen as a growth area by e-retailers, particularly in North America, where it's expected to be a performance factor and a decision criterion by 2025.



An annual unboxing survey in the UK found that there was considerable scope to enhance the consumer experience by improving the way the secondary package looks and performs. It found that 38% had no brand on the box, inside or outside, and 30% did not reflect the values of the brand.

Second moment of truth: experience

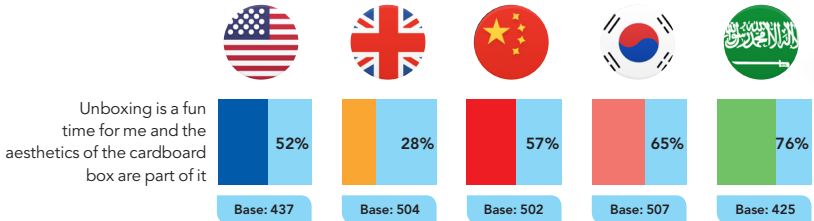
Brands are using consumer data to create custom products in ever smaller batches to meet more specialist niche needs. "We have 20m consumers who are actively talking to us in our data bank monthly," says Jeffrey, Minfang Lu, CEO & Executive Director, China Mengniu Dairy.² "We know exactly who they are, how they behave and how they interact with us, and we use this to adjust our products and formulation in order to meet their needs.

"We need to see how we can... actively engage with our consumers, to provide personalised, individualised products for the young and old, because they all have different needs. For example, we are working on how to get our products to be more interesting and to have a different taste profile that appeals to a younger audience. How can we give consumers much more than nutrition? We need to give them enjoyment. We need to give them excitement."

Third moment of truth: share

As mentioned earlier, posting images and comments of products is increasingly common, particularly in China. The idea behind such posts is sharing: an experience, something interesting or new or, especially in China, to comment on/review a product. These posts provide brands with a golden opportunity to make a personal connection, which is often welcomed – and sometimes even expected.

As we reported in last year's Tetra Pak Index, the most active and influential online consumers who write reviews/comments tag the relevant brands at least some of the time, and just over a third always do. Some 78% say that they expect the brand to reply, rising to 93% in China. Moreover, 90% say that a reply improves their brand perception, underscoring the importance of engaging online. Globally, almost half of this group have daily interactions with brands on social media.



JustFoodForDogs, USA
JustFoodForDogs describes itself as the world's first "dog kitchen". They use USDA-certified ingredients

intended for human consumption (from high quality restaurant supply companies) to create healthy, nutritionally balanced recipes for dogs. Their food is prepared fresh in kitchens open to the public and sold fresh or frozen in retail and online, without the use of any preservatives. Products are now available in Tetra Recart® 390 Midi with full-top perforation for easy serving. With the launch in Tetra Recart®, JustFoodForDogs meets a desire for freshness and quality in a shelf-stable format that complements the brand's existing refrigerated and frozen offerings.

Summary



01 Fast-growing online grocery is not only a key channel in its own right, it's a major disruptor of other channels too. Offline and online are merging to "create both a better customer experience and better efficiency for the entire supply chain."

02 Convenience is the main driver as consumers expect an "omnichannel" experience that's fast, easy and seamless. "Brands that win will provide assistance in the moments that matter: during inspiration and discovery, planning and shopping. Assistance is the new battleground for growth."

03 Mobile is the omnichannel device of choice, and e-retailers and brands alike need to ensure it's central to their consumer offering. "If it's too complex for mobile, it's too complex." As online, mobile will become increasingly key to in-store retail, providing extra information, personal recommendations and offers, and automated cashless checkout.



04 For insights into the future of omnichannel grocery, look to China, which is leading the world in disruptive innovation in the grocery space. "China is moving much faster than the West because the Western model is built on legacy systems. China's model is disruptive. China does not have the legacy of malls and big-box stores. It has no traditional retail model to defend."

05 Online grocery shopping today is still largely for stocking up. Expect that to change as delivery becomes faster, prompting the shift to convenience shopping – little and often – that is such a major part of physical retail. As basket sizes reduce, pressure on margins will increase for all players.

06 Personalisation is key both to communicating with consumers and customising the shopping experience. This is contributing to an ongoing shift in the balance of power from brands to e-retailers, who possess the biggest store of personal data and can therefore "own" the consumer relationship – while developing their own private label offering.

