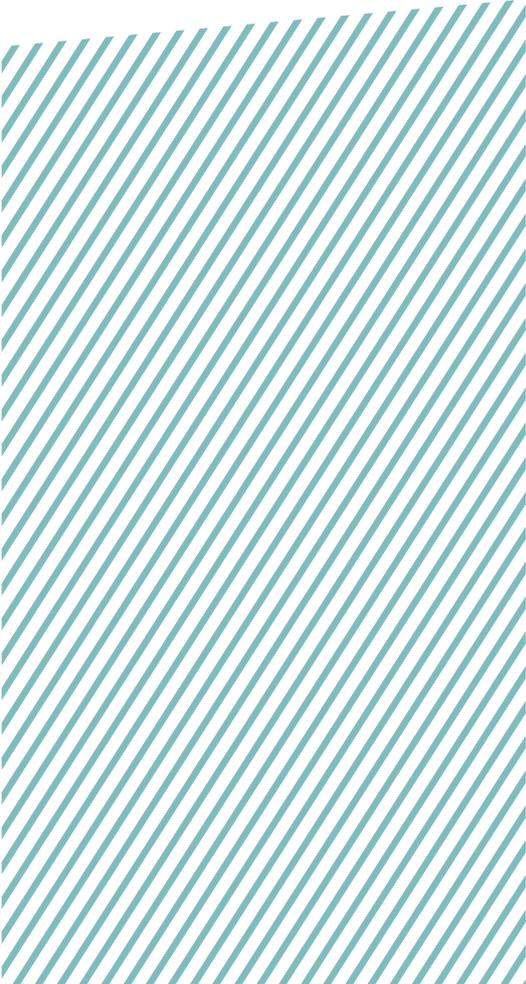


DISRUPTION IN FRUIT AND VEGETABLE DISTRIBUTION



**FRUIT LOGISTICA
TREND REPORT 2018**

IN COOPERATION WITH

FRUITNET
MEDIA INTERNATIONAL

PRESENTED AT



IMPRESSUM

FRUIT LOGISTICA TREND REPORT 2018

DISRUPTION IN FRUIT AND VEGETABLE DISTRIBUTION

A special trend report for the international fresh produce business, commissioned by Fruit Logistica and produced by Oliver Wyman.

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PREFACE

Dear members of the fresh produce trade,

Here at FRUIT LOGISTICA, we place the greatest importance on providing you, exhibitors and visitors alike, with valuable information that can help you make decisions. New this year is the publication of this Trend Report. Entitled *Disruption in Fruit and Vegetable Distribution*, it scrutinises developments in the wider business world and how they will affect the fruit and vegetable sector. It focuses on three areas – cold chain logistics and technology, the rise of online retail, and foodservice.

Wherever you work in the fresh produce industry, *Disruption in Fruit and Vegetable Distribution* will enable you to anticipate key issues affecting the trade, and help stakeholders and decision-makers to understand them better. It will also help you to answer questions that relate directly to your business proactively.

The report's findings will be presented at FRUIT LOGISTICA 2018 and then provide a basis for continued discussion throughout the year in our media activities. The insights contained within these pages are a heartfelt thank you to all our customers and partners in the fresh produce sector. They have guided FRUIT LOGISTICA throughout the past decades, and have made it the leading global platform for the fresh fruit and vegetable sector.

We also intend to keep the conversation going, maintaining an intense dialogue with all of you – growers, traders, retailers, technicians, logistics specialists and other service providers – about the industry's future prospects. We look forward to hearing your views on this study.

With kind regards as always,
Your FRUIT LOGISTICA team



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1. INTRODUCTION

The marketplace for fresh fruit and vegetables is becoming increasingly globalized and interconnected. This, in turn, is changing the way fresh produce is carried from its origin to its destination.

The fruit and vegetables supply chain is in continual flux as it is shaped and reshaped by the emergence of new markets and changes in consumer demand. Actors right along the supply chain – from growers to retailers – are expanding and consolidating. Their advances coincide with a notable drive towards greater efficiency, a trend that is assisted by seemingly unstoppable technological advance.

This report scrutinizes developments in the business world and how they will affect the fruit and vegetables business. It focuses on three areas – cold chain logistics and technology, the rise of online retail, and foodservice – in order to answer a number of key questions about the future developments of the business:

- **What are the most important factors affecting the global fresh produce supply chain?**
- **Where will fresh fruit and vegetables be sold in 2025 and beyond?**
- **Which distribution channels will bring those products to consumers?**
- **How will new technologies change the supply chain?**



2. MEGATRENDS AFFECTING FRESH PRODUCE





2. Megatrends affecting fresh produce

We live in a time of great and far-reaching change. Many of the previous certainties of business are now under question: globalisation and new technologies continue to impact the fundamentals. These are only the most obvious megatrends; many other forces, ranging from the changing demographic make-up of our societies to the impact of climate change, as well as our increasing focus on health and well-being, are shaping not just what is consumed, but how and where it is consumed.

Just making sense of these disparate forces presents something of a challenge. However, it is essential that we attempt to make sense of them, if we are to understand the future of the fresh produce supply chain. To this end, we started our analysis with an assessment of the global megatrends affecting business today (see *Figure 1*).

FIGURE 1.

GLOBAL MEGATRENDS ACROSS SECTORS

Source: Oliver Wyman

Demographic asymmetries	Economic globalisation	Resource constraints	Innovation acceleration	New governance models	Evolving consumption
Growing world population	Selective deindustrialisation	Volatility of raw materials	Digital & data	Public debt crisis	Health and wellness
Urbanisation & densification	Changing balance of economic power	Green energies	Smart devices & infrastructure	Asymmetric conflicts	New social networks
Rise of Asian & African middle class	Global mobility	Ecosystem at risk	Life sciences booming	NGOs and citizenship	Low cost/premium polarisation
Ageing societies	Usage economy	Climate change	Industry 4.0	Global cooperation	Anxiety
Gender gap decrease	Rise of digital disruptors	War for talents	Autonomous transportation	Knowledge society	Homing

Several of these megatrends will affect how the fruit and vegetable business operates in the years to come. We have selected four trends that demand particular consideration:

Increasing world population

How will changing demographics influence fresh produce consumption? In which parts of the world will the biggest changes occur, and over what time periods?

Digital technologies and data

How much will these be enablers for online fresh produce supply? Are these technologies likely to drive increased transparency along the fresh produce supply chain? Will they, as in other sectors, create new business opportunities?

Autonomous transportation

How significant an impact will increased flexibility and speed have on the fruit and vegetable supply chain? And how soon before the industry experiences notable change?

Health and well-being

Will the recent trend for diets that favour fresh produce continue? Will consumers' increasing scrutiny of the quality of fresh fruit and vegetables favour certain products, such as organically farmed and low-carbon fresh produce?

Drilling down one level further enables us to see how innovation in each of these areas is likely to shape where and how fresh fruit and vegetables will be sold in the future.



3. FUTURE TRENDS IN FRESH FRUIT AND VEGETABLE MARKETS



Mango

Mixed Berry



Mango

Mixed Berry

Berry & Kiwi

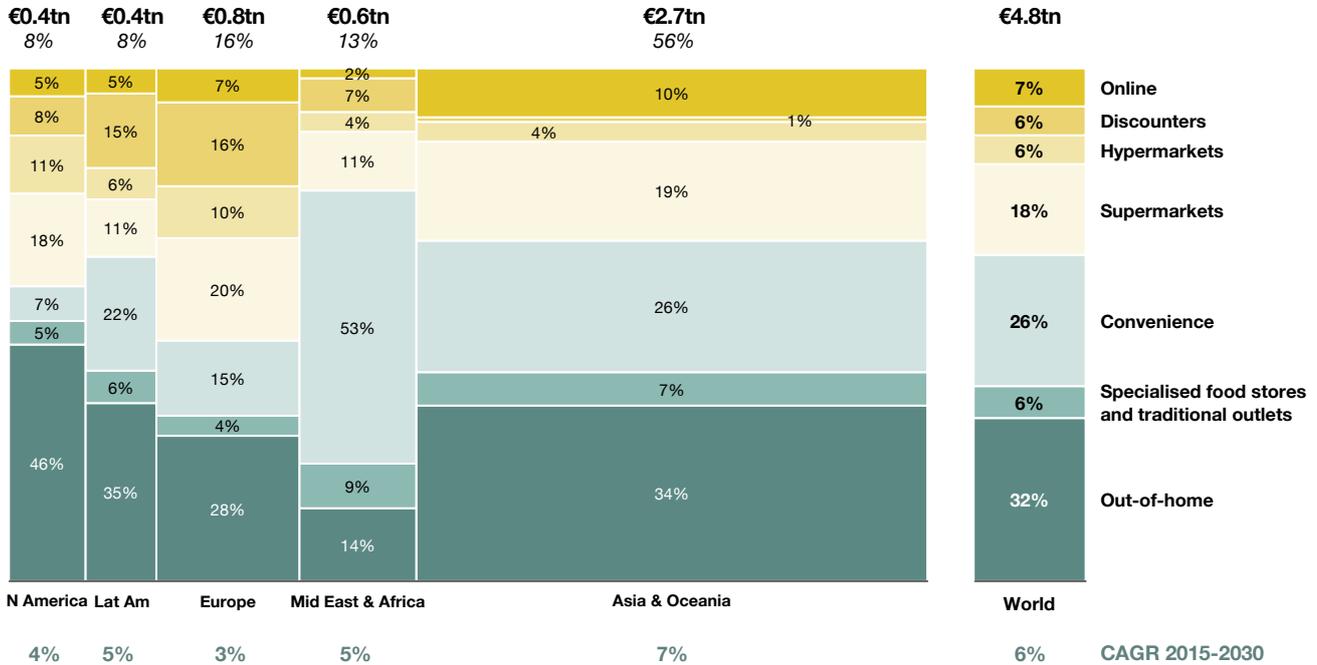


3. Future trends in fresh fruit and vegetable markets

FIGURE 2.

CONSUMER SPENDING ON FRUIT AND VEGETABLES GEOGRAPHY AND CHANNEL, 2030 (TRILLION EUROS)

Source: Passport Euromonitor, Oliver Wyman research and analysis



In order to understand where fruit and vegetables are likely to be sold in the future, we modelled fresh produce expenditure along three dimensions: by geography, by consumption occasion (at home versus out-of-home) and by channel (traditional outlets versus online).

