RETAIL'S DIGITAL FUTURE

#RetailsDigitalFuture

ADDLESHAW GODDARD

BCSC LEADING RETAIL PROPERTY

A report by

Blackstock

Introduction

Technology and property aren't two sectors you would traditionally place alongside each other. The fast-moving, volatile nature of many tech businesses is a world away from the risk-averse, conservative approach of leading retail property investors.

Yet while the fundamentals of income-producing real estate still drive rent from physical space, the world around them has shifted profoundly towards the digital sphere. With the lines between physical and online retailing merging every day, there's a pressing need to understand what lies ahead.

In this report, we've sought to lift the lid on some of the most influential new trends, with insight from an array of exciting new personalities, inspirational entrepreneurs and well-respected experts. BCSC's desire to take an active role in supporting the industry in its digital revolution speaks volumes about the value it creates for its members and about the opportunities ahead.

With so many unchartered areas now being explored, the legal implications of new technology will also demand careful scrutiny. Although big data represents the umbrella under which many new tech trends sit, such considerations extend far beyond compliance with the Data Protection Act.

Addleshaw Goddard's integrated approach to client service means their teams are not just more informed, but better geared to offer advice across the board by collaborating far beyond any one sector niche.

One area where property as an industry has always excelled is its ability to be social and to collaborate, and this is no truer than with the sector's approach to technology. Crucially, it is also true of how landlords and retailers are now working closer together than ever before.

With its hotbed of tech talent – as showcased throughout this report - Britain has embraced the digital word. And while Asia still leads the world in terms of digital manufacturing, digital infrastructure and tech savvy culture, Europe is catching up fast.

This presents a window of opportunity for Western markets to see what works and adjust ideas for its own specific lifestyle needs. This means that cautious investors can align themselves with businesses that possess a track record, allowing them to innovate without taking on too much risk.

With mobile commerce and purchasing set to soar over the next few years it will have major implications for traditional retailers. Even online retailers will need to adapt or risk seeing their very existence threatened.

As our interviews with Hammerson, intu, NewRiver and Westfield reveal, shopping centres are already adapting. Their desire to enhance the retail experience is in itself nothing new, but the route being taken to get there is changing every day.

Today people seamlessly glide between their physical and virtual worlds. Customers are shopping and browsing and informing themselves on the go and they expect the same from retailers. Now the hunger for new ways to use technology is so strong that people are much more willing to be part of experimental ideas.

As Bristol based CEL proved when it raised £280,000 for its Robox 3D printer on Kickstarter, a crowdfunding website, imaginations are there to be captured and boundaries are there to be pushed.

The gulf between online and physical retail stores is becoming less acceptable. Luxury goods retailers have been the quickest to embrace new technology with open arms, but it's those in the middle that need to adopt or die. However, there are fantastic opportunities to use mobile retail technology to expand, cross-sell and open up new revenue streams.

Both real estate and retail need to bring in technology considerations right at the start to be effective and relevant. Part of this is about finding ways to allow and plan for constant change. Strategy is being informed by ever evolving technology as well as by consumer demand. The real estate industry needs to have both tech savvy people and those who deeply understand the customer experience round the table.

Excitement around beacons, wearables, mapping and digital wallets could catapult the shopping experience to exciting new heights. Whether it's the ability to have a Siri-guided personal shopping experience, where recommended items are ready and waiting when you walk in; or the potential for a 3D printing bakery piping out your children's favourite cartoon character, customer experience is set to be redefined.

Our report begins by examining eight distinct areas of technological innovation, some of which are already beginning to permeate the retail space. Drawing on a range of sector specific and legal expert opinion, we consider specific opportunities and threats. The challenge of complying with existing and future legislation is considered by Addleshaw Goddard's experts from a host of legal disciplines.

The final two sections of the report take a step back to consider the strategic implications of these developments, assessing the real estate industry context. We analyse the changing landscape around store strategy and leasing, while BCSC lays out a detailed overview of the current policy landscape.

Crucially, we also hear from four of the sector's biggest and most influential retail landlords – Hammerson, intu, NewRiver Retail and Westfield – who offer insight into how they themselves are pushing things forward.

However much technology can and will change over the coming years, it's clear that the role of landlords has already been critically redefined. As facilitators, bringing together retailers, technology companies and investors, their ability to keep a calm head and take a long-term view will be more vital than ever before.

Section One: **Innovation**

Section Two: **Property**

Section Three: **Reflections**

Retail's Digital Future: Part One

Innovation

>> CHAPTER 01

Big Data & Smart Analytics

BIG DATA & SMART ANALYTICS IN PLAIN ENGLISH: Using large pools of information and huge amounts of computer processing to do things not possible with small amounts of data.

One of the biggest challenges for retailers has always been understanding their customers. In many respects, the vast amount of data thrown up by the internet and mobile technology has been both a blessing and curse. Customers, suppliers, inventory information and, of course competitors, are now only a click away. But a business has to have the right analytics tools to slice up big data and make sense of it.

Mass data collection has been happening for decades across the aviation world where frequent flyer schemes have existed since the start of the 1980s. It wasn't until Nectar, the UK's largest loyalty scheme, was launched in 2002 that it became an accepted part of daily life. But in a world that's now permanently online, companies are looking to harness the power of big data in all manner of ways.

Everyone accepts that, in a world of multi-channel shopping and 24/7 media, tracking customer trends and online reputation is business critical. Data has long held the keys to online retail success and now, more than ever, bricks and mortar shopping centres have the chance to engage their tenants and customers together, commercialising previously untapped areas.

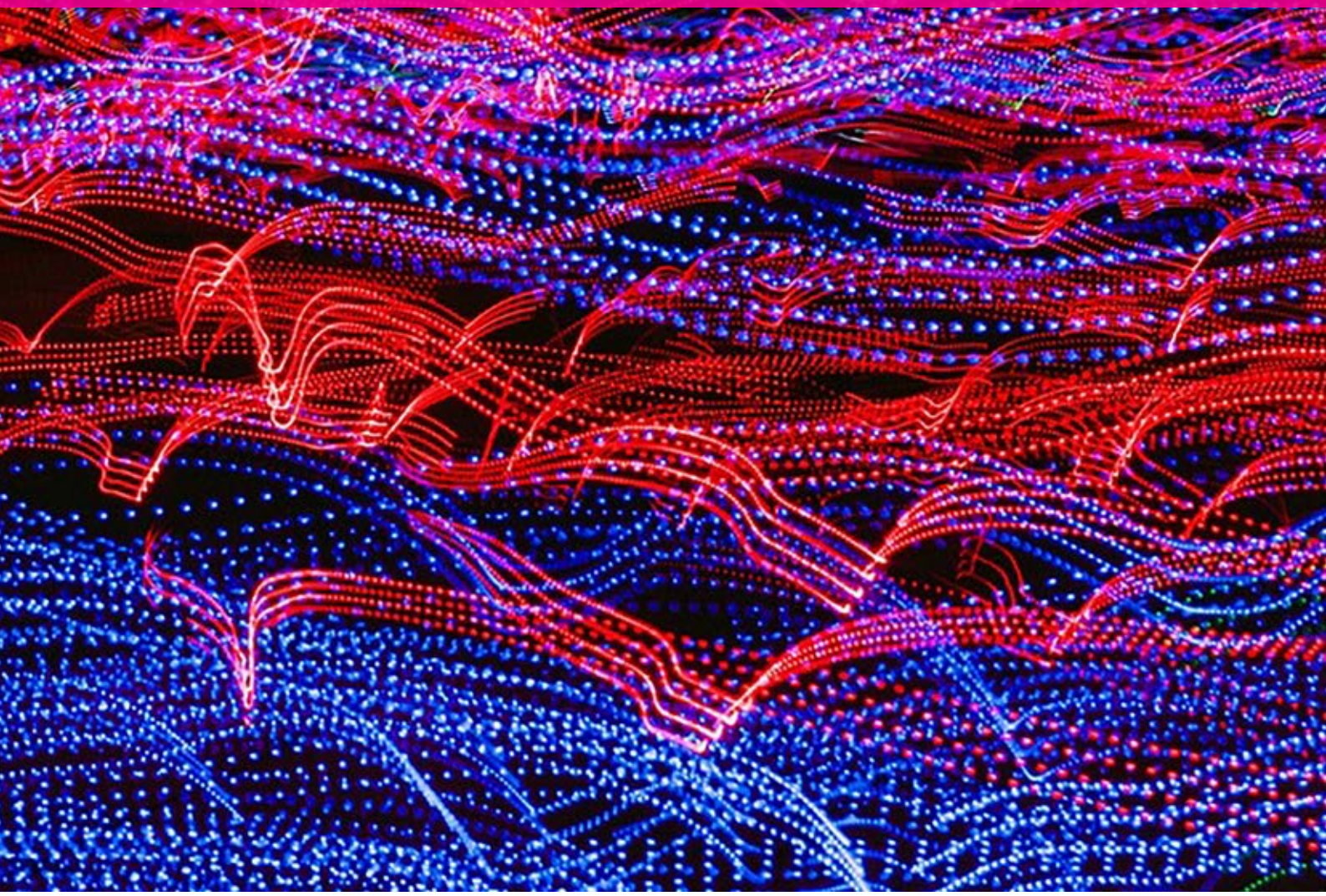
For example, the emerging trend of 'show-rooming' - a buzzword for people who test products in-store but buy them online - has proved painful, especially in the electronics sector. It is important for retailers to track this kind of shopper to understand and harness this behaviour and translate it into a sale, whether it be online or offline.

Everything occurring online leaves a trail. In the music industry, major labels are using Twitter information, combined with streaming and piracy data to inform their marketing strategies. The geographic location of anonymised online trends can be plotted, making it simple to identify locations where an artist may be popular but perhaps has had no official release.

With people now permanently connected – often through shopping centres' wi-fi networks - that same trail will be visible in the physical world.

By effectively aggregating and analysing data mined through bouncing signals off people's phones or maybe their Bluetooth-enabled jewellery, landlords can generate incredibly detailed pictures of customer behaviour. Such analysis can also be used to maximise space through improved store layout and staffing levels.

It can also enable better management of a retailer's stock distribution. In America, Macy's tracks its stock using radio frequency identification (RFID)



tags in a bid to unify its offer across physical and online platforms. Products can instantly be sold anywhere, even when out of stock in one outlet, by seeing where they are, maximising efficiency and customer satisfaction.

An individual's data can help provide recommendations and reviews, as well as guiding users to products, all via their mobile devices. But the fact that store cards (and the clear consent forms they provide) are not needed for much of this information has set alarm bells ringing with some pressure groups. Yet evidence so far suggests that customers may be willing to give their consent to tracking technologies in return for a rich, personalised experience, just as they have done with supermarket loyalty schemes.

From an operations point of view, big data is already employed in helping facilities managers monitor all aspects of their properties more effectively – in real time. For instance, temperature and lights can be altered at any point and malfunctions can be picked up on immediately. With many large retail landlords investing in old stock – and with rules around energy efficiency set to tighten in 2018 – sustainability may again shoot up the real estate agenda.

Intel partnered with Arduino to provide a cost effective development board which allows for the building environment to be controlled remotely via the cloud. The proliferation of tablets and smartphones means this can be done from anywhere, giving property managers more freedom and more control over their portfolio.

What's most appealing is the ability to predict customers' future behaviour. And with many new ways for shoppers to interact with brands - whether at home or in a mall - far more will be known. Many will no doubt value the more personalised service. But firms will do well to remember that the line between 'personal' and 'creepy' is a thin one.

> Now, more than ever, bricks and mortar shopping centres have the chance to engage their tenants and customers together, commercialising previously untapped areas.

Expert View
Semetric

Semetric is the UK and US-based data analytics business behind Musicmetric. It aggregates data and analyses trends from across the web to help the entertainment industry make better business decisions. The firm has come to prominence with Musicmetric in recent years, amid growing acceptance of a move towards streaming. Musicmetric products are used by major labels, artist managers and leading companies across the music industry. Semetric is now expanding into other parts of the entertainment business, including TV, movies, games and eBooks.

JAMEEL SYED
Chief Technology Officer, Semetric

How is big data relevant to the music industry?
Big data has come a long way since the business intelligence and data mining systems of the late 1990s. Technological improvements over the past twenty years have enabled companies to collect large amounts of raw data without the barriers of having big investment upfront. I think the music industry has particularly lent itself to big data because of its history with peer-to-peer file sharing sites. The music industry was the first to be disrupted by consumers both legally and illegally uploading content onto the web. The iPod was a key part of making consumers engage with digital media rather than physical media. In so doing, the way in which music was consumed was leaving digital footprints that could be tracked and analysed.

How is Semetric applying big data?
The improvements in big data collection enable us to have a more quantitative understanding of what is happening in our world. Take the entertainment industry: the way people interact with media, music and TV programs is increasingly taking place online. Individuals use YouTube to listen to music, watch pop programs and trailers. Just by consuming content like that or expressing themselves on social media, people are leaving their digital footprints. We can now collect raw data from these, boil it down, and make it available to entertainment executives.

Music executives can now make informed decisions when signing new artists. Because we have data assets that go back five years we can compare the early days of Adele's or Lady Gaga's popularity to a new artist starting today and see how well this artist compares.

How can big data be applied to sectors such as retail?
The retail industry has also been very receptive to big data. Loyalty cards were a key part of data-mining and data-analysis a few cycles ago. Many large firms now have incubator and VC mechanisms within their businesses, for managing and being involved in these new technologies. Supermarkets are also using in-store tracking to follow the movement of customers around their stores and determine where they spend time looking on shelves.

Compared to previous generations, there is now a lot more big data infrastructure software that can store data both inexpensively and on a massive-scale. At the cornerstone of this is Hadoop, the open-source software that allows tens of thousands of servers to work together to store, process and scale data reliably.

