Catalysts of Change

Retail and Technology in the Age of Disruption



In partnership with



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Introduction

Disruptive technologies, such as artificial intelligence, the internet of things, big data and robotics are on a collision course that will create huge future opportunities for retailers and brands.

But this future is not as far away as we think. New business models are already disintermediating traditional retailers, particularly when it comes to owning the relationship with the customer.

Subscription services and self-replenishing smart appliances are bypassing retailers entirely, on the premise that convenience is king.

And when it comes to creating hyper-personalised experiences, social media platforms are streets ahead, delivering this every day for their millions of users and for the brands that are willing to pay for the privilege. In this guide, in association with Retail Week, more than 70 senior retail executives in the UK have shared their perspectives and priorities when it comes to disruptive technologies. We asked them about:

- The innovations affecting their business
- The potential and limits
 of artificial intelligence
- The impact of machine learning
- Investment in new technologies
- Collecting and using customer data

Read on to understand how they plan to leverage each of these areas to drive efficiencies, differentiation and, ultimately, influence their customers at scale. Chapter One: The Age of Disruption

Disruption has undoubtedly been the buzzword of the decade.

Industries that have not just existed but thrived for centuries have been upended by technology-driven innovation.

The powerful combination of smart technology, human insight and digital innovation is already impacting retail. Technology that decades ago seemed like science fiction is now a reality and an integral part of the shopping experience.

Artificial intelligence, virtual reality, augmented reality and mobile payment are becoming increasingly mainstream, and retailers are realising they cannot rely on sticking to tried and tested methods to attract digitally savvy customers.

We've made big strides, but there's a lot more to play for. We believe that artificial intelligence can change the game for us in data and personalisation.

Alex Baldock, chief executive, Shop Direct Shop Direct, a business that a decade ago depended on catalogues – its main sales channel for 80 years – for 65% of its sales was an early mover, ditching paper and focusing on areas such as personalisation and artificial intelligence for growth.

Upon revealing Shop Direct's stellar results last October, chief executive Alex Baldock said: "2016 was our first full year as a pureplay etailer.

"Removing the shackles of the catalogue has been liberating, and it has allowed us to invest in the areas that matter most to our customers – making their shopping experience easier and more personalised, particularly on mobile.

"This was the year our investments in technology really started to pay off. We've made big strides in m-commerce, big data and personalisation.

"But there's a lot more to play for in these areas. In particular, we believe that artificial intelligence can change the game for us in data and personalisation. We're deploying it already and are serious about going much further."

However, not all retailers are ready to embrace this change. Adopting a digital-led strategy means adapting to a fast-paced, frenetic world where companies embrace a fail-fast mentality.

Paul Kendrick, deputy managing director at home shopping department store Express Gifts, is amid a digital transformation programme and explains how fast-moving this new world is.

"The old catalogue world was one where everything was planned out six to eight weeks in advance," he says. "It's now about applying much more of a current trading mentality to things." Not responding to new technology and innovation could have consequences. On the cusp of the latest wave of technological advancement, Dixons Carphone chief executive Sebastian James told delegates at Retail Week Live 2016 it had the potential to overhaul retail and "bump off" some businesses.

"This new shift – just 15 years after the last [the internet] – is going to bump off as many retailers as the last one. This is a total asteroid strike at the heart of everything that we thought we knew," said James.

This new shift is going to bump off as many retailers as the last one. This is a total asteroid strike at the heart of everything we thought we knew.

Sebastian James, chief executive, Dixons Carphone

The role of the human redefined

The balance and relationship between man and machine will come to dominate the news flow as automation begins to take root across every industry, not just retail.

The central question is how to achieve the right balance between humans and machines working together to optimise outcomes and solve the problems facing industry.

Striking this balance will involve many political, economic and social considerations given the seismic impact automation is going to have on the current status quo.

Chapter Two: The Retailer View

We live in an age of innovation, when new so-called ground-breaking technology is developed every day.