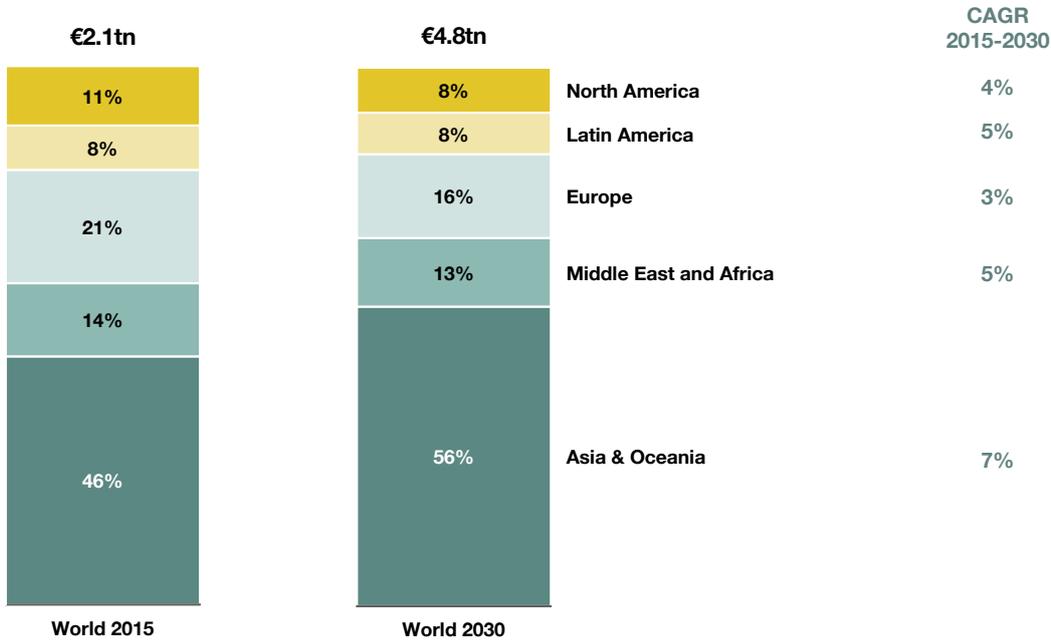
First, the good news for producers: we expect to see significant growth in fresh fruit and vegetable consumption in all parts of the world. The increase in demand will be driven largely by population expansion in combination with growing expenditure on food – in general, as well as, increasingly, thanks to enhanced nutritional choices that favour fruit and vegetables in particular.

This growth does present the business with challenges. There is likely to be wide variation between regions and income groups in terms of how these demand and consumption patterns evolve over time. While some will develop quickly, others will evolve much more slowly. Understanding these patterns will be key to developing a winning strategy and aligning operations to serve them.

FIGURE 3.

CONSUMER SPENDING ON FRUIT AND VEGETABLES GEOGRAPHY DYNAMIC, 2015-2030 (TRILLION EUROS)

Source: Passport Euromonitor, Oliver Wyman research and analysis



Geographical shifts

The headline news is that the markets of Asia and Oceania will grow substantially, gaining greater significance within the global picture of fresh produce consumption. Whereas the populations of industrialised nations in western Europe and America are growing slowly, if at all, those in Asia, as well as the Middle East and Africa, will continue to grow. In some parts of the world, this growth will be rapid. Combined with notable income increases, this will reposition respective markets in terms of their relative importance.

Collectively, the rapidly developing regions – Middle East, Africa, Asia and Oceania – are poised to grow their share of the fresh produce market from 60 per cent of in 2015 to almost 70 per cent in 2030. There are distinct differences between each one within this overall picture, however. Owing to its strong per-capita GDP growth, Asia will expect to see rapidly increasing demand for healthier food products among its emerging middle classes.

As a number of producers and exporters have seen already in recent years, this will lead to a rebalancing of demand as consumers eat less of the basics, such as rice, and more fresh foods.

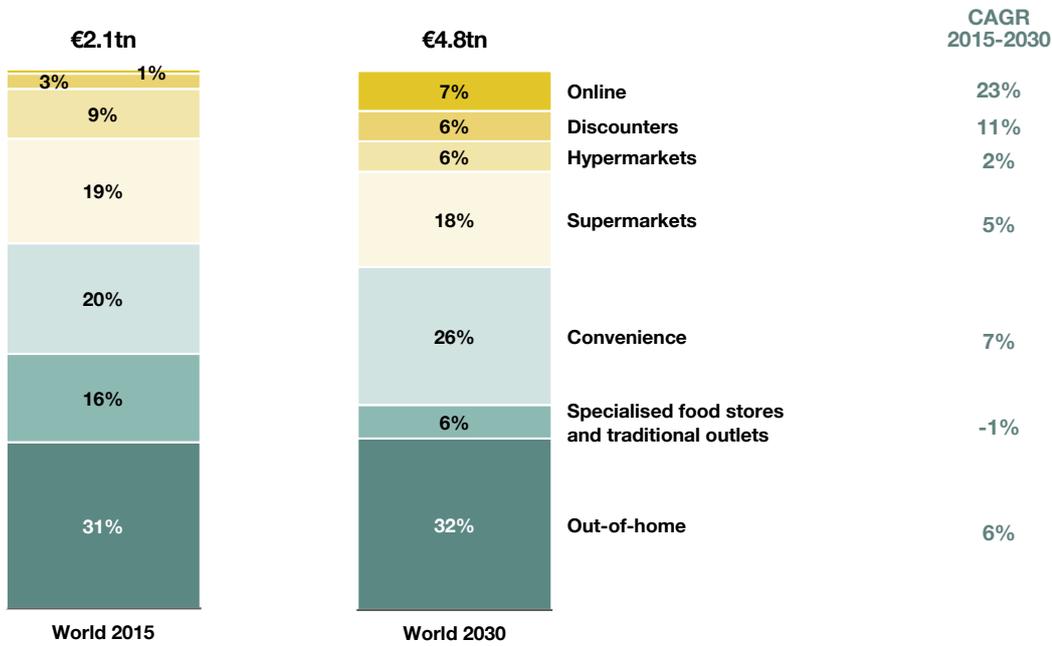
Some of these developments will be the result of higher demand in regions that are today somewhat remote from the supply chain. This presents challenges for the present setup. For suppliers to seize this opportunity, they will need to be able to serve such regions. Take, for example, Africa’s urbanised areas: we expect significant growth here, but currently more than two-thirds of the population still lack ready access to food supply.

Absolute levels of fresh fruit and vegetable consumption will continue to rise in North America and Europe, but by 2030 their relative importance as a percentage share of global consumption will be in decline. In the main, this will be the result of lower growth rates and less notable changes in nutritional demand.

FIGURE 4.

CONSUMER SPENDING ON FRUIT AND VEGETABLES CHANNEL DYNAMIC, 2015-2030 (TRILLION EUROS)

Source: Passport Euromonitor, Oliver Wyman research and analysis



Shifts between consumption occasions

Over the past couple of decades, there has been dramatic movement towards out-of-home consumption. This has been a big driver of overall demand and profitability. While we expect this trend to continue, the pace of change is likely to slow.

From the fresh produce industry’s point of view, there is some welcome news to be found within this overall picture. We expect to see fresh fruit and vegetables play a more

prominent role in the out-of-home market. North America is likely to remain an out-of-home stronghold: not only does it have the largest market share, but it is also already supported by well-established, highly consolidated restaurant chains, complemented by fully professionalised supply chains.

Channel shifts

Over the coming decade, there will be significant growth in the use of online channels, albeit starting from what is today a very small base.

Currently, online sales of food in general – and fresh fruit and vegetables in particular – start out with a low share of the overall food retail market. There are significant regional differences, variations driven mainly by consumer sentiment (local online adoption rates) and the profitability of retailers. At the same time, some growers have begun to appreciate the channel – as an example, one producer we interviewed reported growth of around 20 per cent in the online arena, compared with less than 5 per cent offline.

This emerging situation has the potential to develop significantly, even though online fruit and vegetable sales are unlikely to sky-rocket in the foreseeable future. Once companies such as AmazonFresh or Ocado enter more markets, established retailers will be forced to respond, since they cannot afford to lose even a small portion of their traditional revenue to those online competitors. To do so would significantly hurt their slim margins and harm their overall profitability. The challenges are that much greater because, while they

establish their channel, many of the new players are less concerned than usual about the profitability of individual deliveries.

We expect online's share of global fruit and vegetable sales to grow to 7 per cent by 2030, though distinct regional differences will remain. The bulk of this growth will occur in Europe and Asia, and only to a lesser extent from the Americas. The main drivers of growth will be a decline in delivery costs, rising competitive peer pressure to enter the market, and a lowering of barriers to adoption. Increasing automation and improvement in logistics will result in more efficient delivery, while customers themselves are likely to be more willing to purchase online thanks to last-mile innovations and more appealing online models.



4. THE FRUIT AND VEGETABLE SUPPLY CHAIN IN TRANSITION



ROBOMART INC

4. The fruit and vegetable supply chain in transition

Having looked at where fruit and vegetables will be sold in the future, we will now try to understand how this fresh produce will be sold.

As with other supply chains, the one for fresh fruit and vegetables has long been commoditised. As a result, in the past this supply chain has been characterised by an overwhelming focus on cost reduction; until recently, it has been considered to be of limited strategic value.

The situation is already changing and these characteristics are likely to become less dominant over time, as consumers' requirements evolve and the supply chain responds to these changing demands. This evolution will be led both by increased demand for higher-quality produce and by a broadening of the produce range.

This presents a strategic opportunity for everyone in the fresh fruit and vegetable supply chain – growers, suppliers and retailers. Already, a number of actors have started to recognise the emerging value, and have taken the first steps to gain control over their fresh produce supply.

