DIGITAL INNOVATIONS REPORT
2016
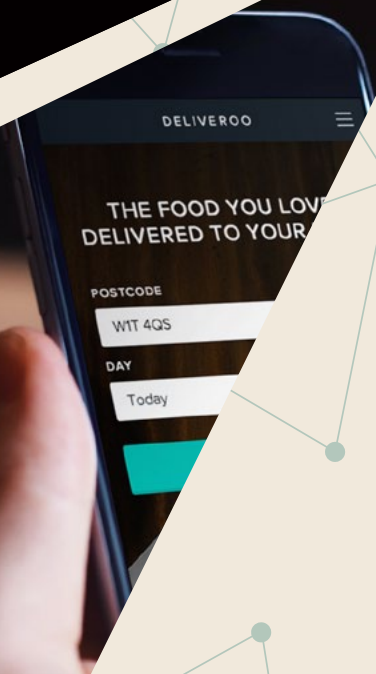
DIGITAL INNOVATIONS REPORT

2016

CONTENTS

Welcome to the annual *Retail Insider Digital Retail Innovations* report for 2016 that aims to highlight the most interesting digitally-fuelled technology developments in the retail sector.

As with last year's report it contains the Top 50 UK & Ireland innovations as well as a Top 10 drawn from overseas, which hopefully gives a full flavour of the current technology trends within the retail industry globally.

There has been no escape from the impact of digital on the landscape of the sector and specifically from one single operator: Amazon. Its significant presence in this report is particularly noteworthy. The fact it is joined by Google and eBay at the top of this year's ranked table shows how large technology-driven firms continue to deliver agile solutions and disrupt the retail sector.

But it is not just about large organisations as the report also has plenty of examples of new, small, start-ups that are playing a big part in the ongoing development of the retail industry.

The nature of the technology beast is that it continues to evolve at a rapid pace so compiling such a report is always going to be a tough job but hopefully the robust methodology that has been applied to the process gives it the credibility that we've worked hard to achieve.

Despite the toughness of the task we believe this year's report successfully brings together 60 truly interesting innovations that can provide inspiration to retailers and technology providers alike.

Helping massively with the creation of this report is the specially selected Advisory Panel who helped rank the innovations in order. This is quite a task and the time, effort and diligence they have each generously given has been very much appreciated and I wanted to express my thanks to each one of them.

Finally, I would also like to thank Webloyalty for their continued sponsorship of this report, which I believe has further grown in stature this year – helped by their ongoing support. We very much hope you find value in this new list as we ourselves continue on our quest to find more new technologies shaping the retail industry. We look forward to sharing those with you next year but for now enjoy the best innovations of 2016.

Glynn Davis
Retail Insider | @GlynnDavis

For the third year running, Webloyalty has the privilege of supporting Retail Insider's Digital Retail Innovations report. Here, we're providing insight into innovations on the horizon and the way in which the retail world is being transformed by new technologies and responding to the digital age.

Innovation in retail is gathering pace rapidly and it's refreshing to see a new breed of innovators joining this year, next to those that continue to evolve, such as Starbucks Mobile Order & Pay, Amazon Dash and Doddle. It's great to see smaller businesses investing in ground-breaking technology, with estate agents Sherry Fitzgerald and its home-viewing virtual reality headsets, providing one example. But retail giants are also on board, with Westfield shopping centre's augmented reality mirror enabling consumers to buy items from a personal stylist while in a completely different location.

Ultimately, these technologies are changing the way we shop, from ordering, payment and product interaction through to fulfilment and returns. Particularly remarkable is the use of robots, visual search and GPS technology to transform aspects of the retail experience. Apps are also playing an increasing role, with big strides being made in innovation in this area, including Net-a-Porter's NetSet app, which enables users to upload photos of clothing and find similar products using image-recognition technology.

Collaboration is another area that retailers are looking at to improve the customer journey and offer an experience that's truly unique and personalised. We're seeing some great examples of this with partnerships between leading tech firms and forward-thinking retailers who believe that by working together they can offer customers even more.

A great example of this is Domino's Pizza. Domino's is working alongside Australian start-up firm Marathon Robotics to create a robotic cart able to make deliveries. Meanwhile, John Lewis has partnered with tech firm Cortexica, creating a new tool allowing customers to find similar products on its website. This will make finding the right thing even easier and will no doubt have a positive impact on sales.

We shouldn't underestimate the hard work and the hundreds of thousands of hours that go into making the technology what it is today. That's why this report is a great opportunity for our industry to celebrate the successes and spread the knowledge on how such leading-edge innovations came to life. Being innovative is no easy task and collaboration within the industry is crucial so we can share experiences and good practices. We're glad to be part of the discussion.

This report would not be possible without the top group of industry experts that have made up our advisory panel. We're grateful for the time they have spent evaluating the initiatives and drawing up the list. Their insight ensures this report is weighty and truly prophetic in our sector.

We also want to say a huge thanks to Glynn Davis and Retail Insider for the opportunity to be, once again, part of this report.

GUY CHISWICK
Managing Director, Webloyalty, Northern Europe
@Webloyalty_Guy

THE ADVISORY PANEL

DANIEL HEAF
SVP Digital Commerce, Burberry
Daniel joined Burberry as SVP Digital Commerce in 2014 following a four-year stint at BBC Worldwide where he worked as chief digital officer. Prior to that he worked for several years at Channel 4 where he joined its investment arm 4iP and specialised in leading early stage investments in UK digital start-ups.

SABRINA FARAMARZI
Strategic Insights Analyst, Portland Design
Sabrina is presently strategic Insights Analyst within international retail design and strategy consultancy Portland Design. Formerly trend researcher for creative agency Bureaux Design, and prior to that she worked as a freelance researcher on a variety of fashion and beauty retail projects. She has worked on projects for a number of brands including Body Shop, Esprit, Bugaboo, Wolford and Aromatherapy Associates.

MARTIN NEWMAN
CEO, Practicology
Martin has been involved with multi-channel retail for more than 25 years – presently at strategic consultancy Practicology, which he founded. This followed a variety of roles that included head of e-commerce for both Burberry and Ted Baker, interim Director of E-Commerce for Pentland Brands, and head of Marketing for Harrods' Home Shopping Division. He is also a non-executive director of Conviviality Retail and sits on the advisory board of Wiggle.

JOHN BOVILL
IT and E-Commerce Director, Monsoon Accessorize
John joined Monsoon Accessorize in July 2013 as a member of the operational board, with responsibility for the full e-commerce P&L as well as the digital and technology strategy. Previously worked at Jacques Vert Group as Commercial Director and prior to that he spent a number of years at Aurora Fashions, assuming three roles during his tenure - Supply Controller, Business Development Director and Group IT Director.
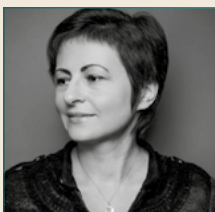
NADIA SHOURABOURA
CEO, Hointer
As US-based CEO of Hointer Nadia is reinventing the shopping experience through the creation of a new way of discovering, trying-on and buying clothing. She joined Amazon.com in March 2004 as Technology Vice President of its worldwide operations, with ownership of the technology that powered Amazon's global supply chain and fulfilment. She also served on Jeff Bezos' senior leadership team responsible for overall direction and operations of Amazon. Prior to Amazon she has worked for a number of technology start-ups and has a PhD in Mathematics from Princeton.

