

What Will Retail Look Like in 2020?

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Planet Retail: The global retail intelligence solution

Planet Retail's Mission:

- ✓ To provide business-critical retail insights to retailers, suppliers and investors.
- ✓ Planet Retail's intelligence gives businesses a competitive advantage by informing their strategic decision-making and exposing opportunities for profitable growth.
- ✓ No other retail intelligence provider can match the extensive breath of Planet Retail's data, superior analysis or specific expertise in retail technology and private label.

Agenda

1. Trends & drivers
2. MyCommerce: The consumer in the driving seat
3. The omni-channel challenge
4. The grocery store in 2020: Planet Retail's vision
5. The future of the checkout
6. Organized retail crime
7. The need for optimization
8. Automation of distribution centers
9. Outlook

1. Trends & drivers

Trends & drivers

A retail paradigm shift is under way in the US.

- competitive landscape
- shopper demographics
- technological advancements

The retail landscape will look vastly different five years from now. Leaders will need not only to react but also to be proactive in realigning strategies.



Trends & drivers

Retailers must brace for the possibility of continued uncertainty and more tumultuous times ahead.

Several factors could temper future growth:

- Ongoing price wars and price matching, keeping a lid on prices.
- Continued weak or worsening economic conditions.
- Shoppers, uncertain about the economic environment, hesitant to loosen their purse strings.
- An increasingly mainstream value channel capturing a greater proportion of US households' grocery shopping budgets.
- A shift away from spending on retail goods to spending on services (i.e. healthcare, education, entertainment), retirement or lowering consumer debt loads.

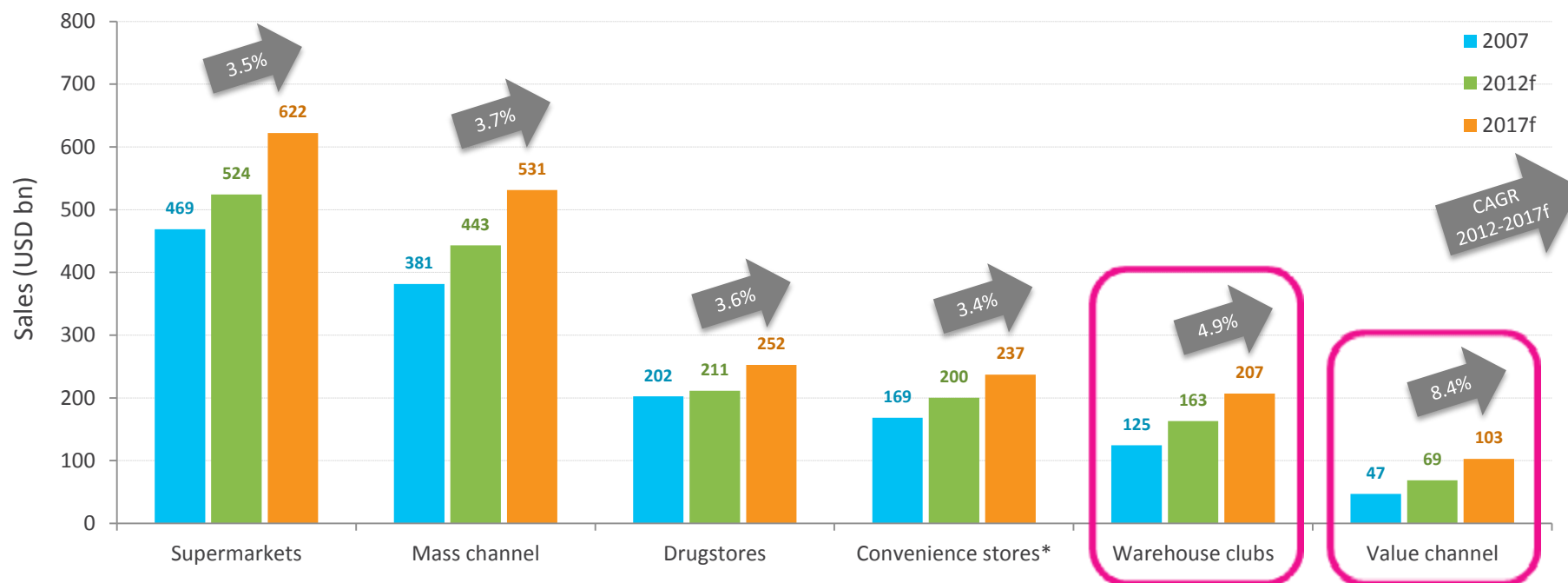


Trends & drivers

Some channels are no longer 'alternative.'

Once considered 'alternative,' the warehouse club and value channels are growing sales faster than traditional channels, i.e. supermarkets and supercenters (mass).

US: Channel Size by Sales, 2007-2017f (USD bn)



*Note: Convenience store sales represent merchandise sales only; f – forecast.
Source: US Department of Commerce; National Association of Convenience Stores; Planet Retail

Trends & drivers

Non-traditional channels and formats will continue to encroach.

Target's PFresh concept has helped the retailer grow grocery from 34% of sales in 2007 to 44% in 2011.



Family Dollar's latest prototype features a wall of freezer and cooler cases.



Warehouse clubs, including Costco, are expanding fresh and perishables among other food ranges.

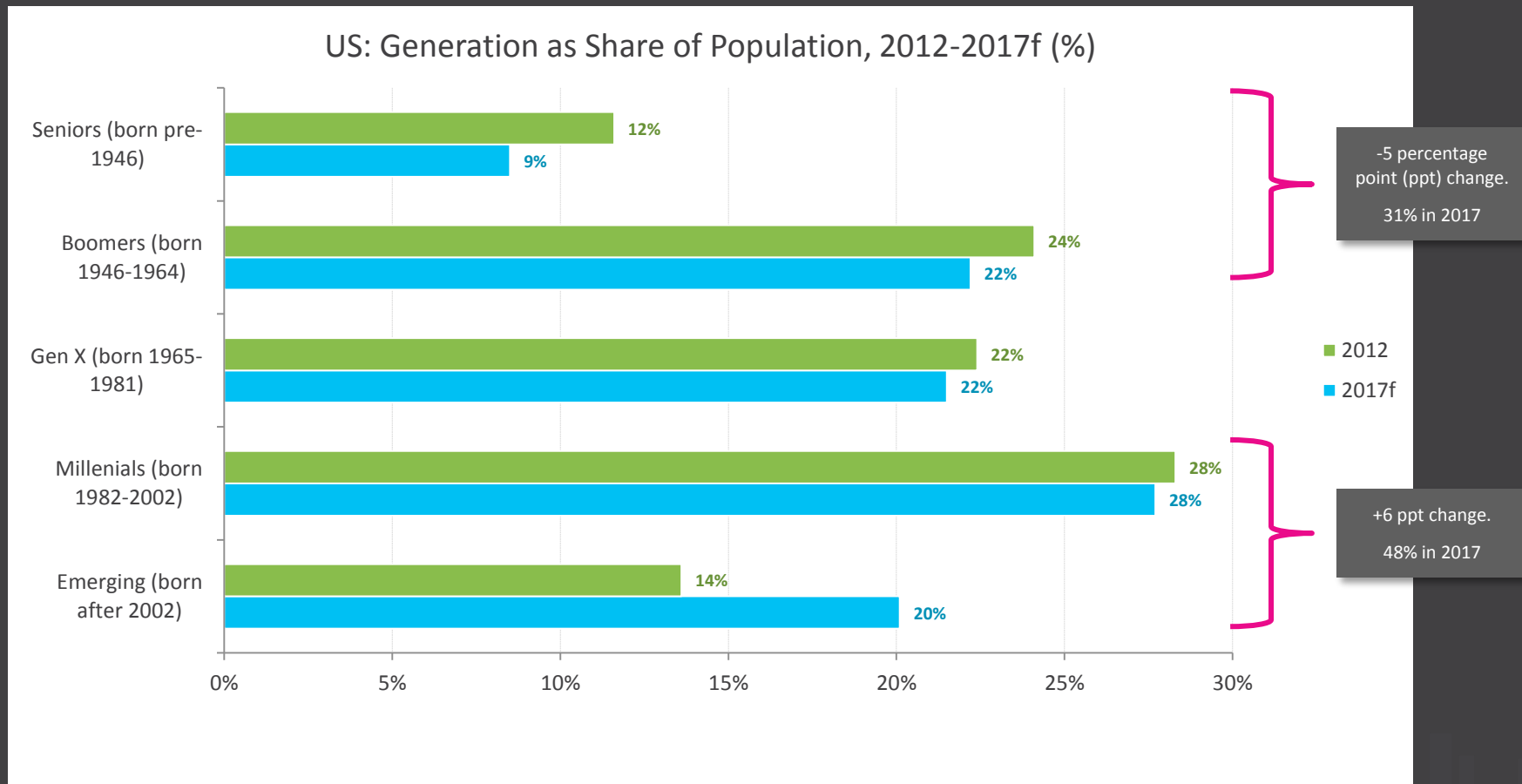


The level of e-commerce grocery activity, i.e. Amazon.com, Amazon Fresh, is heating up.