While cost and efficiency will continue to play a significant role in driving the fruit and vegetable supply chain in the coming years, the chain will also be characterised more and more by four key developments that meet emerging requirements:

- **More rapid supply**
- **More flexible supply**
- **More precise supply**
- **More transparent supply**

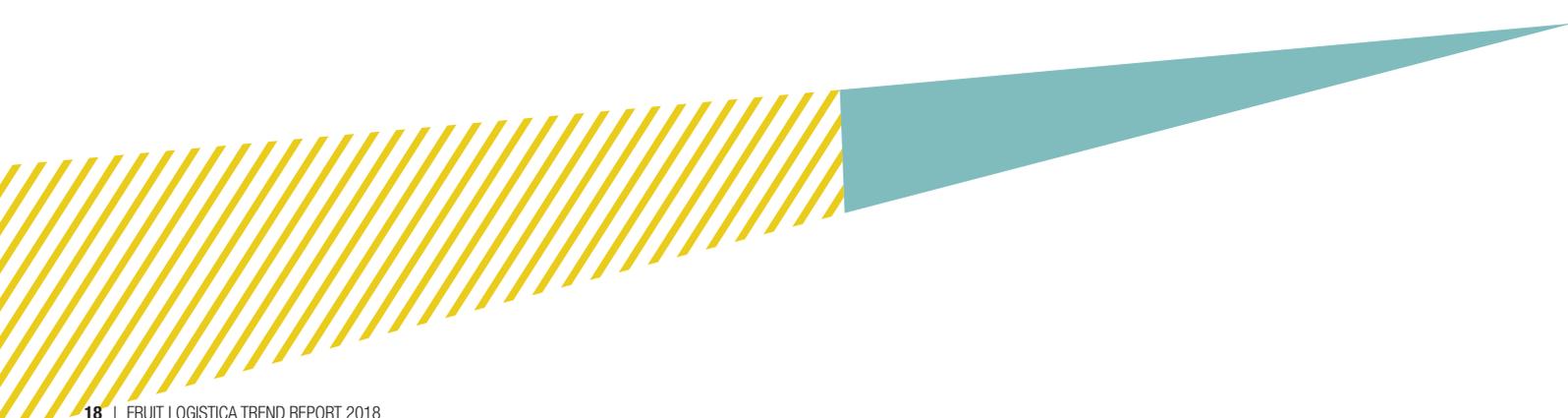
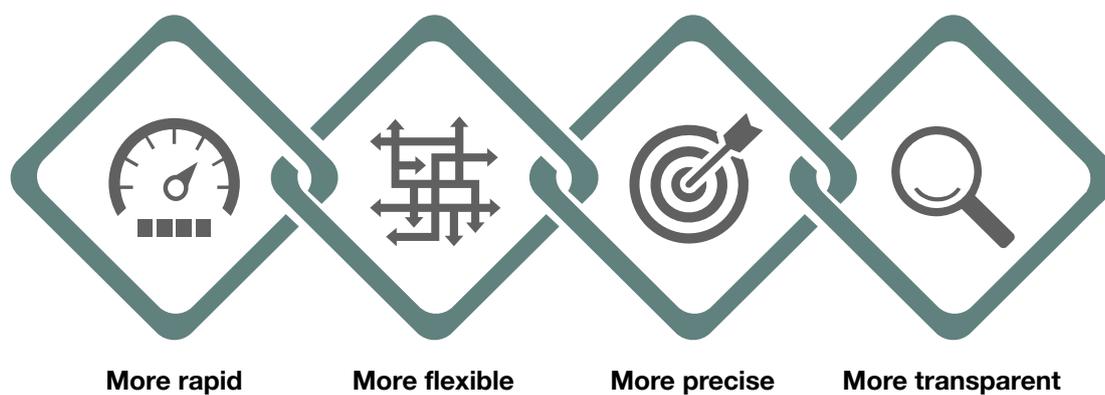


FIGURE 5.

SERVICE LEVEL DYNAMICS IN THE FRUIT AND VEGETABLE SUPPLY CHAIN

Source: Oliver Wyman

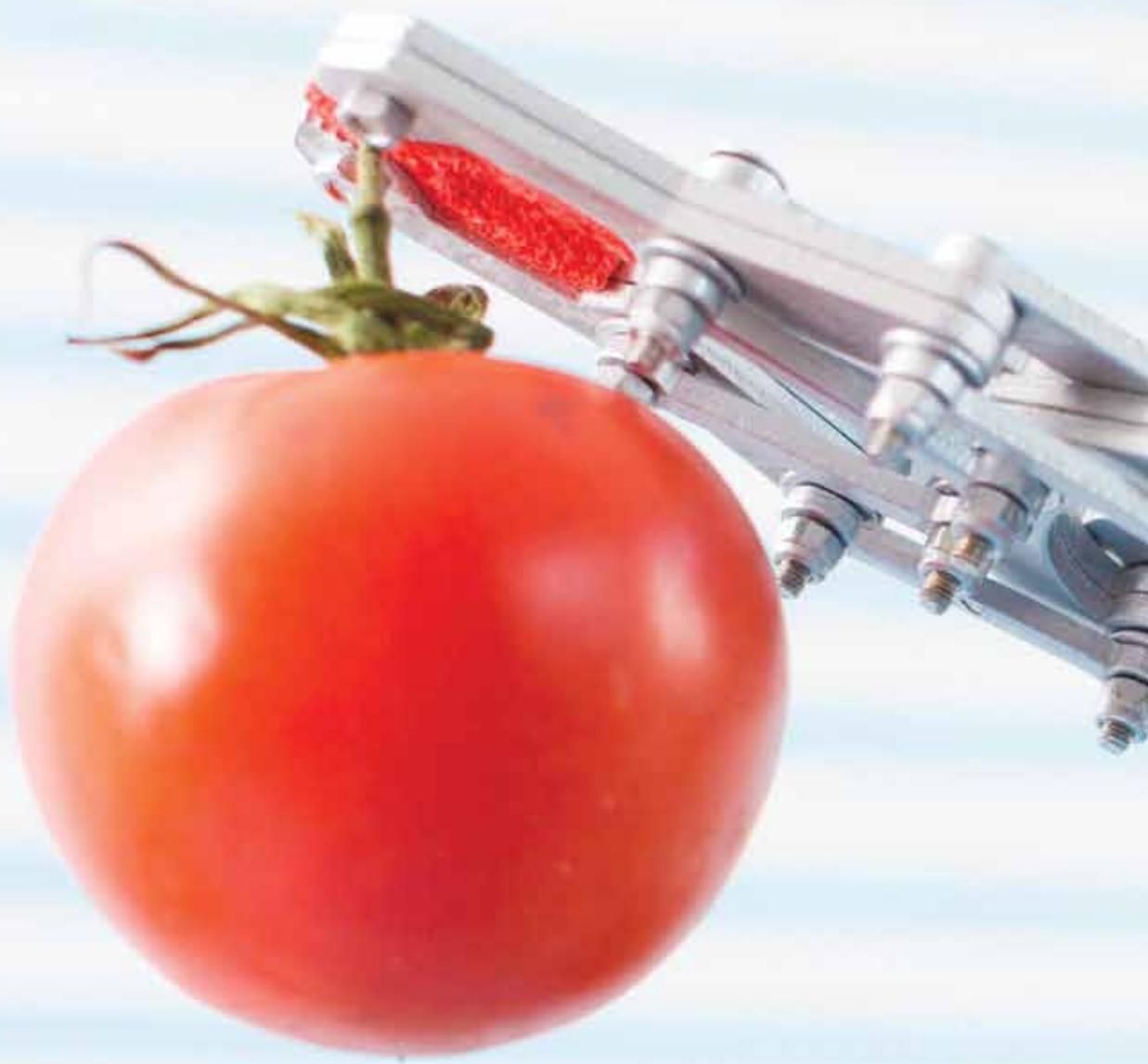


The following three sections – which we refer to as ‘deep dives’ – delve into what each of these changes will mean for the fresh fruit and vegetable supply chain.

The first deep dive examines the technological transition of the supply chain, focusing on how innovations will drive more rapid, flexible, precise and transparent fruit and vegetables supply chains.

The second looks at the rise of online supply and incorporates a thought experiment about the potential impact of AmazonFresh.

The third looks at the likely evolution of foodservice.



5. COLD CHAIN LOGISTICS AND TECHNOLOGY



5. Cold chain logistics and technology

As we said in the previous chapter, innovation in logistics and technology will enable growers, suppliers and retailers to build faster and more flexible, precise and transparent supply chains. But how will they achieve this and, what do these players have to do to take advantage of this opportunity? This deep dive looks at potential approaches these actors in the supply chain could take to achieve their four objectives.

Faster supply chains

In increasing the speed of the supply chain, the objective is to enhance the freshness of the produce in order to deliver quality in line with growing consumer expectations.

When it comes to this transformation, the trailblazer can be found elsewhere in retail. Amazon, arguably the most advanced online retailer, is increasingly moving away from the traditional concept of retail as a category and assortment split towards an aspiration to achieve 'speed retailing' across all of its categories. This can be seen currently in its Amazon Prime, Prime Now and AmazonFresh services. In each of these cases, speed is king.

If other players are to meet the challenge this presents, they will need to get better at managing the supply chain. This means taking actions to optimise the chain and eliminate inefficiencies, developing an end-to-end view along its entire length. The challenge is to target and eliminate duplication of work, ensure well-orchestrated schedules from order to delivery, and reduce any lack of clarity in responsibilities, particularly where there are shared workflows. This is no easy task. The steps taken can be pragmatic in nature and should be carried out in dialogue with all parties along the supply chain. Such measures will increasingly be

underpinned by the use of supporting systems and tools. Achieving these goals is likely to prove challenging, but they are essential if producers, growers and retailers are to thrive in the new environment.

As part of their efforts to speed up the chain, players will also need to consider moving towards more collaborative working arrangements. To this end, they might do well to focus on the creation of strategic partnerships (between partners that share critical business volumes). This would have several benefits, including enabling them to move away from time-consuming negotiations, while at the same time superseding the isolated optimisation efforts of the past. Collaboration would make it possible for the different players jointly to perfect all of the links in the chain, as seen in the following case study.

CASE STUDY: FRESH PRODUCE SUPPLIER AND RETAILER COLLABORATION

What is new?

In the past, the relationship between retailers and fresh produce suppliers has often been confrontational, shaped by regular and tough negotiations. Taking the opportunity to place one such relationship on a different footing, two businesses – a retailer and a supplier – jointly developed a strategic partnership with the objective of producing mutual benefits. Their hope was that this new, collaborative effort would create additional value all along the supply chain, with both partners benefiting.

Once the retailer and supplier had set aside their long tradition of negotiation, they were able to start the process of building a relationship based on trust. They set out on this journey by first ensuring full, end-to-end visibility across both partners' businesses when it came to all of their supply chain activities. This enabled them to work together to detect where the existing inefficiencies were located, and then to systematically correct the root causes.

As a result, the retailer has reduced idle times in the ordering process by transmitting orders marginally earlier, so they can be factored into the supplier's earlier pick-and-pack iteration. Volume forecasts are now being shared early in the process to bring forward certain process steps. Regular formal and informal exchanges between both partners have driven the alignment and information sharing to save time, as inefficiencies have been eliminated.

These efforts have reduced the order lead time from 48 hours down to 24, resulting in improved freshness, increased customer satisfaction, and a 25 per cent reduction in shrink. The value created by these benefits was shared equally between the retailer and the supplier.

What is in it for the fruit and vegetable business?

A lot, especially when it comes to products with very short shelf-life, such as berries, certain mushrooms or salads, which will profit significantly even from a slight reduction in turnover times. If collaborative approaches to better managing the fruit and vegetable supply chain are to work, several key steps need to be taken. Firstly, each partner needs to ensure the relevant capabilities are in place in terms of organisation, processes and information technology. Secondly, it is essential to prioritise the right collaboration partners, as it means they can focus their efforts wherever they will have the greatest impact. Thirdly, both partners must establish a world-class collaboration setup, ranging from the partnership's clear objectives to insightful data-sharing mechanisms.