PAUL WILKINSON
Head of Technology Research, Tesco Labs
Paul has the job of finding the best technology in the market to make life easier – both for Tesco customers and colleagues. His remit is to help people experience the future today as technology changes the way they shop. This involves dealing with the likes of Microsoft and Google as well as start-ups and then bringing back ideas to Tesco and figuring out how to make them work for the company.

JONATHAN WALL
Group E-commerce Director, Shop Direct
Prior to joining Shop Direct in 2010 to head up its e-commerce function, Jonathan held the CEO position at Flowersdirect.co.uk and before that he was Marketing Director at Dabs.com, which he joined during the dotcom boom in 1999.

THE ADVISORY PANEL

SIMON HARROW
CEO, Elevaate

Simon is presently CEO of technology platform Elevaate as well as being an investor at digital investment and business incubator Haatch. Prior to this he was chief operating officer at Kiddicare and held senior digital roles within Morrison's after they acquired Kiddicare in 2011. He sat on global, European and UK advisory boards for a number of companies including IBM Coremetrics, and Oracle Endeca.

AJ VAN BOCHOVEN
Head of Strategy and Innovation Consulting, Cambridge Consultants

AJ works with leading retail and logistics companies to identify new innovation opportunities and to then successfully realise those in the market for his clients through Cambridge Consultants, which is a world leading technology and innovation company. He has accumulated over 20 years' experience in advising companies on how to innovate and what innovations to pursue.

JOE TARRAGANO
Managing Director, We Are Pentagon

Joe currently leads the We Are Pentagon Group, the leading partner for retailers selling via marketplaces – including eBay, Amazon, T Mall and Flipkart. He provides consulting, trading, technology and fulfilment support. Previously headed the retail practice at digital transformation consultancy Transform and for the six years prior to that he led eBay's retail team.

DANIEL LUCHT
Global Research Director, Research Farm

Daniel leads a team of analysts and consultants, with a remit that includes developing strategic content and new revenue streams, as well as corporate planning. He has over a decade of experience analysing the sector and identifying latest industry trends, working with FMCG companies and retailers such as Tesco, Nestle and Disney.

ALASDAIR LENNOX
Executive Creative Director, EMEA, FITCH

Alisdair was appointed to his present role in 2014, he directs the creative output for FITCH's studios in the EMEA region. He joined FITCH as a junior environmental designer in the late nineties and while working his way up, he has evolved a broad spectrum of design skills. He continues to solve complex commercial and strategic challenges for international clients including Adidas, Vodafone, Diageo, and Apple.

BAZ SAIDIEH,
CEO, TrueStart

Baz's present role involves overseeing all investment decisions, as well as business operations at TrueStart, while actively supporting the portfolio companies once an investment has been made. He is currently an active adviser or board member of The Unseen, Presence Orb, Purecomm, Hoxton Analytics, Photospire, Styleicona and Clotho. He has worked in the technology area for 15 years and has been a consultant for Accenture. He has a particular interest in fashion disruption, retail innovation and consumer technologies

MIYA KNIGHTS
Head of Global Retail Technology, Planet Retail

Prior to joining Planet Retail, Miya was a senior research analyst with IDC Retail Insights, having previously edited Retail Technology magazine for 10 years. She has over 15 years' experience as an analyst, journalist and editor specialising in enterprise technology use in retail. She has spent this time reporting on the demands and challenges faced by retailers and which technologies can best support their needs in addressing ever-more complex consumer expectations and behaviours.

METHODOLOGY

Consultation was undertaken with a broad range of individuals from across the retail, technology and start-up arena – encompassing analysts, senior retailers, researchers, IT specialists and investors.

From this process a long list of digitally-driven innovations was drawn up, helped by deliberations with some of the individuals on the specially selected Advisory Panel.

This extended list was reduced down to 50 innovations from the UK and Ireland and an additional 10 from overseas. Each innovation on the list was then scored privately by members of the Advisory Panel on four criteria – how innovative, how potentially commercial, potential influence across the sector, and potential benefit to consumers?

Collation of these scores helped create four tables, based on each of the criteria, as well as a table for the all-important overall score.

The final report contains a separate Top 20 table for each of these four criteria as well as Top 50 for the overall score. In addition there is a Top 10 table for the overall score attributed to the overseas innovations.
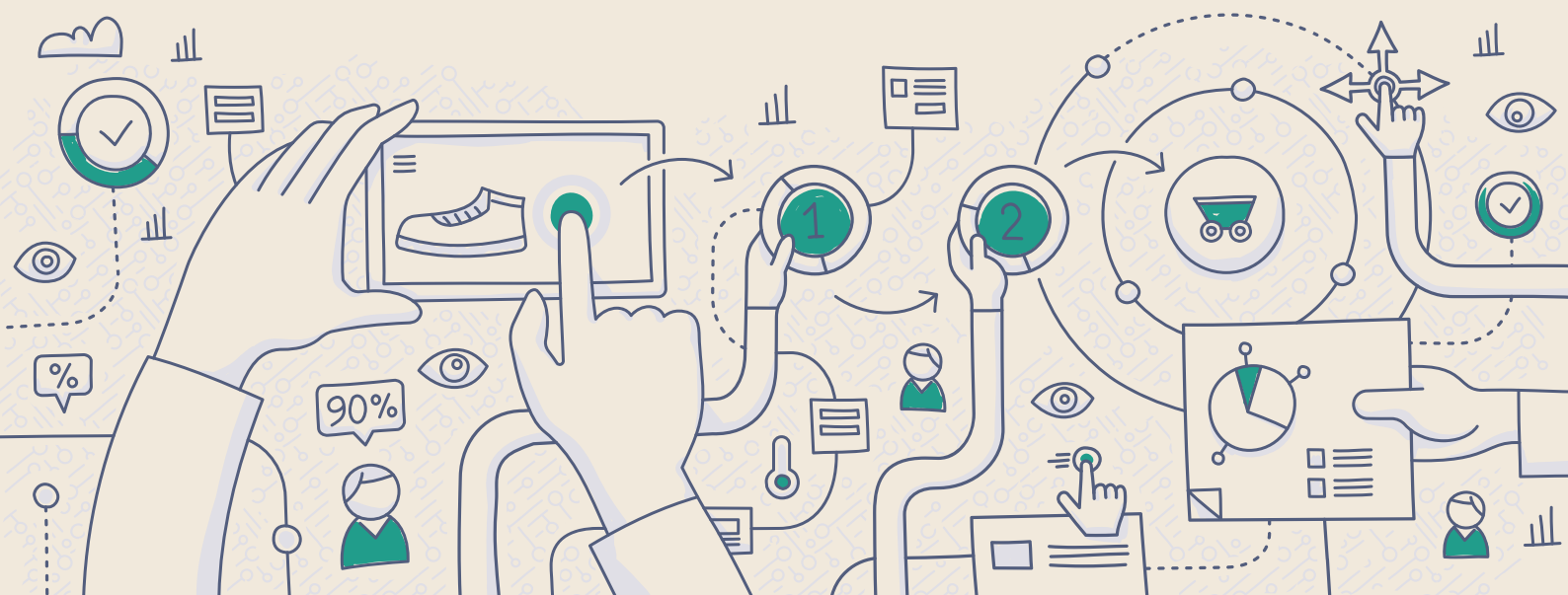
INNOVATION RANKINGS

TOP 50 UK AND IRELAND INNOVATIONS

AMAZON ECHO

1
925

If the future of retail involves frictionless voice-controlled solutions then Amazon is well placed with its Echo device that became widely available in 2015 and is constantly evolving. Looking like a wireless speaker, which now comes in three formats, it is capable of voice interaction, music playback, making to-do lists, ordering goods, setting alarms, as well as providing weather, traffic and other real-time information. It can also control several smart devices. Amazon is undoubtedly learning an incredible amount about the lives and behaviours of the growing number of people who have an Echo device sitting in their homes.