In addition, programmes written to run on Hadoop are written in exactly the same way, whether they are to run on a laptop, a few dozen machines, a few dozen thousand machines or a whole data centre. You can also use Amazon web Services (AWS) to rent hundreds of machines to scale up data collection, so it is no longer necessary to have your own data centre or numerous racks of servers.

What are the risks, in your view?
While physical retailers have been using data-analytics for years, it doesn't come without risks.

Firstly, the level of promise around big data means that, if companies are unable to see its immediate value in a project, they may become easily disillusioned and thus miss out on future opportunities to use big data in their stores.

Secondly, retailers must be careful in how they use data about their customers. Consumers are familiar with and happy to receive personalised coupons in the post, but may be uneasy with a similar offer being presented to them in-store using a "Minority Report" style display.

jameel@musicmetric.com
http://www.semetric.com

Legal View

LAURA SCAIFE
Associate, Data & Information Group, Addleshaw Goddard

Laura is the author of '*Handbook of Social Media and the Law*', published by Informa Law in November 2014. She has been extensively published on matters concerning compliance with e-commerce issues arising out of the Office of Fair Trading and Advertising Standard Agency guidelines as well as online revenue generation, defamation and reputational management.

We're all used to large numbers, but what exactly is big data used for?
We're increasingly finding that clients want to utilise large banks of data to advertise and interact with customers, to promote products and services to certain groups and drive sales. Big data, when appropriately aggregated and analysed, can be used to identify trends and interests and help integrate marketing campaigns and create detailed insights into a business.

But it's more than just a marketing tool, right?
Yes – it's an important point to stress that if used properly, this isn't just focused on marketing. It can help with defining a business strategy, determining how a business might want to develop; a business can look at certain trends and product updates, identifying potential growth areas; or help target support to different areas of the business which may be at risk.

Isn't this just the same as store cards?
No. Once upon a time, data was mainly collected through store cards. Now, with beacons, sensors, wearables and smartphones, there's potential for vast amounts of activity to be surveyed with or without an individual's consent which is clearly given when you sign up for a store card. Any business making moves towards the use and storage of big data must consider how it complies with the law.

Which legislation does this all fall under?
The Data Protection Act 1998 is a key piece of legislation that is currently undergoing discussion at the European level. There is a draft regulation coming out soon, perhaps late 2016. And there is discussion concerning technology such as biometrics, data-like tracking and use of beacons that are considered in the draft regulation.

Companies are paying closer attention to how these types of data might be used so they can understand their preferences and work out when consent is needed.

It will be a question of understanding how the data is anonymised and used. There aren't going to be terms and conditions at the door when you go into a shopping centre. However, there might be terms and conditions for the businesses within that mall or a straightforward 'accept' button on any corresponding app or when you accept to use their wi-fi.

What potential is there for big data to influence the design of shopping centres?
In terms of its wider use, there is potential to identify how to influence the physical design of malls by harnessing big data. You can use it to identify customer behaviour – for example, where a particular demographic congregate or which groups tend to shop when.

So what are the main risks?
The principle risk around anything data-related is people's expectation of their privacy. Something can be legally permissible but you still need to approach customers with a sense of responsibility. People need to feel that their privacy is being respected and that you are not using information for untoward purposes.

It's about looking at what is permissible within the realms of the law but also what is good from a business perspective. You may be able to collect and store lots of data but you also need to be careful not to damage your customer relationship or how people perceive your brand. The challenge here is to be commercially and legally aware and put together terms and consents that meet expectations about privacy, but also use data responsibly to deliver the best possible customer service.

And who owns it – the retailer, the landlord or someone else?
The question of who owns the data relates to intellectual property; there is no such thing as 'ownership' in data, yet agreements may exist around its transfer. When you create a database you can have database rights, but this depends on how much original work is in the construction of it. If there is programming within the database that makes it special or unique and provides a tangible value from that data, then you can qualify for a database right. It is not unusual to see companies sell and transfer data but they are mainly relying on intellectual property rights and the common terms in those agreements are that the data has been collected with consent.

The Information Commissioner in the UK has issued a guidance note called Buying and Selling Databases, which discusses some of these grey areas that might be of use to data-heavy businesses. I commonly deal with assessing if data has the right consent and what the risks are of transferring it, and how we can deal with that from a legal and commercial perspective.

This is a challenge because it's a crossover between business interests and meeting privacy laws that affect individuals and how we can raise knowledge and expectation of how their data might be shared. Often, businesses want to monetise their data and think that they can sell data without realising the legal issues behind it. However, this is not only a regulatory matter, but also a reputational issue, as businesses need to reassure customers that their data is being used responsibly. Commonly, this is done through privacy policies where you confirm that your data might be shared with third parties.

What considerations are there for senior teams?
Ensuring that people across a business understand consent and privacy rules, and bear these things in mind when designing a website or commissioning social tools is vital. It is useful to engage with IT and marketing teams to make sure that they have enough knowledge in order to highlight any red flags. It's important to plan a business strategy with the right consents.

Finally, do we actually need this much data?
Rather than just collecting lots of data that increase the risk of complaints about privacy rights we should aim for systems sophisticated enough to derive useful assumptions and trends and show retailers what is actually happening in the stores without creating needless risk.

laura.scaife@addleshawgoddard.com
http://www.addleshawgoddard.com

» CHAPTER 02

Augmented Reality

AUGMENTED REALITY IN PLAIN ENGLISH: Superimposing graphics or information on top of what you see via a digital camera built into a portable device such as a phone or tablet.

Just over 20 years ago, virtual reality was the next big thing in gaming. Industry giants, Sega, had convinced themselves that huge head units containing internal LCD screens displaying clunky polygon landscapes were the future. The planned 1994 launch of Sega VR, which tracked head movements, never happened. Instead, the nineties continued to be defined by spiky blue hedgehogs and fat Italian plumbers.

Things have come a long way since Sonic and Mario however, and augmented reality (AR) shouldn't be confused with anything like that. Although it could be described as a cousin of virtual reality (VR), rather than creating entire virtual landscapes inside a computer, AR layers computerised imagery on top of what you see in the real world.

The technology itself has been progressing since the early 1990s and is now at a point where mobile devices can accommodate it.

The gaming industry's current darling is Oculus, developers of Rift, a modern day equivalent of Sega VR. The company, which was acquired by Facebook in March 2014 for $2bn, has since announced a tie-up with Samsung to create the mobile Gear VR headset.

Samsung claims to fully immerse smartphone users in cinematic virtual reality, with partners such as Imax and Dreamworks providing a wealth of cinematic and cartoon content to interact with.

Such face-hugging devices are likely to be attractive for immersive gaming or film experiences. But real world interaction could be more problematic, as Google Glass users have found. It is something we explore in our Wearables chapter.

Clearly, such technology can be classified in many ways and directly links to other opportunities – such as digital payment systems and mapping technology. Wells Fargo has already been testing Oculus Rift VR headsets in its San Francisco-based lab as one way of improving customer experiences in its branches.

And this is where augmented reality oozes potential for retailers – albeit with devices that do not restrict the users sight solely to computer-generated imagery.

Modern smartphones and tablets contain enough gadgetry to run AR apps, meaning there's potential for shoppers to use the technology without the need for bulky, expensive visors.

The camera inside a phone or tablet recognises features of the real world

and is triggered to overlay information. So a wave of your phone along a row of shops or cafes could superimpose an array of information from opening times to customer reviews. Such technology can also be used to show what buildings previously looked like, or help make a visit to a gallery more enlightening.

Museum have already been using AR to engage younger visitors.

At the cutting-edge, *Intel* is developing a *Magic Mirror* that will allow customers to virtually try on an outfit without the time and hassle of the traditional changing room. Combining new technology with maturing 3D body-

face in real-time, enabling customers to virtually try out products quickly in a store. This is one of the many applications of the technology that is likely to drive people towards, rather than away from, physical stores. Other fashion-related applications could include shoes, accessories, jewellery and cosmetics. Roll-out may be up to four years away, however.

Of course AR-type experiences can also be delivered in the home using software and a webcam, albeit with less exciting results. While it can be used for fashion (*eBay* recently announced its acquisition of *PhiSix*, a company that develops 3D visualisation and simulation technologies for clothing), more context-dependent applications seem to offer a brighter future: paint colour schemes and home furnishings, for example. *IKEA* has developed an application for this purpose. While this in-home experience would suggest a footfall-reducing effect, there could well be ways to encourage customers to scan their homes and head in-store for specialist design help.

This is one of the many applications of the technology that is likely drive people towards, rather than away from, physical stores.

Allowing a virtual world to enhance the real one in this way could have profound implications for consumers. Unlike many other innovations, it's something that drives people towards physical interactions. Major British institutions like the *V&A* and *British*

scanning technology ensures customers get an accurate impression of fit as well as the look of the worn garment. Similarly, *Sephora* and *ModiFace* developed a 3D augmented reality makeup and anti-aging mirror that that can simulate cosmetics on a user's

Expert View
Gamar

Gamar creates interactive games for play in the real world. The company's AR games run through smartphone and tablet devices and encourage players to explore, create and share experiences at some of London's most iconic attractions.

The start-up's technology allows museum-goers to superimpose graphics over what they see through the lens of their device, allowing visitors to explore the history and story of exhibits through interactive games.

Visitors to the British Museum's Parthenon Sculptures gallery this year have already been able to play 'A Gift for Athena', a game available to download on IOS and Android. The Gamar application will soon include augmented reality games for a selection of museums and attractions.

LEE BRIGGS
Managing Partner, Gamar

What technology does Gamar use?
We're combining three types of technology:

AR: To recognise 3D objects, "mini" and "mega" environments in the real world and make them playable.

Machine learning: Self-improving and remembering environments around us with artificial intelligence.

Game building platform: Scalable and modular games delivered through a web platform built for non-programmers.

How is this different to existing AR technology?
We can scan mini or mega environments around us. With machine learning, recognition improves as we use the application a greater number of times. So the more you use it, the better it gets.

What are the advantages of this technology?
Our technology enables people to play with or gather information from any object that they can see through their mobile or tablet. No longer are people confined to only seeing what is around them – they can now see and interact with everything around them in ways beyond their imagination. Your world will become your playground.

What does it have the potential to do?
Gamar's technology can enable anyone to interact with any object through their mobile or tablet – exploring deeper, learning more and building closer relationships with an environment. Any object can be interacted with, whilst it maintains its current form - it doesn't need to be altered in any way - so no QR codes.

What exactly is it doing in a museum environment?
A visitor is invariably disconnected

A visitor is invariably disconnected from an object in a museum – they can look at or touch an object but the object doesn't interact back.

from an object in a museum – they can look at or touch an object but the object doesn't interact back. Educational information is often provided but commonly in the form of a text-based description. This seems in contrast to how children learn - by playing and experiencing.

Our technology facilitates learning, without it interrupting the museum environment or experience for others. We have transported people into the middle of a war zone, 2,000 years in the past; into the deepest oceans and over to the other side of the world – all without leaving a room.

How could this be applied to other areas, such as retail?

With the technology that Gamar has created, a retail customer can interact with any product on a shelf, gathering product information, and any other details that can aid or encourage a sale. No longer will retailers have to rely on product packaging or signage. With Gamar's technology, an immersive experience and important information can be provided for each product by focusing a device on it.

lee@gamar.com
http://gamar.com

» CHAPTER 03

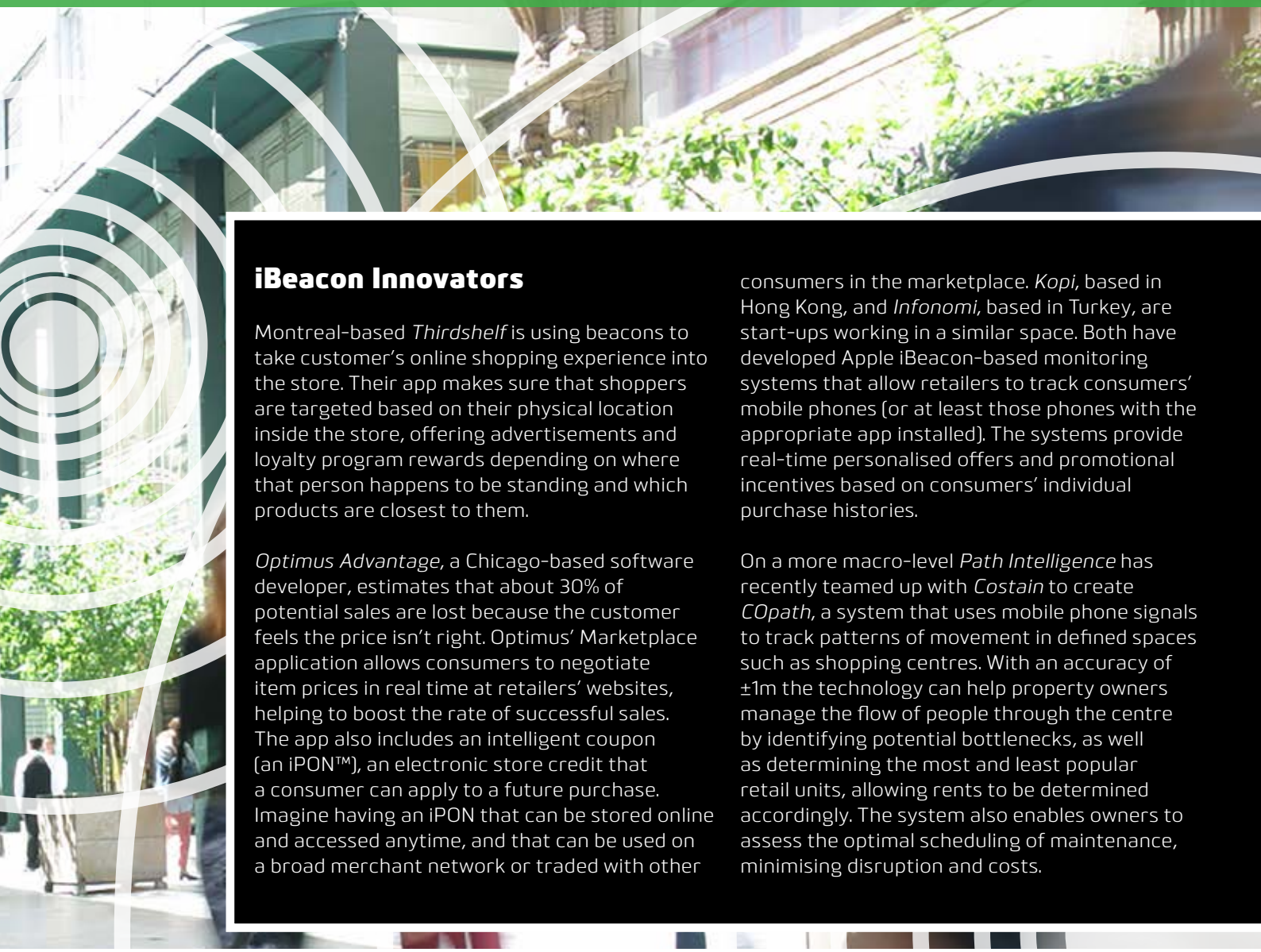
Beacons & Location Technology

BEACONS & LOCATION TECHNOLOGY IN PLAIN ENGLISH: Transmitters used to bounce messages to mobile devices, gather data and determine people's precise locations within a given area.