07 Some brands are reacting by embracing a direct-to-consumer model, and as many as 80% of CPGs are predicted to try this route by 2025. Personalisation of products and packaging are expected to be key differentiators going forward.

08 As products become more personal and niche, brands will need to become more nimble, formulating and producing in smaller batches to meet consumers' changing needs.

09 Packaging is key to e-commerce, with an overwhelming majority of consumers saying it can have a positive impact – or ruin an otherwise positive purchase experience. Its main use is seen to be preservation and protection, but environmental concerns are growing. Use of secondary packaging and plastics are already issues, and recyclability is increasingly important for consumers and e-retailers alike everywhere.



10 Lightweight, logistically efficient carton packaging has a valuable role to play, both in reducing cost and carbon footprint, and this is being used as a differentiator by some brands and e-retailers. E-retailers report that space-efficient packaging can reduce transport volume by 30% to 50%. It also appeals to urban consumers in small homes with limited storage.

11 Supply chains are being transformed by a raft of technologies including data carriers such as RFID and QR codes, Blockchain and robotics, boosting efficiency and transparency. Traditional retailers need to invest to stay competitive. "The key to success in e-commerce is winning in logistics and supply chain."

12 Smart packaging has a key role to play, both in the digital supply chain and also the consumer experience, creating an interactive one-to-one channel with individual consumers, providing opportunities for communication, marketing and data capture alike.



Research & references

Research methodology

The research for this Index includes three reports specially commissioned by Tetra Pak:

1. A report by Euromonitor International that created a market development index driven by channel segmentation, retailer and brand presence. These three factors are presented both at a country and a megacity level, in order to understand areas of growth over the next 10 to 15 years.
2. A consumer behaviour research project by Toluna that investigated the path to purchase in several categories for online grocery shopping. It consisted of a qualitative community for US and UK and a quantitative survey to understand the reasons behind purchases online in US, UK, China, Korea and Kingdom of Saudi Arabia.
3. Voice of E-retailers report by Frost & Sullivan, compiled from qualitative interviews with 11 e-retailers based in North America, Europe and China.

Report references & footnotes

- 05-1** Kantar Worldpanel, 52 weeks to March 2017
05-2 The Future of E-commerce in FMCG, Issue 4, November 2017, Kantar Worldpanel
05-3 Walmart 2017 annual report
05-4 See 05-2
05-5 From route to market to route to me: 6 ways Coca-Cola is embracing the e-commerce revolution, 20 February, 2018 <https://www.coca-colacompany.com/stories/from-route-to-market-to-route-to-me-6-ways-coca-cola-is-embracing-the-ecommerce-revolution>
06-1 Euromonitor Lifestyle Trends 2016
06-2 The Grocer Conference 2018: How to Win in Online Grocery
06-3 Google Data, US, January to June 2015 versus January to June 2017
06-4 See 06-2
07-1 See 05-5
07-2 Trends in E-commerce Packaging: A Survey for Packaging Stakeholders, Dimensional Research for Jabil, May 2017
07-3 See 07-2
08-1 The future of retail is happening right now in China, 25 May, 2018 <http://www.alizila.com/future-of-retail-happening-in-china/>
09-1 Amazon, take note: how China's e-commerce kings will create totally new ways to shop, Forbes.com, 12 October, 2017 <https://www.forbes.com/sites/ywang/2017/10/12/amazon-take-note-how-chinas-e-commerce-kings-will-create-totally-new-ways-to-shop/#64a47f755d3d>
12-1 Basic factors: Default expectations of consumers. When done well, consumers remain neutral; when done badly (or not at all), consumers are very dissatisfied.
12-2 Value-added factors: Factors that surprise and delight consumers, but don't cause dissatisfaction when absent because they are not expected to be present.
12-3 Performance factors: The better these are performed, the more satisfaction they bring; the worse they are performed, the more dissatisfaction they bring.
13-1 19.7%, 52 weeks ending March 2017, Kantar Worldpanel
14-1 Kantar Worldpanel
14-2 UK FMCG Deep Dive: Taking Stock of the Future of Grocery, Criteo, May 2017