Trends & Drivers

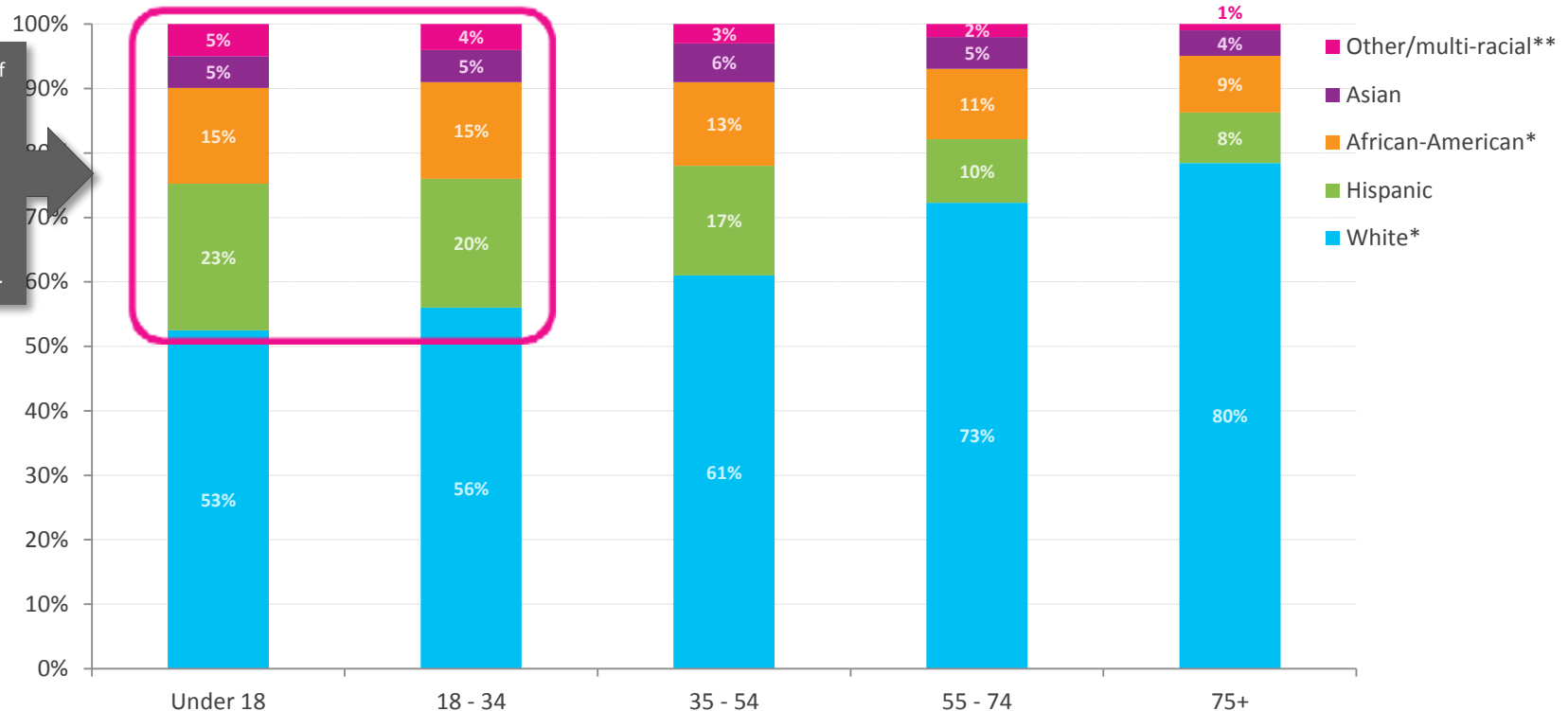
Age – Five years from now younger generations will account for a much higher share of the shopper population. These generational shifts will translate to cultural and societal shifts for which retailers must prepare.



Trends & Drivers

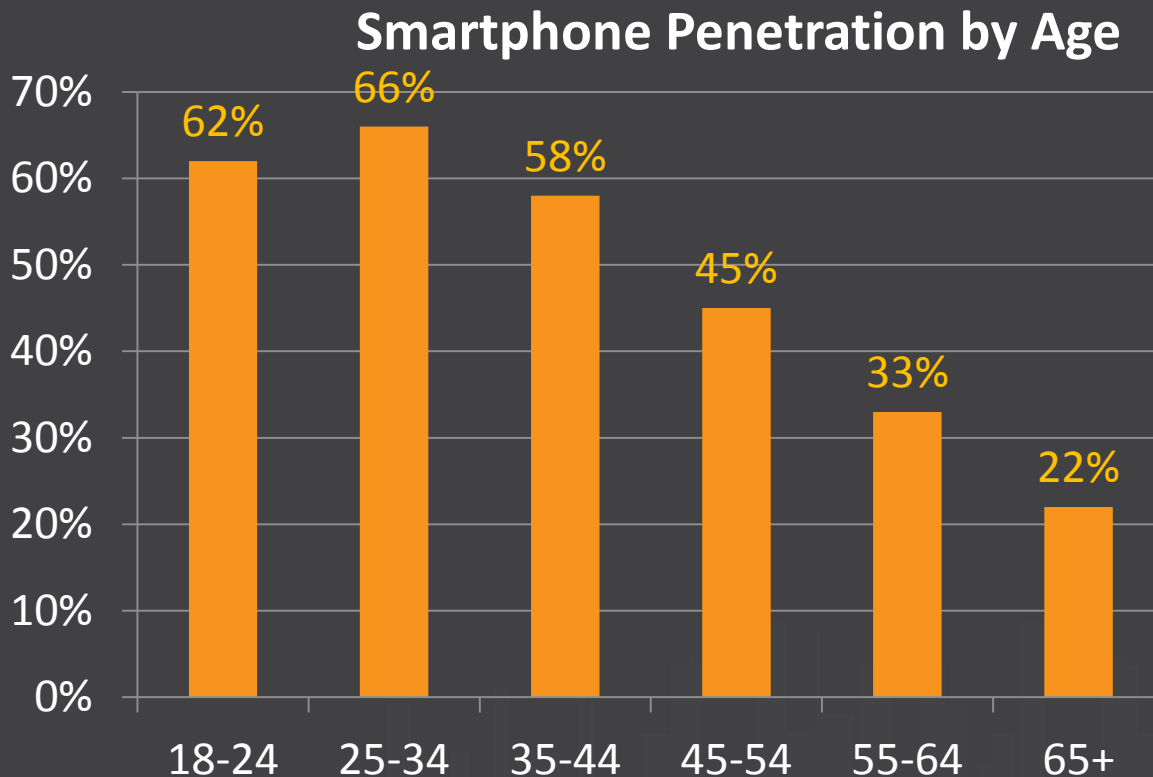
Diversity – Younger generations will drive diversity. An increasingly diverse shopper base not only impacts what future retail formats will look like, but marketing, mix and merchandising as well.

US: Distribution of Age Ranges by Race/Ethnicity, 2017f (%)



Trends & drivers

Technology usage –Tech-savvy younger generations will demand retailers be present whenever they are in ‘shopping mode.’



2. MyCommerce – The consumer in the driving seat

- Transparency
- Mobility
- Big Data

MyCommerce

The rise of the anytime, anywhere shopper

Retailers need to leverage digital technology to facilitate changing shopping habits.

CONSUMER

Savvy

Active &
Empowered

Raised
expectations

- Proud to be frugal.
- Expect retailers to help them save.
- Benefiting from price wars.
- Power to vote with their feet.
- Trading down... and up.

- Armed with information, empowered by price transparency.
- Newfound voice and want to be heard.
- Fuelled by technology and social media.

- One size no longer fits all.
- Demanding a more personal and relevant experience.

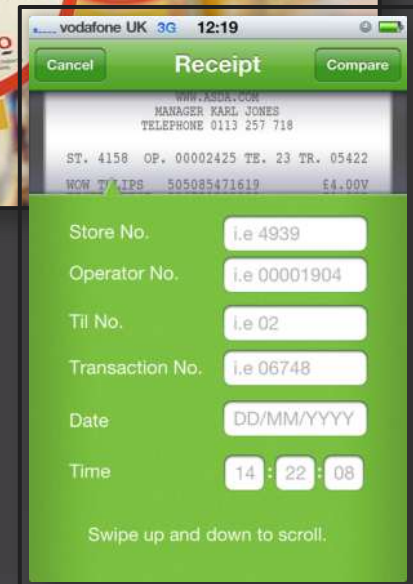
**Mobile Internet is
the game-changer**

MyCommerce

Price **transparency** at any time at any place is changing retail as we know it completely. Retailers need to develop a clear strategy.



Smartphones, using apps such as RedLaser, enable users to compare prices instore by simply scanning their barcode. The new Amazon Flow augmented reality app goes a step further, allowing users to scan products instore and display a wealth of related information – such as customer reviews and multimedia content.



MyCommerce

Retailers have responded by offering price guarantees both in and out of the store.



Sainsbury's launched a 'Brand Match' initiative which guarantees to match prices of over 12,000 branded grocery lines against Asda and Tesco.



Leclerc has launched a mobile version of its price comparison site quiestlemoinscher.com.