Beacons have emerged as one of retail's new best friends. They are essentially transmitters that run using a more energy-efficient form of Bluetooth called Bluetooth Low Energy (BLE) or Bluetooth Smart. Crucially, they are two-way devices, meaning they can be used as Like Stations, allowing customers to show their support in the real world as they may do by liking something on Facebook.

Apple's version of the technology is called the iBeacon and works, like all beacons, by turning the mobile device into a sensor that is able to send and receive location-specific messages. The phone can send messages to others, itself acting as a beacon. The functionality is determined by how near a user is to the beacon and what range and battery life it has.

Support for the technology exists across a variety of operating systems including



iBeacon Innovators

Montreal-based *Thirdshelf* is using beacons to take customer's online shopping experience into the store. Their app makes sure that shoppers are targeted based on their physical location inside the store, offering advertisements and loyalty program rewards depending on where that person happens to be standing and which products are closest to them.

Optimus Advantage, a Chicago-based software developer, estimates that about 30% of potential sales are lost because the customer feels the price isn't right. Optimus' Marketplace application allows consumers to negotiate item prices in real time at retailers' websites, helping to boost the rate of successful sales. The app also includes an intelligent coupon (an iPON™), an electronic store credit that a consumer can apply to a future purchase. Imagine having an iPON that can be stored online and accessed anytime, and that can be used on a broad merchant network or traded with other consumers in the marketplace. *Kopi*, based in Hong Kong, and *Infonomi*, based in Turkey, are start-ups working in a similar space. Both have developed Apple iBeacon-based monitoring systems that allow retailers to track consumers' mobile phones (or at least those phones with the appropriate app installed). The systems provide real-time personalised offers and promotional incentives based on consumers' individual purchase histories.

On a more macro-level *Path Intelligence* has recently teamed up with *Costain* to create *COpath*, a system that uses mobile phone signals to track patterns of movement in defined spaces such as shopping centres. With an accuracy of ±1m the technology can help property owners manage the flow of people through the centre by identifying potential bottlenecks, as well as determining the most and least popular retail units, allowing rents to be determined accordingly. The system also enables owners to assess the optimal scheduling of maintenance, minimising disruption and costs.

If you're next to the paint section of a DIY store, you could be sent a discount code. If you were stood outside a fashion store but didn't buy anything, the retailer could try and tempt you back with a flash-sale offer.

iOS, Android, Windows Phone and BlackBerry, as well as OS X, Linux, and Windows 8.

The reason why people are excited owes much to the technology's "geofencing" capabilities. It can pinpoint exactly where someone is, so if, for example, you're next to the paint section of a DIY store, you could be sent a discount code. If you were stood outside a fashion store but didn't buy anything, the retailer could try and tempt you back with a flash-sale offer, much like many websites now offer.

The uses for beacons could prove endless and will allow retailers to have a direct line to their customers and to attach digital content to everything in the physical store, providing an enhanced customer experience.

Local wi-fi networks have also become a key route to locate shoppers. Customers seeking a free connection can agree to be tracked by clicking their acceptance when they log in. California-based analytics firm *Euclid*, is hoping to encourage wider take up of tracking technology by offering Euclid Express, which offers retailers a free analytics solution for bricks and mortar shops.

With beacons now in use across many high profile retail centres, including London's Regent Street and malls owned by Hammerson and Westfield, it's only a matter of time before customers decide whether they too are prepared to buy into the benefits of these new best friends.

Expert View
Appflare

London-based Appflare operates an extensive network of beacons across a range of grocery and convenience stores as well as newsagents, enabling brands and retailers to engage with customers as they walk in store, browse the aisles and at the till. Appflare's analytics allow for tracking of store visits, path through store, engagement history, brand preferences and social profile.

OWEN GEDDES
Founder & CEO,
Appflare

What opportunities does beacon technology hold for shopping malls?
We can identify opportunities on two levels. Firstly, down at a retailer level, this is currently similar to a retailer opportunity anywhere else - the focus is on grabbing consumer attention as they enter a store and using this to influence purchasing behaviour. In the future, beacons will enable retailers to do a lot more to influence the consumer in their shopping journey.

At a second level, shopping malls can use these technologies to provide a value added service to the retailers. This is a technology infrastructure that will allow malls to take shoppers on a journey and then direct them to a particular retailer, and help that retailer engage consumers as they walk over the threshold.

What else can they support?
Another opportunity lies with the fact that shopping malls are now more of a destination. Many hold numerous events and activities. There is an opportunity to guide shoppers to those experiences, but also provide beacons as added inventory to sell to the organisations running those events. Beacons will provide the ability to engage with customers in order to draw them towards stalls and events.

Is this an intrusion that will annoy customers?
Yes, as a number of organisations will inevitably over-engage. However, as beacons are app-driven, customers can decide if they want them or not, and also have the opportunity to turn them off.

How can this technology be useful for smaller operators who don't have the same space for events and activities as the major players?
Generally any shopping area has common themes – it will have a retail area, entertainment nearby, and food and nightlife venues. There is an opportunity here for discrete businesses to work together, but there needs to be a cohesive framework to interact. Beacon technology can enable these businesses to work together using apps.

Are they affected by the various data security and reputational risks?
Data security doesn't affect beacons directly as there is no data that needs to be secured. They are essentially pointers. At an app level, the data contained is no different to any other consumer-level data.

Given that, then presumably a company could malevolently use a competitor's beacons for its own gain?
There are ways around this and we can put measures in place that make it difficult, but not impossible, for people to discover an organisation's beacon identities in order to build those into an app. The legality of using competitor's beacons in this way is currently unknown, however, there would be reasonable cause to construct a legal clause to prevent competitors taking advantage of each other's beacons.

What does beacon technology look like at the till when using vouchers and coupons?
Near-field communication is a nice example of how customers can interact at the till. At the moment this is not done terribly well, but it is expected to grow in importance. The best user experience is one where you wouldn't need to take your phone out of your pocket at all. There are systems that allow you to interact when you walk into a store, for example PayPal's payment beacon allows you to turn up at the till, say you're paying with PayPal and it interacts.

This is an interesting long-term view for shopping experiences. Technology shouldn't just replace a wallet, instead, it should enable the customer to leave their phone in their pocket, identify themselves and then be able to use coupons or vouchers on the account associated with that beacon. Consumers will only adopt something if it gives them value and makes their life more convenient, not just because it is a new technology.

Ultimately, the consumer will gravitate to whatever is easiest, someone will spearhead the right experience and the right time, and other competitors will adopt that.

owen.geddes@appflare.com
http://www.appflare.com

Expert View
Tamoco

Tamoco are leaders in proximity marketing and content discovery services, connecting physical media to the digital world, and measuring it. They service a multitude of technologies such as BLE, WiFi and QR, with a primary focus on NFC. Tamoco's engagement platform is made up of unique data sets, allowing for intelligent, real time decision making, giving businesses further insight and customers the relevant and contextual content they want.

SAM AMRANI
Founder & Executive Chairman, Tamoco

Tamo is a proximity technology firm. How do you explain that to somebody's gran?
A proximity tech firm enables people to communicate and engage via things that are geographically linked. There are four main proximities that require the most attention and take up 95% of our business. These are NFC (near field communication), iBeacons, Wi-Fi and QR (quick response codes). We set up a platform, the software and an analytics suite, which is essentially a content management system and analytics. This then enables you to manage all of the proximity technologies.

Anyone can buy NFC tags and program them. What makes what us interesting is that we can manage it all via the cloud, and we can have a mapping network of NFC tags and manage them all from a desktop or mobile portal. Secondly, we can add external data to those collected from these transactions. So you can map rainfall against footfall or track Twitter activity correlated against an in-store event.

Is it all just about sending vouchers?
No, although that's certainly part of it. Most importantly, they can listen and capture valuable information about consumer patterns and journeys. This can then be passed to the retailer, so they don't need to push anything to them.

Coupons or vouchers can be pushed out but this can be 'action-based' meaning things aren't blindly sent to people. For example, we can push notifications determined by dwell time, location or the time of day. if someone is sitting waiting on a couch outside a shop for 15 minutes, the app can push a notification to give them an offer to a discount newspaper. Dwell time notifications will be key to making shoppers out of people who weren't before.

Another key use is to drive app acquisition. People often download store apps, use them once and then never again. Using NFC technology and Bluetooth we can prompt a device to open a store app when you walk into that store, or within proximity of a store's beacon. This can create frequent monthly active users out of app downloaders.

The ability to integrate external data is critical to making successful use of this technology, isn't it?
Yes. So for a Magnum campaign an NFC tag on a bus stop panel will feed in contextual data. So if it's 2am and raining, it is common sense not to offer them an ice cream voucher. However, if it's 30 degrees at lunchtime, then that would be a good time to drive loyalty. It's about leveraging what we capture in real time, e.g. time, location, make and model of phone, network carrier, plus any additional external information we can capture.

How does someone without the deep pockets of the major landlords or who's not as tech savvy as they'd like to be get on board with this?
Companies like ours provide a turnkey solution. We source the beacons and help create the content management system to control them and then harvest the information.

How quickly are people likely to see a return on investment?
Brands running NFC campaigns properly have already begun to see some significant uplift. In early Q2, Tamoco ran a successful campaign with AT&T, sponsors of the Tribeca Film Festival in New York, using HID Trusted Tags in posters. The campaign's free tickets all went on the first day of a four-day promotion which saw 8,500 interactions across 56 stores. People were queuing around the block to get in and tap.

How will shopping centres change as a result of these sorts of innovations?
It's only a matter of time before landlords realise these technologies will create a better experience and generate revenue for all parties involved. I don't feel it will change the aesthetic of a shopping centre for the consumer, but their experience will be better.

Can beacons realistically help landlords get more value from the space they rent out?
Beacons can be positioned around a mall to drive footfall and, using the analytics data we harvest from them, landlords could easily make the case for heftier service charges or increased rents where the right outcome occurs. Each retailer has their traditional store footprint, but elsewhere in the mall, the right campaigns targeting the right people could easily amplify their success.

Are we seeing a rebirth of the physical shopping experience?
Absolutely. In my opinion, if you're educated about your purchase and know what you want, you can go online and buy it. However, people are happy to pay a little more to get a personal service. There are different elements of convenience with online and physical retail, but I feel that real world services are coming back with new innovations. The high street is not dead; it's time for a renaissance.

sam.amrani@tamo.co
http://www.tamo.co

Legal View

JONATHAN DAVEY
Commercial Group head,
Addleshaw Goddard

Among other clients, Jonathan has worked with Sainsbury's for 12 years across a variety of Nectar and other contracts touching on data collection and monetisation. He discusses how monetisation has evolved and why the answer doesn't always have to be 'no'.

Loyalty programmes are the acceptable face of customer data monetisation aren't they?
Yes, because customers are making a consensual bargain to exchange data for rewards. They approve use of their data and in return they get discounts, offers and a benefit they can exchange for a treat or to put towards a better Christmas if they prefer.

Sainsbury's EPOS system, of course, provides basket-level data, but a Nectar card swipe provides the ability to join baskets together. So, Sainsbury's can look at your basket of shopping today and the till tells me what you've bought. But I can't look at behaviour patterns and effects on behaviour patterns without being able to match up successive baskets. Now, you can't get that from credit card data as credit card data companies don't let you use it. Nectar provides this insight for Sainsbury's.

What is your broader perspective on data monetisation?
I see it as a journey. Many of our clients gather, or could gather, useful data as part of providing services to consumers. Some clients are already collecting and using that data both to provide B2B services and to provide insights into the deepest levels of their own businesses; Justin King was fond of referring to the "data haves and have nots" amongst the grocery retailers, the point being that the "haves" have a massive advantage over their competitors.

> There is also a lot of power in aggregated data. Think of the power behind the data gathered by the Oyster card system, or mobile phone location data.

Other clients have data, or could collect it, but are understandably protective of their brand and cautious of customer reaction if they use that data for other purposes.

In between are companies who are making early steps into the field of data monetisation, or are considering taking further, bolder steps.

We've started hosting regular get-togethers for clients who are interested in data monetisation issues, including Barclays, Sainsbury's and Royal Mail.

What interesting things emerged from bringing several non-competing blue chips together in this way?
One key issue is managing customer expectations. As I mentioned, some clients are worried about how use or greater use of data might be perceived and some have asked customers what they thought the company already did with their data.

They found out that their customers thought they were already doing things they were worrying about doing. So the big brother risk, which they were worried about, may not exist or may be a lesser ground for concern than was previously envisaged.