For retailers, a major challenge lies in sorting the truly transformative technology from the noise in order to invest in the inventions that will help to boost the bottom line.

In addition, an overwhelming number of suppliers, not to mention a confusing amount of technical jargon, adds to this difficulty of knowing where best to channel resources.

It's a difficult job. Take Google Glass. Developed by one of the world's biggest innovators and accompanied by unprecedented levels of investment and PR, the technology was heralded as a game-changer for retail. Tesco, the UK's largest grocer, launched a shopping app for the device just days before Google withdrew the device from sale.

Where do retailers seek guidance?

Many retailers are looking at pioneering brands such as Amazon, John Lewis and Shop Direct to help determine the direction of travel and identify which technology is here to stay.

Express Gifts' Paul Kendrick says of Shop Direct: "It's a huge turnaround and very much seen as an online, data-driven and personalisation-focused company."

Meanwhile, he says Amazon is one to watch because of how easy the online giant makes it for consumers to buy.

"I think that almost creates a complete loyalty and lock-in, and price becomes secondary," he says.

Tesco launched a shopping app for Google Glass just days before it was withdrawn from sale Retailers are also looking outside of the sector to gain inspiration. Shop Direct keeps a close eye on what is happening in the online gambling and gaming sector, and chief executive Alex Baldock told Retail Week he was looking to hire personnel from these sectors. which he said were "much further ahead when it comes to data".

Ladbrokes, for example, has developed a proprietary recommendations engine that identifies users who consistently place bets on one type of sport.

Once they placed their fifth bet, they were asked if they wanted to customise their homepage to their favoured sport. This move led to a 10% increase in betting activity post-personalisation, when compared with those customers who chose not to personalise.

And Shop Direct is not alone in looking outside its immediate competition. "We look at lots of companies. We'll look at our competitors, but we'll also look at luxury retailers because, although we produce business cards, we've created a strong brand," said Cathy Berman, VP of international marketing at Moo.com



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Mayank Shukla, head of ecommerce at gardening retailer Crocus.co.uk, insists that customers – rather than peers or competitors – have to be front-of-mind when introducing new technology. However, he admits that tech giants such as Google and Amazon are changing customer expectations.

"People want to search for things as fast as Google does, and they expect that kind of search on every website," he says. "So we had to evolve our website and we had to implement technologies so that the search was relevant, fast and had auto-correct and spellcheck, and all those kinds of features that customers expect to be standard."

People want to search for things as fast as Google does, and they expect that kind of search on every website.

Mayank Shukla, head of ecommerce, Crocus.co.uk

Q-Flowers Clmatis Search for "Clmatis" Showing results Search instead for Clematis for Clmatis Total results: 124 **Clematis Kakio** Clematis H

Which technology will transform retail?

When it comes to which technologies will make waves in the future, the internet of things ranked highly with retailers. According to Retail Week's exclusive research, 56% of retail executives said it would have a disruptive effect on their businesses.

Electricals behemoth Dixons' merger with mobile phone giant Carphone Warehouse in 2014 was driven by the belief that the internet of things would revolutionise retail.

Carphone Warehouse founder Sir Charles Dunstone said at the time: "If you only have stores selling mobile handsets, or only have stores selling fridges that talk, but have no idea how to connect them, then you're missing the point for customers.

"We want to anticipate the needs of customers who live in a connected world."

Consulting firm Frost & Sullivan predict that there will be 80 billion connected devices in the world by 2020. And at the Consumer Electronics Show in January, Samsung Electronics president and chief executive Yong Sung Jeon said that every product his company developed from 2017 onwards would be smart.



Which technological innovations do you think will have an impact on how you do business in the future?

56%					Inter	net of things
	48%		Payment technologie			echnologies
		42%	Virtual assistants, chatbots & conversational commerce			
	_					
		42%			Mach	nine learning
		4	0%		Location ba	sed services
	4(0%		Virtual reality	
			38%		Cross device	e technology
					16% Augm	ented reality
				Peer to peer te	echnologies	6%

Payment innovation

With mobile traffic now accounting for 40% of all commerce sales in the UK, and some retailers seeing up to 90% of their traffic coming from mobile, getting payment on this platform right is key.