A second approach to speeding up the supply chain is to reduce standing times: every moment that produce spends not moving towards the end consumer, it loses freshness. Reducing downtime during transportation by truck, rail or air would improve quality and freshness at point of sale.

There are a number of challenges that stand in the way of achieving this ambition, however. This is the case, for example, with regard to the main transport routes out of several major producing countries, such as those in Iberia. While a reduction in the standing time could in theory be realised by using autonomous transport, at present no viable solution appears set to achieve this goal in the near term. These problems arise due to the hurdles currently presented by legislation, the lack of standardisation across borders, and the low degree of interconnectedness between competing companies.

More flexible supply chains

Increasing the flexibility of the supply chain is aimed at ensuring continuity and fulfilment in supply. There are many reasons why the fresh produce chain can be interrupted – for example, the impact of unexpected weather patterns or pest infestations – while customers' demands are also evolving, as already discussed. To stay in touch with demand therefore requires agility, particularly if cost targets are to be met.

The battle for consumers is becoming tougher and tougher, particularly in well-developed markets. In future, weather-related stock shortages will no longer be acceptable. Customers will opt for suppliers that can offer produce whenever and wherever required, while at the same time balancing consumer demands for sustainability and authenticity.

Companies all along the chain are already well aware of the stresses such demands can place on supply. Tomorrow's demands, however, will be of a different order. Meeting them fully will require the adoption of dynamic capacity planning, in combination with dynamic control

This situation is likely to change, however. In future, autonomous vehicles will present opportunities to speed up the chain. In the short to medium term, we expect to see more in-plant autonomous transportation. As a second step, we are likely to see short-distance haulage within national boundaries. And we are already in the midst of this development process: vehicles with some level of autonomous capability or artificial intelligence – known as advanced driver assistance systems – could jump from a little more than 10 per cent in 2015 to close to 40 per cent of all vehicles by 2025.

As well as the aforementioned measures, which aim to speed up the supply chain and thus increase product freshness for consumers in store, we also expect to see a wave of new ways to boost shelf-life. These will range from breeding more robust varieties of fruit and vegetables, to improved packaging, and ensuring the greater availability of uninterrupted cold chains.

of product flows. Operations will need to have advanced systems analytics in place to predict demand and variations in supply. This information will provide decision makers with the lead times necessary to take corrective action well in advance of a problem affecting supply, enabling those involved to find alternative sources or re-route supplies. This will inevitably make the supply chain much less 'linear' than at present.

Many of the innovations will be driven in part by the need to respond to demand for increasingly frequent deliveries and, consequently, the need for transportation of smaller unit sizes. These responses are likely to include the pooling of volumes through the introduction of cross-chain platforms and multi-purpose networks, including sharing cold-chain capabilities across sectors, for example between retail and pharmaceuticals. Innovations such as these will play an increasingly important role in facilitating the efficient usage of spare capacity, even extending to the use of crowd-sourced delivery options.

CASE STUDY: WALMART AND JD.COM

What is new?

Walmart and JD.com's strategic alliance is aimed at improving their operations and customer service in China, as well as enhancing their online capabilities. The two companies started this pioneering partnership a year ago, when Walmart first made its products available to Chinese customers through the JD.com online platform. Today, the companies are expanding their cooperation and integrating their platforms, supply chains and customer resources in China.

Walmart and JD.com are planning to deploy a jointly developed supply chain and back-end system that integrates inventory management. When an order is made through JD.com, the system will analyse the data from both companies' stocks to define the nearest sourcing warehouse that can fulfil the order. They expect the system will improve delivery efficiency for customers, optimise transportation, and increase inventory turnover rates.

The companies are also taking steps to ensure in-store and platform integration. Recently, the first JD Home bricks-and-mortar electronics store was set up inside a Walmart store to sell products that complement the US firm's offer. In addition, JD.com has placed pick-up stations for its digital customers inside Walmart stores.

What is in it for the fruit and vegetable business?

The potential areas for supply chain alliances can include capability sharing, the sharing of physical resources (such as warehouses and delivery networks) or systems and intelligence (such as forecasting and route planning). As well as enhancing customer service levels, the flexibility that results from such alliances can provide significant leverage for improving operational efficiency. The potential benefits include more efficient use of capacity and greater efficiency in such areas as the cold chain, due to higher rates of utilisation. These improvements will result in better quality and freshness for the consumer.

More precise supply chains

Another objective is to attain increased accuracy and reliability in supply chain processes. This will become all the more important as the fresh fruit and vegetable supply chain develops in ways that makes it increasingly heterogeneous, and thus subject to increased volatility. A key approach to achieving superior precision in supply chain operations is through the use of better demand and supply forecasting, as well as increased automation.

Predictive analytics

This is the home turf of the pure online players. Predictive analytics will become increasingly

important right along the fruit and vegetable supply chain, and all companies will need to make use of more advanced systems and tools to address forecasting, such as machine-learning and artificial intelligence (AI) that can improve automatic stock replenishment. However, to be make full and effective use of such technologies, every link in the fresh fruit and vegetable supply chain – including growers, platform owners and retailers – will first need to get the basics right. That means ensuring you have fully reliable product master data and can feed systems with the metrics necessary to understand everything that is driving demand, as well as developing approaches to synchronise forecasts from players all along the chain.

Even though in future the accuracy of forecasting will be far superior to that seen today, it will never be perfect. This shortcoming will give rise to new and better ways of matching supply and demand, such as the creation of online marketplaces for fruit and vegetables (similar to a modern stock exchange). Such a platform could help reduce oversupply and help people better anticipate such situations. It would also aid decision-making across all businesses in the chain, whereas today such decisions usually centre around a single business operation.

Image recognition

This technology will surely continue to change the game on the producer side, with more and more fruit and vegetables checked for quality using vision technology (as is already the case

for hard fruit such as apples and pears). A big question remains over how quickly sorters will catch up in applying automated decision-making systems guided by image recognition. The technology's overall impact will extend well beyond sorting: vision robotics will enable increasingly sophisticated interactions in retail warehouses, for example in picking and packing.

Process automation

This will help make supply more reliable. Warehouse automation will boost service level consistency and conformity, satisfying demand for greater professionalisation – such as strict adherence to industry standards, particularly in areas like pallet and carton quality. As with predictive analytics, this entails ensuring that the master product data is of high quality.

CASE STUDY: ANALYTICS CAPABILITIES

What is new?

Retailers and consumer packaged goods (CPG) companies are already moving in the direction of data and analytics excellence – either on their own or with help of technologically advanced companies. For example, many of them are making more frequent use of Google Cloud, Google Analytics or Amazon Web Services, which enable better analytics, fact-based decision-making, and greater automation.

The first step for companies aiming to use such services is to learn to deal with large data, streamlining the data-related processes and the decision-making based on this data. For example, Unilever recently went through just this sort of transformation with the help of Amazon Web Services. In this process, it re-designed its digital marketing IT infrastructure, allowing it to improve business agility and operational efficiency, and leading to easier, faster and better decisions by employees.

Some companies want to go even further, not only streamlining their existing processes but also bringing their analytical capabilities and knowledge about their customers to the next

level. Ocado, for instance, with the help of big data processing and machine learning powered by the Google Cloud platform, has achieved immense improvements in its operational efficiency and costs in various operational areas, ranging from communication with its customers to reduction in the cost of its IT overhead.

What is in it for the fruit and vegetable business?

Given that data management in the fruit and vegetable business is even more challenging than in other categories – even for large retailers and suppliers – it is essential that all players in the supply chain start working on data quality immediately. The first step is to make use of data already available, before then ensuring that all the fundamentals are in place: cleaning up master data, defining standards for weighed products, tracking products' paths throughout the supply chain, and standardising communication with suppliers, as well as continuing to use such data for better forecasting and planning. In a few years' time, we expect the fruit and vegetables business to have started catching up with other categories in the use of data to understand developments along its supply chain.

More transparency and better control

In our experience, the most critical challenge for the fresh fruit and vegetable supply chain is its inherent lack of transparency.

This has many causes. Despite years of effort and often significant investment, there is still insufficient data availability. Even the data that is available is often of inadequate quality. Combined with a lack of interoperability, and with only limited information on product lifecycles and transportation history, this results in a high level of manual intervention and paperwork.

Even though we do not expect the fruit and vegetable business to catch up fully with other sectors that are already highly sophisticated and data driven, we do expect significant moves towards greater transparency in the sector. In one significant development, we expect to see blockchain play a major role in countering the present inefficiencies and creating new value.

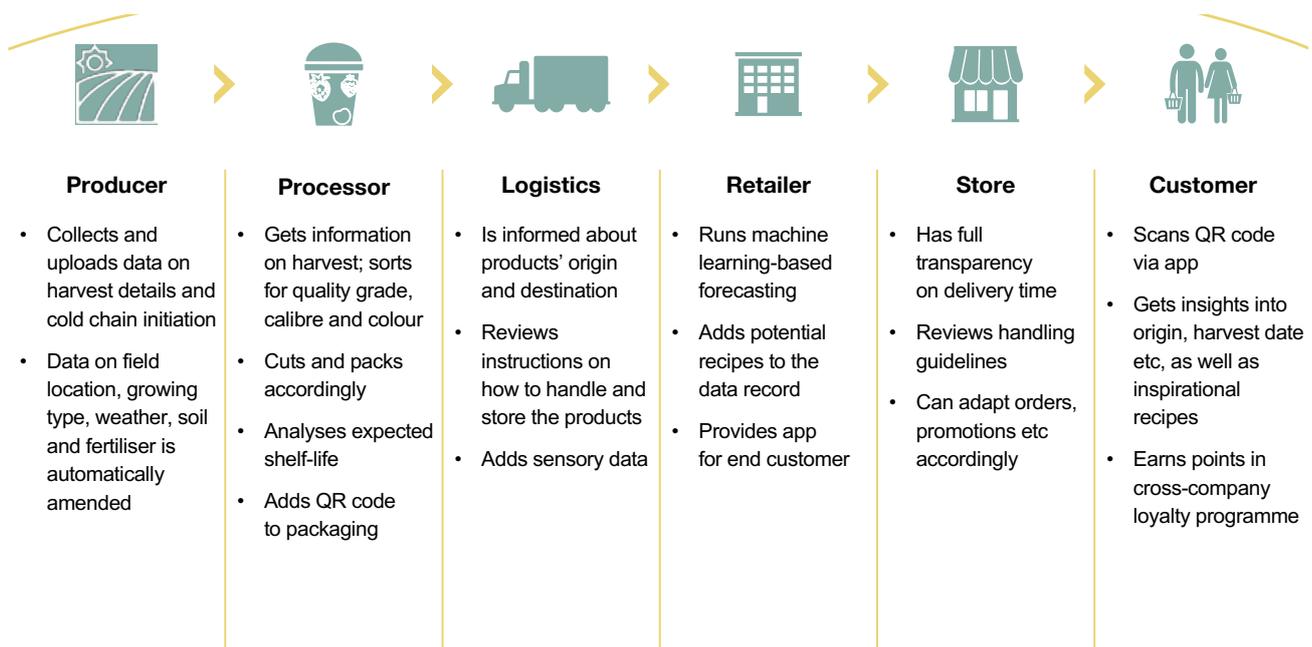
Blockchain is an inherently secure and highly decentralised data system. It is the basis for now familiar concepts like bitcoin. The data in each block carries a timestamp and is encrypted individually. As data blocks pass from one user to the next, they are automatically linked into a chain in such a way that, once the data is set in an individual block, it cannot be changed without altering all the other blocks in that chain. However, all data accumulated can be read by any user. This makes it ideal for ensuring data integrity and auditability.