How can businesses avoid getting into hot water with customers or the Information Commissioner?
In some cases, as I have mentioned in the context of Nectar, there is a consensual bargain in which I gladly allow use of data in return for rewards. If this is the price of free wi-fi in my hotel or on my train journey, I'm more likely to agree.

But this isn't the case for many businesses; then it's a matter of demonstrating to customers that there is value for them in allowing data use – that way, I may get consent to use data in a way that provides business benefit to me and a genuine benefit to my customer. If I ask for a broad consent to use data, I may get a "no"; if I ask whether I can use your data to protect you from fraudulent use of your details, I may well get a more favourable response.

There is also a lot of power in aggregated data. Think of the power behind the data gathered by the Oyster card system, or mobile phone location data. I don't have to use personal details to generate a lot of very useful insights from those databases.

The legal boundaries of acceptable data use are still being defined in some areas and this is a place where lawyers with the right skills and experience can add real value.

jonathan.davey@addleshawgoddard.com
http://www.addleshawgoddard.com

» CHAPTER 04

Mapping

MAPPING IN PLAIN ENGLISH: the use of GPS and other imaging technologies to produce precise, layered digital maps, often containing real-time or "real-time" information.

There's nothing more frustrating than hopelessly trying to locate a staff member in a bid to find an a store or an elusive item needed for a last-minute engagement. With the wealth of data available, pretty soon stores may be able to know in advance what you're after and direct you to it.

Mobile apps using *Google Maps* and similar mapping technologies are beginning to take hold in the US retail market where they are being used to help customers navigate sometimes overwhelming layouts of megastores. Lowe's Home Improvements is one of a number of US retailers to launch a bespoke app to help customers with turn-by-turn directions to the products they are looking for.

Clearly, such apps have the potential to be developed to help customers quickly identify the shops they want in larger shopping centres in the UK as well as providing other location and time specific information.

Google recently announced an impressive enhanced retail experience powered by its Project Tango smartphone and tablet 3D-mapping service. The application promises to turn real world shopping into a video game experience, helping costumers to find and interact with products more efficiently. A number of retailers partnered with *IBM* to develop an app based on IBM's *Augmented Reality Shopping Advisor* to ensure that the right products are always in the right place at the right time.

In a slightly different vein, the flagship *John Lewis* store in London's Oxford Street recently became the first department store in the world to be mapped by *Google's Street View*, helping customers to navigate the store via 500 separate panoramas. The cooperative department store seems to suggest the street view will enable customers to pre-plan their visit by virtually exploring the store beforehand. This kind of mapping could be rolled out to shopping centres but it is not clear whether this may simply put too much onus onto shoppers.

Aside from soothing age-old frustrations, this technology has the potential to drive personal shopping experiences where systems can be integrated with stock inventory, beacons (offering vouchers and incentives) and broader information about a shopper.

Just as Amazon is renowned for its savvy recommendations algorithm, perhaps one day soon shoppers will get an audio guide to products they might like driven by their purchase history, age, body type and information about what they watch on Netflix or listen to on Spotify.

Expert View
HERE

HERE, a Nokia company, is a global leader in mapping and location intelligence. With almost three decades of experience in cartography, its vision is to offer the world's best maps and location experiences across multiple screens and operating systems. HERE maps can be found in four out of five factory-fit navigation systems in North America and Europe. HERE also powers mobile, web and enterprise solutions.

JOSEPH LEIGH
Head of Venue Maps, HERE

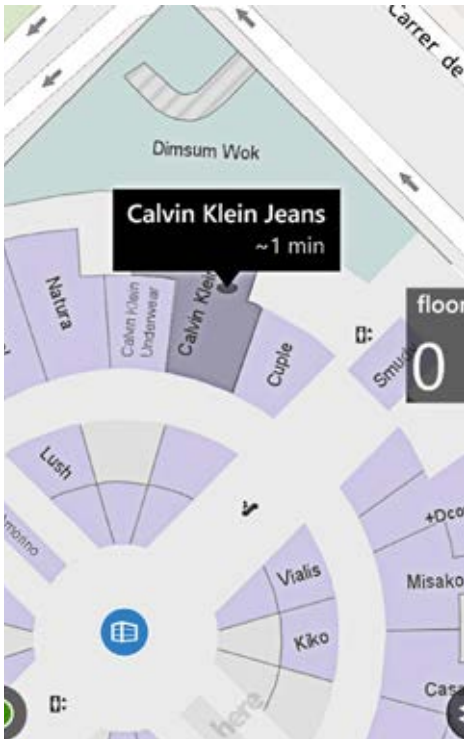
Why is mapping particularly helpful to bricks and mortar retailers?
Many bricks and mortar retailers have lost out as shopping has moved online. But now they have a powerful weapon with which to fight back: a map. Or, more precisely, an indoor map.

When combined with analytics and precise positioning, the indoor map can change the game for physical retailers. It can tell them where their customers are inside the mall or store, what they're looking at and when. It can tell them who their customers are and make accurate forecasts about where they are going next. In short, armed with a continuous flow of information like this, physical retailers have the potential to act in real-time just like their online brethren.

Can you explain the importance of mapping in real-time?
To understand the potential of pairing maps with modern technology, just look at how our cities are transforming today. Cars and smartphones are becoming probes, their constant location updates giving cities invaluable information about traffic conditions. Gather enough data and you can start to build a system that makes reliable predictions about traffic on a particular road on a certain day in given weather. You can start to truly understand how people move around – and live in – the city. It's an urban planner's dream.

Can mapping help reverse the trend towards online sales?
With everyone carrying a smartphone, the same revolution can happen in retail, though this time it will be shop planners and merchandise managers who can benefit. In the course of mapping 90,000 buildings at over 10,500 venues in 75 countries, we've become more certain about it. The map is no longer static, no longer made of paper. It's dynamic, more social and personal, constantly computing new information to give you the right information at a given moment. For retailers, the map will be less about getting people from A to B, and more about using their location and behaviour to offer them a better shopping experience.

For a proper dose of retail therapy the trip to the mall is still hard to beat. Yet, physical retailers continue to cede ground to the online players. To fight back, they should consider adding a map to their arsenal of weapons.



press@here.com
http://360.here.com
http://here.com

» CHAPTER 05

3D Printing

3D PRINTING IN PLAIN ENGLISH: turning a computer-based design into a physical 3D object by using a special printer which builds it, layer by layer, using single composites or substances.

Creating physical objects by printing them in layer upon thin layer using single composites such as plastic, metal and ceramic has been around for a few years now. Designers have used "printers" costing many thousands of pounds, to produce proof of concept components and scale models, bringing virtual computer simulations to life in a precise and time-efficient manner.

In time 3D printers may be able to produce en masse with ease and low cost everyday consumables from clothes to mobile phone cases to pizzas. But, for now, novelty appears to be the prime application. Already major retailers are selling consumer versions of printers, some of which cost hundreds rather than thousands. While these are rudimentary, offering the ability to print simple downloaded designs, it clearly demonstrates the public demand for the technology. A new straw-based plastic printing medium developed by Chinese manufacturer *Jiangsu Jinghe Hi-Tech Co*, could help prices to drop fivefold, according to some estimates, and speed up the adoption of 3D printers even more.

Retailers like *Staples* are already starting to sell 3D printing services that offer a glimpse of the future and the potential for standalone 3D print shops. Carnegie Mellon University and *Disney* Research have created a 3D printer that can print a customised teddy bear in a few hours using soft yarn and a needle. *Modern Meadow*, known for its work in producing bioprinted meat, raised around £6 million to begin printing cultured leather, a biomaterial that can be used in clothing and other applications.

A number of large shops in the UK have suggested they could host 3D print services. *Asda* have already taken the first steps. Beginning in York, the UK's third largest supermarket is trialling a service of sorts based on in-store scanning technology. Customers can get any object larger than a shoe 3D scanned and a model is printed offsite. With prices starting at £40 shoppers can have scale ceramic models printed in a variety of sizes and finishes. The Walmart-owned chain appears to see it as the evolution of the photobooth, with customers coming away with life-like figurines of themselves, their friends and family.

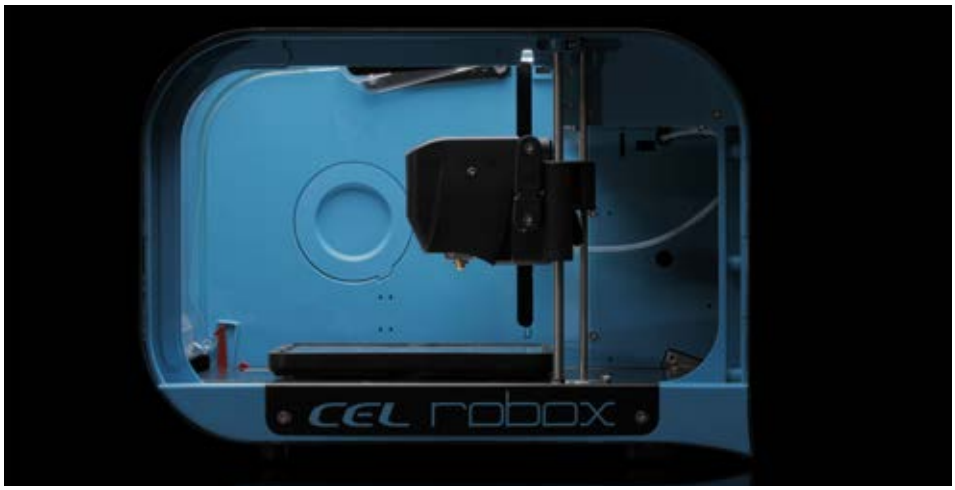
In the more distant future, as the technology develops and becomes more ubiquitous, regular retailers may look to downsize their properties, cutting shelf and storage space in favour of printing products as and when they are needed. Property owners are encouraged to look to 3D print shops as tenants, as this will draw custom both now (while still a novelty) and in the future (when use becomes more widespread).

There are risks associated with the technology. Much has been made of attempts to make 3D print designs for simple plastic guns available. But perhaps the greater concern in terms of commercial uptake comes from the potential for design copyright infringement.

However, with landlords' increasing focus on leisure facilities – and particularly the catering offer – of centres, the ability to print your own meals – along with the plates and cutlery - could prove a tasty way to entice people to stay a while longer with a bit of futuristic food theatre.

Expert View
Robox

Bristol based CEL is best known for power tools such as the POWER8workshop, which appeared on BBC's Dragon's Den in 2008. For the past two years the company has turned its attention to the world of 3D printing identifying a gap in the market for a home and office device. The Robox project raised £280,000 via Kickstarter to create what CEL claims to be "the world's most accessible, modular, easy-to-use manufacturing system".



CHRIS ELSWORTHY
Managing Director, Robox and CEL UK

How does 3D printing work?
Users can select the object they want to print from a file, in the same way a person can choose a file to print on a standard laser printer, but this time rather than printing a flat 2D image, the object is printed layer upon layer until it is complete and three dimensional.

This means people can quite literally print anything: from coffee cups, to coat hooks, Lego bricks, cutlery and games. The list is endless.

There are a number of additive manufacturing technologies out there, but all print 3D objects in the same way, building up the layers which are affectively slices or cross sections of the print.

How is the Robox 3D printer different?
The Robox 3D printer includes a dual-nozzle system so one nozzle can print highly detailed exterior surfaces, and another larger nozzle can fill the object multiple layers at a time without affecting part strength or detail. Robox also features automatic material recognition, replaceable print heads, internal lighting and separate build chamber and electronics enclosure.

Desktop 3D printing brings the process of manufacturing to the home, as it allows ordinary people to create their own objects and parts.

What other innovations are we starting to see?
3D printing is now being used more and more in industries such as healthcare, aerospace, automotive, education and architecture. We are seeing developments every day where 3D printing is being used to produce prosthetic limbs, medical parts and even drugs. In the automotive world – which has been using 3D printing longer than many other industries – Formula 1 parts, concept cars and small car parts have all been produced with additive manufacturing technology.

It makes it easier to create innovative things across many different industries, which were simply not possible with older technologies.

How do you envisage 3D printing being used in the retail space?
The retail industry doesn't yet capitalise on the advantages of 3D printing, but eventually we could see 3D printers entering stores for customers to use. Rather than selecting from a small selection of items on the shelf, customers could design their own products in store, or customise what is already there. This means that rather than holding stock, retailers will no longer be restricted by the space they have available, as they can produce stock as and when the customer designs and prints it.

Could 3D printing realistically help retailers to increase footfall?
This process of having new technology in stores will make them more modern and accessible for consumers who are turning their backs on the high street in favour of online technology. Customers may welcome the opportunity of going into a shopping mall and returning home with something they have customised for themselves, and this, in turn, would reduce the likelihood of returned items.

How can the retail sector gear up for 3D printing?
Retailers should switch their attentions from stocking the finished items, to stocking the raw materials needed for 3D printing – although this may be a long way off, as people are still learning about the need for 3D printing both at home and in industry. Shopping mall landlords would also need to make sure consumers' expectations are met so they understand the capabilities of 3D printers, and factor in how long prints take to produce, as while developments mean prints are getting quicker and quicker it still isn't as fast as selecting an object off the shelf.

http://robox.cel-uk.com
http://www.cel-robox.com

Legal View

EMMA ARMITAGE
Partner, Litigation Group, Addleshaw Goddard

Emma specialises in all aspects of intellectual property litigation including trade marks, copyrights patents and confidential information. She also has substantial experience in contractual disputes relating to IP, principally around licensing and distribution and has also advised clients on trade mark portfolio management.

Is 3D printing technology really a threat to copyright holders?
The growing proliferation of cheap 3D printers and print labs is likely to lead to an increase in counterfeiting and intellectual property (IP) infringement. We are likely to see manufacturers and designers facing similar issues to those faced by the music and film industry through illegal content sharing. IP laws that were drafted 30 years ago will need to play catch up with this new technology.