Some of the biggest returns can be made by streamlining the checkout process.

Emerging mobile payment platforms such as Apple Pay and Google's Android Pay, which allow shoppers to pay with the tap of a smartphone, are starting to gain traction.

Apple chief executive Tim Cook revealed that Apple Pay transactions jumped nearly 500% year on year in the final quarter of its 2016 financial year.

> Meanwhile, more Apple Pay transactions were completed in September 2016 than the whole of 2015.

While many retailers, including Marks & Spencer, Boots and New Look, accept and promote Apple Pay as a payment method, the UK's largest retailer, Tesco, has opted to develop its own platform.

The grocer has launched PayQwiq, an app that stores debit card and Tesco Clubcard details and allows payments of up to £250.

The rise of the chatbot

Virtual assistants, chatbots and conversational commerce are also tipped to make an impact by 42% of retail executives – the same percentage that predicted machine learning would disrupt their business.

Virtual assistants are growing in popularity. In fact, Amazon said its Echo and Echo Dot speaker devices – in which virtual assistant Alexa is integrated – were its top-selling products last Christmas.

Alexa can carry out orders such as controlling lights and playing music, as well as ordering products from Amazon. Amazon's Echo Dot devices were among its top-selling products last christmas



Almost every product can benefit from Al – everything that you see in a room needs artificial intelligence.

James Dyson, founder, Dyson

Meanwhile, retailers are using chatbots – computer programmes designed to simulate conversation with users – to service customer needs.

Retailers including H&M, Burberry and TK Maxx have used chatbots on social platforms such as Facebook Messenger, while Shop Direct has integrated conversational artificial intelligence technology on flagship brand Very's mobile app to answer customer queries in real time.

These companies are not alone. According to our study, 38% of respondents are already implementing AI in their business.

Outdoor brand The North Face is working with a tool called Fluid Expert Personal Shopper, powered by IBM's Watson cognitive computing technology, which enables users to have more intuitive search experiences thanks to its natural language capability. Meanwhile, Dyson has launched a new research and development facility in Singapore dedicated to integrating artificial intelligence technology into its products. The electricals brand has invested \$412m (E337m) in the research facility, which opened in March 2017.

Speaking at the launch event, founder James Dyson said: "Almost every product can benefit from AI – lighting, purification, cleaning – everything that you see in a room needs artificial intelligence."

Meanwhile, machine learning – a type of artificial intelligence that provides computers with the ability to learn without being explicitly programmed – is tipped to have an impact on the retail sector by 82% of the retailers surveyed.

Already, nearly half of those surveyed (48%) use machine learning in their business.

Half the respondents said they used machine learning to drive sales and anticipate demand, compared to the 46% that utilise it to offer personalised promotions and understand customer behaviour.

More than a third (38%) of those surveyed use machine learning to target customer segments, while just 4% use it to assess their competitors in the industry.



Yes 48%

Do you use artificial Intelligence in your business?



Online supermarket retailer Ocado uses machine learning to cope with vast amounts of emails. The model identifies whether the email contains general feedback and the customer is happy, allowing Ocado to prioritise responses.

Meanwhile, Chinese retail giant Alibaba uses machine-learning capabilities to better understand its users' likes and intentions.

The technology can build comprehensive shopper and seller credit systems and valuation models, so much so that robots now handle 95% of the customer service on China's biggest shopping event, Singles' Day.

"We're running some trials later this year with machine learning and AI for conversion optimisation prompts on the site, based upon different consumer behaviour," says Gareth Rees-John, global digital director at Topman.



www.qubit.com

However, for some businesses, the technology is still too early in its development to be put to use.

Jonny Stewart, head of digital experience at beauty brand Elemis, says: "I don't think it's mature enough for us yet. We still, at this stage, would rather have our customers talking to a person who can give that excellent level of help.