GOOGLE HANDS-FREE PAYMENT
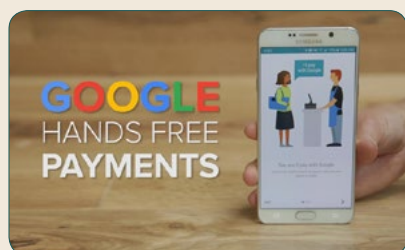
2
867

Google has developed a hands-free app that enables customers of Papa John's and McDonald's among others to make in-store purchases without using either a phone or wallet. Shoppers create a profile requiring photo ID and credit/debit card details and the app locates participating retailers. When purchasing through Hands Free, the cashier confirms identity with the customer's initials and profile photo using an in-store camera - which then immediately deletes the images from the system. Sales notifications are sent through to the app after every transaction.

STARBUCKS MOBILE ORDER & PAY
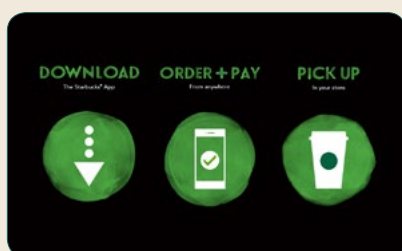
3
821

Starbucks has been experiencing significant growth from its Order + Pay app that has recently been rolled out to all UK stores. It enables customers to order food and drinks before they arrive at the store and to pay through their device. Usage of the app has doubled to now account for eight million transactions per month. The app uses GPS technology to determine the nearest store to the customer and routes the order accordingly. Starbucks continues to experiment with the Rewards aspect of its app and is looking at sending targeted promotions in real-time.

AMAZON DASH

4
800

The Dash service from Amazon involving a button that is branded to an everyday FMCG item that customers press to order the product from the retailer has been extended into the *Internet of things* territory as Amazon builds out its Dash Replenishment Service. The company has teamed up with various appliance makers including GE and Whirlpool to incorporate automatic reordering into their products. So when detergent is running low the washing machine will reorder from Amazon through its laundry app.

DELIVEROO

AMAZON LOGISTICS

FITTERY

UNMADE
ON-DEMAND CLOTHING
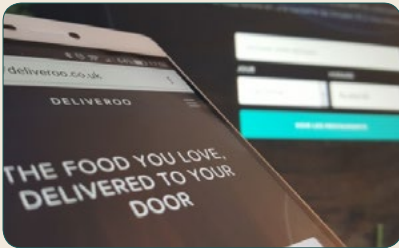
5
789

If you live in an urban area, then cyclists with Deliveroo boxes on their backs will be a familiar sight. Unlike the majority of food delivery businesses, which are purely online marketplaces for takeaway restaurants, Deliveroo also handles the delivery aspect of the process. This is a key component of its proposition because it partners with premium restaurants that don't typically provide a delivery service. The company's hyper-local approach is doing well in areas with high population densities - where a healthy chunk of the demographic will be time-poor and there is a high level of quality restaurants.

6
771

Online juggernaut Amazon is edging closer to operating a full end-to-end retail model as it beefs up its logistics operations with the ultimate aim of reducing its reliance on third-party delivery companies. It has leased 20 Boeing 767 freighter planes for use in the US and it is among the bidders for the German Hahn airport in Frankfurt, which would provide it with a European logistics hub. Such are Amazon's ambitions that it is no doubt not only looking to just fulfil for orders taken on its site but will look to sell capacity to other retailers by undercutting the large carrier firms.

7
765

Online clothing marketplace Fittery has reduced the levels of returns to less than 0.5% through its FitMatch system that ensures shoppers select the correct size of products. When first using the store customers are asked for rudimentary information such as weight, height, and waist measurements as well as preferences including slim or classic fit – through images rather than words, which better reflects their actual preferences. This information is matched to the precise sizes of garments sold on Fittery including J. Crew and Lands' End. The database and sizing technology deliver an accuracy level of 96.3%.

8
762

Knitwear brand Unmade opened a pop-up shop in Covent Garden to offer customers the ability to design a piece of knitwear via a tablet and then have it made for collection shortly afterwards. The system uses the same kind of large industrial knitting machines that the mass market knitwear industry utilises, however, it implements an advanced software technology to allow alteration in the basic template of the digital file so that customers can very easily and quickly personalise their own garment. When the consumer clicks 'buy', the garment with all its new modifications is added to a digital queue, to be produced and collected later. This '3D printing for fashion' allows dynamic changes to be made to what was a static process – without any dramatic increase to the cost.

SNAP FASHION
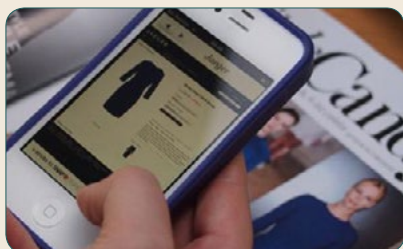
9
789

Online store Snap Fashion enables fashion followers to take a photo of any item they spot – in a blog, magazine, on social media or for sale on other retailer's site using the camera function within the app – and for something similar to be found for them. The visual search technology quickly finds the relevant items from within the collections of many brands. The Snap Fashion catalogue has products from 250 brands and retailers including New Look, Topshop, Farfetch, Net-a-Porter, and Selfridges. Goods can then be bought direct from the retailer.

EBAY / FACEBOOK MESSENGER
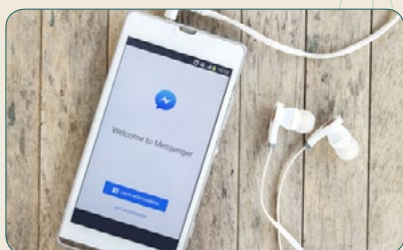
10
771

A tie-up between eBay and Facebook highlights the move by retailers to utilise messaging apps, which are proving particularly popular among consumers. eBay is using Facebook Messenger to alert shoppers when an auction for an item they are bidding for is ending. Additional bids can then be placed directly through the Messenger notification. This is an example of how consumers are being increasingly offered new direct and simple ways to buy goods.

TESCO ROBOTS

11
765

Tesco is currently experimenting with Radio Frequency Identification (RFID) robots to keep shelves stocked with its clothing range F&F. The technology developed by US-based RFSpot could spell the end for aged handheld inventory counters that employees presently use as the robots much more efficiently glide through the aisles and stockrooms electronically reading/counting each item's RFID tag. The data collected is then fed back to servers where employees can identify where stock is low, where items have been misplaced, and which ranges are generating the highest sales.