Surely we already have enough legislation in place?
Current UK IP laws do offer some protection. Copyright will protect the design drawings and blueprints from being copied (e.g. uploaded to the internet). However, copyright will not generally protect against someone making a 3D copy from the design drawings. Registered and unregistered design laws offer greater protection. For example, a design will automatically qualify for EU unregistered design protection which lasts 3 years if it is a new design which is different in character to existing designs. Recent changes to UK legislation now make it a criminal offence to infringe a UK registered design, which should provide a greater deterrent to counterfeiters.

An interesting question is who will be liable for infringement of IP laws Is it the supplier of the print equipment, the end user, the supplier of the design document or the print lab? There also needs to be clarity on who in the supply chain is liable for defective products.

Could the makers of 3D printers get into trouble?
Based on a famous case from the 1980s involving CBS and Amstrad's twin cassette deck, suppliers of 3D printers are unlikely to be found liable for authorising copyright infringement. As for end users, private at home, non-commercial use of 3D printers will be allowed under existing design laws. That is because there are exceptions that specifically allow for private non-commercial use and for the making of spare parts.

How will firms be able to protect their IP being shared?
Companies will need to monitor file sharing sites and, if necessary, apply to court for a blocking injunction against the internet service providers hosting the sites. This is something that the film and music industries have successfully done in recent years. Although 3D printing will make illegal copying easier, it also presents potentially lucrative opportunities for IP owners to legitimately license their designs to 3D printing labs and websites.

emma.armitage@addleshawgoddard.com
http://www.addleshawgoddard.com

>> CHAPTER 06

Wearables & Fash-Tech

WEARABLES & FASH-TECH IN PLAIN ENGLISH: devices which seamlessly integrate into garments and worn accessories, perfectly combining form and function. Possibly the future of all high-tech devices...

Wearables have come along way from Bluetooth headsets, which typified cities circa 2007 as the weapons of choice for taxi drivers and people you might see in the park.

Despite various product breakthroughs in recent years, wearable technology remains a niche sector. It falls largely into two camps: those which open the windows to augmented reality by overlaying what you see with computerised information; and wrist-worn devices which pair themselves to smartphones using Bluetooth connectivity.

You're still most likely to see wearables in the park however, as fitness-trackers have dominated the immature sector. A global market estimated at $238m in 2013 is led by the likes of Fitbit, Nike, Samsung Gear Fit and Jawbone, creating watches to track your speed, distance and basic vital signs. However, there's a long way to go before they become a vital tool for those who aren't sporting professionals or gym devotees.

Yet there's huge potential for such devices to have profound health benefits, once the technology matures to fully diagnose issues beyond heart rate or make questionable estimates around calorie usage.

Aside from wristbands, widespread media coverage of Google Glass and Samsung's recently updated Gear smartwatch have put wearable technology on to the public stage. Many commentators believe smartwatches could soon outsell smartphones. With technology shrinking by the day, it's not hard to imagine this eventually happening once firms overcome design issues and battery restrictions.

As is ever the case, many are betting on Apple to bridge the divide between

gadgetry and great design with the Apple Watch. The promise of its integrated NFC payment system – Apple Pay – could be a key selling point. And with its bulky new collection of iPhones, the watch is seen as a key part of the firm's product strategy.

As with smartphones – and other Bluetooth-enabled devices – wearables will engage with other forms of technology in a particular environment. So, the potential for alerts and vouchers to be sent to people's wrists while they shop is exactly the same as it would be with a smartphone.

The prevailing problem most cited with smartwatches is the need for a smartphone to facilitate network connectivity. But given the watches' potential to carry out many of a phone's core functions - calls, messages, camera, internet searches and directions - the benefit is in freeing your hands and not having to remove your phone from your pocket to unlock it every five minutes.

As with smartphones themselves – which existed in the shadow of Blackberry for several years before the iPhone came out – the design of wrist-based products is likely to improve with new curved and bendy screens, and as technology gets smaller. The only barrier with smartwatches may be the kind of attractive design which turns them into a genuine fashion item.

Apple will be hoping its new watch solves that problem. Looking like a mini-iPhone-cum-iPod Nano – the firm will be hedging its bets on attracting consumers who want something that screams design rather than gadgetry.

In September, it took over a high-end boutique at Paris Fashion Week with a pop-up showcase the Apple Watch. With Chanel designer Karl Lagerfeld and Vogue editor Anna Wintour amid the rabble to try one, there was little doubt over how the company was trying to position it. Apple's skill has always been creating a product that is socially acceptable in a mainstream sense – rather than solely as a gadget.

London start-up Kovert Design, who are interviewed in the next section, is a great example of how design-led innovation will come to define wearable technology.

It may sound obvious, but consumers will only wear things which are visually and socially appealing.

This has been one of the principle barriers encountered by Google Glass, which has failed to ignite public opinion as it might have hoped. It has coined the self-explanatory term "glasshole", on account of many people's disaffection with those who wear it as a mark of status. And while Google may point out that Sony's Walkman faced similar disdain early on, the fact is that headphones are far less intrusive than having a computer strapped to your face.

In an essay for Wired, Mat Honan, a Google Glass user, wrote: "I'm not wearing my $1,500 face computer on public transit where there's a good chance it might be yanked from my face. I won't wear it out to dinner, because it seems as rude as holding a phone in my hand during a meal. I won't wear it to a bar. I won't wear it to a movie."

"Again and again," he added, "I made people very uncomfortable. That made me very uncomfortable. People get angry at Glass. They get angry at you for wearing Glass."

Recon, a Canadian technology company founded in 2008 by Dan Eisenhardt, seems to have enjoyed a slightly smoother ride with their line of 'direct-to-eye' sporting accessories. The company claims to have produced the world's first Heads-up Display (HUD) products for a consumer market. It has two product lines currently, designed for cyclists and skiers.

Both enable hands-free performance stats, navigation and communications with all information put directly in front of the eye, in real-time. You can call people, locate friends on a map and do all of the usual things you might do on a phone.

Indeed, the Recon Jet, a snow visor which looks like most other designer headgear you might see on the slopes, boasts computing power equivalent to most smartphones. It also features an on board HD camera with Bluetooth Low Energy and wi-fi communication protocols.

The deal with Oakley has conquered one of the prevailing issues of wearables: making them truly fashionable. It's one of many marriages of convenience that's seeing major technology businesses jump into bed with prominent design brands.

Former Yves Saint Laurent CEO Paul Deneve and Burberry CEO Angela Ahrendts have been poached by Apple, while Google has partnered with Diane von Furstenberg for Glass. Burberry has been one of the leading retail innovators, with smart hangers and RFID-tagged items offering shoppers a multimedia experience in store.

But, gizmos aside, sustainable consumer interest in wearables will be underpinned by whether the products truly serve a purpose. Seeing Facebook likes on a hanger is cool, but not critical. Recon's smart ski visors, on the other hand, deal with the issue that taking your phone out on the slopes can be rather hazardous.

"We've all seen riders reach for their phones in their jersey pockets to check a message or answer a call, which is super unsafe," says Eisenhardt, Recon's CEO. "That problem is eliminated."

The company is now exploring evolving its technology for law enforcement, following investment from Motorola's venture capital arm.

While London's Metropolitan Police are trialing a scheme to see officers wear cameras on their vests, Recon's products are more reminiscent of Ridley Scott's classic film Robocop. Yet, by combining such devices with other innovations in biometrics – through improved facial recognition – entire 'wanted' databases with officers on the beat, crime prevention could potentially be a walk in the park.

Expert View
Front Row

Jonas Altman is co-founder at Front Row, a fashion technology accelerator based in London. The accelerator is trying to find companies with dynamic teams and great ideas and help get them office space and mentoring, while putting them in front of investors and commercial buyers. This is an outreach activity with the view of finding a sustainable business model. Two of its start-ups, Alive Shoes and Kovert Designs have already received Series A funding.

JONAS ALTMAN
Co-founder at Front Row

What is the tech opportunity for the fashion industry?
The fashion industry is based on old business models that produce garments as close to perfection as possible, twice a year, and then sell those on a wholesale model. In recent years, Burberry has used content, media and technology to transform their business. By using customer feedback and data to inform production and sell directly to customers, there's a clear route to improving sales and profitability.

Many London fashion brands are not financially sustainable, so clever companies have enabled their business models by leveraging technology. Some companies are transforming the fashion business and have innovated by blending online and offline shopping behavior with in-store displays, developing wearables and using beacons..

Of course the key is creating something that people want to use. What wearable technology do you see that is practical and exciting for consumers?
Wearable technology could have a great impact on health, and wellbeing in sports. For example, in the sports world, NFL football teams like Buffalo Bills are now embedding technology into jerseys to monitor the heart rate and vitals of football players. This enables them to anticipate which players are in danger of

over-exhausting. A recreational athlete could use this technology to check their vitals while training. Technology such as this could be a very useful monitoring tool for the medical world and personal wellbeing.

And with people living longer, presumably this could be a way of staying in touch with relatives and also, from an insurance point of view, being able to understand how healthy people are on a daily basis. But what is there related to actual clothing?
There are also practical innovations in the materials that are actually making clothes. A good example of this is Uniqlo's HeatTech clothing range, developed with Toray Industries – futuristic, lightweight thermal-wear. Technology is also being used to make seamless garments that don't fall apart. I can see a move towards using new materials to produce Star Trek-like utility that is sweat free, heated and self-cleaning. Success in this space will come from those who are looking at how humans behave and designing for that, rather than creating novelty items that solve no real problem.

What potential is there for retailers in shopping centres to drive greater footfall through tech?
There is a demographic of people that love shopping for the sake of shopping. They see it as a sport. That demographic tends to be young, outgoing women who gravitate toward Topshop on a Saturday to try on clothes and then go for lunch. It's a social activity. But for people who are either less mobile or less-inclined to be in that environment, embracing online commerce is a powerful and attractive alternative.

What labels might start to use tech in their clothes?
We can see labels like Burberry embracing tech, and putting information on hangers that show how many likes that product got on Facebook, to influence your purchase. I can't see a lot of other companies using technology in their clothes unless they start to do collaborations. Fashion tech is about getting a fashion brand to acknowledge they have a lack of tech know-how and then to pilot new things. A great example of this is Nike+, which was a profitable joint venture between Apple and Nike and a great marriage of Apple's tech know-how and Nike's lifestyle performance wear.

Whereas, with sales of Google Glass designed by Diane von Furstenberg, they had to half their inventory as no one was buying them. Maybe in two or three years we will have something similar we can buy that is a lot less conspicuous.

Currently though, many things seem focused solely on replicating what a phone does. Can we expect innovations beyond that?
There are technologies, like the Fitbit bracelet, that wake you up and monitor your sleep. It makes me think of a scenario in the future where we have a cyborg culture where tech is embedded in our skin – Total Recall-style. This would move to a convergence where its not about tech or non-tech anymore, it would just be 'the world'. That's when it gets scary and potentially moves us to losing touch with our humanity.

What are the opportunities for an investor that might want to get into that space?
For investors that can see a return in fashion technology, they want to be involved in fashion tech companies with great ideas, and smart, dynamic co-founders, that are scaling and growing at a tech start up rate. London is one of the major places to find people in that fashion tech space today. The promise for an investor is financial return but also to be a mover-and-shaker in the field, just like Dropbox was for sharing and cloud-based storage. At the moment there isn't a huge fashion tech success story, but I think imminently there will be.

It makes me think of a scenario in the future where we have a cyborg culture where tech is embedded in our skin – Total Recall-style. This would move to a convergence where its not about tech or non-tech anymore, it would just be 'the world'.

jonas@thesocialfabric.com
http://frontrowio.com
http://thesocialfabric.com

Expert View
Kovert Designs

Kovert is a design house creating pioneering products that inspire and liberate the modern consumer. The company combines the simplicity, minimalism and functionality of post-WWII Scandinavian design with Italian elegance and the rich heritage of British fashion. Every member of Kovert's team is a designer in some shape or form. But it's Kovert's in-house technical designers who propel this design house into the 21st century.

KATE UNSWORTH
Founder,
Kovert Designs

Phones are getting bigger but your company's name suggests there may be another way.
Our take on current tech usage is that we're over-connected and wearables have the potential to help us to pull away from that. Saying that, we actually see ourselves as an electronic design house rather than a wearable tech company. We plan to merge great design and new technology across various verticals, the first of which just happens to be jewellery.

How does that help disconnect us?
We are providing people with a tool that allows people to step back from their phone when they want to. Compared to most products on the market - smart watches or monitoring bands providing notifications – we're trying to do the opposite.

Our product is not something you would use 24 hours a day, but there might be situations in which you might not want to switch your phone off completely, but only allow 5% of notifications to filter through. For example, while out to dinner or in an important meeting. If you had kids at home it could vibrate if the nanny called. We can give people a sliding scale allowing you to choose how connected you are.

In terms of what comes first, is the design more important than the tech element?
We are positioned at the intersection between design and technology, the technology we are building is not cutting edge - it's more the bleeding edge. We build it all from scratch, but we tweak existing technology and build the software it in a way that makes sense for the consumer.

What do you think consumers want?
I think consumers are looking for a number of different things the wearables industry has been unable to provide - yet. This has resulted in a lot of pointless products, but its necessary to go through that innovation phase.

Now, the industry has worked out what works and what doesn't. Fitness trackers, for example, can count your steps and calories burned but they use an arbitrary algorithm, which isn't accurate at all. The important thing here is that Silicon Valley tends to get really excited when they've built a new feature, and then build a lot of products without thinking how that applies to the consumer and how they might use it. Technology alone doesn't a great idea make.

How do you fix that?
In a very low-tech way: focus groups. We need to talk to the consumer. I think that marketing and innovation agencies should be finding out how the consumer could use it and how it can improve their lives. I don't care about wearing a wristband that tracks my stress levels unless it impacts my life and in an unobtrusive way – you need to think about the user experience side of it. There are tech companies out there who understand the consumer, but I would say, in general, Silicon Valley doesn't. We take the innovations from there and find fun ways to apply them.