"I think there's a lot of things people are doing well with chatbots along the lines of simple Q&A – you just see too many bad examples of people trying to go too far and it becoming annoying rather than an actual service," he says.

While chatbots and artificial intelligence may not be a priority for all retailers right now, major retailers are investing heavily to gain a competitive edge as the technology matures.

How big a bet are retailers making?

It is clear that retailers are placing their bets on the technologies they believe are taking off, but just how big a chance are they taking?

Investment is modest for the majority of firms surveyed by Retail Week: 82% of retail executives were set to invest less than £1m into introducing new technologies, with almost a quarter (22%) investing less than £50,000.

However, 14% said they planned to spend between £1m and £5m and 2% vowed to invest more than £10m.

There's a lot of things people are doing well with chatbots – you just see too many bad examples of people trying to go too far and it becoming annoying.

Jonny Stewart, head of digital experience, Elemis

Chapter Three: Driven by Data Technological disruption in retail, and beyond, is set to become more amplified in years to come, meaning retailers need to think about the way in which their employees and customers engage with the machines predicted to drive growth.

To get the most out of this new technology, retailers need to have the right infrastructure in place to collect the data that feeds it.

In fact, when asked where investment in new technology would be directed, the majority of retailers (56%) said in their workforce rather than in the technology itself.

Thankfully, therefore, the majority of retailers (70%) believe they have the right digital skills internally to respond to the threats posed by disruptive businesses. This expertise will be critical to get the most out of the technology that threatens to disrupt the sector. "I love machine learning and artificial intelligence, but machine learning can only be as good as we make it," says Mayank Shukla of Crocus.co.uk.

"There's billions of terabytes of data that retailers are collecting.

"How we actually use that in two or three years' time is going to be fascinating and will ultimately be driven by customer needs and expectations.

"From Crocus' point of view, the data that we have been collecting will be the key in finding the right triggers for the customers to make a purchase."

Managing and collating the data put into the machines is vitally important, but an area many retailers struggle with. While it may look impressive to invest in flashy Al upfront, it is the back end – in terms of customer data – that has the real impact.

I love machine learning and artificial intelligence, but machine learning can only be as good as we make it.

Mayank Shukla, head of ecommerce, Crocus.co.uk

Just over a third of executives (34%) questioned said they had a multichannel analytics strategy that defines how data was collected.

Meanwhile, nearly a quarter (24%) said they had no customer data strategy, but recognised the need for one, while 8% said it was not a priority right now.

"We can spend an awful lot of our time just making data connections and trying to make things work," says Tony Rivenell, chief data officer at Halfords.

"Technology, for me, is removing a barrier.

"If we can just get to a point where we've got access to the data and it's usable, then we can make quick and informed decisions about what we do next. That's when it becomes useful."

For Paul Kendrick, who joined home shopping retailer Express Gifts as deputy managing director just under a year ago, one of the biggest challenges was pulling the data siloed throughout the business together to create a single customer view.

"We know what they're buying and when they're buying it. Taking all these bits together, we can improve the service we're offering customers," he says.



in new technology would be made in their workforce rather than on the technology itself



How are you using machine learning in your business?

46% Offer highly accurate individualised promotions



38% Targeting customer segments







50% To drive sales and anticipate demand



4% Assess the existing competition

However, it is not just about having the data all in one place – it is about using this data in the right way.

Kendrick believes staff need to make a judgement call on whether there is a risk that use of data could be off-putting to customers.

"There's still a lot of stuff about our customers we don't know. They may have been looking for televisions with us and we keep promoting televisions to them, but they've actually gone and bought a new one in Currys at the weekend. Therefore what we start offering is irrelevant."

Kendrick says staff need to think about what is right for the customer at all times to prevent technology moving from a sales driver to an annoyance. This is where man overpowers machine.

Do you have a strategy to define how customer data will be collected and used across the business



Chapter Four: The Customer Journey The customer journey was once fairly linear, but the rise of new technology is altering the way consumers discover, explore, purchase and engage with brands.