IKEA VR KITCHEN

12
762

IKEA is trialling a virtual reality kitchen solution via gaming platform Steam that requires a HTC Vive headset to explore the kitchen. It is part of its ongoing strategy to empower customers without damaging the environment. The company believes virtual reality will become an increasing part of retail and is keen to eventually develop an opportunity for customers to try out new kitchens before they buy. The current trial allows the user to change the colour of kitchen cabinets, walk around the area, and even shrink themselves down to the size of a child to assess safety implications. IKEA hopes that users will interact with the kitchen and submit ideas and improvements to the company thereby using it also as a customer engagement tool but it does

TOSSED
AUTOMATED RESTAURANTS

13
759

After 18 months of development the Tossed restaurant chain has introduced a kiosk system that is designed to strip-out wasted time and inefficiency. It enables employees to focus on preparing food while the customers concentrate on ordering their chosen meals. Tossed outlets are being kitted out with a range of tablets, which customers use to customise their salad or hot dish before the order is sent direct for preparation without any referral to staff at all. The process also includes taking payment for their items – with no cash payment alternative. As well as ordering via the kiosk, customers can use the company's app and website and take advantage of the Tossed Click & Collect option.

LEVI ROOTS
CARIBBEAN SMOKEHOUSE

14
752

The Westfield Stratford restaurant of Levi Roots has fully utilised technology that impacts the full customer journey. Downloading the Caribbean Smokehouse app enables diners to receive notification of how long the wait is for a table and when it is ready. The restaurant the bill is automatically started within the app and customers can check its contents, split it, add tips and pay on their phone. The technology links the kitchen and front-of-house with the ConnectSmartKitchen solution, enabling staff to track times from order to delivery to the table.

AUDI DIGITAL
SHOWROOMS

15
742

Audi developed its ground-breaking customisation software as a reaction to the problem of housing multiple show vehicles in large and expensive premises. Its technology allows the personalisation of Audi models, which has helped deliver sales growth of 70%. The customer and sales assistant use the software to look at all the fabrics/design permutations possible on the desired model. The final design is then visible on large screens and viewable in a spin-around 3D version. The customer then leaves with a personalised code and brochure, which is used to order the car. This code can be used on the customer's own device to edit the car profile at home until the final design is ready.

SHERRY FITZGERALD VR
HOME VIEWING
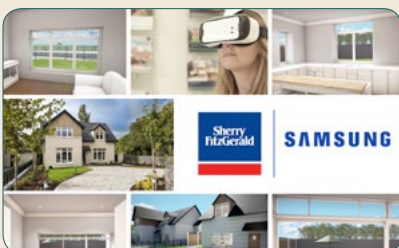
16
725

The Ireland-based estate agent has partnered with Samsung Electronics to develop virtual reality headsets. These headsets allow potential house buyers to walk through, as yet un-built, properties. Sherry Fitzgerald claims the headsets provide a comfortable, easy-to-use 360 degree experience. The company also worked with an artist to create a VR walkthrough of one of their properties for sale in a forthcoming high-end development, which allows the viewer to see the proportions of the rooms, to gauge the external views from windows, and to experience the finished appearance of a show house. Feedback has been very positive and Sherry Fitzgerald plans to have headsets in each its branches.

JOHN LEWIS / CORTEXICA

17
698

John Lewis has augmented its website offering with a *Find Similar* button which uses visual search technology from Cortexica to allow customers to find similar products by colour, shape, or pattern. The move is being trialled via the John Lewis iPad app on its fashion ranges, which feature the *Find Similar* button above every product. The image-recognition technology mimics the human eye to recognise similarities from digitally captured images. John Lewis has reported a high level of customer engagement with the button.

SHOP DIRECT / TANGIBLEE

18
694

Shop Direct has been increasing mobile sales at its Littlewoods and Very Exclusive sites through the use of Tangiblee that allows customers to virtually contrast the size of items they are considering purchasing against similar items they already own. Initially the technology was focused on handbags and luggage, allowing customers to make a comparison between the size of a known item and an unknown one. Using Tangiblee, ShopDirect found net revenue per visitor increased by 10.3% and nearly a fifth of customers who saw the size comparison tool used it for nearly 30 seconds. ShopDirect is expanding the use of the technology to encompass watches and jewellery, which will be tested in its in-house user experience lab.

DODDLE

19
693

Fulfilment provider Doddle continues to enhance its solution to retailers' ongoing last mile delivery issues. Now located at 45 train stations around the UK Doddle shops provide conveniently located collection points for online ordered goods. This past year has seen the company launch Doddle Neighbour that involves individuals and their homes/offices acting as the collection hub for receiving and returning parcels and for them to then deliver to their neighbours within a defined radius. They are paid on the basis of the number of packages they deliver.

THE NORTH FACE / IBM WATSON
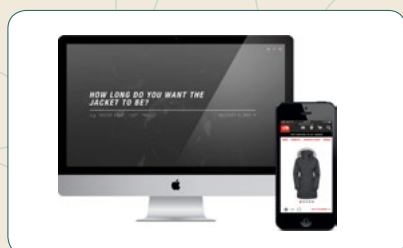
20
693

Outdoor brand The North Face is using machine learning to help customers find the most relevant product for their needs. Using IBM Watson technology, natural language is used to ask the customer a series of questions as it gradually hones in on the ideal product - determined by their specific needs that are worked out from the intelligent questions asked. Throughout the interaction the solution throws up a selection of potentially suitable products that then give visual cues to the shopper, thereby helping it move closer to the ideal item.

BODEN / SIZEMIC

21
687

Fashion retailer Boden has enlisted 200 female customers to help create a set of average body shape and size templates through 3D scanning. Using a mobile scanning unit from technology firm Sizemic, which takes only eight seconds to gather 800,000 data points, the templates go much further than the usual standard measurements to create a more detailed profile of its customers' bodies. It is envisaged that the innovation could eventually impact on the design of Boden's clothing and how it sizes its clothing across the ranges.

MODIFACE AUGMENTED REALITY MIRROR

22
682

Well known for powering the Sephora Virtual Artist app and L'Oreal's MakeUp Genius app, ModiFace has recently extended its augmented reality solutions for cosmetics brands with the launch of Mirror HD. The technology realistically simulates the effects on the face of make-up and medical procedures such as teeth whitening. By looking into the mirror a live video is produced and displayed on the actual mirror that can show the effects from different angles. The customisable tool has lots of potential applications for retailers.

HEAL'S / GOINSTORE

23
680

Heal's is among the retailers using the GoInStore solution to give online customers more information about products via a one-on-one interaction. It uses an assignment engine to select the most relevant sales assistant, based on their expertise, and then when they are kitted out with Epson Moverio smart glasses they are able to give the customer a rich visual and audio experience direct from the store. The sales assistants also have customer information from the retailer's CRM system displayed on the lenses, which gives an added layer of personalisation.

RIVER ISLAND 'CLICK & DON'T COLLECT'

24
676

Fashion retailer River Island is solving the problem of uncollected online orders in-store by offering customers the option to switch to home delivery if they are unable to make it to the store to collect their items. By offering the Shutl 90-minute delivery option to customers that have selected collection in-store, but have yet to collect their order River Island has reduced the level of uncollected goods. This avoids the customer requesting a refund and the retailer having the expense of re-introducing the items into their supply chain.

ELEVAATE / HOUSE OF FRASER
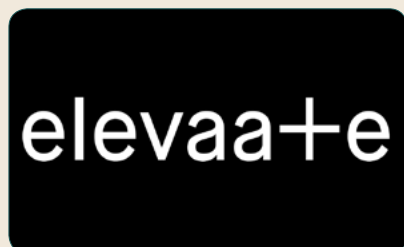
25
675

House of Fraser and many other retailers including NotOnTheHighStreet are using the Elevaate platform to bring traditional merchandising techniques to their digital offerings. Brands bid in online auctions for different parts of the retailers' digital space thereby enabling products to be promoted online to complement traditional in-store displays. Brands could bid to be on the home page or at the top of a category. The solution could prove valuable to retailers as trade promotion spending is up to five times bigger than marketing spending.