What is your opinion on the Intel-Edison powered 3D printed mood dress?
For me that type of wearable tech is gimmicky, it's great for music festivals, but it's not practical or fashionable. We have this internal battle that we don't want to be associated with wearable

technology, as we want to be positioned as a fashion brand. However, we have decided to embrace it and hope that the public impression of wearables will change over time. It needs to relate to the general consumer and that takes a little more thought. The technologies used to create real features that improve people's lives are a lot more complex than flashing lights.

At what point does all this data sharing get just a bit too creepy?
It's an on-going debate. People are worried about sharing their data and what their wearables are transmitting. For example, my health monitoring wristband could monitor every cigarette I have, and send that live data to my insurance company meaning that my premiums go up every time I smoke. It would, therefore, make more sense if you opted into this sharing, rather than having to opt out.

What would be your ideal wearable innovation then?
Something that enables me to choose outfits designed to amplify the way I need to feel in a certain situation. If I'm meeting with an investor, I want to feel in control and powerful. The investor won't notice what I wear, but it affects how I feel and how I present myself. On a date I might wear something completely suave or sexy. These feelings can be monitored using biometric data. When I'm in a shop trying on outfits, I would love to be able to see how an outfit is making me feel. Does this dress make me feel powerful enough for this investor? Is this lingerie making me feel sexy enough for Valentine's Day? You wouldn't necessarily want it over a big screen in H&M, but, in the right hands, these data could be priceless.

Eventually, if each item of clothing in your wardrobe had a feeling associated with it, we could design technology to look at your diary while you slept and see what meetings you had in the morning. When you wake up, it could then suggest an outfit that would elicit feelings appropriate to those events. It would be very cool and enjoyable to engage in something like that, and it would effect what I buy in stores.

How far off are we from technology like this?
This is a two-step process, with the consumer at one end, and the hard core tech developers at the other end creating the various gizmos which can monitor each of these individual things (such as heart rate, perspiration or endorphins). The next step is how to synthesize this data in a meaningful way and produce something the consumer is able to wear and enjoy. Crucially, it needs a cool, user-friendly app to take that data and push out a simple conclusion. That's the phase we are entering now. The difficult part is done, it just takes common sense to understand consumer needs.

Going back to Kovert Designs' first jewellery range – do the pieces have any kind of tiny screens?
There is no screen - it just vibrates. It charges underneath and the battery lasts a couple of weeks. We can interact with it - the tech currently features an accelerometer, and further down the line we will activate this so the pieces can recognise double taps that might send a text. The only way for the ring to feed back is by vibrations. Later on though, all of these devices will link up.

How will your products connect to other sorts of tech?
We are still figuring this out, but I think, eventually, all of these products will interact. This is the concept of the internet of Things, where all the products will talk to each other and don't go through the consumer. For us, we will have to wait and see what the uptake of Apple Watch is like, and look to integrate with that.

There will be a handful of things that we can do next year that the Apple Watch cant yet, but might in future. For example, with digital wallets you can transfer money in store but you can't pay somebody else. We can do transfers between individuals wearing our tech – I could tap and transfer an amount of cash to another person.

We are opposite to the Apple Watch in that it is making people more connected, but we are trying to make people less knowingly connected. Apple is more likely to create a whole ecosystem, with an app store for wearables. Our products are like the cherry on top, and are doing something different, to remove you from that connectedness when you need to.

Do you see this changing the physical way shopping centres are created and designed?
I'm interested to see that. All of this technology provides context. It would be interesting to create a shopping mall from scratch, based on this data to facilitate the shopping experience. Things should just happen in store - queues are so last century. There's definitely ways physical stores can be designed to get away from that. It provides that context about the consumer, and gives enough data to understand their tastes, budget and propensity to spend - do they like to be alone or interacted with? This experience will be more enjoyable to the consumer and there is a benefit to the retailer as people are more likely to buy things.

Kate@KovertDesigns.com
http://www.kovertdesigns.com/

CHAPTER 07

Biometrics

BIOMETRICS IN PLAIN ENGLISH: Data harvested from our actual bodies is our most personal. With huge crossover between advances in wearables, mapping, healthcare and financial technology, biometric data could also be the most powerful tool we have in creating personal, life-changing innovation.

It is the most personal of data and, as such, offers retailers the potential to offer unrivalled levels of individual service. There's huge amounts of crossover with innovations in wearable technology and digital payment systems, which can harness biometric data to fulfil certain functions.

Most would probably agree that a dress which lights up its chest depending on a woman's mood, like Anouk Wipprecht's Intel-Edison-powered Synapse Dress is perhaps of less value than fraud-proof retina-scanning digital payment system.

There are more practical uses in the fashion world, however. The body-scanning approach developed by *Bodymetrics* for clothes-fitting applications has been around for around 10 years, and has been trialled by *Selfridges* to help people achieve a better fit for the jeans they buy. Using low-power infrared lights, the discrete photo-style booths have become, smaller, cheaper and faster. As a result, retailers who had, up to now, only used them behind the scenes to ensure uniformity of clothes manufactured across the globe, are now rolling them out for customers. *New Look* is one of these, also for use in its denim department.

The machines are capable of mapping 300,000 body points in no more than seven seconds and the resulting body map is interpreted by a Fit Stylist to help the customer pick out the perfect pair of jeans. Such measurements could be stored and accessed in future.

Bodymetrics' CEO Suran Goonatilake explains: "One of the key barriers in internet shopping is that, because you can't try items on, returns are between 20 and 40 per cent of all garments sold. It's a real inconvenience for the consumer, and hits the bottom line of the retailer. It's not good for the environment in terms of transporting garments back and forth either."

WEARABLES & BIOMETRICS

This Place in London is launching a new app, *MindRDR*, which links up Google Glass with another piece of head-mounted hardware, the *NeuroSky* EEG biosensor, to create a communication loop. The NeuroSky biosensor picks up on brainwaves that correlate to the user's ability to focus. The app then translates these into a meter reading that is superimposed on the camera view in Google Glass. The app takes a photograph of what is being viewed through the Glass in response to the meter reading.

Another name that's gaining increasing attention is *Myndplay*. It connects users' computers to minds with dry sensor EEG (Electroencephalograph) *BrainWave* technology, using a BrainBand worn around the head. The device picks up the tiny electrical signals from the brain, then identifies what state of mind the user is in– be it relaxed, focused, frustrated, etc., then allows that to control directly or influence the outcome of a movie. Myndplay demonstrates the potential to revolutionise cinemas in the future, where viewers are directing movies with nothing but their minds. For filmmakers there will be a new way of telling stories, and a new genre of creative content. Moreover, such products are also set out to train athletes and businessmen and to support the treatment of depression and anxiety through providing reliable feedback on patients' state of mind.

On a more familiar level, by linking fingerprints to credit card details, scanners can be used to authenticate users and let them pay with the touch of their finger, increasing security and speed of payment. *Apple's* incorporation of a fingerprint scanner on its phones has fuelled expectation that other companies will follow suit and drive the development of mobile fingerprint payment systems.

When adopted by the retail business, fingerprint recognition will speed up customer throughput and reduce the amount of cash held on the property, reducing security risk. It will also allow stores to cut back on fixed POS systems, as Apple have been doing in their stores, using iPhones as portable sales units and making for a more customer friendly experience. Though certainly not revolutionary for property owners, stores may look to re-evaluate their customer flow and may look at redesigning stores to facilitate this.

Retailers are also experimenting with another kind of biometrics technology that could enhance customer experience in petrol stations. Made by Lord Sugar's *Amscreen* the *OptimEyes* screens will scan customers' facial characteristics while they are at the cash register to determine age and gender and use this to display tailored advertising. This will be adjusted according to time and date and the technology will also record purchases. The screens are anticipated to reach a weekly audience of 5 million when they are fully rolled out.

While other technologies can be viewed as transactional and consensual it is unclear how the customer would directly benefit from such a technology, though clearly it could benefit retailers in a shopping centre setting. Concerns are already being raised about privacy, not least because Amscreen CEO Simon Sugar has likened the technology to something seen in the dystopian film Minority Report. To avoid the problem, *Hoxton Analytics* and *University College London* (UCL) are developing a technology that could help retailers to identify customers discretely by analysing their footwear. This technology could provide similar personal profiling while avoiding the use of biometrics, giving retailers the ability to tailor stock and in-store promotions to the demographic of consumers in real-time.

Apple's incorporation of a fingerprint scanner in the iPhone 5S and the expectation that other companies will follow suit is leading to the development of mobile fingerprint payment systems too.

» CHAPTER 08

Digital Wallets

DIGITAL WALLETS IN PLAIN ENGLISH: money that only exists as computer code and has no physical counterpart; the equivalent of more or less everything that is kept in a regular wallet – from loyalty cards and cinema tickets to debit cards and cash – realised in digital form on a mobile device.

The blending of online shopping behaviours and in-store payments has dripped into the mainstream over the past two years. Now consumers are demanding the ability to use their digital wallets when shopping in physical retail stores.

Given the clear benefits to retailers' bottom lines of faster check out times, there's a clear impetus to making this a mainstream reality.

With around 800 million cards in Apple's iTunes accounts worldwide, Apple Pay starts from a very strong base for the firm's entry into payments. It will give Apple a huge head start in turning its previously 'closed loop' system into an 'open loop', where cards which could only previously be used in an Apple environment are usable everywhere.

Much is being made of the security of the Apple Pay payment (and quite right too). Your payment details will be 'tokenised', meaning there will be a one-time number created for each transaction confirming the payment with the vendor. MasterCard, VISA or Amex will do the rest. No details of the transaction will be stored and your card details will be protected.

With such heavyweight brands standing behind it, trust is not likely to be an issue for Apple Pay. But with recent hacking episodes affecting even major brands, some will still be anxious over security breaches.

To some extent, it has stolen a march on Bitcoin, the internet-based digital currency that launched in 2009. Its popularity soared towards the end of 2013, when its value peaked at £750 up from £2 two years prior. But the volatility of a wholly unregulated financial market and the failure of MtGox, one of the largest Bitcoin exchanges, in early 2014, has soured its reputation with some.

Many see the separation of PayPal from parent company eBay as a signal that they too will fully engage with it. In September, PayPal confirmed that Bitcoin processors BitPay, Coinbase and GoCoin would be engaged to allow its merchants to accept the cryptocurrency.

But this would only be for digital goods like online games and downloadable songs, in what was called a test by the firm's CEO. PayPal users will have to wait a bit longer to spend their Bitcoin elsewhere.

As cash becomes obsolete, particularly among the younger demographic, and technology redefines the very concept of money, retailers need to be ready.

The attraction lies in the fact that Bitcoin can help retailers cut transaction costs, as the fees are close to 0% in contrast to the average 3% offered by credit card companies. The payments are also processed in real-time.

Companies like Square, the hotly-tipped San Francisco payments pioneer, are enabling retailers to accept digital currency and pay for all manner of items using mobile devices. Bitcoin ATMs have started to appear in parts of east London.

Digital gift card provider Gyft launched last year, partnering with major retailers like Starbucks, Groupon and Nike. Users who choose to pay in Bitcoin receive 3% back on their purchases. In London, The Old Shoreditch Station Café started accepting Bitcoin payments last year and recently installed the UK's first ATM machine operated in partnership with Futurecoins, a London-based start-up.

Digital wallets also have the potential to boost consumer engagement with apps and other incetives. Starbucks recently employed a mobile phone app to allow instant payments and tips to their baristas in its stores in the UK. The company encouraged the use of the app by bringing its "Starbucks Rewards" program to smartphone users.

Start-ups such as Flypay and MyCheck use QR codes or NFC tags to offer waiter-free payment solutions to settle restaurant bills, speeding up the process from an average of ten minutes to closer to a minute. Cover, with a smaller focus, has also seen an increase in restaurants and customers signing up with their mobile payment application. Basically free, it can be set up in minutes, in contrast to the time and cost associated with introducing many new technologies, especially in regards to staff training. Momofuku Ko stands as one example of a high-end restaurant adopting the platform.

As cash becomes obsolete, particularly among the younger demographic, technology will continue to redefine the very concept of money. Retailers need to be ready for what's to come. Combining integrated digital strategy, novel biometric payment methods and omnichannel marketing with careful security planning could set the bar for convenience retailing even higher.

Expert View
Edison Investment Research

Edison is an investment intelligence firm that works with leading companies, fund managers and investment banks worldwide to support their capital markets activity.

They provide services to more than 400 corporate and investor clients from offices in London, New York, Frankfurt, Sydney and Wellington.

KATHERINE THOMPSON
Technology Analyst, Edison

What is the state of competition in the digital wallet market place?
Despite the growth in e-commerce, sales made in bricks and mortar stores still make up the large majority of retail spending and this has prompted companies that have been successful in e-commerce, such as PayPal, to explore ways of accessing the in-store market with their digital offerings. The payments world is seeing a battle to own the digital wallet, assuming that, ultimately, consumers will replace their physical wallets with digital versions on their smartphones. Mobile network operators (Softcard in the US, Weve in the UK), Google (in the US), PayPal, Visa, MasterCard, individual retailers and retailer networks (MCX in the US) have developed or are developing mobile wallet solutions, with varying degrees of success.

What do providers have to do to win over consumers?
In our view, adoption has been limited because most wallets don't provide a compelling enough proposition for all parties. Wallet providers are keen to own the customer relationship as this gives them access to data on user spending habits, which is valuable either directly to the wallet provider (in the case of a retailer) or to sell to advertisers. However, for the wallet to really take off, it also needs "buy-in" from merchants and consumers.

For the consumer, in our view, the benefits of shifting from a physical wallet to a phone-based wallet for payments are minimal. For most people, taking out their phone and opening an app is no quicker than putting a card into a chip-and-pin machine, and many users have security concerns with putting so much critical data on a device that could easily be lost or stolen.

