



Rethinking retail

The future is exciting.

Ready?

 **vodafone**

According to a recent global survey by the consulting group Capgemini

The development of mobile e-commerce and the growth of digitally savvy “Millennial” shoppers are drastically changing consumer expectations of the in-store shopping experience. To connect the dots between these new digital expectations and the physical reality of traditional in-store shopping, retailers are recognising that they need to offer a different type of service to their customers. This new type of shopping experience will require retailers to completely rethink almost all areas of their businesses.

The digital retail challenge

This paper gives retail executives an overview of how Internet of Things (IoT) technology can help their businesses meet the challenges of today’s digital retail revolution.

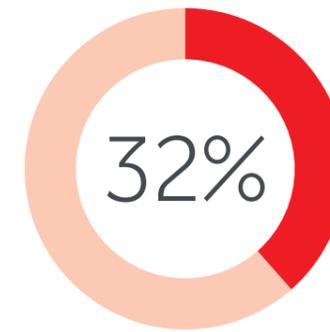
The growth of mobile e-commerce and the rise of digitally savvy “Millennial” shoppers are radically reshaping consumer expectations of the in-store shopping experience.

To bridge the gap between these new digital expectations and the physical reality of traditional in-store shopping, retailers are increasingly recognising that they need to offer customers a service that is more **seamless and convenient, responsive and agile**, as well as **personalised and engaging**.

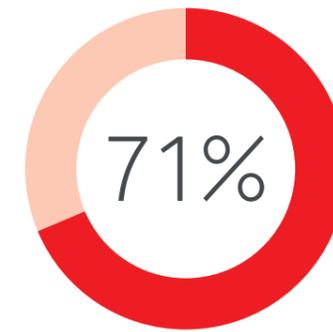
This new type of shopping experience will require retailers to completely rethink almost all areas of their businesses from logistics and shop floor operations to marketing, data management and analysis.

As being one of the largest sections of the world economy, retailing accounts for about 30% of the global GDP, with worldwide sales of \$22 trillionⁱ. However, increased competition, disruptive new technology and profound demographic changes are driving a digital retail revolution.

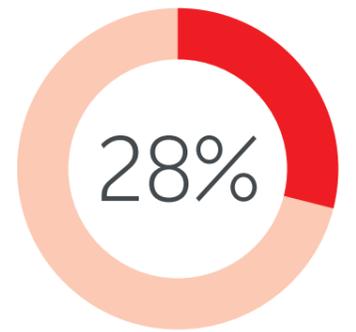
Although 90% of retailing is still carried out in stores and other physical locations, e-commerce is growing four times faster than the sector overall, with 24% annual growthⁱⁱ. At the same time, “digital native” Millennials (born between 1980 and 1995) have now overtaken Baby Boomers as the world’s largest group of shoppers and will comprise 75% of the global workforce by 2025ⁱⁱⁱ. What is already clear is that these continuously-connected, smartphone-backed shoppers, who have grown up with the convenience of online shopping, are no longer satisfied with the traditional stores.



A third of consumers (32%) would “rather wash dishes or clothes than visit a retail store”



Nearly 3 in 4 (71%) say they would be willing to bypass traditional retailers to buy directly from manufacturers or large internet players in the future^v



More than 1 in 4 consumers (28%) say they shop less often at retail stores because of competition from online giants