ENJOY.COM
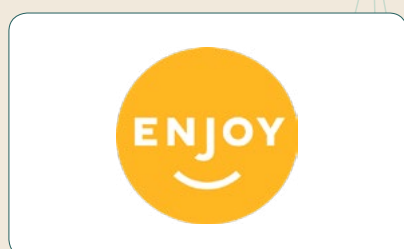
26
675

US-based online retailer Enjoy.com is looking to remove the frustration many people have with technology by offering an end-to-end service that ensures every customer is guaranteed their purchase ends up fully set up and working correctly. Products are hand delivered, set up and the customer receives a tutorial on the item purchased. To ensure shoppers buy the correct product in the first place, Enjoy.com contacts them ahead of time so they understand exactly what the customer is looking for.

TESCO IF THIS THEN THAT (IFTTT)
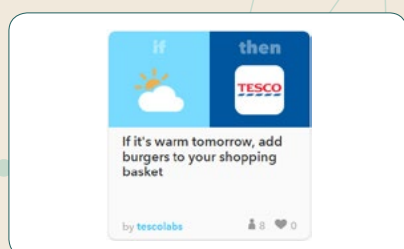
27
668

Tesco has tied up with app-connecting IFTTT platform that enables shoppers to link apps such as Twitter, Facebook and those monitoring the weather or their exercise regimes whereby when an action takes place then items are added to their shopping basket. So if the weather hits a certain temperature then a pack of lager could be placed in their online basket. This brings closer the day when shopping becomes automated. Tesco will undoubtedly benefit from the customer insights it gains from the way customer interact with the solution.

DOMINO'S DELIVERY ROBOTS

28
663

Pizza chain Domino's is trialling pizza deliveries using a robotic cart known as a DRU (Domino's Robotic Unit). The company has pioneered the technology with Australian start-up firm Marathon Robotics. The robot uses bike routes and pavements, thereby avoiding heavy traffic, and it finds the fastest route. It has am electric motor that will last for 12 miles and a compartment, which can hold an average order of pizza, side dishes and drinks. On arrival at a delivery point the device sends an automatic message to the customer, Domino's has found that the recipients are happy to come to the pavement to meet the DRU and engage with it to obtain their food. Domino's is in talks over legal approval for the robot to be used on public highways and hopes to expand its use in the near future.

M RESTAURANTS TABLE SELECTION

29
656

M Restaurants attributed a 31% increase in like-for-like sales during December 2015 to its innovative airline style 'chose a seat' format. Customers are able to virtually walk around the restaurant and choose their preferred table. As much as nine per cent of all bookings were made using the tool in December. In the second M Restaurant bigger groups can also make a choice between booths or tables. The initiative is powered by drone-style technology.

ZIPLINE QUEUE MANAGEMENT

30
656

ZipLine allows a customer to determine which queue to join in a department store or even at different locations of the same retailer in a town centre. Developed by technology firm Cambridge Consultants, Zipline can assess the length of a queue and how fast it is moving providing the user with the location of the queue, which will provide the shortest wait. The system works using infrared sensors to detect body heat (thereby avoiding privacy issues), which then interact with a long-range radio network. Finally the data is passed through a set of algorithms where it is processed into information that can be displayed on a mobile phone. The radio network can be used over several kilometres.

HOXTON ANALYTICS / LAND SECURITIES

31
649

Hoxton Analytics is helping retailers better understand shopper behaviour in their stores with technology that analyses customers' footwear to make assumptions about their gender, demographic and social class. It avoids the privacy concerns surrounding facial recognition but can provide equally valuable personal profiling of shoppers. The solution is being used by Land Securities in its shopping centres and has the capability to enable the tailoring of promotions, advertising and displays to demographics of consumer in given stores.

ENTERPRISE INNS STREET FOOD APP

32
647

The British Street Food Pub Takeover app is helping pub licensees of Enterprise Inns to access a range of food styles and cuisines by providing an online platform that matches small independent food producers with pubs looking to improve their food offers. Licensees can choose their desired cuisine, style of food and length of residency by the chef/s in their kitchen. The app could be used by the 5,000 Enterprise pubs and the 3,000 food producers who entered the British Street Food awards last year.

HOUSE OF FRASER SHOPPABLE WINDOWS

33
646

Introducing shoppable windows over Black Friday enabled House of Fraser to engage with customers beyond the interior of its top 15 stores across the UK and Ireland. Scanning the vinyl on the windows triggered a 'Scan to Explore' feature on the House of Fraser app that gave customers product information and the opportunity to browse deals and special offers. The success of the Black Friday windows has led the retailer to use the technology at other times of the year to promote its premium clothing range.

OCADO SMART PLATFORM (OSP)

34
645

To leverage value from its proprietary online shopping systems Ocado has developed OSP which combines its end-to-end software and technology with its physical fulfilment solution. This package is being sold as a managed service to retailers around the world as a way for them to enter the online grocery business. OSP handles all retailers' requirements - from the e-commerce website and mobile apps through to the physical equipment involved in the fulfilment operations and the software needed to complete the last mile.

HOUSE OF HOLLAND / PHOTOSPIRE

35
639

House of Holland and Oliver Sweeney are among the retailers using Photospire to personalise their interactions with customers through video. The technology enables brands to take their creative assets including images of products and video clips and merge them with the customer data they hold to create a personalised video that is relevant for individual customers. The software utilises video templates, dynamic data uploading, and the easy insertion of clickable shoppable, products into the videos.

WESTFIELD / SANDERSON HOTEL
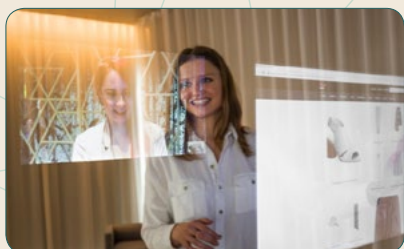
36
627

Westfield has designed an augmented reality mirror, which enables a customer to buy items from a personal stylist while in a completely different location. The first trial was with the Sanderson Hotel in London where luxury products from Gucci, Armani and others were available for guests to buy. Westfield and Google developed the technology, which consists of two screens – one displaying goods, one connecting to the personal stylist. Items purchased during the trial were delivered to customer's rooms within 90 minutes. Westfield sees huge expansion scope for the mobile mirror in a much broader market.

GAP / VIRGIN HOTELS

MARKET TECH / CAMDEN TOWN MARKET

NET-A-PORTER NETSET APP

OFFERMOMENTS / INTU
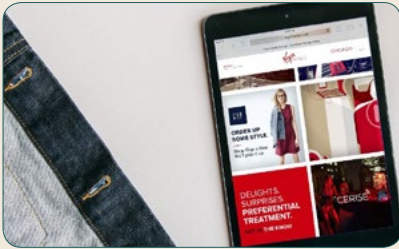
37
617

Gap has teamed up with Virgin Hotels to offer an enhanced version of its *Reserve in Store* programme, which allows hotel guests to reserve an item on the Gap website and then using the Virgin mobile app Lucy or by visiting the company's website they can have the item delivered straight to their hotel room. Customers simply have to access Gap.com through the hotel's website/app and the hotel will pick up the data and retrieve the order. It is the first Gap partnership specifically designed for travellers and hopes to tap into the 'unexpected surprises' customers have when travelling such as losing luggage or unexpected weather changes.