The wallet starts to look much more attractive when it can also manage loyalty rewards and promotions. For the consumer, a wallet that can hold all loyalty and gift cards (regardless of the provider), that can keep track of special offers and promotions and can apply them at the point of sale, is a much more attractive proposition than carrying around paper cards and vouchers that the customer has to remember to use.

...and what benefits can digital wallets deliver to merchants?
For the merchant, benefits include the ability to improve customer loyalty, keep customers informed of promotions, reduce the time at tills (as there are no physical cards or vouchers to deal with) and reduce the incidence of voucher-based fraud. For cafés and restaurants, wallets can also incorporate ordering ahead and the ability to pay at the table, reducing queues and improving customer service. Merchants are more interested in wallets that do not require additional POS infrastructure investment (this has been a major failing of the Isis and Google NFC-based wallets in the US).

Is a single system or app likely to prevail?
We doubt that one overarching neutral wallet provider will emerge; instead, we expect consumers to use a selection of wallets and apps depending on their preferences. While retailers may want to develop their own apps in order to have direct access to customer spending habits, it's unlikely that customers will want to use a different app for each retailer. This could support the emergence of retail network wallets or mobile banking app-based wallets. The recent Apple Pay announcement is significant - we think uptake will be slow initially, as the system is only designed for the US for now and relies on adoption of the iPhone 6. However, considering Apple's Touch ID security, Passbook and iBeacon technology, and access to customer card data (via iTunes), it could become a significant player. The fact that Apple will not retain data on customer spending patterns should also help merchant adoption.

KThompson@edisongroup.com
www.edisongroup.com

Legal View

WILL JAMES
Partner,
Corporate Division,
Addleshaw Goddard

Will specialises in mergers and acquisitions and joint ventures in the TMT, retail finance and transport sectors. He is recognised as a corporate finance specialist in both Chambers and Legal 500, the leading independent guides to the UK legal profession.

Why is everyone so excited about Apple Pay?

Online and In-App payments will become frictionless, so no more entering your password as a simple swipe of the finger may authorise payments; certainly for In-App payments and probably for buying online for those retailers who sign up to Apple Pay.

Also, the cards currently stored on iTunes will be automatically registered and if you wish to store additional cards you can take pictures of them using iSight, these will be read and then stored securely.

Integration is key though. The key to payments has been and always will be an integrated experience so that you are not using multiple devices and methodologies to make payments – the Apple Pay environment and wallet will link with Passbook and you will have tickets and vouchers all in one place all linked to your payments information – what is not clear is how they are proposing to link with the iTunes account as there is some potential regulatory complexity here.

As ever, Apple have done their homework on the payments experience and have ensured that all the major bugbears (ease of use and integration) connected with payment are, as far as possible, ironed out.

Wha are some of the drawbacks?

Some of the problems still remain or are going to be further highlighted:

1. Battery Life – encouraging people to live connected is undoubtedly the dream but leaving home without a physical means of payment is still not going to be a wise choice so decoupling entirely from plastic may be some way off.

2. Increased Card Use – use of cards has a set of costs both personal (interest) and retail based (interchange) - increased use of cards through Apple Pay may not be so attractive to retailers as it will possibly increase payment acceptance costs.

3. Data Coverage – as we all know getting a signal is still a fine art even around parts of London, let alone the wilds of Norfolk or Yorkshire; although once the phone is provisioned the NFC functionality will work at any terminal.

4. Transaction Limits – the current limits on contactless payments are going to have to rise.

5. Data Collection and Use – everyone is agreed that data is important and will be extensively monetised. Apple seem to be playing down their collection and use of data at launch, probably to help drive uptake with users. However, this doesn't prevent them in the future from exploiting the potentially rich data sets Apple Pay can offer; if (or more likely when) they choose to do so, the real challenge will be to find the correct balance - how to do it without ending up annoying consumers and incurring the wrath of regulators. The odd ambulance chasing personal injury call is frustrating – somebody offering you a loan because you have not been buying coffee for a couple of weeks and your stress levels seem high, is somewhat less desirable.

6. Fraud and Compliance – the integration of your life into one device and one environment is going to be complex and regulators are not going to ignore this – they cannot. The hacking of iCloud is potentially an omen of the increased visibility that Apple will now have to those who wish to unlawfully profit from the rest of us and the timing is less than fortuitous.

It will now be for PayPal, Samsung and others to respond to this challenge and it will remain to be seen how the retailers respond to being required to adopt alternative technologies for terminals.

Could Apple Pay fall foul of current financial regulation?

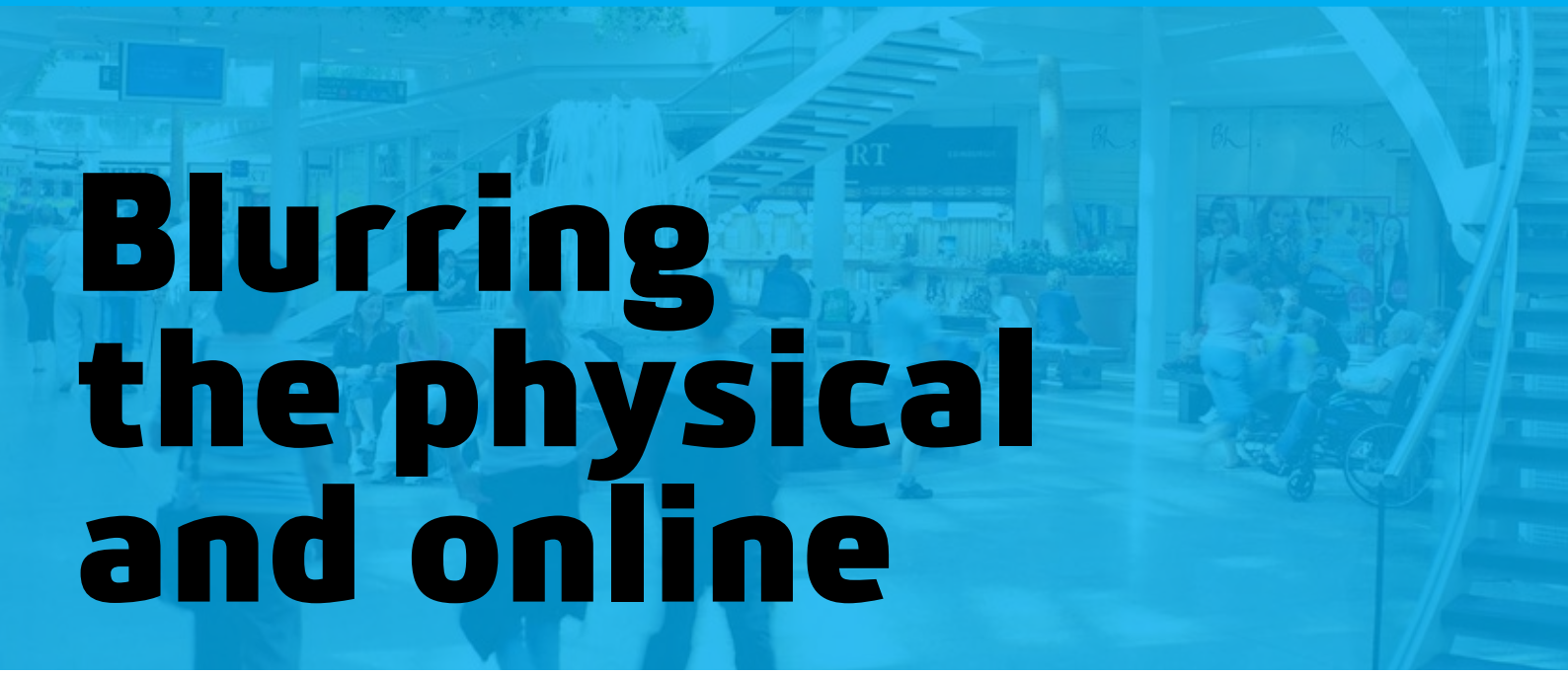
Apple may well consider they understand the detail of the US financial services regulation. However, in the EU, Apple Pay opens up a world of complex regulation and risk. That regulation is only likely to increase with the second Payment Services Directive (PSD) being negotiated. Interestingly, unlike Google, as far as we are aware, Apple has not, to date, become regulated in the EU to provide payment services of any type. On the basis that Apple Pay appears to be a pass-through wallet holding third party issuer's cards, Apple is likely to be relying on an exemption in the current PSD for services provided by "technical service providers", which support the provision of payment services, without the provider entering at any time into possession of the funds to be transferred. However, PSD is likely to include such services within its scope when it comes into effect by 2017.

In a timely development the Bank for International Settlements has just published an analysis of "Non-banks in retail payments", including consideration of the risks and regulatory challenges. The regulators will watch developments with interest - Apple is now entering a new minefield and will need to tread carefully. In particular, if Apple or its partners, have ambitions around data usage (even if they are not accessing direct transactional data), they may end up being curtailed by regulation – with the EU pushing to strengthen regulation around data and severely restrict the ability to use transaction-based data.

william.james@addleshawgoddard.com
http://www.addleshawgoddard.com

Retail's Digital Future: Part two

Property



Blurring the physical and online

The full impact of new technology on bricks and mortar retailing is hard to fully predict. Yet it's clear that brands' determination to maintain a physical presence continues and, in some cases, is stronger than ever.

Just as it took the music industry some years to come to terms with the digital marketplace, so it has with traditional retailing. Yet it's now clear that smart retailers don't get obsessed by driving every ounce of revenue through a physical store. They take a broader view across their brands and various routes to making money, while industry figureheads continually refer to an 'omni-channel retail environment' – with consumer spend divided across convenience outlets, flagship stores and mobile and computer-based online shopping.

Just as it took the music industry some years to come to terms with the digital marketplace, so it has with traditional retailing.

While the death of physical stores seemed a real possibility six years ago, a greater focus on quality over quantity has reshaped retailers' business models, together with their property mind-sets. This newfound pragmatism has some profound consequences, as we shall explore during this chapter.

The restructuring of the UK's retail property environment remains ongoing, but there has been a gradual decline in retail vacancies over the past year. While the recent death of Phones4U provided a pointed reminder that nobody is too big to fail, many other retailers talked down by the market have since prospered by getting to grips with the digital world.

Still, no one would deny we have too many shops. The Centre for Retail Research forecasts that by 2018, total store numbers will fall by 22%, from 281,930 today to 220,000, and that around 41% of town centres will lose 27,638 stores in the next five years.

Many also agree that the cost of doing business on and offline will begin to equalise, while the costs of delivering ever-greater convenience would escalate as leisure facilities grow in importance as part of the wider retail offer.

Outside in the streets, the ongoing relaxation of planning rules enabling the easy conversion of commercial space will mean more cafes and far more residential property sculpted from the derelict frames of old offices and shops. Together with an evolving housing market – see the emergence of the private rented sector - this opens up future possibilities for retail occupiers to build their brands right under people's doorsteps.

The increasing Americanisation of the British consumer (in wanting everything on demand) will continue to drive a resurgence of convenience retailing. And this too is an opportunity for destination centres.

While the irony of going to a physical shopping location – whether a mall or a corner shop – to collect an Amazon or eBay package may be lost on some people, what it at least highlights is the continued convergence of different channels, underpinning the essence of physical shopping.

IMPLICATIONS FOR THE PROPERTY SECTOR

Some of the ongoing implications for businesses can be looked at in the following ways:

I A change in the location, and number of, physical stores, with a more diverse and dynamic occupier mix

II A growing differentiation between locations to appeal to specific demographics and catchments

III Increasing cooperation between landlords, retailers and councils.

IV New leasing and rental arrangements that will reflect the importance of online business and presence

V Change to tax and regulatory issues – particularly business rates

I.

Revising property strategies

As the location, quality of asset and catchment will influence the impact of these expiries, so too will digital presence and strategy.

Traditionally, retailers would need to be present in 100-200 high streets across Britain to gain a national footprint. However, the rise of e-commerce means that, today, many are focusing on just the top 25-50 locations, and that retailers with an online presence will need less than 70 stores for national coverage according to Andy Street, managing director of John Lewis.

While retailer insolvencies have generally been slowing – with just 732 store closures in the year to August in 2014, compared to 3,951 in 2012 according to the Centre for Retail Research - there remains a very real problem as retailers continue to downsize their physical presence. With 80% of retail leases signed now under five years in length according to IPD, income streams are likely to come under increasing pressure.

But while incumbent retailers may not renew many stores leases, there is opportunity for a more diverse and dynamic occupier mix to emerge.

These could be simple, existing types of tenants – for instance a solicitors or a bank – but also physical showcase stores for online giants such as Amazon and eBay, digital art galleries, reinvented 'arcade-esque' leisure spaces, or even light manufacturing in the form of mini-manufacturing and 3D printing units.

At the same time, moves to convert vacant commercial space for residential use have the potential to positively impact towns in many ways, bringing people and cash back into localities. To ensure vibrancy, an appropriate mix of sale and rental housing, together with retirement and and student accommodation should be considered. But demographic change promises to have a profound impact on how and where people live. Technology will enable retail to also evolve in support of this.

Decisions over where people base their business will depend on all manner of considerations. But having a strong digital presence will grow in importance, according to the mayor landlords. However, the type of location shops are in will largely be the overriding factor.

DEFINING LOCATIONS

Now that the dust has settled around insolvencies and initial downsizing, it is possible to define broad 'types' of location, how they will be affected and how effective digital strategies will fit into their future growth.

Best locations:
Key town centres and shopping centres

These areas will more easily retain low vacancy rates due to the need among large retailers to occupy prime commercial space for revenue and brand status. However, they will not be standing still, for maintaining their positions as 'best' locations requires constant active management.

Embracing both current and new technologies will be critical in maintaining primacy and differentiation amongst competition. Being able to host a full suite of omni-channel retail options will first attract, and then keep big name retailers and consumers. These locations will have the money to invest and tech-based offerings will be used to help shape individual brands' positions in the market.

Secondary locations:
Second tier towns and shopping centres

These are locations that are seeing a declining demand from tenants and consumers, but are large enough to be able to use active management to reverse that.