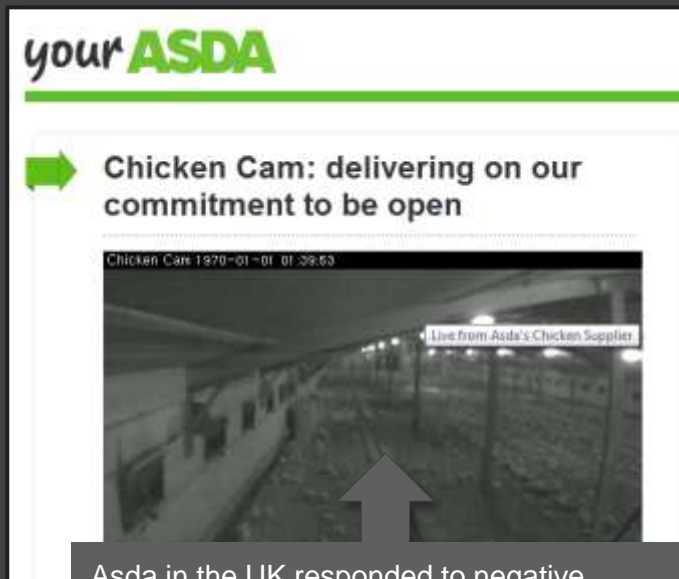


Walmart offers a price guarantee in the run-up to Christmas.



MyCommerce

Customers ask for detailed product information, such as point of origin, requiring retailers to provide a new level of **transparency**.



Asda in the UK responded to negative criticism by installing webcams with the live feeds viewable to the public.

In 2011, Aldi became the first retailer in Germany to pro-actively offer traceability information for fresh meat on smartphones



Seven & I's Ito-Yokado in Japan offers shoppers information about the individual producer via scanning a QR code on its private label products.

Major obstacles

- Availability of reliable, comparable product information.
- Accuracy of data such as a retailer's inventory

MyCommerce

Food scandals, such as the current horsemeat contamination that occurred in Europe, can seriously damage brand image.

- Supply chains are getting longer and more difficult to manage
- Accurate, actionable data across the supply chain are required
- Standardised, detailed lot data must be shared at least with one trading partner upstream and downstream

Appropriate systems and processes along the supply chain can facilitate

- Identification of contamination sources (traceability)
- Efficient recalls (tracking)
- Effective inspections and audits



MyCommerce

To meet expectations of today's consumers, retailers need synchronized, comprehensive and up-to-date product data from a trusted source.

- Ingredients
- Marketing information
- Origin
- Images and multi-media files



Brandbank shoots product images and captures product information for retailers such as Tesco. The service is paid for and approved by the supplier.



In September 2012, 1Sync and SA2 Worldsynchron merged to become the world's largest product master data pool.

MyCommerce

Many retailers still fail to enable their employees acting at eye level with the empowered consumer.

With **real-time** access to inventory data, the mobile-enabled store assistant can immediately...

...look up if the required product is

- in stock,
- on-hand at another outlet
- available online

...order directly

- from another store
- from the online shop



...checkout customer

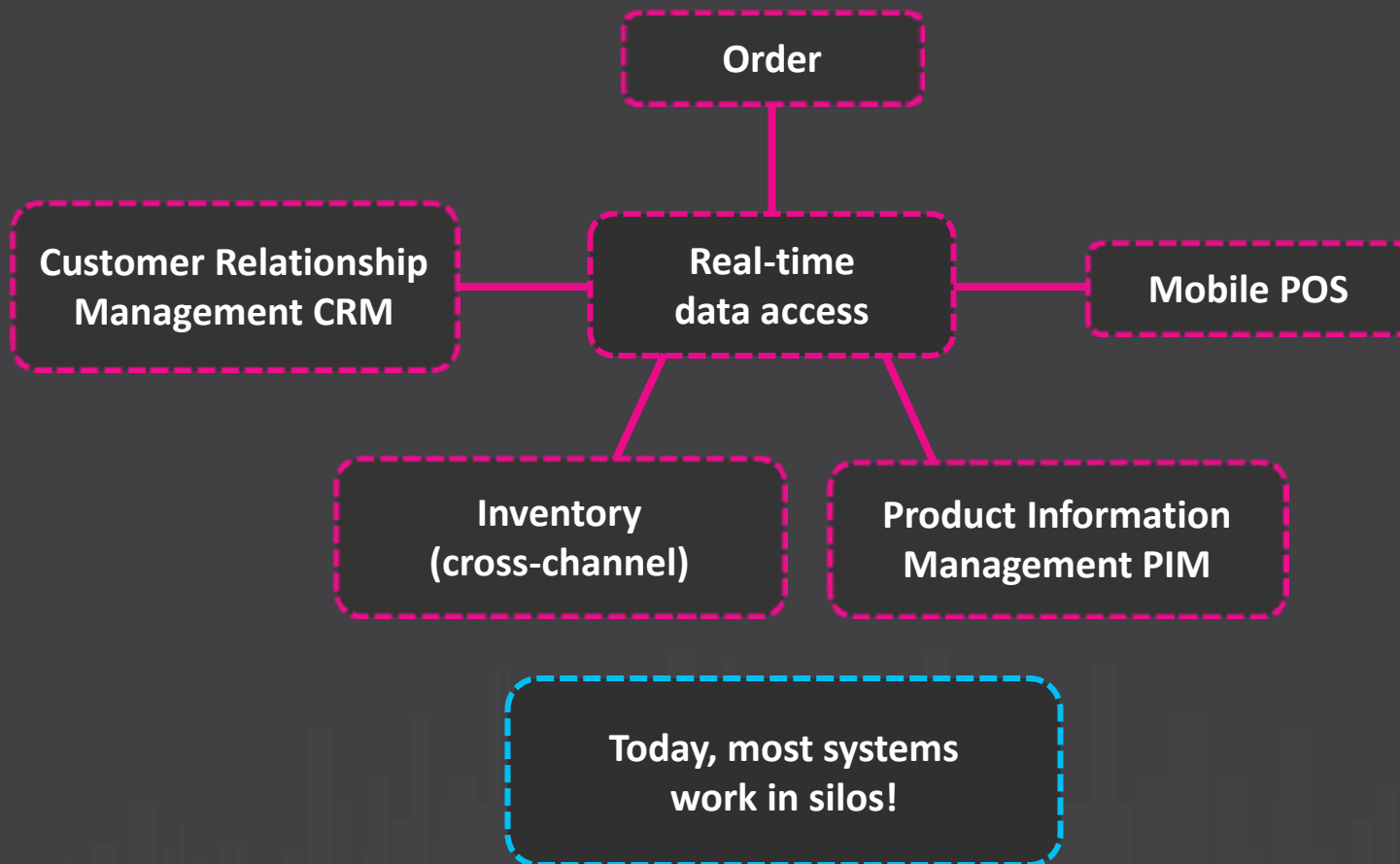
- collect payment
- redeem coupons
- apply personalised discount

...arrange delivery

- to customer's home
- to be picked up at the store later

MyCommerce

To enable a consumer-centric approach, retailers need to implement systems that allow real-time access to operational data



MyCommerce

Stores enabling **mobility** and real-time data access for employees as well as shoppers can become subject of new security threats.

- Free Wi-Fi in stores
- Internet access via kiosks and mobile devices
- Access to price and product information
- **B**ring **Y**our **O**wn **D**evice strategies



MyCommerce

Social media is increasing in significance as more people look to be influenced by friends and followers.

‘Word of mouth at scale’ - Transmitting to audiences of audiences.

Businesses are experimenting with promotions based around ‘Likes’ and ‘Places’.

- ‘Like’ allows users to share things they like and seek approval from others within their network.
- ‘Places’ allows people to check in at locations such as stores and share this information with friends.



Shopkick rewards customers for walking into a store

Amazon added social media buttons in early 2012.



Publix has over 1 million ‘Likes’



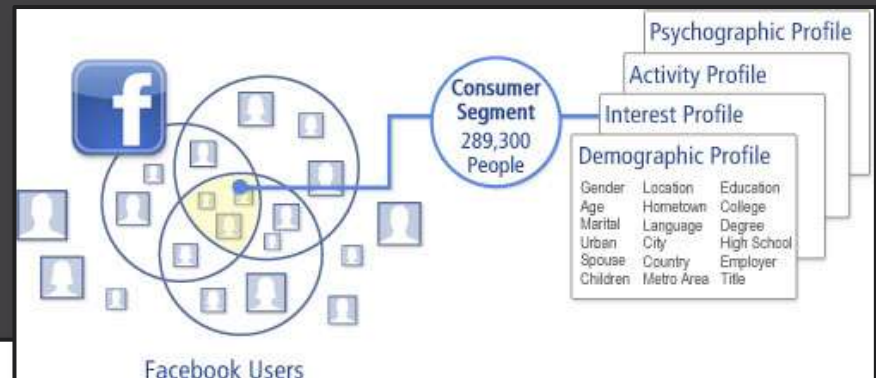
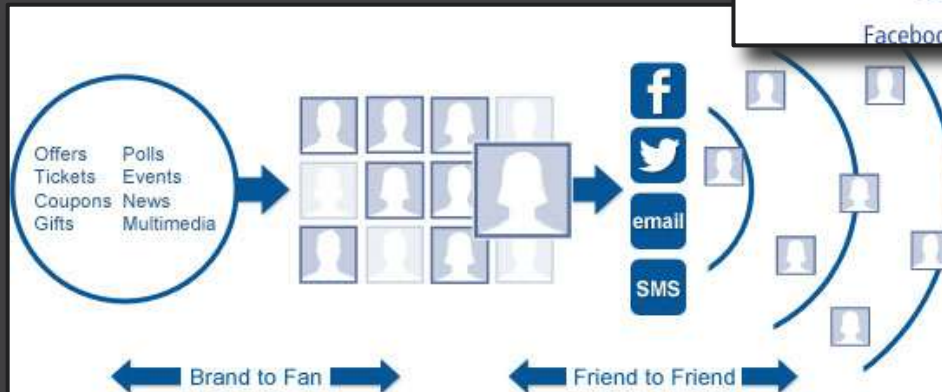
MyCommerce

Big Data - Social Media can be an invaluable data source.