The new path to purchase cannot be easily summed up in a few words because it is highly personal to each consumer. Nonetheless, the vast majority of consumers hit certain milestones along the way.

"Stitching up all the data from all the different touchpoints with the consumer is the biggest single challenge a multichannel retailer faces today," says Gareth Rees-John, global digital director at Topman.

"Visual search, voice search – all these things are changing the way a brand has to interact with a consumer." Stitching up all the data from all the different touchpoints with the consumer is the biggest single challenge a multichannel retailer faces today.

Gareth Rees-John, global digital director, Topman

Discovery

How shoppers discover brands or products can be a very complex process that involves extensive internet research, touching and testing a product in-store and reading reviews online.

However, new technology is adding more potential routes of discovery. In fact, 46% of the retail executives questioned said this stage of the customer journey was ripe for disruption.

There are already myriad new ways to find product through technology, be it through aggregate sites, voice search tools including Alexa, social media platforms such as Snapchat or Instagram, blogger or vlogger websites and even through thirdparty apps such as Grabble. Described by some as Tinder for fashion, Grabble allows users to shop from thousands of fashion brands, including Zara, Harvey Nichols, Topshop and Marks & Spencer. Shoppers use a swiping system to "grab" items to save in wishlists or buy.

Although retail may be awash with digital innovators that, like Grabble, are seeking to give customers a new way to simplify the shopping experience, one should not underestimate the role of the store in discovery.

Testament to the power of bricksand-mortar are the many digital retailers that have set up shop over the past few years, in part to fulfil consumers' desire for experience by generating entertaining, immersive in-store service encounters.

Fashion retailer Missguided opened its first flagship store in Westfield Stratford City last year, while grocer Ocado opened beauty store Fabled with Marie Claire last July.

Amazon has even dipped its toe in the bricks-and-mortar world, having unveiled its first bookstore in Seattle, followed by checkout-free grocery store Amazon Go. 46% of retail exectutives questioned said the discovery stage was ripe for disruption

"You've got pureplay retailers coming to the high street, which is a development that three or four years ago people wouldn't have necessarily talked about," says Debbie Bond, customer director at Moss Bros.

"I think there is going to be a rebellion from the sterile world of online to come into stores," says Rob Wilson, chief technology officer of Smyths.

"We still want to have a great online experience – and our online business is very large – but from a conversion rate point of view, if you compare someone who walks through your door to visiting your website, it's very, very different," he adds. New technology has added more routes of discovery for today's shopper

Purchase

The jump from discovering a product to completing a transaction is a major one that may require many steps for the shopper.

Some consumers seek out coupons or promotion codes, while others may undertake further research to determine product quality or try to find it cheaper elsewhere.

However, technology can play an important role in enticing shoppers to complete their purchases.

A key way is by making goods easier to collect. Starbucks, for example, uses location-based technology on shoppers' mobile apps to allow those in need of a caffeine boost to click to buy and pick up their cup of java without queuing.

Ease of payment can also provide an incentive to buy. Amazon's one-click payment has proven an invaluable tool for the retailer and has helped to drive many impulse purchases – particularly on mobile devices.

Meanwhile, Apple Pay and Android Pay may still be in their infancy, but the retailers that offer them may stand to benefit from early adopters of mobile payment. You've got pureplay retailers coming to the high street, which is a development that three or four years ago people wouldn't have necessarily talked about.

Debbie Bond, customer director, Moss Bros

Emerging areas such as biometric payment – which allows shoppers to use their biological make-up, such as fingerprints or facial recognition, to pay for goods – remains an area to watch for retailers.

According to a survey carried out on 14,000 European shoppers by Visa last year, two thirds of consumers want to use biometrics when making payments, and half think it will make the process faster and easier. With payment giants Visa and Mastercard backing the technology, it is an area retailers should take an interest in.