A number of global players, including Walmart and Carrefour, intend to use blockchain technology to increase the data transparency of their supply chains by taking advantage of its decentralised nature and its location on a cloud database. This, they hope, will enable the data to be shared with any number of participants in the fresh produce chain and enable them to add extra value at every step of the chain.

FIGURE 6.

END-TO-END BLOCKCHAIN-ENABLED SUPPLY CHAIN EXOTIC FRUIT SALAD EXAMPLE

Source: Oliver Wyman



CASE STUDY: BT9

What is new?

A number of startups are seeking to win customers by responding to their increasing need for greater freshness and product quality. One such startup is BT9, which has developed wireless technology-based RF sensors to collect real-time cold chain information. The technology monitors the temperature and relative humidity conditions of products as well as their location. This has potentially wide application across all fresh categories, such as fruits and vegetables, ice cream, seafood, etc.

The technology provides visibility for all cold-chain stakeholders when it comes to the condition of any number of perishable products – whether they are being stored or transported – from producer to the store shelf. In addition to data collection and monitoring, the system also promotes decision-making, for example, by providing real-time alerts in an easy ‘click-and-go’ activation. Once a disposable tag is placed in the centre of a product package, it continuously gathers data from inside that package, transmitting online alerts and information to the cloud-based data platform via a connection centre, a device which can be installed almost anywhere – in fields, cold rooms, delivery docks or trucks.

What is in it for the fruit and vegetable business?

This technology may not yet be at a mature stage – in part because of the operational complexity involved, but also because of a lack of agreement between suppliers and retailers – but we believe in the potential of such approaches. Together with blockchain, it presents an opportunity to improve the supply chain by providing an end-to-end understanding of how it works in practice. The insights gathered can be used for tracking, analysis, cooperation with partners, identification of gaps and optimising internal processes.

The potential application of blockchain in the fruit and vegetable sector are many and various (as are the various pilots and initiatives currently experimenting with it). Here, we provide one example of how blockchain technology can support and conquer transparency while creating value for the consumer.

Blockchain will enable end-to-end data transparency for fresh products (see *Figure 6* for our ‘exotic fruit salad’ example). This will allow all players in the chain to respond to customers’ increasing demand for quality, in terms of both place of origin and production methods (for example, whether or not the products are grown organically). Retailers will even be able to share data relating to individual produce items with their own customers. For instance, the customer could scan a simple QR-code on their smartphone, then use an app to scrutinise every step taken along the supply chain by the product they have purchased, matching its journey against their expectations. This can include any kind of historical and real-time data linked to the product – be it related to timing (time of harvest, time in transport), location (its origin and the history of its journey from farm to fork) or other information (such as meal recipes). This data will be continuously available in a single, consistent version on the blockchain database.

Blockchain technology also provides a number of distinct advantages over today’s conventional supply chain IT infrastructure and analytics – for example, in comparison with today’s pure electronic data interchange (EDI). In contrast with EDI, blockchain is almost infinitely scalable. This can enable any number of players to be integrated seamlessly into the blockchain data at any point in the supply chain, without losing data consistency. These advantages are underpinned by the fact that blockchain technology is totally independent of adjacent and legacy systems. This makes its implementation both quick and cost effective.

It is also important to note, however, that several questions currently hang over the future of this technology, including issues regarding data protection, standardisation of data exchange, certification, and so forth. These questions need to be answered before blockchain’s full potential is allowed to unfold.

As well as increasing the level of transparency along the fruit and vegetables supply chain, we can also expect to see retailers attempting to gain a higher degree of control over each component area of activity. There has already been a wave of investment by retail chains aimed at increasing vertical integration. This has been done for various reasons, such as making purchase prices more stable, differentiation, and commodity hedging.

We expect to see further integration by retailers as they move into areas such as production, logistics, data and direct sourcing. This search for integration will probably not follow one particular pattern, but instead will likely take many forms, ranging from fairly loose arrangements for co-operation all the way to direct acquisition.

How to build a better supply chain

The key challenge for growers, suppliers and retailers in terms of integration will be to find ways of integrating the full range of new and increasingly important enablers that we have already discussed – and to do so in a manner that suits their own priorities and strategic course. This will require them to build several capabilities:

Systems and analytics

These are likely to become more important as the things that fruit and vegetable companies have to offer become increasingly data driven. However, costly investment in the latest software will not always be the right solution. Cleverly interconnected systems that support business-specific processes can also get things moving.

Talent

Ensuring growers and suppliers have the right people with the right skills will be central. Like many other sectors, the fruit and vegetable business faces severe challenges in finding the right personnel, particularly when filling low-wage positions in production and logistics. It is a problem not just in developed markets but increasingly also elsewhere in the world. While greater automation of processes and decision-making can offer solutions, automation creates its own challenges, demanding fresh talent with new job profiles. Data analysts, in particular, will assume much greater importance along the chain, even for producers. Process engineers will also be in much demand.

Organisation and change

An industry that is evolving rapidly also requires agile organisations. Even the most traditional businesses will need to adapt to new challenges laid down by the evolving supply chain – challenges that are likely to become increasingly hard to anticipate or foresee. All players in the chain will need to ensure that new technology is deployed quickly, and process changes and updates implemented promptly, as they become necessary. This requires agile teams that can carry out different functions. Plus, these demands need to be reflected in the organisation itself: for instance, by empowering mid-level cross-functional teams and reducing the fear of failure.



6. THE RISE OF ONLINE RETAIL



6. The rise of online retail

The online share of grocery retail is still relatively small in most regions of the world. Within that industry, the share of ultra-fresh categories – including fresh fruit and vegetables – accounts for an even smaller portion. Yet, despite these small beginnings, we expect the online channel to assume much greater importance over the coming years. This deep dive looks at what that could mean for the business in the coming decade. We then look at the example of Amazon Fresh.

It should first be noted that there are already exceptions to the general pattern. In Asia, in particular, online has a much higher-than-average market share. That is true in certain urban centres in the Western Hemisphere too. Online grocery in London, for instance, already accounts for 20 per cent of the market.

If, at present, it would be somewhat foolish to neglect the online grocery market entirely, by 2030, to do so could prove fatal. All the indications are that online's share of the fruit and vegetable market will grow significantly over the next 10-15 years, reaching around 7 per cent globally by 2030. This growth is expected to be driven by a number of factors, including increased consumer familiarity with online purchasing, especially with the rise of the digital generation, an accompanied increase in convenient delivery options (especially frequent deliveries of small quantities), reduced hurdles to supply, and an increasingly broad online offer – one that cannot be equalled by big-box retail.

The many varieties of online grocery

E-commerce grocery comes in many forms, each presenting a distinct form of disruptiveness for the industry, and each requiring its own distinct set of capabilities. At one end of the spectrum – the more familiar one – are the retail-driven, multi-channel approaches. These include bricks-and-mortar players that also offer home delivery or click-and-collect services. The good news for these retailers is that we expect the larger share of online activity in fruit and vegetables to happen in this space. The opportunity for such players is to leverage their existing cold chains and capabilities.

At the other end of the spectrum are direct-to-consumer approaches that seek to eliminate the traditional middleman in the supply chain.

This model requires significant investment in new capabilities and is burdened with high operating costs due to costly last-mile delivery. As a result, we expect to see less activity here when it comes to fruit and vegetables.

Expectations regarding online grocery seem to be underlined by recent activity among the e-commerce giants. A number of these companies have started to extend their highly efficient distribution models into this area, the most notable move being Amazon's acquisition of Whole Foods, which brings the company into even more direct competition with the likes of Walmart. Likewise, Alibaba's investment in physical retail chains suggests similar developments in China.

Implications for bricks-and-mortar retail—the threat to profitability

Online grocery poses a threat to established grocers everywhere, but the exact nature of the threat varies from one market to another. In some, online-only home delivery options may capture a large part of the market; in others, bricks-and-mortar grocers may move to establish a mix of click-and-collect and home delivery models. Either way, bricks-and-mortar grocers will feel a significant financial impact from online, as their slender margins make them sensitive to even a small loss in market share. For a traditional grocer with 2 per cent EBIT and a 20 per cent volume variable margin, a 10 per cent loss in share to online would destroy all its profit. Even a 5 per cent share would be severely disruptive. A point to note is that online grocery already has a 6 per cent share in the UK.

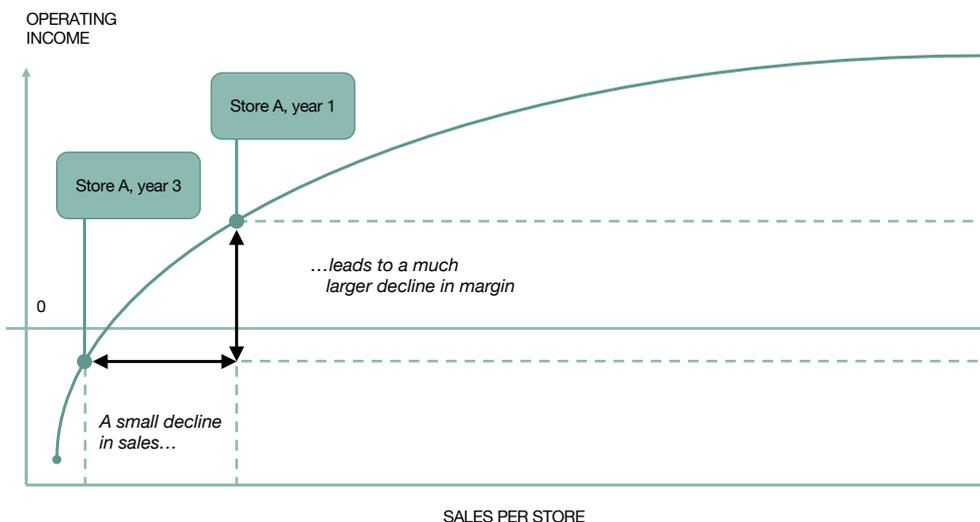
The advance of online does not spell the end for bricks-and-mortar stores, however – far from it. In fact, the stores that do survive are likely to be more profitable than the average today. Somewhat counterintuitively, becoming one of

the survivors is not about beating online formats, as such – although that can help, of course. It is about each store winning its local competitive battles in order to become the 'last store standing' in that given area. In other words, you do not have to outrun the bear – you just have to outrun the person standing next to you.