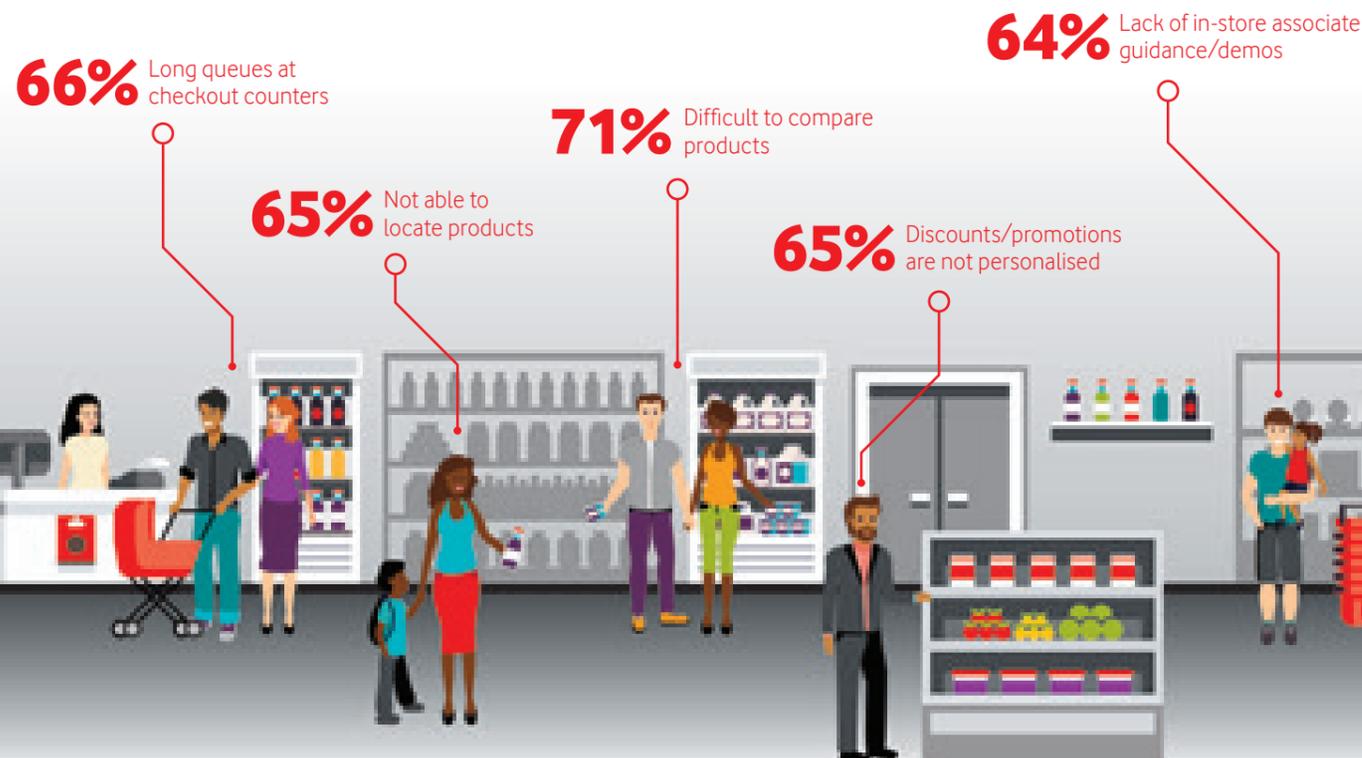
Faced with these challenges, retailers are increasingly recognising that today’s consumers want a shopping experience that is more

- seamless and convenient, including the ability to check product availability online before visiting a store, choose from multiple delivery options and pay immediately without facing long queues at the checkout;
- responsive and agile, including continuous availability of the latest products at competitive prices and transparent supply chains that guarantee customers the safety and the origin of products
- personalised and engaging, including advertising, promotions and shop floor assistance tailored to individual consumer needs and a more interactive in-store experience.

Obviously, adapting to these new consumer expectations presents challenges of its own ranging from better shop floor management, stock control and fleet management to more targeted marketing and better analysis of consumer buying patterns. However, in all these areas, Vodafone firmly believes that new IoT technology can help retailers bridge the digital–physical divide and create new, more innovative, profitable and sustainable stores of the future.

In this paper, we aim to show some IoT references are helping retailers transform their businesses into the seamless, responsive and personalised service that today’s consumers demand.

The most common reasons cited by customers for dissatisfaction with retail stores:



1. Smart payments

Wireless devices with built-in card readers to authorise electronic payments can offer an easy-to-deploy mobile solution that vastly improves the customer experience in terms of convenience and engagement. They avoid the need for retailers to install a network cable or landline connection and, since payments can be made around the store, consumers no longer have to wait in line at the checkout – something which two-thirds of store shoppers see as their main reason for frustration^v.

Unsurprisingly, more than a third of payment terminals shipped globally now include cellular connectivity, and by 2021, 87% of retailers expect to have mobile point-of-sale devices to scan and accept credit or debit payments anywhere in the store^{vi}.

Case study

One of Vodafone’s customers, the largest payment reader manufacturer in the US and the second largest in the world^{vii}.

- The Vodafone IoT solution involves placing the Vodafone IoT SIM in the terminal and remotely activating it via the Vodafone IoT Management Engine.
- The solution operates on a closed, private network and is simpler and more secure than integrating terminals into Wi-Fi or other local WLAN/LAN.
- The Vodafone platform portal allows self-management of data usage and costs.
- Since the Vodafone IoT SIM operates on the world’s largest international mobile network, it offers seamless, reliable coverage across national markets.

2. Connected vending 2.0

Retail units, from beverage coolers and freezers to vending machines, can be transformed into connected, intelligent assets that are able to report their location, operational status and stock levels in real time. They offer customers greater convenience while providing businesses with measurable and actionable data that allows them to cut costs and increase sales.