Similar to in-store service, speedy, effective online advice can also help shoppers to move from the discovery to purchase stage of shopping and technology. Developing chatbots on apps such as WhatsApp and Facebook Messenger means retailers can speak to shoppers on their platform of choice and not divert their shopping path.

Another valuable way that technology can persuade shoppers to buy is through virtual-reality experiences, which help them to envisage using potential purchases in real-life, such as test-driving a car.

Outdoor brand The North Face has offered customers the virtual experience of wearing their potential purchase in the great outdoors while wearing VR headsets in store.

Although some early uses of virtual reality in retail have verged on the gimmicky, a report by investment bank Goldman Sachs last year predicted that the technology is one "retailers will have to invest in to serve their customers and keep ahead of their competition".

Virtual reality is now on the radar of may retailers

Post-purchase

For retailers, a transaction should only be the start of their relationship with customers and a platform to build a long-lasting connection.

Driving repeat spend is a critical KPI for every retailer, and technology can help boost this.

Data-led recommendations and personalisation are two ways retailers are trying to drive repeat custom.

The likes of Amazon has pioneered this approach for years and its recommendation engine is understood to account for 35% of its sales. Personalisation can reduce acquisition costs by as much as 50%, lift revenues by 5% to 15%, and increase the efficiency of marketing spend by 10% to 30%.

McKinsey & Company, November 2016

35%

of Amazon's sales are accounted for by its recommendation engine



Personalisation has become a priority for many retailers over the past few years.

However, few are challenging Amazon, with less than a quarter of those interviewed (24%) describing their offer as "fully automated, sophisticated, segmented personalisation".

One business that is using a segmented approach to personalisation is Ribble Cycles. "We're using segmentation on the site to be able to give a more tailored messaging," says Matthew Lawson, chief digital officer at the bicycle retailer.

"We're building this approach based on what we know customers potentially would like from what other people, similar to them, like or have shown an interest in buying," he adds.

We're using segmentation on the site to be able to give a more tailored messaging.

Matthew Lawson, chief digital officer, Ribble Cycles

Personalisation is just one area where retailers can attempt to drive repeat custom. Loyalty schemes remain a powerful incentive for shoppers to spend with a retailer, but digital-savvy retailers are reinventing these programmes for today's consumers.

In this mobile-driven world, loyalty schemes have become increasingly app-based. When Harvey Nichols launched its app-based loyalty scheme in 2015, Shadi Halliwell, group marketing and creative director, said she believed it was the future of loyalty: "instant, personalised and modern".

Pricing is another lever that retailers can pull to stimulate more business. Dynamic pricing has been used by many retailers, particularly online players such as Amazon and eBay, which flex theirs in response to demand and supply.

This technology has also been trialled in-store by retailers including John Lewis and Tesco. However, it has failed to be rolled out significantly.

While not all this technology will have longevity, some innovations are here to stay – and look set to make the customer journey far more complex.

Chapter Five: Conclusion

We are amid a technological revolution in retail, rivalled only by the emergence of ecommerce.

However, retailers are not cowering away or denying that this new breed of tech is going to impact how they do business. The fact that 82% of retailers believe that machine learning will impact the sector shows how seriously its disruptive potential is taken.

Heavy investment is being made by some retailers to ensure they keep pace with this rapidly developing area. Asos revealed earlier this year that it would accelerate its infrastructure investment, while John Lewis plans to cut its annual staff bonus this year in order to plough money into keeping its online channel ahead of the curve. However, this research illustrates that – despite most retailers acknowledging that new technology is dramatically changing the customer journey – investment is not being prioritised to adapt to this new retail reality.

More than four fifths of retailers (82%) plan to spend less than £1m to introduce new advanced technology.

Some of the tech being pioneered right now will inevitably, like Google Glass, fall by the wayside. However, adopting a wait-and-see approach in this fast-paced, fast-fail environment could open a greater risk of being left behind.

82%

of retailers plan to spend less than £1m to introduce new advanced technology



Crucially, the retail leaders surveyed may have picked out machine learning, the internet of things and artificial intelligence as the big winners going forward, but all emerging technology relies heavily on customer data.