38
616

The operator of the iconic Camden Market in north London is uniquely combining the provision of real estate to small independent retailers as well as offering an online marketplace through which they can sell their goods – potentially globally. This multi-channel approach is unusual for market operators and shopping centres. Because Market Tech also provides a point-of-sale solution to traders at the market it has the potential to gain full visibility of shoppers across channels and to use this insight to help its retail clients.

39
611

Net-a-porter has created a dedicated social shopping platform that enables users to create profiles, make purchases, and upload photos of clothing from which the app will find similar products based on colour and pattern using image-recognition technology. The NetSet app has quickly grown into an alternative to the other social media channels on which fashion fans can engage with each other and Net-a-Poter. It is part of Net-a-Porter's valuable mobile proposition, from which it generates 40% of its sales.

40
608

OfferMoments is working with shopping centre operator Intu to deliver personalised advertising to customers on digital billboards to tempt them into nearby stores. By tapping into shoppers' social media activity the advertisements can be personalised with tailored images ad messaging to attract their attention when they are passing by after their presence is triggered by Beacon technology. The solution is sufficiently clever to adapt the messaging on a second billboard if they do not act upon seeing the first.

MISSGUIDED / SERVICE
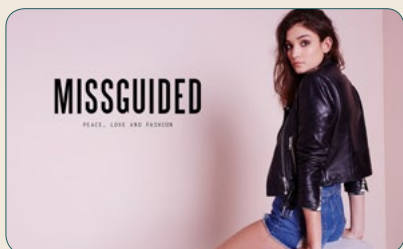
41
595

Missguided is among a number of UK retailers using US-based problem resolution solution, Service. Customers complete an online form on its website or app and Service then seeks to negotiate a settlement with the company with greater efficiency as emotion is stripped out of the situation. The software is increasingly doing the work as Service learns from past resolutions and it continually maps out the quickest route to solving problems within the retailers' structures.

WAITROSE CASHLESS STORE

42
587

A Little Waitrose store located in the new Sky TV headquarters in West London took the unusual step of operating without cash when it opened in the summer. The five tills in the shop, which employs 20 people, will only accept cards, contactless, ApplePay and other mobile payment options. Waitrose believes this unique proposition could be the way forward as it is deemed more convenient and efficient for shoppers after Sky staff indicated that this was how they wished to shop within the new 1,400 sq ft store.

MCDONALD'S HAPPY GOGGLES

43
574

Happy Goggles is an initiative from McDonald's, which allows children to create a virtual reality headset from the box of a Happy Meal simply by folding it and adding a pair of lenses. The move is intended to modernise the company's offering to children and move away from the traditional film tie-in toy in the ever popular Happy Meal. Happy Goggles also allows McDonald's to reach children through a gaming component, which it is keen to build upon as it considers launching virtual reality games.

TED BAKER / NOTIFY NEARBY
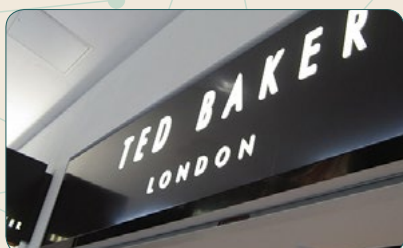
44
556

Notify Nearby is working with a plethora of brands including Ted Baker that customers can choose to follow in the app and which then sends them relevant notifications based on their locations. This customised feed the customer receives is powered by location data beacon technology to ensure that only information of interest is sent to them. The solution enables shoppers to receive offers and information without the need to download multiple apps from different retailers.

FÁILTE IRELAND VR

45
554

The Irish Tourism Board is promoting its country's offerings through the latest visual technology with the launch of Virtual Reality Tours of the Wild Atlantic Way. Using drone and other high-tech cameras four 360-degree videos have been filmed, which highlight various aspects of the country for potential tourists. Viewable through VR headsets for maximum effect the tourist office is using the footage at trade fairs and industry platforms. They are also available for viewing on YouTube.

PIZZA HUT BLOCKBUSTER BOXES

46
547

The perfect combination of eating a pizza and watching a film has been brought to life by Pizza Hut. It has trialled Blockbuster boxes, which involve the pizza box converting into a projector. The boxes incorporate a lens and a holder for the customer's smart-phone, which is able to project a Pizza Hut made movie onto a wall. The film can be downloaded by scanning a QR code that is included on the box. The Blockbuster boxes have been made in conjunction with Ogilvy & Mather, Hong Kong.

STARSHIP DELIVERY ROBOTS

47
535

There has been much publicity around using drones for deliveries but there are many hurdles to overcome before their widespread usage. Less regulatory issues involve ground-based delivery solutions such as Starship Technologies 'ground drone' that is being trialled in London by independent retailers. The battery powered boxes on wheels travel at 4mph and can deliver within a three-mile radius using GPS navigation. They can also be navigated remotely by a person and speak to people if necessary.
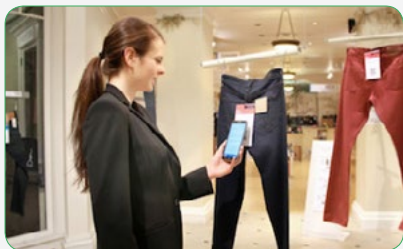
MCDONALD'S TABLETS

48
527

In its long running campaign to update and modernise its image McDonald's is to bring Samsung Galaxy tablets into most of its UK stores. Trials have proved very popular, according to the company, which found diners are able to browse the web, play games, and use social media while eating. The move, which is part of its *Experience of the Future* project, will also see the introduction of digital ordering and smartphone chargers.

BURBERRY / DREAMWORKS

49
508

Using the iconic world status of Piccadilly Circus in London, fashion retailer Burberry partnered with DreamWorks' technology arm Nova to create an interactive campaign. This gives customers the chance to personalise scarves, which were then animated and appeared on the curved screen at Piccadilly Circus. Using mobile phones five customers at a time could access the range of Burberry scarves and monogram their choice, which then appeared on the giant screen via Nova's media-visualisation platform. Customers could make the scarf move by waving their mobile phones and the scarf could then be purchased via the Burberry website.

UNIQLO / UMOOD

50
475

Fashion retailer Uniqlo is using neuroscience to help customers select their perfect t-shirt. The UMood technology requires shoppers to wear a headset that measures their brainwaves while looking at images on a screen. The device accesses people's neurological reactions to these visuals and is able to evaluate their mood. This is fed into an algorithm that matches four t-shirts from the 600 designs available, which are deemed the best fit. These four garments are then displayed and UMood evaluates the customer's reaction again to determine the perfect t-shirt for them.

INNOVATION RANKINGS
## TOP 10 INTERNATIONAL INNOVATIONS

MACY'S GO! / HOINTER

1
755

US-based department store Macy's has worked with Hointer to revamp the changing rooms at one of its Californian stores, which involves the introduction of technology to improve conversion rates. When browsing items in the store a product can be selected from within the Macy's app and a size chosen before it is delivered to the changing room via a chute. Once in the fitting room customers can use their smart-phones or company-provided tablets to select more items to try on without leaving the dressing room while the app will also recommend complementary items that could also be tried on with the original item.