Listen to the voice of the consumer by using

- Analytics software to search web 2.0 sources for opinions on brands and products
- Integration into Business Intelligence Solutions

Challenge: From data to decisions



© Microstrategy

MyCommerce

Customer endorsement helps in shaping assortments and developing new products...

MIGROS



"Migipedia was mainly created to optimise our product ranges. Migipedia is sort of a gigantic test laboratory."



"Social media is a free, massive focus group, taking place in real time. And it is taking place with or without your permission."

Rick Bendel
Global Chief Marketing Officer
Walmart



Drugstore operator dm asked customers for help to create a private label shower gel via the open website unseraller.de.

MyCommerce

...but feedback can be dangerously honest and even malicious.

- This type of media is not controllable at all
- There is always the danger of hijacking



Helen Knott Sugar based poison for kids

Montag um 11:25 · Gefällt mir · 👍 3



Lizz Lee Diabetes?

Montag um 11:34 · Gefällt mir · 👍 2



David Lee "...into question as being suitable for children."

Montag um 11:35 · Gefällt mir · 👍 1



Lizz Lee Actually disgraceful - your own graphic on the packaging has three "red" sections. And you're marketing this for kids?



Dethroned: Burger King Twitter account hacked to look like McDonalds

- On February 18, 2013, the Twitter account, @BurgerKing, was hacked for more than an hour starting at 9 a.m. PST
- Twitter name was changed to “McDonalds” and logo to the Golden Arches.
- The hackers proceeded to Tweet out random content that included racial epithets and odd obscenities, many making fun of Burger King.



© Geekwire

A common saying among security experts is that there are now only **two types** of American companies: Those that have been **hacked** and those that **don't know** they've been hacked.

3. The omni-channel challenge



The omni-channel challenge

Planet Retail predicts that by 2017 Amazon will be the third-largest US retailer. As it moves up the ranks, Amazon will disrupt the competitive landscape and many operating models causing retailers to rethink the way they do business.

US: Top 10 Retailers' Estimated Sales, 2012f -2017f (USD bn)

| | Company | Estimated Sales, 2012f (USD bn) |
|----|----------------|------------------------------------|
| 1 | Walmart | 337.9 |
| 2 | Kroger | 96.0 |
| 3 | Target | 74.6 |
| 4 | Walgreens | 73.6 |
| 5 | Costco | 72.6 |
| 6 | The Home Depot | 65.7 |
| 7 | CVS | 63.3 |
| 8 | Lowe's | 52.9 |
| 9 | Best Buy | 38.2 |
| 10 | Safeway | 37.8 |
| 12 | Amazon | 33.9 |

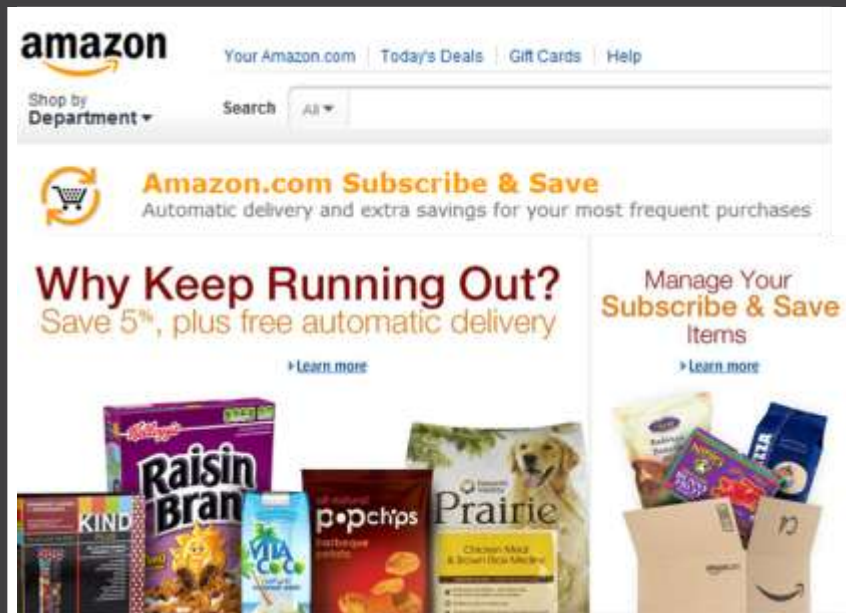
Note: f = forecast

| | Company | Estimated Sales, 2017f (USD bn) |
|----|----------------|------------------------------------|
| 1 | Walmart | 393.5 |
| 2 | Kroger | 112.3 |
| 3 | Amazon | 101.6 |
| 4 | Costco | 100.5 |
| 5 | Walgreens | 100.4 |
| 6 | Target | 94.2 |
| 7 | CVS | 84.2 |
| 8 | The Home Depot | 79.5 |
| 9 | Lowe's | 63.5 |
| 10 | Safeway | 42.3 |

The omni-channel challenge

Watch as more routine replenishment (stock-up) shopping moves online.

Amazon's Subscribe & Save offers an extra 5-15% off and free shipping on routinely used items with regular delivery every one, two, three or six months.



Quidsi operates six inter-related sites that share a common shopping cart, making it easy for shoppers to buy online in a single transaction and have products shipped together in one box. Quidsi now offers 'mylists' making automatic reorders fast and easy.



The omni-channel challenge

Multi-channel – combining bricks and mortar with online – will be the norm by 2020. Site-to-store services will gain in popularity.

“It’s time to leverage our size and global footprint to take advantage of this evolving customer trend.”



Walgreens' Web Pickup service allows shoppers to place orders online and have them ready for pickup at their specified store within an hour. Orders can be picked up at the photo counter in most participating stores. Select stores offer curbside pickup for added convenience.



Harris Teeter Express Lane lets shoppers order groceries online and designate a pickup time. Harris Teeter staff does the shopping using the store as the fulfillment depot. Shoppers do not even need to get out of the car for pickup. A USD4.95 service fee per order applies.

The omni-channel challenge

Bricks and mortar players are launching innovative new ways of enabling multi-channel shopping.



Tesco in South Korea caused a stir in 2011 by launching a QR code wall – enabling shoppers to add items to their online shopping basket simply by scanning the QR code. Orders can then be delivered that evening. Test locations included a subway in Seoul (above).

Sears and Kmart launched a virtual QR wall for toys in late 2011 in the US



Other retailers quickly followed suit – including Ocado in the UK and Jumbo in Chile (left).



The omni-channel challenge

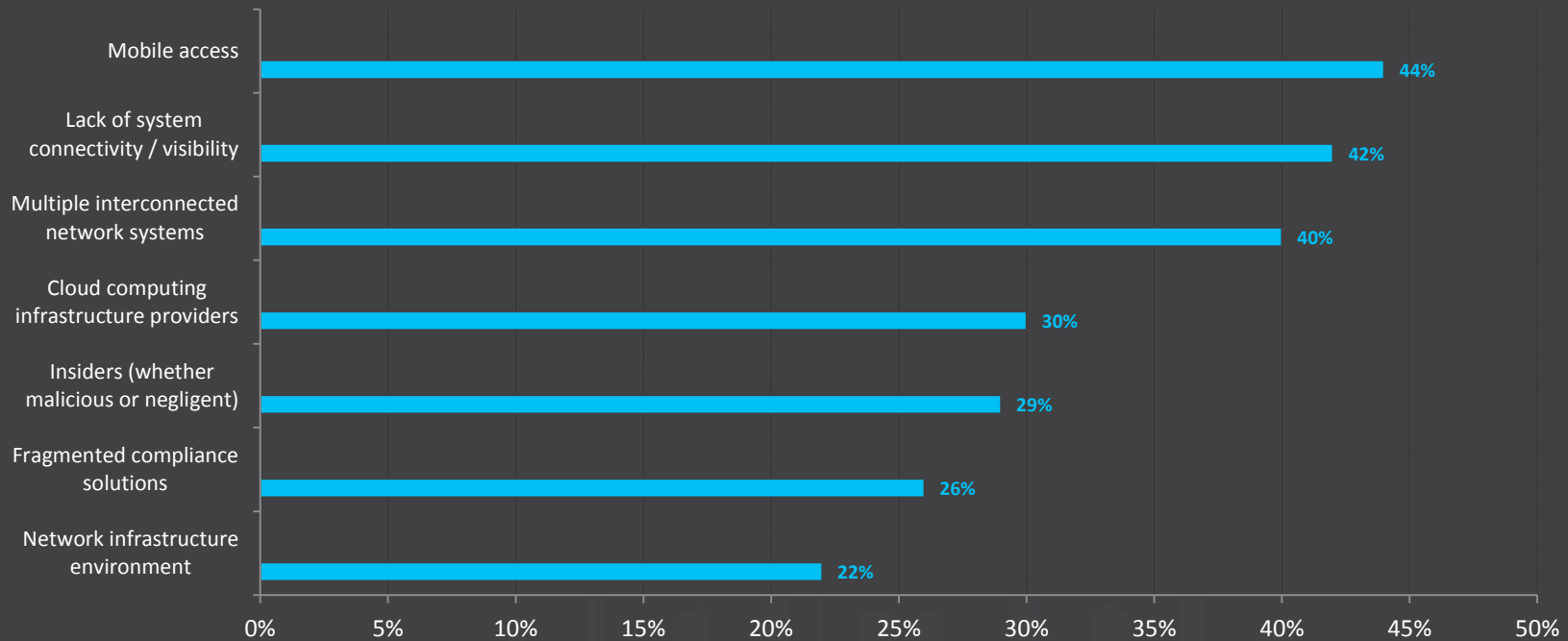
Channel diversification can create new risks.