Not only will each of these innovations be improved by good data and its correct usage, they depend on it for their success.

To prepare for the future, retailers must be able to process and connect the massive new data streams created by innovations. Marketers should be proactive in defining a data and customer engagement strategy for these new tools. Brands that don't engage customers in the right way, at the right moment, in the right context, will quickly be replaced by competitors who can.

Chapter Six: Partner Comment

Qubit's Graham Cooke explains the one key element needed to harness the power of disruptive technologies.

Retail is undergoing a revolution, as new technologies proliferate and consumer behaviour continues to evolve.

We've seen an array of developments across the internet of things, artificial intelligence and machine learning. However, in such a crowded marketplace it can be difficult to know which technologies are truly worth investing in.

Before that decision can be made, there is one key element that is required if the investment is going to pay off. All the technologies explored in this report have one thing in common: data.

Having a full grasp of who your customers are is paramount, and includes their online behaviour as well as their shopping intentions. Artificial intelligence – and machine learning in particular – presents one of the most exciting tech innovations to date.

Graham Cooke, founder and CEO, Qubit

Tools are already available to gather this data, but many companies are using outdated techniques, such as relying on general demographic data gleaned from basic site-testing, for example, to create a picture of their customer that is not quite accurate.

In order to seize the opportunity that innovations such as Al offer, retailers need to ensure that they're inputting accurate and multi-faceted customer data from a variety of sources at the outset.

For us here at Qubit, it's artificial intelligence – and, within this, machine learning in particular – that presents one of the most exciting tech innovations to date.

Research firm IDC has predicted that cross-sector adoption of AI will drive global revenues from nearly \$8bn (£6.4bn) in 2016 to more than \$47bn (£38bn) in 2020. The prospective impact on efficiency is also huge. To truly understand the potential here, you only have to remember the revolutionary effect programmatic advertising had when it first arrived.

Marketers were able to harness data to automate many manual processes and make smarter, more strategic decisions about opportunities for their brands, improving campaign performance by between 30% and 50%, according to some studies.

Machine learning enables retailers to super-charge their customer segmentation and target far more specific demographics in ways that will resonate.

Graham Cooke, founder and CEO, Qubit

Yet this was only laying the foundations for machine learning, which enables retailers to super-charge their customer segmentation and target these far more specific demographics in ways that they know will resonate. While the available benefits are evident, however, challenges remain that must be addressed. We'll clearly need less talk and more action if we're to grasp the opportunities of this technology and put the next generation of marketing tools into the hands of retailers.

As this study shows, 82% of retailers recognise the potential of machine learning and believe it will have an impact on the industry, yet only 48% are currently applying it.

And this is just one of the technologies that are set to change the face of digital commerce in the next decade.

The retailers that will triumph will be those that aren't afraid to push ahead with innovation while continuing to place the customer at the core of their business.

Pairing this obsession with the consumer with a willingness to adapt will provide a far greater understanding of how to deliver experiences that keep customers coming back again and again.

Graham Cooke is founder and CEO of Qubit

About Qubit

Qubit is the innovator of highly persuasive personalisation at scale.

We work with companies to transform the way they understand and influence their customers. By understanding their customers' online behaviour, preferences, and affinities they can deliver highly persuasive personalised experiences. With Qubit, online businesses can increase revenue, build loyalty and improve marketing efficiency.

By combining rich customer data, deep learning technology and advanced segmentation capabilities, our Customer Influence Engine enables precise targeting of a wide range of personalisations – so businesses can reach the right visitors at the right time, at scale – to drive sales and loyalty.

We're trusted to deliver real impact to the bottom line for the biggest brands in travel, retail and eGaming, including Arcadia, Farfetch, Net A Porter, Emirates, John Lewis and more.

To date, we have received over \$76 million in funding from Goldman Sachs, Accel, Sapphire Ventures, Balderton Capital and Salesforce Ventures.