OPERATOR / UBERRUSH
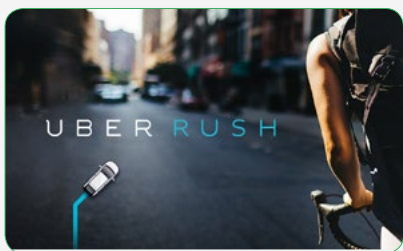
2
718

Uber has teamed up with US chat-based shopping assistant Operator to enable shoppers to buy goods via a plain-text chat sent to experts in specific product areas who purchase the goods on behalf of the customer before they are then delivered within an hour by UberRUSH. The partnership effectively integrates UberRUSH on a concierge level – rather than single retailers - which aggregates all merchants so more local suppliers can be selected in order to speed up the fulfilment. The service is initially running in San Francisco.

VOLUMENTAL / NORDSTROM

3
717

US department store Nordstrom is the first retailer to use the foot sizing solution from Volumetric, which has built technology to take 3D scans of customer's feet to ensure they purchase the perfect fitting shoes. Using the Retail Sensor Platform from Intel the solution takes a volumetric scan of each foot to accurately capture myriad data points including arch length and ball width, which a shoe retailer would find difficult to measure with traditional tools. The technology is also being used to make bespoke shoes in Sweden and Germany.

KROGER APP

4
685

Major American supermarket chain Kroger has made significant upgrades to its app in order to improve the experience of shoppers in its stores, including introducing location-based initiatives using Beacon technology. The app now automatically saves any inputted grocery list items and simplifies the in-store shopping journey by displaying the exact aisle location of each desired product. It also reorganises the list by the locations in order that shoppers can navigate the store in the most efficient manner. Kroger is also using data analytics on customers' previous purchases to send targeted offers to their phones.

THIRDLOVE / BLOOMINGDALES
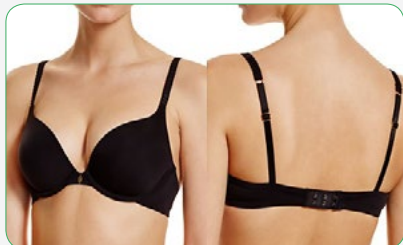
5
676

To overcome the problem that many women have with ill-fitting bras ThirdLove has developed a simple online solution that helps them find the perfect fit for their dimensions. By taking two mirror selfies from the front and the side, while wearing a fitted tank top, the company's software will then draw up measurements that enable an online order to be placed for the correctly-sized bra. The company has gone multi-channel through a partnership with Bloomingdales so customers can now try the bras on while in-store.

RELAY ROBOT

6
638

The Relay robot has been developed in Silicon Valley, by Savioke, as an enhancement to service levels in the hospitality industry. The waist-high robot has been predominantly used by hotel chains including at the Starwood Hotels & Resorts' Aloft brand and InterContinental Hotels for room service. Once it has created a GPS map of the hotel it is able to move around the hotel utilising its sensors to avoid collisions and deliver to hotel rooms. Once outside the door it calls the room phone. Second generation versions will incorporate voice recognition software to enable them to answer guests' queries.

SONAE / WIIGO SHOPPING CART

7
638

Trialled in Sonae stores in Portugal the WiiGo shopping cart uses motion sensors to follow customers around the store, thereby freeing them up from the having to deal with cumbersome trolleys. The technology recognises only the shopper using it at the time and it identifies and avoids any obstacles in its way. WiiGo has been designed initially for use by customers with reduced mobility and its built in screen ensures it is usable by customers without smart devices. But it could equally find itself useful for all shoppers looking to improve the in-store experience.sco.

AINZ & TULPE INTERACTIVE SCREENS
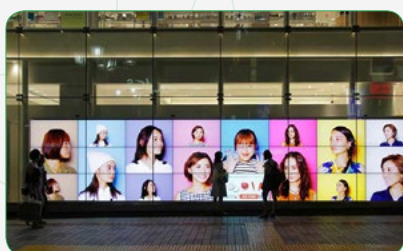
8
611

The Tokyo store of Japanese beauty retailer Ainz & Tulpe installed interactive screens in its windows that encouraged tourists – who don't speak the language – to enter the store for beauty consultations. The digital windows showed women with different looks from the store's range and by touching the preferred look a coupon was printed that could be redeemed for the relevant makeover. The faces and eyes of the models responded to the movement of passers-by that helped attract attention. The windows delivered a 40% increase in tourist footfall and a sales increase of 10% each day.

KAUFLAND / FINDBOX
PRODUCT RECOGNITION
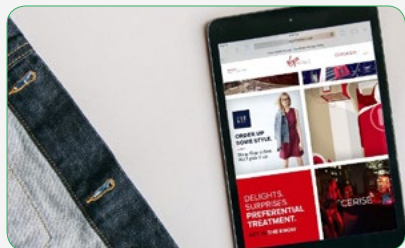
9
604

FindBox is a solution to the problem customers have of identifying and locating replacements for certain similar-looking products in-store. In use at Kaufland stores in Germany, customers place their old products into the findbox, which uses a multi-camera system that merges recorded images into a 3D mesh and performs a series of tests to identify the item. Once recognised, an Electronic Shelf Edge Label (ESL) alongside the required product lights up to direct the customer to the item. The ESL's can, of course, also be used for other functions such as dynamic pricing.

NYX / OLAPIC
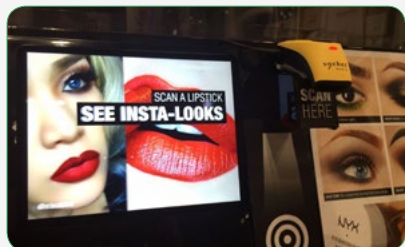
10
573

US-based make-up brand NYX is crowd-sourcing selfies from social media to use as an in-store marketing tool to show customers what specific beauty products look like on regular people rather than models. The images are looped on large in-store video walls and on smaller screens next to the products where customers can scan make-up to engage with the screen, which presents images of people wearing that particular item. The images are pulled from the NYX social community and analysed by Olapic's algorithms to assess which photo will be the most effective for advertising.

TOP 20: HOW INNOVATIVE

CRITERIA
The level of innovation demonstrated in the solution. The score was determined by whether it is truly out there on its own leading the pack or whether there is competition from other similar innovations.

1. AMAZON ECHO
2. AMAZON LOGISTICS
3. GOOGLE HANDS-FREE PAYMENT
4. STARBUCKS MOBILE ORDER & PAY
5. AMAZON DASH
6. FITTERY
7. DELIVEROO
8. ELEVAATE / HOUSE OF FRASER
9. TOSSED AUTOMATED RESTAURANTS
10. EBAY / FACEBOOK MESSENGER
11. DODDLE
12. TESCO ROBOTS
13. UNMADE ON-DEMAND CLOTHING
14. RIVER ISLAND 'CLICK & DON'T COLLECT'
15. SNAP FASHION
16. WAITROSE CASHLESS STORE
17. LEVI ROOTS CARIBBEAN SMOKEHOUSE
18. OCADO SMART PLATFORM (OSP)
19. MARKET TECH / CAMDEN TOWN MARKET
20. ENTERPRISE STREET FOOD APP