Whether online grocery is already taking hold in your market (as is the case in the UK and France) or is in the early stages of growth (as in the US and Germany), the first step for bricks-and-mortar retailers is to recognise that this will inevitably mean a net loss of sales through their traditional bricks-and-mortar grocery channel. High operational gearing means that as stores lose sales, income will decrease by a much higher proportion than indicated by the percentage loss of sales. The implication is that some – perhaps many – individual stores will actually become unprofitable. *Figure 7* illustrates the effect of declining sales per store on operating income.

FIGURE 7.
THE IMPACT OF FALLING SALES ON A COMPANY'S OPERATING INCOME

Source: Oliver Wyman



In short, bricks-and-mortar retailers will need to close their unprofitable stores. Some of the sales lost through those closures can be clawed back through the remaining bricks-and-mortar estate, making the stores that survive more profitable and better able to weather the channel shift. However, it needs to be borne in mind that many of these sales will end up with other formats or in other channels.

The exact impact of this channel shift depends on the manner in which the individual retailer responds. If the retailer tries to maximize its cash profit, the impact could be very dramatic. If, instead, it merely tries to stay profitable at a similar rate as today, it could keep most of its stores open. In the midway scenario, the most stable one, we expect that an online market share of about 8 per cent would mean that up to 30 per cent of bricks-and-mortar square footage would ultimately close in most of the geographies we have modelled. We think two key patterns will emerge as a result: increasing disparity between the best and the worst sites; and an increasing challenge for those seeking to win customers using a traditional, full-assortment, grocery proposition.

Traditional middle-of-the-road grocers have always been fighting a battle on two fronts, since they face competition from both sides of the customer value proposition. The price leaders beat them with lower everyday prices underpinned by lower-cost formats, while the quality leaders beat them with premium products and services that are too costly for the traditional grocer to deliver. This 'collapse of the middle' is a constant struggle for those traditional grocers trying to balance both pricing and quality (by which we mean all aspects of choice, service and freshness) in order to win customers in their local area.

Fighting this collapse, on the one hand, is about reducing the share of your customers you lose to online and, on the other, is about beating the other competitors in your format.

Price leaders

Price leaders should protect their leadership position, cutting costs and ploughing savings into better value for their customers. The more aggressive they are about ruthlessly lowering costs, the more protected they will be against a play by Amazon or Google.

Quality leaders

These should focus on the things that differentiate their offer from both online and traditional grocers. This means assortment innovation, leading on fresh, and adding or growing services that drive traffic.

Traditional grocers

The old guard's priority should be the battle for customers, to beat all other traditional grocers in their market. This requires holding a price position that is in touch with the leaders, and a shopping experience that is differentiated from lower-cost options. In turn, this means constantly finding ways to make savings that can be invested to deepen customer relationships, bring down prices, sharpen promotions, raise quality and improve service – wherever returns are highest.

Implications for incumbent grocery retailers—an opportunity to compete online

As well as the threat posed by online grocery for the bricks-and-mortar grocer, the format also offers an opportunity to reach new customers and grow sales. What's more, the grocer's current assets and knowhow can provide it with an advantage. Those businesses not already running an online channel should think seriously about doing so, while those that are already active ought to be thinking about how their offer will evolve. That evolution will be crucial in defending against any future disruption instigated by the internet giants.

Of course, going online is not without its challenges. For bricks-and-mortar stores, it is absolutely the case that taking their grocery business online will cannibalise some of their more profitable sales. This does not make *not doing so* an option, however, since it is fair to assume that someone will soon be serving those same markets in the foreseeable future, even if it is not the established grocer. Choosing to delay will make entry even more difficult, risky and expensive, as late movers in France and the UK are finding to their cost.

Fruit and vegetables retail will play a distinctive and decisive role in the larger fight for grocery customers in the coming years. There is no doubt that fruit and vegetables will remain the single most-important grocery category in driving frequency and basket size. While this will hold true for bricks-and-mortar sales, we can also expect fruit and vegetables to be increasingly relevant to online sales as well. As a consequence, online models are likely to play a critical role for all grocers, whether the main emphasis is on a differentiating bricks-and-mortar model or on reinventing themselves in the online space.

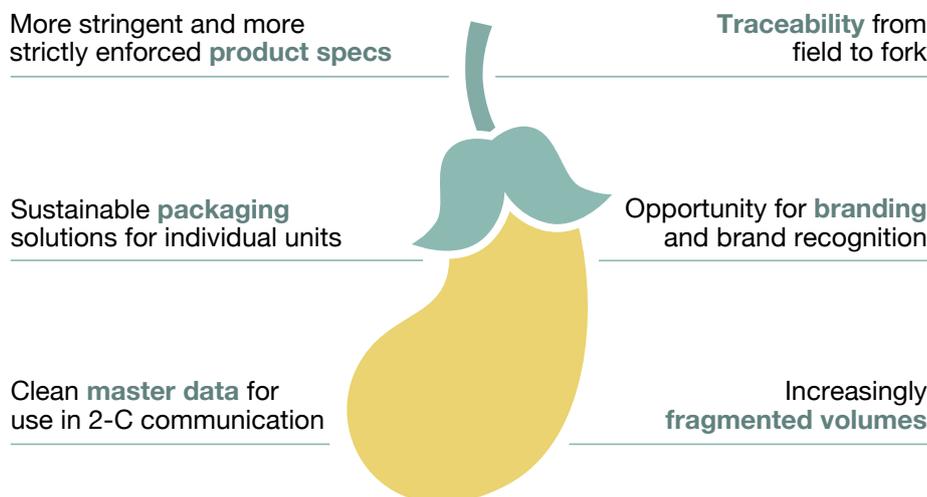
Implications for producers and suppliers —coming to terms with new standards

While the fight between online and bricks-and-mortar sales is one that predominantly involves retailers, parties that are not in front-row seats – including growers and suppliers – will also have to come to terms with the new channel. This is due not merely to the growth of online fruit and vegetables sales but to the requirement for ‘new minimum standards’. We expect these new standards to be driven by online and multi-channel players: they will force these standards upstream on other participants in the fruit and vegetable supply chain.

Figure 8 illustrates the various dimensions of these new minimum standards. While some will play an increasingly important role for bricks-and-mortar retail as well, the online channel is likely to be the catalyst. Each of these dimensions is examined in more detail below.

FIGURE 8.
THE NEW MINIMUM STANDARDS CATALYSED BY ONLINE RETAIL

Source: Oliver Wyman



More stringent and more strictly enforced product specifications

Until now, the categories that have been the most successful in online channels are those that have a high level of standardisation. This enables consumers to know exactly what they will get from the online purchase without having to physically see or touch the product. We expect the fruit and vegetable business will have to move in this direction if it is to secure the trust of online customers. Growers are becoming increasingly aware of this. For example, one interviewed producer reported only a quarter of his oranges qualified to be sold via online channels.

Standardisation will be achieved by online retailers that enforce strictly regulated and well-controlled specifications for fresh produce. Although, today, most pure online retailers lack the experience and/or scale to achieve this, we expect that many will acquire these capabilities within the next ten years. In order to meet their expectations, growers and suppliers will need to establish the same level of strictly enforced, zero-tolerance dispatch control. However, this does not mean higher levels of food waste, as there is likely to be a market for each quality level of fruit and vegetables, each quality being strictly defined by tight specifications.

If consumers' emerging expectations with regard to quality and origin are to be met, standardisation will need to encompass varieties of produce that today are not commonly available in the marketplace, including many products delivered in smaller volumes by recipe-box home delivery services.

Sustainable packaging for individual units

Driven by home delivery, the average size of deliveries will decrease significantly over the coming decade. This requires producers to start thinking in terms of a 'unit of one'. Even though some online retailers aim to deliver loose produce without individual packaging, at a more general level we expect to see increased packaging of individual units. Doing so enables the online channel to ensure that space is used efficiently in transportation, thereby reducing the overall shipping cost.

Packaging needs to be not only leak-proof (for convenience and hygiene reasons), and include machine-readable labels, but also

should protect against contamination (so that the fresh produce can withstand being transported with FMCGs in the same consignment). In this context, fresh fruit and vegetable packaging will also increasingly be expected to contribute to sustainability: for example, extending shelf-life and making increased use of ecologically friendly materials.

Growers will either need to extend their own packaging capabilities and processes, or partner with service providers. We already see the packaging industry moving its production capacity towards the producers – a trend likely to continue as online sales increase.

Clean master data for use in 2-C communication

We expect the growth of online sales to lead to ever-increasing demand for information on all activities along the supply chain, an expectation that will ultimately be driven by consumers who will require transparency with regard to the produce they consume. In turn, retailers will pass on this requirement, expecting growers and suppliers to provide clean product master data. While keeping master data accurate and up to date in itself will prove a challenge for many vendors, applying new data structures can be even more demanding. The need to link produce from various sources (ironing out seasonal availability) into a single, uniform output, for example, will become ever more inevitable since the online channel is geared towards year-round continuity.

In a second step, real-time data – such as seasonal quality deviations – will be requested from growers in order that the information can be provided to customers. While such expectations will not be confined to the online world, we expect online players to be the trailblazers in leveraging their data and analytics capabilities in this manner.

In this context, we also expect to see the creation of clearer standards designed to support well-orchestrated sales activities and increased transparency across all the various online channels and platforms. This will, among other things, allow customers to filter their targeted assortment more efficiently than in bricks-and-mortar outlets – imagine being able to filter your fruit and vegetable selection according to the fertilisers that have been applied during production.

Traceability from field to fork

The demand from customers in the online channel for information transparency will give rise to additional requirements with regard to the traceability of fresh produce. In responding to this pull effect, fresh fruit and vegetable businesses can use the availability of this information both in customer education and as a way to differentiate their offer. This is likely to provide only a short-term advantage, however: Traceability back to the individual field is likely to become commoditised in due course and could even end up supported by regulation.

Branding and brand recognition

Fruit and vegetables have traditionally been a private label business in bricks-and-mortar retail. In the rather anonymous world of online grocery, consumers will be looking for new sources of trust, while growers and suppliers will be seeking new ways to differentiate themselves from each other. Industry experts say that high-quality sustainable packaging and branding will play an increasingly important role when it comes to online sales of fruit and vegetables.