- More customer touch points
- More data entry points
- New and more complex business processes
- Increased complexity of IT architecture
- New types of possible fraud and scams, such as returns fraud



The greatest area of risk is being caused by mobility.

Greatest Areas of Potential Cyber Security Risk Within IT



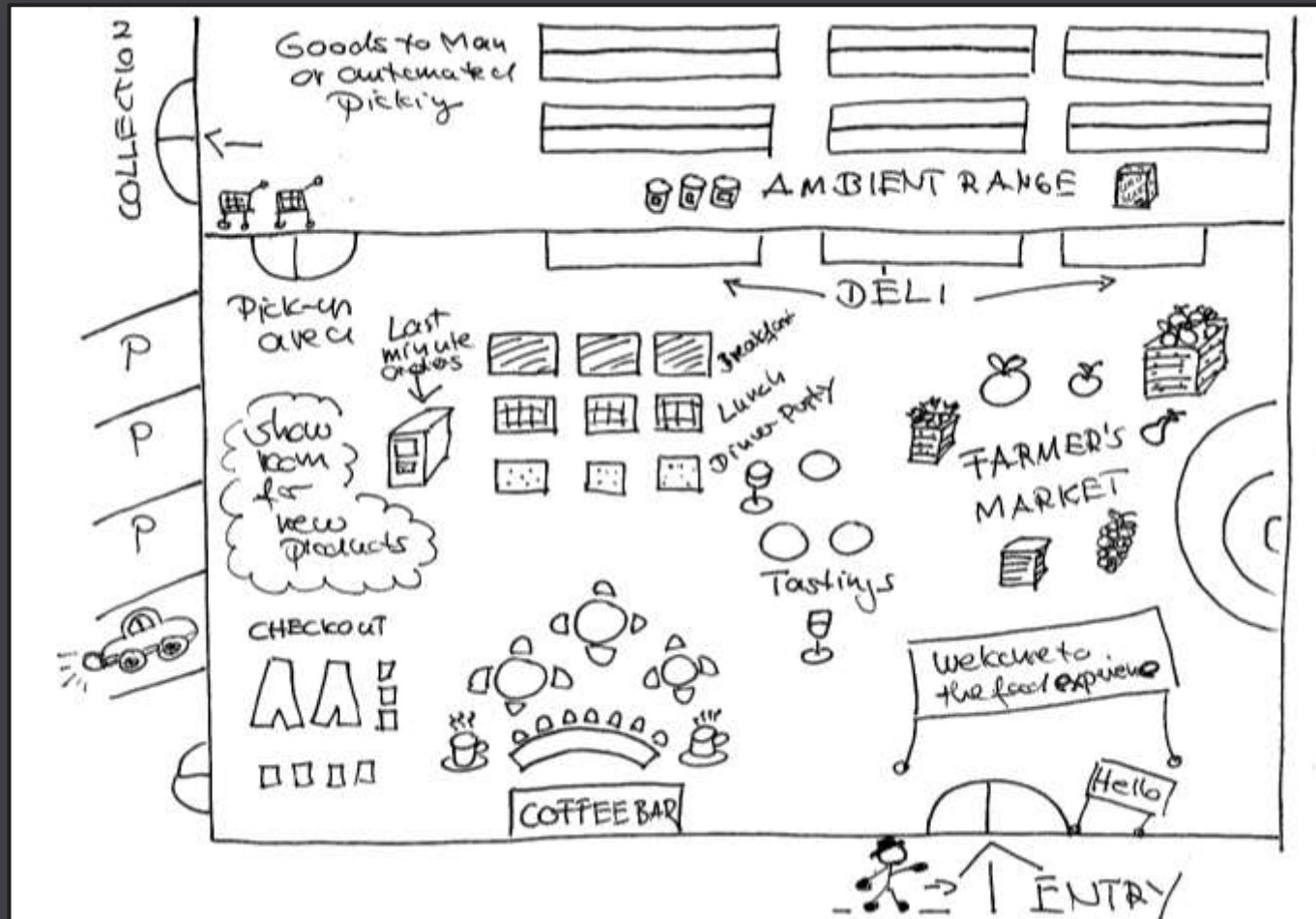
Source: Ponemon Institute, February 2013

4. The grocery store in 2020



The grocery store in 2020

The hybrid shopping experience – Planet Retail's vision.



The grocery store in 2020

Shopping starts at home
(...or wherever consumers fancy to do so)

- Shopping preparations via TV, PC, tablet or smartphone
- Scanning of empty packages
- Smart inventory management at home
- Experiences shared via social networks

Enabling Technologies:

- Online shop technology and apps
- CRM system
- Analytics and predictive technologies
- NFC / QR codes



The grocery store in 2020

Customers identify themselves when entering the store. This enables the retailer to apply personalized marketing tools.

- Check-in via smartphone or kiosk
- Upload of shopping list
- Personalized offers
- Reminders & alerts

Enabling Technologies:

- Near Field Communication (NFC)
- CRM System
- Interactive Kiosks
- Tracking Systems



The grocery store in 2020

Customers are saved from browsing shelves for essentials, but enjoy shopping for fresh food, new products and promotions.

- Friendly towards elderly and handicapped people
- Interactive and personalized shopping experience
- Supportive employees empowered by technology

Enabling Technologies:

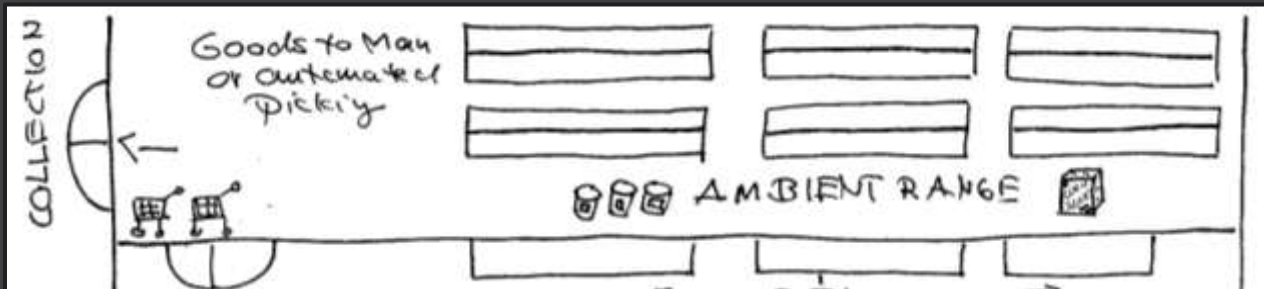
- Wi-Fi and mobile networks
- NFC / RFID for non-food
- ESLs and digital signage
- Interactive kiosks
- Tracking systems and indoor navigation
- Self-checkout and cash recycling
- Warehouse automation



The grocery store in 2020

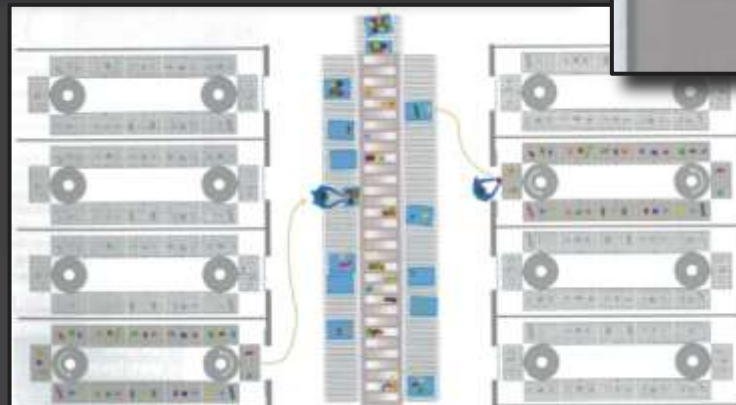
Essentials and non-perishables will be (semi-)automatically picked while customers enjoy shopping for fresh food

- This part of the store can also be used for picking home deliveries



Benefits:

- Reduced labour costs
- Higher picking accuracy
- Less space is needed



The grocery store in 2020

The hybrid shopping experience – Planet Retail's vision.