Owners of display cabinets typically lose between 5-15% of their assets annually due to unauthorised movements of the assets and mistakes in paperwork. The Connected Cabinets solution dramatically reduces such losses, as well as ensuring that cabinets are stocked with high-quality products at all times, so businesses can drive sales. Connected vending machines not only enhance efficiency and reduce cost, but also increase the diversity of products on offer and the engagement of consumers. Connectivity offers the possibility of electronic and mobile payment for products ranging from fresh healthy foods to pharmacy products or even higher-priced non-food items.

Because of such benefits, around 1.5 million vending machines are already IoT-connected and the number is forecast to grow annually by 19% to 3.6 million by 2020^{viii}.

3. Smart Digital signage

Digital signage allows in- and out-of-store advertisers to deliver tailored, localised content that can be changed according to the time of the day, the weather or even the person in front of it.

By providing a more engaging and personalised customer experience, they boost sales and can even generate extra revenue streams, with promotional space sold to third parties. According to Nielsen, four out of five product brands experienced a significant increase of up to 33% in additional sales through the use of digital media^{ix}.

Applications range from remote-controlled digital screen advertising or the projection of messages in mirrors to facial- and smartphone-recognition signage that changes according to the viewer and even fully-interactive screens. Indeed, with so many uses, the market is growing fast.

Global shipments of display screens for digital signage are forecast to grow at an annual growth rate of 17% to reach 19.9 million units by 2020^x.

Equipping shop floor staff with mobile tablets that contain detailed information about products, stock, location and even the shopping habits of the person the staff member is talking to can make the customer experience more convenient, engaging and personal.

Case study

Among Vodafone's clients is the leading vending machine manufacturer Jofemar that is present in 84 countries across five continents.

- The Vodafone IoT Management Engine enables Jofemar to install managed vending machines anywhere in the world.
- Information captured by the machines' internal and external sensors can then be transmitted securely to Jofemar servers, giving customers real-time access to their vending machines via Jofemar's 'J-Suite' application.
- Customers can access incident reports, data on sales and accounting, and even deliver real-time price updates across groups of machines.

For more information:

[Jofemar manages its vending machines globally](#)

4. Personalisation for improved customer experience

Driven by consumer expectations of a more mobile, personalised and engaging shopping experience and by retailers' desire to boost sales and profits, the use of mobile marketing to target smartphone users within a certain geographic area is expanding fast.

Indeed, location-based services (LBS) are forecast to grow at an annual rate of 38.9% to \$77.84 billion by 2021^{xiii}.

LBS operate using a variety of different technology, including conventional Wi-Fi, smart beacons, GPS geofencing and mesh networks – all with the same purpose.

By identifying the exact location or the proximity of a smartphone user to a particular area, LBS can help retailers to direct specific content or targeted vouchers to consumers in a particular part of their store.

Case study

In partnership with Vodafone, **Meshh** creates hyper local media networks able to deliver incredibly fast mobile content experiences that do not rely on Wi-Fi or data connectivity^{xiv}.

- Fitted with a Vodafone IoT SIM, any rich media content up to 5GB can be remotely uploaded to the Meshh box using the Vodafone IoT Management Engine.
- Any consumer within 30 metres of the box can then connect using their phone's Wi-Fi and can browse and download the content, faster than 4G and without using any data.
- Content offered to consumers can range from daily targeted sales vouchers to magazines and videos, while the Meshh technology is designed to work in any environment including stores, shopping centres, airports, taxis, buses as well as outdoors.

For more information: [Meshh delivers instant content for advertisers, retailers & communities](#)

Case study

Vodafone has worked with the international clothing retailer Mango and the technology solutions company JogoTech to develop pioneering interactive fitting rooms^{xi}.

- A touch screen installed in the fitting room mirror functions as a bar code scanner which allows customers to check the availability of other sizes and colours and even receive suggestions of items to complete the look.
- Customers can also contact shop floor staff to request items of clothing without leaving the changing room.

They can also boost sales and profitability. One US survey shows that half of shoppers (49%) would pay more for products or services if they had a highly personalised in-store experience. Moreover, 60% say they would feel more confident of prompt personal service if colleagues collaborate via mobiles or tablets^{xii}.

However, ensuring security of access, multi-country deployment, consistent user experience and centralised management of the devices are all major challenges.

- Vodafone provides reliable and secure wireless connectivity to the screen hardware, enabling content to be uploaded and changed remotely and in real time.
- It also provides Mango with global IoT coverage with the same SIM and a single point of contact for reporting, customer support and billing, which facilitates international expansion and avoids the need to deal with multiple suppliers.