Creating and establishing such brands comes with some risk attached, however, as the quality of the fresh produce will need to be consistently in line with the brand promise. Those that do succeed in building their brands will gain a distinct advantage in customer perception and may realise superior profitability.

As the large online platforms further develop their direct sourcing models in fruit and vegetables, the producers themselves will need to find ways to position their produce in the marketplace. This will include developing and enhancing their own marketing and brand management capacities.

Increasingly fragmented volumes

As already indicated, the average unit size of produce is likely to become smaller over the coming decade. This will be driven, in part, by the nature of online business and, in part, by the inevitable fragmentation of volumes as the number of channels grows. Additionally, volumes in the online channel tend to be more volatile than in bricks-and-mortar retail due to the dynamics of product rankings, increased price transparency, and the short-term nature of promotion planning and execution. These developments will increase the complexity of volume planning in each channel. If not managed properly, this will lead to inefficiencies in warehouse operations and transportation.

At the same time, service levels demanded of producers and suppliers in the online channel tend to be even stricter than for bricks-and-mortar retailers. This is because e-commerce customers tend to be even less forgiving with regard to stock-outs than their offline counterparts. For suppliers, this necessitates building up their skills in order to fully master advanced predictive analytics. On the one hand, this will act as a means of standardising and improving their supplies. On the other, it will enable them to respond to the online channels' desire to steer demand actively and more dynamically (using dynamic pricing, short-term promotions and so on).

The online imperative

While retailers already find themselves in a struggle to reinvent their offer in order to remain relevant to the modern consumer – and over the next years this struggle is likely to intensify – fruit and vegetable producers will also need to develop their capabilities to keep up with the new requirements being ushered in by the online channel. The online game will always be a long shot, and many investments will not pay off. Yet there is no easy answer – those that fail to take the right measures today to future-proof their business could well face a rude awakening tomorrow.

WHAT IF AMAZONFRESH GAINS SIGNIFICANT MARKET SHARE IN FRESH PRODUCE?

Supposing the sword of Damocles fell... What would it mean for the fruit and vegetable business if AmazonFresh secured more than just a toehold in groceries in general, and fresh produce in particular? Supposing Amazon invested significantly in a specific part of the world and so managed to grow its share to 10 per cent of the total market – what then?

First of all, Amazon's uncompromising focus on customer satisfaction has been key in paving the way to market leadership in other categories – plus, of course, it is something that is driving its ongoing AmazonFresh initiatives. Its ambition is huge: 'unlimited' choice, maximum availability, seamless shopping 'by recipe', flawless quality, reduced click-to-delivery, shorter delivery windows, convenient delivery choices... you name it. While some of these can be addressed by AmazonFresh itself, others will have distinct implications for upstream supply chain participants.

Here, we look at the implications for the fruit and vegetable business along three dimensions: sourcing, produce and service level requirements, and product range and assortment. We then conclude by examining how the business might respond.

Sourcing

This is the obvious one. Amazon will come to market with size and purchasing power, and with this comes price pressure on growers and suppliers. AmazonFresh already sources the majority of its produce from established suppliers, with distributors or wholesalers used only to fill in the gaps.

As AmazonFresh gains market share, we can expect it to move to a direct sourcing model, taking out intermediaries. This process has obviously been accelerated in the US by Amazon's acquisition of Whole Foods. We may well expect similar moves in other regions. Alternatively, or in addition, we might see the bundling of volumes in the form of centralised physical distribution hubs. This would enable AmazonFresh to reach critical mass and thereby increase its negotiating power.

Less obvious – and less certain – is whether Amazon will capitalise on its analytical capabilities in order to complement traditional sourcing with a secondary market approach; that is, will it use analytics to match surplus production and consumer demand better (using a bid-ask system)? If adopted, this could produce a win-win-situation: higher utilisation and value capture for suppliers, increased sales potential for Amazon, and reduced levels of food waste leading to improved sustainability.

Produce and service level requirements

As argued previously, ensuring consistency in operations and in the quality of produce is key in fruit and vegetable retailing online. AmazonFresh's selection of preferred suppliers already focuses on criteria that validate the supplier's ability to deliver just that, through mechanisms such as ensuring the highest possible adherence to agreed product specifications, small-size unit packaging, machine-readable labelling, data maintenance, and agreed service levels. The idea is to remove as much burden and complexity as possible from Amazon's own operations, with the vendor taking care of this – the argument for this being that, since they are more experienced, they are better placed to do so.

Keeping in mind Amazon's customer-centric approach, it is easy to see why such criteria can outweigh buying prices when it comes to supplier selection. Amazon will surely not change this approach in the foreseeable future.

What will change, though, are the requirements it places on growers and suppliers as new best practices emerge. Once established, these best practices will quickly become the benchmark that differentiates preferred vendors from those disregarded by AmazonFresh. As an example, while maintaining clean product master data may today be sufficient for growers and suppliers to qualify as potential suppliers (from a data integrity perspective), tomorrow the requirement may shift to the real-time exchange of a broad range of transaction data, including attributes that allow for full traceability.

Similarly, AmazonFresh is likely to want to build on its own analytical strengths in order to avoid stock-outs. This will set service levels at a high standard and, in turn, require growers and suppliers to develop new capabilities. Much will be expected of them, especially in terms of advanced demand and volume planning.

Range and assortment

Amazon's brand promises an unprecedented breadth of assortment. The AmazonFresh range already includes a couple of hundred thousand SKUs. Since Amazon aims to leave no customer demand untapped, expect this figure to grow as AmazonFresh gains market share (surely two mutually dependent forces).

How can Amazon identify unmet demand? It will do so in a very structured way: constantly monitoring product searches, and recording those that fail to produce a result. This will give it a good understanding of not only the products that might sell but also what quantities. For example, it could identify types of fruit or vegetable that are most sought-after as organic produce but not yet available. This information will gain even greater validity once Amazon's market share increases and the number of searches are multiplied. In essence, Amazon is going to carry out valuable R&D by taking advantage of its data and analytics DNA.

Simultaneously, AmazonFresh will drastically reduce the time it takes to go to market as it improves its 'early-warning system'. It will look specifically for partners that are flexible, fast and able to support its ambition to speed up its go-to-market approach, enabling it to react to any unsatisfied demand in a timely manner. Again, those abilities will inform its selection of growers and suppliers.

The implication for fruit and vegetable growers is that you will need to choose. Are you satisfied with being the nth supplier of a standard and undifferentiated product? If so, you need to be prepared to offer this product at a very competitive price and quality. If not, can you contribute to AmazonFresh's increasingly broad range by offering a truly different product?

There are various ways to differentiate. There is the opportunity to supply niche products that few others supply, and in this respect

AmazonFresh can also be an attractive outlet for small producers that might otherwise find it difficult to sell their niche fruit and vegetables through bricks-and-mortar retailers that have limited – and expensive – shelf space, no matter how large their stores may be.

Another route is to become better and bigger in the fresh-cut business, which remains largely underdeveloped in most markets. Establishing a recognised fruit and vegetable brand may be another way to go. As one illustration of the potential importance of branding when it comes to selling through AmazonFresh, think about your online order via Amazon's ever-evolving voice assistant Alexa: which apple will Alexa find more easily – the one identified by a unique brand name, or the ordinary variety? Branding will increase the chances of offering a product of choice.

The fruit and veg industry's response

So how can fruit and vegetable suppliers respond to these challenges? The short answer is by being prepared. There is no time like the present to start positioning the fresh produce business for such an outcome. AmazonFresh will increasingly seek to work with sophisticated suppliers. Data analytics in farming is likely to become more the norm than the exception. Consequently, there are steps that individual businesses can take in the near term to ensure they are well prepared.

The main task is to ensure growers and suppliers have the required analytics capabilities to provide what AmazonFresh will demand, along with the accompanying technology and processes. In turn, this means hiring the right talent. Another key area is to decide what products to supply, which requires the business to develop a product strategy.

Smaller growers are likely to be most excited by the prospects AmazonFresh provides. For them, unlike many of the bigger suppliers, this new platform can provide their products with much better placement than seen in the bricks-and-mortar retail environment.

Lastly, what will it take to thrive as a fruit and vegetable partner of AmazonFresh? Ultimately, this will require thinking like Amazon – that is, putting the customer at the heart of all your decision making.



7. WHAT ABOUT FOODSERVICE?



**JUST
EAT**

**JUST
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7. What about foodservice?

Over the past few decades, we have seen a steady trend towards more frequent out-of-home eating. People increasingly choose to dine out or to eat on the go. In many markets, this has resulted in an equivalence in monetary terms between the value of the food consumed at home and that consumed elsewhere. This deep dive looks at likely future developments in this channel.

There have been several driving forces behind the growth in foodservice. From a consumer perspective, a very important one is the desire for greater convenience – driven, at least in part, by increasing time pressures and a consequent reduction in the amount of time people are prepared to spend buying and preparing food. From the perspective of what is on offer, there has also been a large increase in the variety of prepared foods and snacks that are available. That has been driven largely by a rapid rise in the number of foodservice outlets. Many of these are in modern formats or selling innovative cuisines.

While we expect this trend to continue by and large, out-of-home consumption is likely to show signs of saturation over the course of the coming decade. However, while that broad trend continues, we expect to see fresh produce playing an increasingly important role in the out-of-home market across all types of outlets. Not only will there be increased demand for fresh, high-quality ingredients more broadly, but the consumption of healthy category foodstuffs will also outgrow all other food categories. This trend will be accompanied by a shift from low-calorie and low-fat diets towards more natural, less processed foods and those ‘free-from’ foods now considered as ‘the new healthy’. In parallel, there will be increased demand for individualisation as well as regional and ‘authentic’ produce, as consumers move away from standard mass produced products.

Channel variety

Within this broad picture of the opportunity for fresh produce, there is considerable variation in terms of the different types of out-of-home channels. This variation ranges from traditional bricks-and-mortar retail stores to new and innovative formats. Likewise, opportunities for

the fruit and vegetable business span the entire sector, all the way from well-known channels serving new customer segments and offering new ranges, to that of new and fragmented outlets that have not traditionally been on the radar of growers and suppliers. Here, we look at this picture in more detail.

Restaurant chains and on-site dining

Due to the scale of their operations, restaurant chains provide the most structured and professionalised approach to sit-down dining. This scale gives them distinct advantages in areas such as sourcing and supplier management, while also ensuring consistent quality, comparable to that in the offline channel. The scale of these chains makes them an attractive channel for fruit and vegetable suppliers to approach in a more structured way.