Supports click & collect as well as home delivery

Encouraging impulse buys

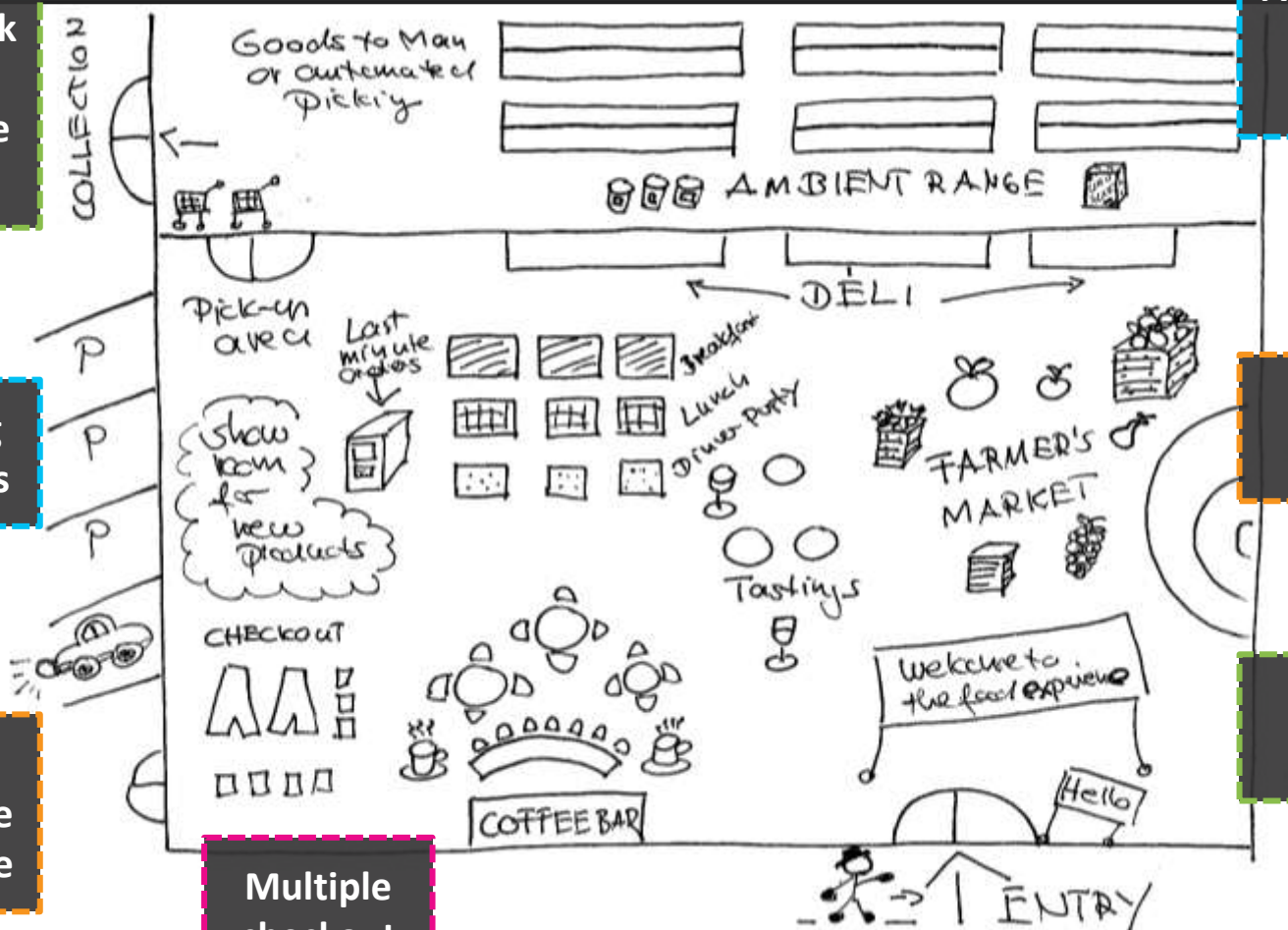
Last minute orders can be added on site

Multiple checkout options

Automatically picked and packed

Focus on fresh food

Serviced counters



5. The future of the checkout

The future of the checkout

Staffed checkouts will remain a source of potential losses.

- Traditionally, loss prevention software mines transactional data for potentially fraudulent events, such as:
 - ▶ A product return carried out by the same person who processed the sale;
 - ▶ User log-off after a processed return;
 - ▶ Paid deposits;
 - ▶ Voids;
 - ▶ Cancellations; and
 - ▶ Terminated transactions.

Next generation solutions tap more data sources in **real-time** augmented by video **analytics** and provide alerts **proactively**.



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Monitoring staff can cause privacy issues. Local legislation has to be taken into account.

The future of the checkout

Sweethearting **was** nearly impossible to identify.

Traditional loss prevention software is not capable of detecting employees who give away merchandise to friends in many cases - there is simply no evidence!

New video analytics technology can determine sweethearting behavior, such as:

- Covering a barcode;
- Stacking items;
- Only scanning some of the products; and
- Missing the scanner.

Works by:

- Using artificial intelligence;
- Applying behavior recognition algorithms; and
- Synchronizing video and transaction log.



The future of the checkout

Cash recycling technology saves cashiers from getting in contact with notes and coins.



In So Ouest, Leclerc deploys cash handling technology at checkouts.



Metro Group is testing self payment terminals at its hypermarket operation Real in Germany.

The future of the checkout

A fully closed cash cycle saves time and efforts and is more secure.



The future of the checkout

Fully automated scanners could replace self-scanning



REWE



Faster and more secure against fraud
and errors...

BUT

...not 100% suitable for all products, e.g.
loose produce, large and heavy items

The future of the checkout

Next generation of fully automated self-scanning solutions may even work without barcodes, but not using RFID.



Itab Scanflow's machine takes a **digital footprint** from each product out of nine classifiers such as weight, shape, volume and colour but also spectroscopy, which describes the texture of a product or its packaging by its radiated energy captured via sophisticated fiber optics.

Thus, the machine can identify even loose produce such as apples **without a barcode**.



Currently tested in retailers' labs,
first live pilot in Q2 2013

The future of the checkout

Retailers increasingly deploy mobile checkouts...



The future of the checkout

...and even allow shoppers to do the scanning with their own smartphones.



Walmart has just expanded its Scan & Go trial to 40 Colorado stores

The future of the checkout

Major retailers around the world kick-started a revival of mobile self-scanning.



Stop & Shop has rolled out the 'Scan It!' programme to the majority of its stores.



Kroger developed its own mobile scanning device called PAL.



Carrefour is one of the largest users of mobile scanning technology.

The future of the checkout

Offering self-checkouts or self-scanning is a calculated risk and requires dedicated security measures.

Some of the solutions applied, such as re-scans, can be annoying for customers. Best practice loss prevention tools for self-service checkout solutions include:

- Weighing scales;
- Cameras and video analytics;
- Traffic lights; and
- Partial re-scans.

“First of all, we trust our customers.”

Hervé Thoumyre
CIO at Carrefour



Initially, IKEA in Europe did not deploy any security tools at its self-checkouts.



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The future of the checkout



Kroger's idea to fight self-scanning fraud – the smart shopping cart.

- In house-developed smart shopping cart
- Currently exists only as prototype
- Weighs each product that is placed into the cart
- Alerts shoppers who add items without scanning or those who scan products, but do not put them into the cart.



The future of the checkout

New cashless payment schemes and mobile wallets may not be as secure as desired.

We have seen payment terminals manipulated in order to skim card data...
...what about mobile payment, mobile coupons or e-receipts?



6. Organized retail crime

Organized retail crime

Organized retail crime (ORC) is a growing threat.

In many world regions, organized theft rings target retail outlets. The problem has intensified in the wake of the global financial crisis.

- Driven by e-fencing.
- Encouraged by a reduced number of floor staff.
- Equipped with tools.
- Progressively more violent.
- Traditional EAS and video solutions are not sufficient to cope with the challenge.



Some offenders call this liquid gold.

Organized retail crime

Organized theft rings try to overcome EAS solutions equipped with tools such as booster bags and jammers.

Carrying such tools is a criminal offense in many countries.

The latest generation systems have been enhanced with sophisticated detection capabilities to spot:

- Metal foil;
- Jammers; and
- Directionality.



Organized retail crime

Traditional CCTV solutions are not sufficient to cope with organized retail crime.

Island systems can only record and replay incidents.

- IP-based systems.
- Centralised monitoring.
- Immediate distribution of offenders' photographs.
- Specialised solutions for products with a high risk of theft.
- Sophisticated analytics.
- Identification of incidents and proactive alerts.
- Risk management and crime forecasting.



The Home Depot implemented eight-inch screens with a built-in camera and recording facility for high-risk products. A flashing light indicates that potential offenders are being recorded.

7. The need for optimization



The need for optimization

Food Waste is a serious problem and causes avoidable losses.

Food not being sold well in advance of its 'best before' date creates huge economical and ethical problems.

Globally 1.3 billion tons of food waste per year of which more than 40% occur at retail and consumer level.*

Improved merchandise management can help to reduce this figure by:

- Better forecasts
- Reduced inventory
- Timely markdowns

* According to study for Food and Agriculture Organisation of the United Nations in 2012



The need for optimization

Inventory optimization helps retailers to reduce out of stocks and wastage at the same time.