5. Efficient omnichannel

The need for more visible inventory and agile supply chains is an urgent priority for retailers given the rising expectations of today's digitally savvy customers.

At the same time, the impact of getting the logistics wrong can be enormous. The global cost of inventory distortion – including oversupply leading to price markdowns, undersupply resulting in lost sales and shrinkage due to waste and theft – is estimated at a staggering \$1.1 trillion^{xvii}.

Faced with the twin challenges of meeting new consumer demands and avoiding inventory distortion, it is not surprising that 3 in 4 retailers are now planning to reinvent their supply chain with real-time visibility enabled by automation, sensors and analytics^{xviii}.

IoT solutions can help retailers transform supply chains from the storefront to manufacturing, logistics and distribution, including their delivery fleets. In terms of inventory control, solutions range from connected cabinets or store room trays fitted with load cells to individual products fitted with radio-frequency identification (RFID) tags. Apart from avoiding stock shortages or wastage, such solutions also allow retailers to give their customers the real-time visibility of in-store product availability they demand.

For retailers with in-house manufacturing capacity, IoT solutions can also cut downtime, improve productivity and enable just-in-time production processes to meet fast-changing consumer demand. Such technology has already helped some clothing retailers get an item from concept to store in as little as two weeks compared to the industry standard of six months^{xix}.

Case study

Feintool is a leading manufacturer of presses for fineblanking – a production technique for complex steel parts commonly used in the automotive sector. A solution developed by Vodafone has allowed the company to significantly improve productivity and customer satisfaction.

- Each new Feintool press is installed with a Vodafone Machinelink 3G device connected via IoT SIMs to Vodafone's Remote Monitoring and Control Service (RMCS).
- The RMCS allows Feintool's clients to remotely monitor their presses in real time, and detect and resolve emerging faults before they disrupt production.
- The Vodafone solution not only provides highly secure connectivity but also allows the presses to be monitored anywhere in the world using Vodafone's IoT SIM operating on the world's largest international mobile network.

For more information: [Feintool works tirelessly to eliminate manufacturing downtime](#)

Vodafone's transport and logistics IoT solutions can help retailers in terms of distribution and delivery. Connected in-cab monitoring systems ensure that vehicles reach their destination on time, routing the driver around traffic black spots and monitoring the vehicle's engine condition to pre-empt potential breakdowns. In case of Vodafone, our IoT SIM cards ensure that drivers receive the same experience regardless of where they are delivering to. At the same time, our Vodafone IoT Management Engine gives clients a single web-based interface for tracking the status of all their deliveries in real time.

The advantages of all these IoT solutions are considerable in terms of speeding up production and distribution, cutting fuel and maintenance costs, improving sustainability and providing customers with real-time status updates on their deliveries.



70% of customers say they need products quickly



80% are less inclined to visit a store if its website does not show current product availability



73% want same-day delivery of those products^{xv,xvi}



6. Data management & insight

As with most things in today's technology-driven world, data is the Holy Grail, and the IoT solutions described above can provide an abundance of it.

However, organisations under time pressure can be forced to use disparate systems that are cost-heavy and cause friction when it comes to driving a better customer experience, sales and profits across various channels. Only a standard and robust digital infrastructure can fully optimise and streamline the process that will ensure customer satisfaction.

Partnering with Vodafone means that businesses get a unique one-stop shop for all their communications needs and a single managed service for their social, mobile, data and cloud requirements.

- **Vodafone's IoT Management Engine** gives businesses the visibility and the control of their IoT devices almost anywhere in the world.
- It can track the location of any IoT SIM installed in an asset, alert you to unusual activity, produce reports on performance and data usage, activate new SIMs and, as all the infrastructure and platforms are wholly owned by Vodafone, security is built in from the ground up.
- Since investing in big data insights is just as important as data collection, Vodafone has partnered with IBM to launch a series of new industry solutions using IBM's Watson IoT Platform to help clients make smarter, data-driven business decisions^{xx}.

Next steps

With over 25 years' experience in the IoT arena and more than 1,400 dedicated IoT experts, Vodafone has worked with businesses around the world to understand their needs. And as retailers ourselves, with over 15,000 stores in 26 countries serving 450 million customers, we have a particular understanding of consumers and retailing.

However, we don't know it all. We don't know everything about your business and your specific objectives. That's why we spend time with you, learning about your business and understanding your world before creating a suite of tailored solutions that address your business objectives.

Find out more about what Vodafone can offer you at www.vodafone.com/iot

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