- 14-3** Waitrose Food & Drink Report, 2017
14-4 China's e-commerce giant JD.com to take on Amazon in Europe, FT.com, 4 February, 2018 <https://www.ft.com/content/c04ee23a-07b5-11e8-9650-9c0ad2d7c5b5>
14-5 Kantar Worldpanel, 52 weeks ending March 2017
14-6 Kantar Homepanel, 52 weeks ending June 2017
16-1 See 06-2
17-1 <https://www.packagedfacts.com/Meal-Kits-Delivery-Services-Edition-10975993/>
18-1 5 ways voice assistance is shaping consumer behavior <https://www.thinkwithgoogle.com/consumer-insights/voice-assistance-consumer-experience/>
18-2 See 05-5
19-1 See 05-3
19-2 The network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators and connectivity which enables these objects to connect and exchange data.
20-1 According to a Deutsche Bank note published in June 2016, based on Amazon's metrics.
21-1 JD Logistics unveils world's first unmanned intelligent distribution station in Xi'an, Pandaily, 25 February 2018 <https://pandaily.com/jd-logistics-unveils-worlds-first-unmanned-intelligent-distribution-station-xian/>
23-1 In our survey, the possibility of products getting damaged in transit is a significant barrier to online grocery shopping, particularly in South Korea where almost a third (31%) of customers cite it as a concern. It's also a barrier for 21% of Americans, who particularly appreciate Amazon for its highly protected and secure parcels, citing that damaged/dented products delivered by them are rare.
23-2 Life cycle analysis (LCA) is a standardised method to evaluate the global environmental impacts of a product throughout its life cycle (from material production through transport to recycling/disposal).
23-3 This comparative LCA study was performed by Ifeu, Germany, according to ISO 14040/44. Peer reviewed by a third-party panel. Results represent European average situation (EU+28), 2017. Category Canned Tomatoes. Study commissioned by Tetra Pak.
23-4 <http://ec.europa.eu/environment/waste/>

plastic_waste.htm

- 23-5** Tetra Pak was among the first companies to pledge to support the strategy, promising to: work with industry partners to ensure that by 2030, recycling solutions are in place for all components of beverage cartons so they can be fully recycled across Europe; substantially increase the use of plastics made from renewable feedstock; and use recycled plastics once they are validated as safe and are legally acceptable for use as a food contact material.
23-6 www.ellenmacarthurfoundation.org
23-7 2018 Global Packaging Trends, Mintel
24-1 <https://www.unilever.com/sustainable-living/reducing-environmental-impact/waste-and-packaging/reducing-food-waste/#244-420995>
24-2 Ocado has three high-tech customer fulfilment centres (CFCs) to redistribute all its products in the UK. It cites a number of benefits as a result. Products come straight from the supplier and are sent out for delivery the same day. Forecasting comes with much less risk of food waste than with bricks and mortar stores. A section of each CFC is refrigerated, and vans are chilled too, helping to extend product life and thereby reduce food waste in the home, which is where most occurs. Ocado also works with suppliers to ensure products arrive in packaging suitable for automated processes, while bespoke software calculates how best to pack items – all of which reduces damage and waste still further.
24-3 <http://www.mintel.com/blog/food-market-news/thought-bubble-food-waste-in-the-americas>
24-4 Mintel Global New Products Database, July 2016 to July 2017
25-1 See 06-2
25-2 Coca-Cola bringing Google-powered digital signage system to retail, restaurants, cinemas and more, The Coca-Cola Company, 12 April, 2017 <https://www.coca-colacompany.com/stories/coca-cola-bringing-google-powered-digital-signage-system-to-retail>
25-3 See 06-2
25-4 In web analytics, A/B testing is a controlled experiment with two variants, A and B
26-1 Macfarlane Packaging's Unboxing Survey 2017
26-2 Digitizing dairy in China, McKinsey Quarterly, March 2018 <https://www.mckinsey.com/global-themes/china/digitizing-dairy-in-china>

“The rise of online grocery should be seen as an opportunity for food and beverage brands, and packaging can play a key role in realising this. In particular, smart packaging helps drive greater transparency and efficiency in the supply chain, up and down stream, while also enabling a direct, interactive relationship with the consumer via the product itself. We believe this now tried and tested technology can help our customers explore new avenues, driving growth in the years ahead.”

Alexandre Carvalho,
Global Marketing Services Director, Tetra Pak