- Replenishment automation based on forecasting software has been the retail technology success story for more than a decade:
 - ▶ Increased sales and improved shopper satisfaction;
 - ▶ Reduced waste, fixed capital and stock-keeping costs;
 - ▶ However, often limited to canned goods and processed chilled food;
- Inventory optimisation for produce and instore produced food are on retailers' agendas now.

Retailers are saying:

“Our out-of-stocks rate decreased from 3.5 to 1% with 10-15% less inventory and 40% less workload with orders.”



Rewe supermarket in Germany.

The need for optimization



Retailers have started to use automated replenishment also for **fresh** products.

- Swiss grocery retailer Coop started to automate ordering of dairy, meat, convenience products, fruit and vegetables and fresh bakery products in April 2011;
- ▶ Using the technology, Coop already reduced inventory of non-perishables by 8% while on-shelf availability has been increased;
- ▶ Automated replenishment helped to plan deliveries at a much earlier stage and route planning.



- At its fresh food division, Marks & Spencer forecasts at item level using new software for inventory management, replenishment and order planning



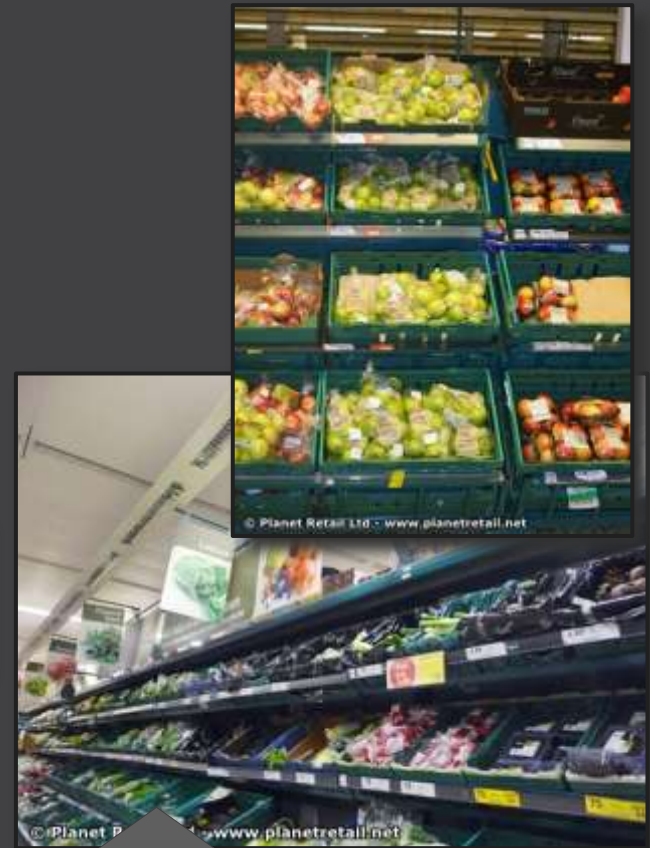
Coop started automated replenishment for fresh food in the dairy department.

The need for optimization

Tesco uses **video analytics** to further calibrate the algorithms of its replenishment automation process.

- In around 15 to 20 stores, Tesco installed cameras which continuously take pictures of shelves in the fruit & vegetable department.
- Combined with POS data, these snapshots help Tesco to get a better picture of inventory levels and further optimize forecasting algorithms.

While content of the pictures is captured automatically, analysis of the correlation between POS data and information gathered by the cameras is done by Tesco's staff.



Tesco Hypermarket New Malden,
Surrey, UK

8. Automation of distribution centers

Automation of distribution centers

There are good reasons for retailers to invest in warehouse automation technology.

- Reduction of transport costs
 - ▶ Warehouse automation technology packs pallets/roll cages 8-10% tighter than a manual picking process.
 - ▶ More transport units fit into a truck and road mileage and CO2 emissions are cut.
- Reduction of labor costs
- Ergonomics



© boydphotography.com



© SSI Schäfer

Pallet packed using warehouse automation technology.

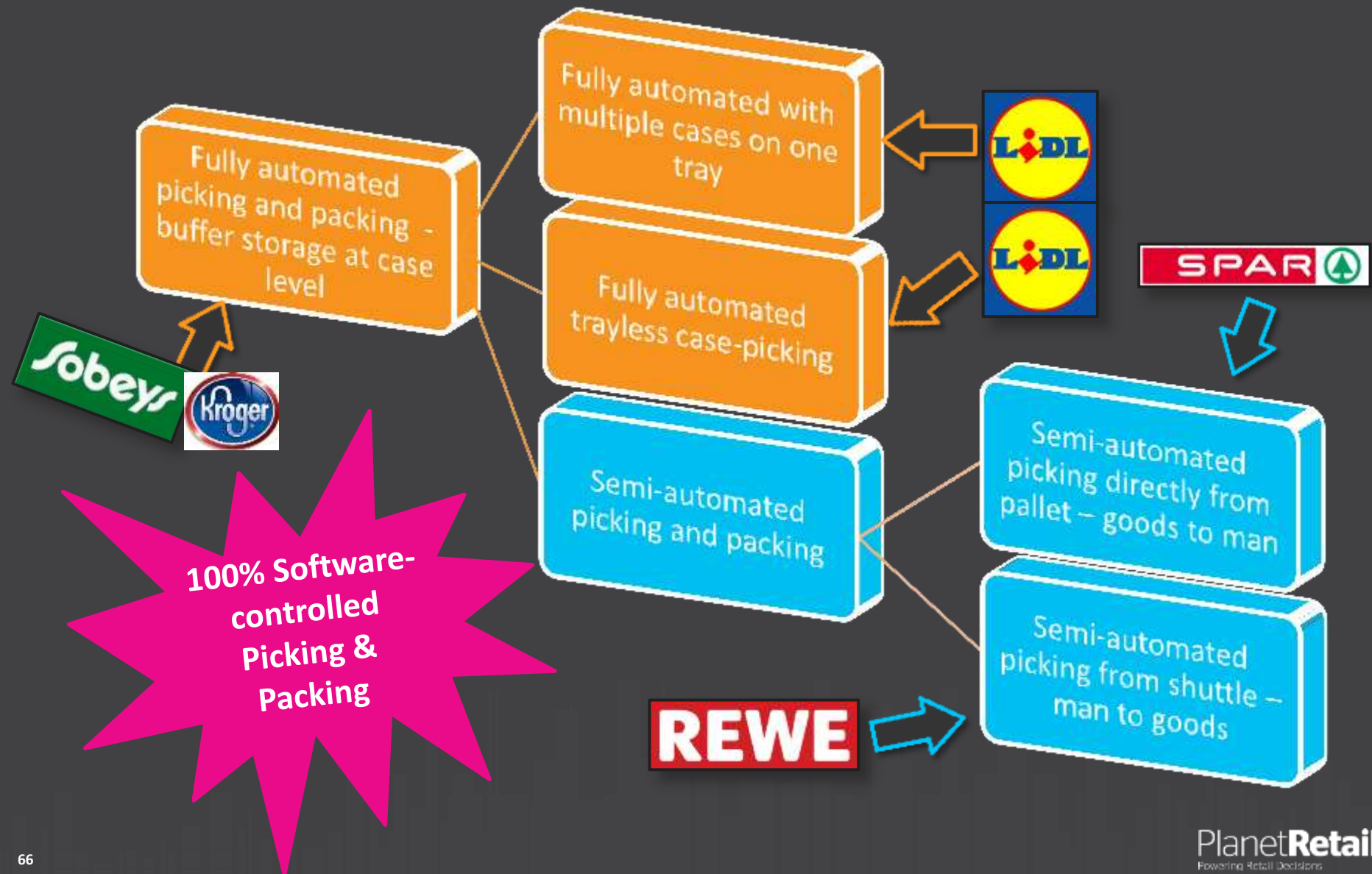
Automation of distribution centers

Warehouse automation can reduce picking errors to zero.

- With warehouse automation, the content of every pallet is 100% determined and recorded in the WMS.
- Positive effect on shrinkage:
 - ▶ Previously: lost cases in the supply chain could always be due to picking errors – no identification of the culprit.
 - ▶ Now: no picking errors. Everything that leaves the DC and does not arrive at the store must have been stolen during transport.
- Warehouse automation facilitates product recalls:
 - ▶ Location of products that have to be recalled can easily be identified, items are locked in the system and removed from the supply chain quickly.