16 | Waitrose cashless store

9 | Tossed automated restaurants

13 | Unmade on-demand clothing

10 | eBay / Facebook Messenger
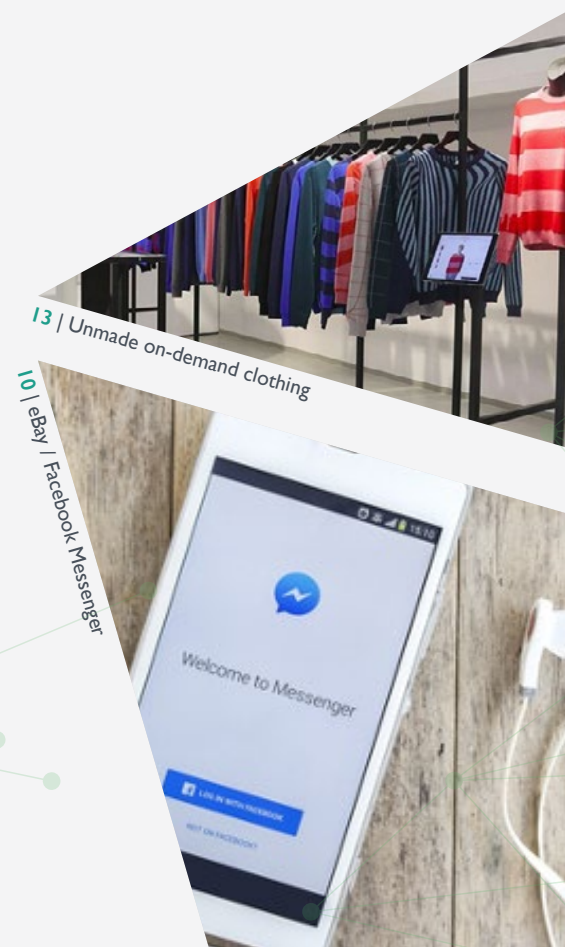
TOP 20: POTENTIALLY COMMERCIAL

CRITERIA
The commercial value the innovation has delivered to retailers using the solution to date and what value could it potentially create for retailers in the future if widely adopted.

1. AMAZON ECHO
2. AMAZON LOGISTICS
3. GOOGLE HANDS-FREE PAYMENT
4. STARBUCKS MOBILE ORDER & PAY
5. AMAZON DASH
6. FITTERY
7. DELIVEROO
8. ELEVAATE / HOUSE OF FRASER
9. TOSSED AUTOMATED RESTAURANTS
10. EBAY / FACEBOOK MESSENGER
11. DODDLE
12. TESCO ROBOTS
13. UNMADE ON-DEMAND CLOTHING
14. RIVER ISLAND 'CLICK & DON'T COLLECT'
15. SNAP FASHION
16. WAITROSE CASHLESS STORE
17. LEVI ROOTS CARIBBEAN SMOKEHOUSE
18. OCADO SMART PLATFORM (OSP)
19. MARKET TECH / CAMDEN TOWN MARKET
20. ENTERPRISE STREET FOOD APP

5 | Amazon Dash

4 | Starbucks mobile order and pay

7 | Deliveroo
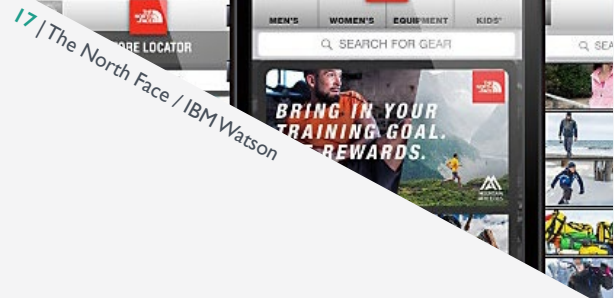
TOP 20: POTENTIAL BENEFIT

CRITERIA

The level of benefit the innovation is delivering within the retailers' organisation(s). The innovation has a material impact that could also potentially increase over time.

1. **AMAZON ECHO**
2. **ENJOY.COM**
3. **DELIVEROO**
4. **STARBUCKS MOBILE ORDER & PAY**
5. **GOOGLE HANDS-FREE PAYMENT**
6. **FITTERY**
7. **EBAY / FACEBOOK MESSENGER**
8. **SNAP FASHION**
9. **AMAZON DASH**
10. **LEVI ROOTS CARIBBEAN SMOKEHOUSE**
11. **RIVER ISLAND 'CLICK & DON'T COLLECT'**
12. **DODDLE**
13. **IKEA VR KITCHEN**
14. **AMAZON LOGISTICS**
15. **UNMADE ON-DEMAND CLOTHING**
16. **TOSSED AUTOMATED RESTAURANTS**
17. **THE NORTH FACE / IBM WATSON**
18. **SHOP DIRECT / TANGIBLEE**
19. **ZIPLINE QUEUE MANAGEMENT**
20. **SHERRY FITZGERALD VR HOME VIEWING**

11 | River island 'Click and don't collect'

17 | The North Face / IBM Watson

13 | IKEA VR kitchen

19 | Zipline queue management

TOP 20: POTENTIAL INFLUENCE

CRITERIA
The level of impact the innovation has, or could potentially have, on the retailer(s) using it and possibly on the broader retail sector. The impact the innovation could have as the proposition is built-out and is possibly adopted more widely in the marketplace.

1. AMAZON ECHO

2. GOOGLE HANDS-FREE PAYMENT

3. AMAZON LOGISTICS

4. STARBUCKS MOBILE ORDER & PAY

5. TESCO ROBOTS

6. AUDI DIGITAL SHOWROOMS

7. EBAY / FACEBOOK MESSENGER

8. AMAZON DASH

9. LEVI ROOTS CARIBBEAN SMOKEHOUSE

10. ELEVAATE / HOUSE OF FRASER

11. TOSSED AUTOMATED RESTAURANTS

12. SHERRY FITZGERALD VR HOME VIEWING

13. DELIVEROO

14. DODDLE

15. FITTERY

16. SNAP FASHION

17. JOHN LEWIS / CORTEXICA

18. MODIFACE AUGMENTED REALITY MIRROR

19. SHOP DIRECT / TANGIBLEE

20. OCADO SMART PLATFORM (OSP)

9 | Levi Roots Caribbean Smokehouse
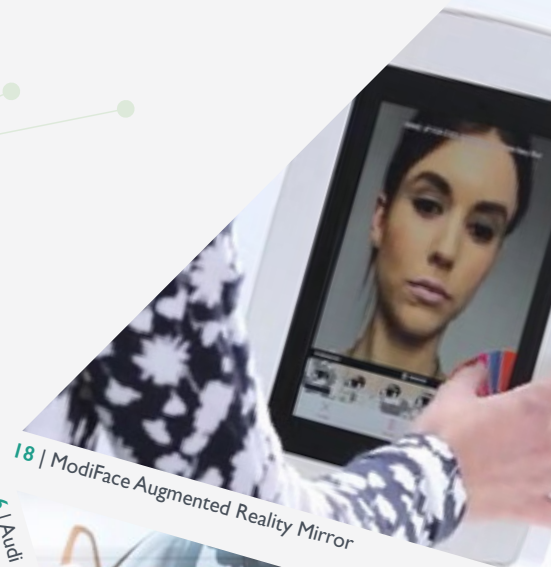
18 | ModiFace Augmented Reality Mirror

6 | Audi digital showrooms

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webloyalty

Webloyalty

Webloyalty is a leading online savings programme provider. We work with over 200 retail and travel businesses internationally to help them build stronger, more profitable relationships with their customers. Through our membership programmes, we help our online retail partners' customers make significant savings each year while providing the partner with an additional revenue stream. As well as incentivising customers to make repeat purchases at the partner's site, they can also earn cashback and get great deals on everything from fashion to electronics to travel at top online stores. Webloyalty started operating in the UK in 2007 and has since expanded into France, Spain, Ireland, Brazil, the Netherlands, Turkey and Australia.

For more information, please visit **webloyalty.co.uk** or follow **@WebloyaltyUK** on Twitter

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