Playing a much bigger role in some parts of the world – notably North America – it is also a channel that has been shaped largely by historical circumstance, including cultural preferences. These ties can give the channel strengths in responding to its customer base. With customers’ increasing awareness about the value of fresh produce, the volume of fresh fruit and vegetables required will increase. The impact of this trend is already being seen. For example, a number of chains, including Vapiano and L’Osteria, emphasise quality and originality in their menus, while others, including 222 Veggie Vegan, Ethos and Hummus Bros, are focusing on health.

Non-chain restaurants

In terms of volume, individual, family-owned restaurants will continue to dominate in many regions. As with the restaurant chains, and for similar reasons, we can expect to see a steady increase in their consumption of fresh fruit and vegetables. Likewise, there will be little structural change in this channel. However, as independent restaurants start to become more professional, we expect to see some degree of consolidation that might well move them towards restaurant chains. Where this happens, it is probable that we will also witness changes in sourcing, with a tendency to eliminate small distributors as middlemen.

Retail stores

This well-established channel is pulling new segments of customers into its stores, either by offering on-the-go convenience assortments – fruit and vegetable snacks, fresh-cut, etc – or by providing dine-in-store spaces that actively break down the division between traditional retail and foodservice.

Currently, we see very major differences in the degree of sophistication of fresh produce businesses serving this channel in different parts of the world. Even within Europe, there are significant variations: some markets, such as The Netherlands, show a high level of development, while others, such as Germany, show a surprisingly low degree of sophistication. Whatever the current state of the local market, retail offers significant opportunities and we expect to see innovative extensions of the ranges offered by producers to serve this channel.

Prepared meal delivery

Take-away (or take-out) meals provided by family-owned businesses have been around for a very long time in many parts of the world. In recent years, there has been significant innovation in this channel, and this takes two forms. In the first, the channel supplies meals from any of a large number of local restaurants – the format used by businesses such as Foodora, Deliveroo, GrubHub, DoorDash and Uber Eats. With the second approach, the chain prepares its meals centrally. Unlike traditional fast-food outlets, however, the emphasis is on the quality and freshness of the ingredients. This is the strategy employed by companies like Munchery, Freshly and Habit.

A number of new and innovative formats

These include new-style food halls, Michelin-starred food trucks, gourmet, vegan and organically produced street-food markets, and even upmarket vending machines. All of these new and innovative formats actively engage with, and promote, fresh produce. Because of their novelty, they play an important role for the business as a playground for food experimentation and, as such, can provide early indications of emerging trends in fresh produce consumption. However, despite their likely growth over the coming decade, they start from a very small base, and so are unlikely to make a significant contribution to the business in terms of volumes or revenue.

CASE STUDY: HABIT

What is new?

San Francisco Bay Area startup Habit offers personalised, chef-prepared meals based on a detailed customer profile. The meals are shipped directly to the customer's door using sustainable packaging. The company's value proposition is to 'personalise' its food to the needs of individual customers, ensuring the menu is compatible with their unique requirements – including their DNA. Habit's individual dietary propositions are based on information gathered from blood tests, and are chosen as being best suited to the needs of the individual customer. They comprise an appropriate mix of carbs, fats and protein.

What is in it for the fruit and vegetables business?

The growing trend for increased consumption of healthy foods is being driven by consumers who are seeking ways to improve their general health and well-being. This is driving increased demand for fruit and vegetables in various channels. The challenge for the fruit and vegetable business is to fulfil this demand by supplying good quality produce in innovative ways.

Potential implications

Foodservice, or out-of-home food consumption, cannot be considered as a single channel: it is many channels, each of which have specific requirements in aspects such as range, lead times, delivery frequency and the flexibility of delivery scheduling. The result of this heterogeneity and fragmentation is increased complexity and often a lack of transparency in the supply chain for fruit and vegetable companies.

At the same time, foodservice and the out-of-home market offer large potential for the fruit and vegetable business, both in terms of revenue generation and in terms of boosting profitability. To capture this value, fruit and vegetable suppliers will need to define and then focus on the most promising areas – specific to their starting point – in order to overcome the complexity inherent in the channels. Those players that consider both the scale and scalability of their new venture, while realising synergies with their existing business operations, are likely to prove the most successful.

Entering the foodservice and out-of-home market will often require growers and suppliers to serve new channels and/or offer new ranges, but the first step will almost always prove easier to execute if they decide to alter only one of these two dimensions at a time. This, in turn, will increase synergies with existing operations. Below, we look first at adding new ranges before turning to new channels.

New ranges

These can come in various forms, each associated with a need to make distinct adjustments to the grower's or supplier's operations. They will need to carefully consider which activities should be kept in house, for reasons such as differentiation and profit capture. In many cases, service providers will be able to cover the activities they decide to outsource.

We expect to see a need for greater flexibility in production and processing capabilities. This will be accompanied by demand for smaller unit sizes and new packaging – for produce post-harvest or in production, as well as for new ranges. These new ranges and varieties of produce could include smaller varieties that allow for on-the-go consumption (such as snack peppers or snack cucumbers), as well as organic alternatives. The business approach can also

include simply extending the present range to ensure it includes all of the products required by a specific restaurant chain or outlet. This will also help ensure that it qualifies as the single-source supplier for that chain.

Increased differentiation of fruit and vegetable ranges will, in turn, make it more necessary to forecast accurately and thereby ensure that increasingly fragmented production and harvesting are aligned to the demand.

While the requirement for flexibility in unit sizes, packaging and new varieties is only likely to increase in the years to come, we see the largest potential for growers and suppliers in the area of pre-processing produce for the foodservice industry. This could potentially take various forms, such as supplying fresh-cut produce, freshly produced smoothies or juices, as well as the assembly of meal boxes. The opportunity also includes processing produce for use in restaurant chains.

Integrating those abilities to add value, as some grower alliances and suppliers have already done, will increase reach in the supply chain. This promises significant margin potential.

As demand for fresh produce from within the foodservice and out-of-home industries increases, there will also be an opportunity for producers and suppliers to position themselves as strategic partners that can bring to the table very specific knowledge about fruit and vegetables. This is knowledge that the restaurant chains and the like will not be able to – or need to – match, and it will become increasingly important as consumers ask for transparency, authenticity and food security.

New channels

The challenges for the fruit and vegetable supply chain are comparable to those for the online channel. Growers and suppliers seeking to extend their reach towards out-of-home channels will face new requirements and service levels which will likely differ from those in existing channels. A number of strategic questions will need to be addressed to conquer complexity and not overload the supply chain.

Putting it into practice

Once the fruit and vegetable business has decided whether or not it will adopt new ranges

or new channels as part of its business strategy, it will then need to look at how to put this strategy into practice. This includes deciding upon its go-to-market approach, its operating model and whether or not it will enter into collaboration with other actors in the supply chain.

Go to market approach

The first decision is whether to target the formats using a direct or an indirect approach. Direct targeting is more feasible in the case of consolidated formats such as retailers and restaurant chains; when it comes to less structured outlets, an indirect approach – that is, going through distributors and intermediaries – will increase the chances of success. This will mean accepting lower margins as a result, but it will also lower the level of complexity inherent in the supply chain.

Operating model

The decision about whether or not the supplier or grower should choose a direct approach to market leads to a related question: should you attempt to manage the supply chain in house? If the answer is no, then the business will need to involve a specialist third-party logistics provider. In many cases, this will be a valid first step for fruit and vegetable suppliers as it mitigates risk and allows for more flexibility in the initial phase. In parts of the world that currently have less structure and lower levels of professionalisation in the out-of-home market, we can expect to see the emergence of new and specialised intermediaries, similar to those already seen in more sophisticated markets – such as US Food in North America.

Collaboration

Finally, the question needs to be addressed as to whether or not it is possible to increase efficiency through collaboration, between growers and suppliers for instance. The drive for increased efficiency through collaboration has already led to the development of a number of online platforms, such as Nix86 (see case study).

CASE STUDY: NIX86

What is new?

Nix86 is a mobile and web platform that modernizes the wholesale procurement process for foodservice buyers and sellers. It allows restaurant and retail buyers to place orders using their mobile device or computer. Suppliers receive orders directly into their existing ERP. The platform provides a very simple tool for one-click ordering and provides easy reception and tracking, making it readily accessible even for the smaller actors in the market.

What is in it for the fruit and vegetables business?

One of the key barriers in the fruit and vegetables market is the lack of connectivity between actors in the supply chain. Once the concept of a procurement platform becomes established, it provides a transparent means for connecting even the smallest restaurants directly with the suppliers. This gives new opportunities for joint value creation.

At this point in time, even in geographies where the technology is already available, retailers and suppliers are only just starting to understand the value of such open and transparent collaboration. It is therefore likely to be a number of years before such technology realises its full potential.

8. BRINGING IT ALL TOGETHER

The fruit and vegetables business is changing. The good news is that there will be increasing demand for fresh produce and this will lead to strong growth overall. The challenge for the supply chain is that much of this growth will come from outside western markets, though there are also clear opportunities here as well.

New technologies are likely to become all-pervasive in the fruit and vegetable business in the near future. Coming to terms with them presents its own challenges. Actors in the supply chain must first get the basics right before making use of these new technologies to differentiate their offer and enter new markets.

While fresh produce is likely to remain one of the most challenging areas of the online grocery business, this segment nevertheless presents solid opportunities for producers. The businesses that seize this opportunity will be those that move first, adopting new systems, building their brand and ensuring they can provide the necessary supply chain flexibility.

Another area of opportunity within the fruit and vegetable market is foodservice. The multiplicity of new formats is opening up scope for innovation.

This changing world of fresh fruit and vegetables presents both an opportunity and a threat. For those that are successful in responding to new technology, engaging with it so their business enters new channels and new niches, the upside is strong. But this opportunity also comes hand-in-hand with a challenge: these changes are accompanied by ever-increasing customer demands, requiring producers and suppliers to respond ever more quickly.

The key to success in this new environment will be to decide which opportunities your business goes after – most likely the ones to which your present setup is already best suited – and then to focus on what this challenge entails, positioning fruit and vegetable supply correctly to meet customer demands, while acquiring the requisite technology, skills and capabilities.

These challenges cannot be underestimated and will prove too great for some. For those that are successful in meeting them, the future not only looks bright, but also fresh and green.

Fruit Logistica

Fruit Logistica is the world's leading trade fair for the fresh fruit and vegetable business. The event covers every single sector of that business and provides a complete picture of the latest innovations, products and services at every link in the international supply chain; it also offers superb networking and contact opportunities to the key decision-makers in every area of the industry.

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Fruitnet Media International is the world's leading publisher and congress organiser for the international fresh fruit and vegetable business. As the only media provider that can deliver informed and high-profile coverage of the entire industry, its aim is to help the fresh produce business to grow worldwide by providing useful information, insight and ideas via a broad and varied range of media channels. Fruitnet is also the official cooperation partner of Fruit Logistica and Asia Fruit Logistica.

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