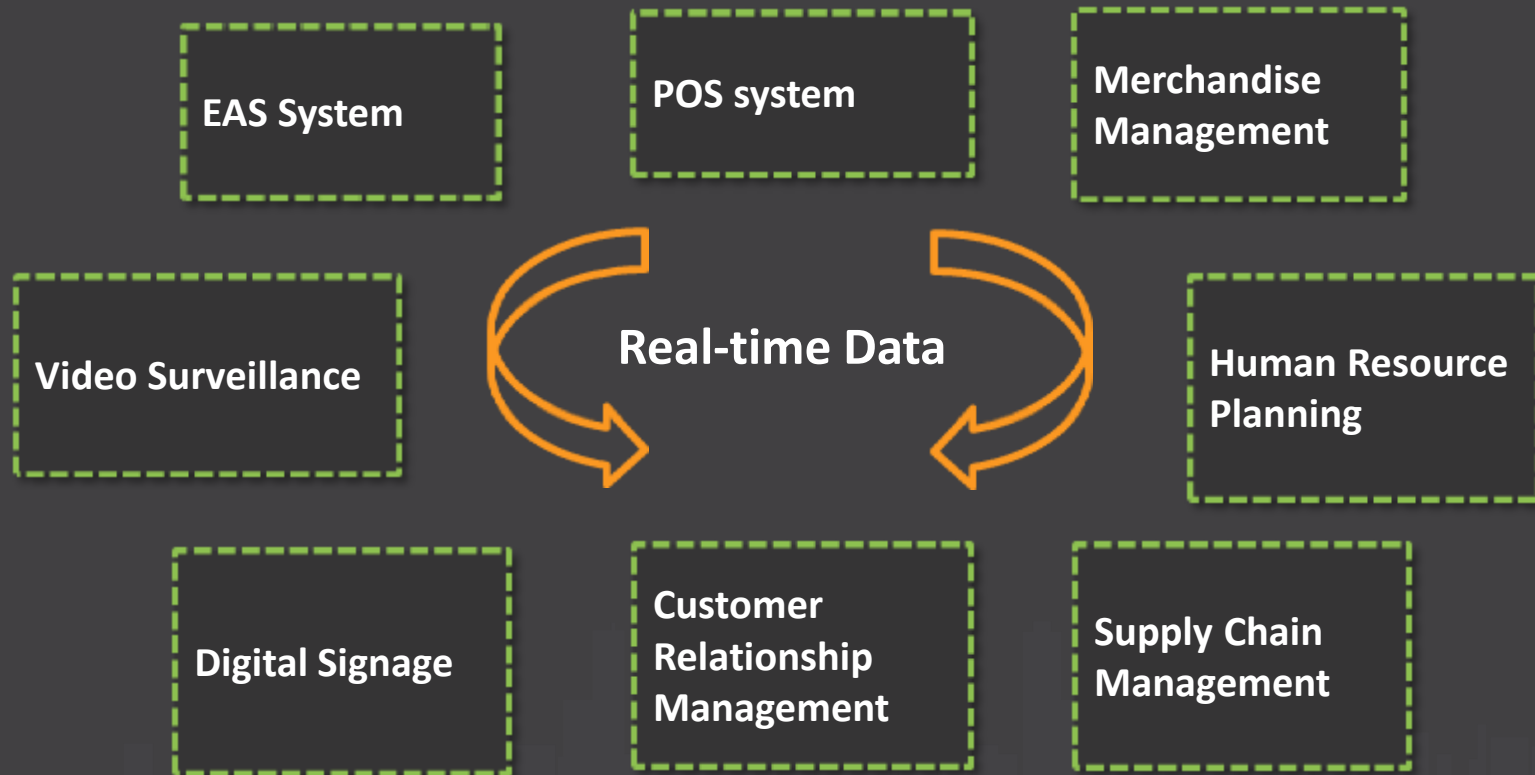
Automation of distribution centers



9. Outlook

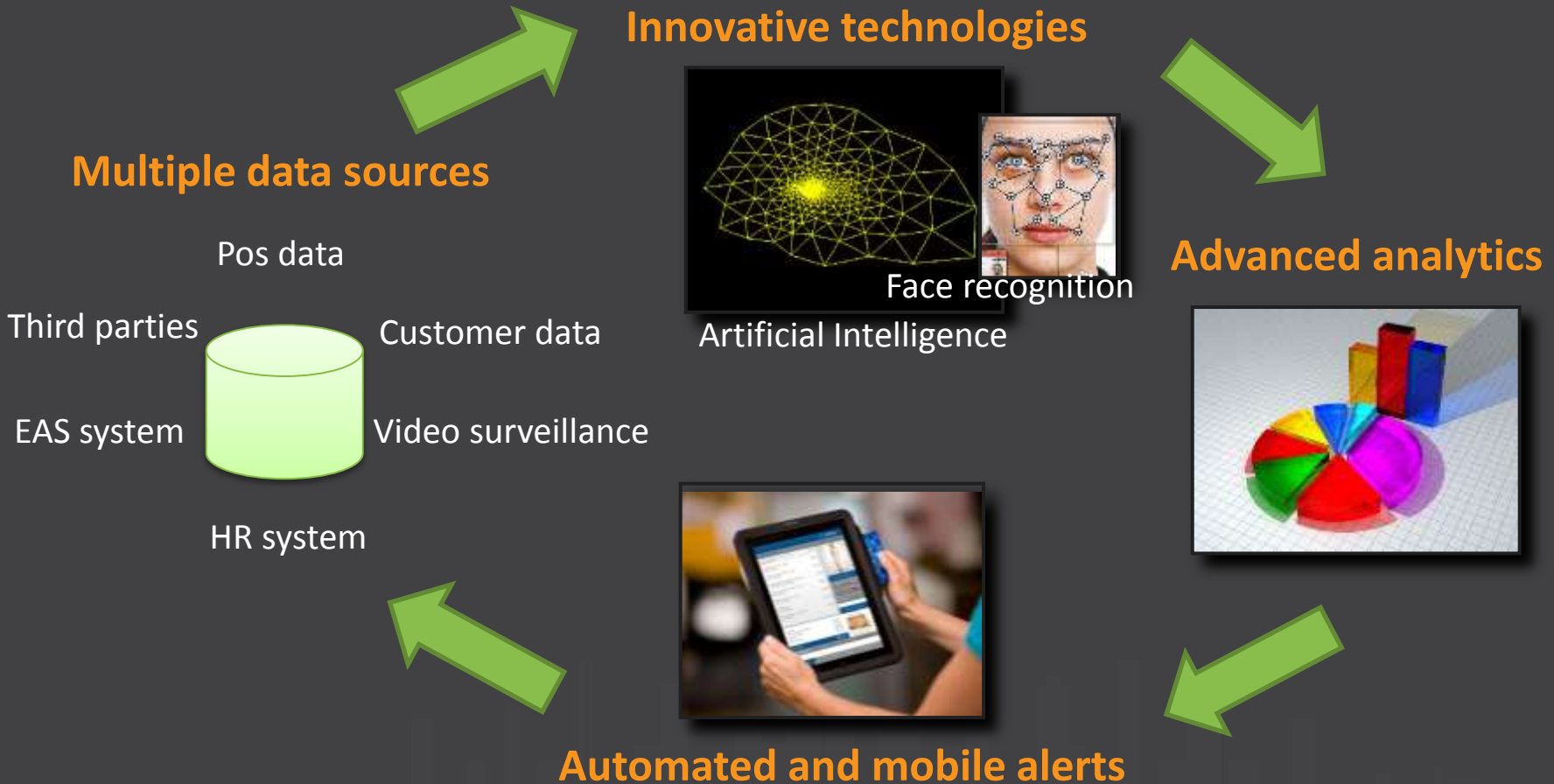
Outlook

Asset protection, risk & safety experts need to look at end-to-end business processes. Integrated IT systems have to support that.



Outlook

Next generation loss prevention solutions will be more **proactive**...



Outlook

...and **less intrusive** to customers.

“We have to move from
a thief-centred to a customer-centric
approach.”

Brand Elverston

**Director of Asset Protection
Systems and Analysis
Walmart**

Author

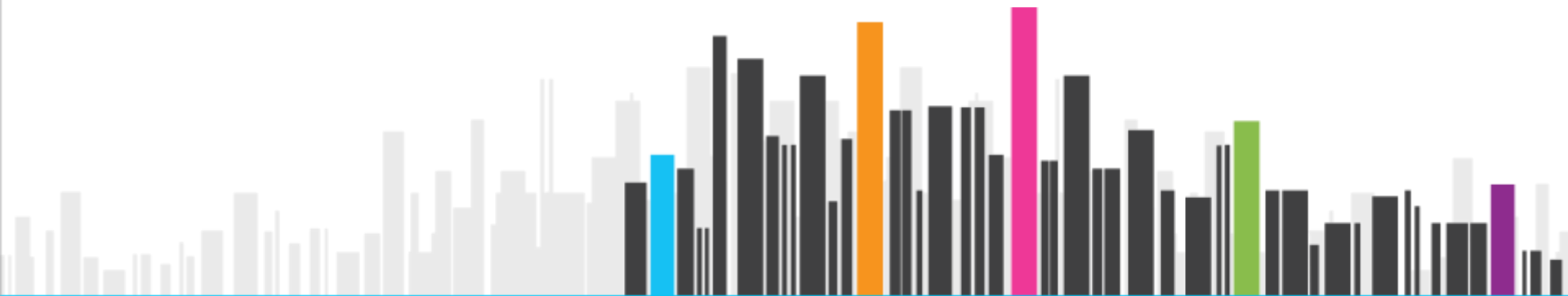


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Joachim Pinhammer is a Senior Retail Analyst, based in Frankfurt, specialising in retail technology and supply chain trends and collaboration between trading partners. Before joining Planet Retail, Joachim was Wincor Nixdorf's Retail Marketing Director for a decade. He has also held various management positions in sales and marketing at Siemens Nixdorf and Nixdorf Computer AG. Joachim started his business career working for German retailers Peek & Cloppenburg and Karstadt as a department manager after completing a combined study programme at the latter. Joachim qualified at Babson College, Wellesley in the US, through its Entrepreneurial Development Programme.



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