Many will see landlords adjusting their rent, adding new infrastructure, leisure and parking options to keep their assets occupied – often through direct cooperation with councils and retailers.

Carefully considering their demographics and selling points – and how new technologies can attract this - will be key. They have the potential to carve our their own niche and offering. Harnessing digital tools could make all the difference.

TERTIARY LOCATIONS:
Small high streets and old shopping centres

These are the areas most severely affected by the downturn and will rely most heavily on cooperation between community, council, landlords and retailers to halt further decline and support growth.

Strategies to halt declines will range from jointly finding ways to re-market the retail offering, to opening up cheap space for boutiques, entrepreneurs and start-ups. Joint investment in technology and online presence may follow.

In Mansfield, the local business improvement district used Spacehive.com, a civic crowdfunding platform, to share the cost of a £38,000 wi-fi installation providing free internet access for the high street's visitors and businesses.

II. Re-defining retail locations

How and why we shop is changing. Locations increasingly need to establish how they fit into this new landscape and determine what new strategies – both physical and digital – are needed to attract consumers.

British Land, among others, has defined three type of shopping location emerging:

EXPERIENTIAL LOCATIONS
– which focus on offering consumers the retail experience and the 'day out' mentality. Characterised by higher levels of 'dwell time', their multifunction mix will include an enhanced leisure offering to encourage shoppers to spend a full day or evening there.

CONVENIENCE LOCATIONS
– that offer the maximum amount of choice and easy access. As such free parking, click and collect services and food offerings will need to be carefully aligned.

FUNCTIONAL AREAS
– which would provide easy access to essential items such as groceries and DIY goods.

No two types are mutually exclusive, but retailers, landlords and councils need to identify how their retail offering fits into this type of framework, and adjust their strategies accordingly.

Examples of this are already happening: In Rotherham, Birkenhead and Rochdale, street markets are being used to attract people back to the high street, while pedestrianisation schemes are being used to accommodate event space and other experiential attractions.

Considering how technology as a product or service fits into this redefinition of location will be essential – and soon move beyond offering wi-fi for experiential locations or free parking for click and collect services.

The government has recently announced funding for 21 high street technology ideas through the Technology Strategy Board's 'Reinvigorating the High Street' scheme. Proposals range from being able to pre-book your parking spot by mobile, to sending out an alert to shops to tell them what you are going to be shopping for, and even Town Pounds, a national network of local e-currencies that act as a local marketing and loyalty tool.

For each location, defining how this technology supports their new niche in the market will be a priority in the years to come.

III. Increasing cooperation

"waiting for normal economic growth to return is unacceptable and will result in many towns moving further into decline."

MARK WILLIAM, Chairman, Distressed Retail Property Taskforce

While on the one hand there will be a growing focus on differentiation between destinations, on the other this has led to the intermingling of objectives for those in specific locations: retailers, landlords, councils and communities.

Nowhere is this more important than on the 'traditional' high street, where taking a proactive posture and pushing hard to reinvent traditional retailing is the concern of all involved.

Chairman of the cross industry Distressed Retail Property Taskforce, Mark Williams, said that "waiting for normal economic growth to return is unacceptable and will result in many towns moving further into decline." In its final report in 2013, '*Beyond Retail: Redefining the shape and purpose of town centres*' the taskforce listed some key factors needed to be taken into account through the process of traditional retail centres re-development.

- Strong, local leadership
- A smaller, more focussed retail core.
- A wider range of uses such as food and leisure
- Accessible and affordable transport
- A greater number of office and civic functions
- Allocation of jobs
- Re-use obsolete areas by defining new uses
- Re-basing of occupational costs (rents and rates)
- Revise planning system towards sufficient flexibility

To achieve such objectives will need the cooperation of all actors, as will the financing and use of new technologies that will be essential in attracting people to, and advertising these high streets.

There is already evidence of this happening, especially in town centres outside of London that fall within the secondary and tertiary classifications according to the DCLG's Future of High Streets report. For instance, Stockton-on-Tees invested £25 million of its own money, with £13 million from the private sector to enhance its public realm, with walking links between the centre and the town's riverfront. Ipswich focused on delivering a large-scale master plan, to better link-up retailers with facilities being established across its own waterfront development.

Other new powers and initiatives are currently being piloted and consulted upon, they should all consider how technology can assist. New powers in the forms of compulsory purchase orders (CPOs), joint ventures (JVs) with the private sector and local property vehicles are already being piloted.

Civic crowdfunding platforms such as Spacehive.com are also growing in popularity, working with various groups across the private and public sector to support the match-funding of projects promoted by creative local people.

IV. Leasing

Retail leases had started their inexorable decline in length long before the recession. The thousands of insolvencies post 2008 cemented this, but, more importantly, led to the equalisation in the relationship between landlords and tenants.

As landlords scrabbled to maintain income streams, tenants increasingly found themselves in a position to negotiate for more favourable leasing terms – as the growing inclusion of events into leases – break clauses, rent free periods and rent reviews – has shown.

According to Phil Tily, executive director at MSCI, where IPD forms the core of the real estate offering, "In order to avoid costly voids, retail landlords during the recession were doing anything they could to secure income streams. This led to lower lease lengths, more rent-free periods, and reduced rents upon re-letting.

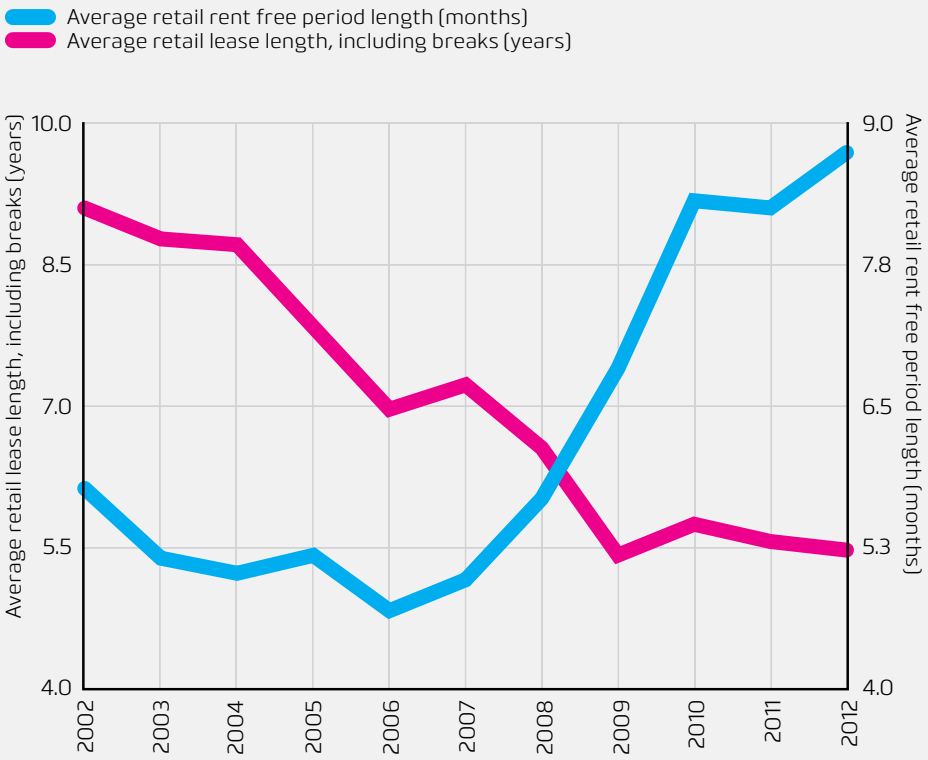
"Returning confidence in the market is again allowing commercial landlords to be more discerning, but lease events remain a key incentive in attracting tenants – particularly in less prime locations."

As such, there is likely to be growing scrutiny of how digital retailing is going to impact upon lease negotiations over the coming years. While the aligning of landlord and tenant objectives has led to a willingness to invest in new technologies from both, questions remain around how these investments will be captured within leasing contracts.

From a practical perspective, much will depend on the location and the sales achieved there. No matter what investment takes place, retailers will always know the value of a unit and we will likely see a further polarisation between prime property and everything else.

At the bottom end of the scale, across poor performing tertiary areas, the onus will be on landlords and local authorities to make concessions to attract tenants through rent free periods and more flexible lease structures, as well as digital and conventional investment.

Retail lease lengths and rent free periods



Source: IPD Lease Events Report

But, as technology becomes cheaper and turnkey solutions hit the market, the ability of these locations to harness digital efficiencies may well stand them in a good position.

What is clear is that we will continue to see huge variation across the market. But, as increased upfront investment is required, prime locations will continue to move away from turnover rents as many have done already. They were widely promoted after the financial crisis as a sign of landlords and tenants working together. Of course, in a cyclical market things always change, but with occupancy rates surpassing 97% in top shopping malls with more than 47 shopping centres fully let, according to research by BCSC and Local Data Company, landlords can afford to be a bit more choosey.

V. Business rates

A full review of business rates has been long overdue. Out of step with the economic cycle and still held at peak, 2008 levels (since then rents have dropped by 40% in real terms), in many towns rates account for a disproportionately high percentage of occupier costs for retailers, and have been widely criticised for curtailing growth and the recovery on the high street.

Rates exemptions have already been used on a number of high streets to aid tenants, with the Future of the High Street report citing examples in Stockton – where discounted rates were offered to businesses willing to take a vacant shop in the town centre, and Margate where retailers were given a 15% reduction when the local shopping centre expanded.

Expert View
Daniel Watney

Daniel Watney is a boutique full-service property consultancy run by an experienced team of partners. The firm's high-level expertise covers the full spectrum of commercial property, residential real estate and professional service functions.

Established more than 150 years ago, we pride ourselves on our innovative thinking. With a highly collaborative partnership structure, we can tailor services around your needs, offering a flexible approach vital for more complex projects.

DEBBIE WARWICK
Partner,
Head of Rating,
Daniel Watney

While the importance of digital innovation grows – particularly with regards to high street retailing – there is, as yet, little impetus for Government to look at rates exemptions for digital investment.

At the investment level, new technologies are not directly taxed through the business rates system, but they will be if they lead to a rise in rental levels at the date of the next revaluation.

The UK's rating system is based on the 'simple' financial measure of rental levels. So if there is a rise in rents due to digital investment, this is reflected in the rating assessments and, therefore, passed on in business rates bills.

It's the same as with any physical improvements: adding air conditioning adds to the value of an asset, rental values, and subsequently business rates. Thus, if you augment your shopping centre over and above the value of others, this should maintain occupation levels at the centre and this would be reflected in the value of rents achieved.

Government relief is only applied where sectors need an incentive to make changes. Therefore, landlords making investments to maintain and augment their property values are unlikely to attract any central or local government sympathy for relief from businesses rates for occupiers.

There will continue to be debate around the suitability of the current business rates system – particularly in respect of modern online retailing versus the high street – but any changes will inevitably have to wait until the full review of the system, promised after the 2017 valuation.

dwarwick@danielwatney.co.uk
http://www.danielwatney.co.uk

Expert View
BCSC

Retail has been high on the government's business agenda in recent years. As a member of the Digital High Streets group, chaired by John Walden, chief executive of Home Retail Group, BCSC has been working to influence the ongoing debate to secure tangible support for landlords.

The group includes companies across retail property and technology. It wants to understand what government can do within its existing fiscal constraints to get investment in digital technology into town centres. One of the big challenges faced by the industry is making sense itself of the opportunities and risks.

EDWARD COOKE
Director of Policy and Public Affairs, BCSC

At its core, real estate is still about generating a rental income from physical space. How much do landlords need to care about investing in new technologies?
I don't think that traditional model of a property company and retailer exists as it used to. The two are increasingly reliant on one another with an ongoing need to play an active role in each other's business performance. At an agency and a property level, that convergence further down the supply chain is happening.

Is there a divergence between major landlords who can afford to invest, and smaller ones who cannot?
This has remained the case with everything – not just technology. But considering whether to invest in emerging technology isn't simply down to affordability. I think it is partly about awareness and partly differing investment and risk profiles which drive the levels of capital investment. For example, Intu buys regionally dominant shopping centres and holds onto them. They're strong assets from which it creates additional value through active management within a single brand. Therefore, it will make decisions about investing in emerging technology on a different basis than, say, an opportunity fund seeking counter-cyclical windows to make a return over a five-year horizon.

To what degree do you think there is scope for lease structures to evolve to reflect the direct commercial benefits of new technology?
Capturing the value created by new technology and increasing e-commerce is a real challenge for property companies. Property companies need to get close to the consumer and provide the services they expect. For example, wi-fi, or more specifically the ability to have access to information at every waking moment, is now thought of as a 'basic human right' by some investors. As such, they need to provide customers with access free of charge. Previously, they never needed to be consumer facing in this way. Ultimately, if you're not willing to invest in the kinds of technologies shoppers require to meet their emotional as well as functional needs then they will stop shopping with you, retailers will lose customers and landlords will lose occupiers.

For example Javelin Group has done some interesting work exploring how intelligent analytics can enable real-time choice about customer targeting, and when integrated with existing customer data and existing marketing and promotional campaigns can deliver messages to the right customer in the right place, at the right time. Ultimately helping deliver vast increases in customer engagement and conversion rates.

What's the government doing to help the industry with technology?
The government has allocated some money to the Technology Strategy Board to pilot technologies to get people back into town centres, so money is being made available but the government has not shown real intent by, for example, providing tax breaks within the sector. Personally I can't see this happening to any great extent soon.

At an investment level, new technologies drive rateable value increases and more tax is paid. This creates a barrier to investing. There could well be scope for ministers to look at a rate exemption which essentially waives new technology infrastructure for a number of years - provided it benefits the wider community. Surely in today's modern economy that's a better use of business rates relief than the one that exists for agricultural buildings?

The government could also look at other enhanced capital allowances which could potentially be a good investment

decision by the Exchequer. They could take into account other revenues generated by modernisation work and the economic benefit generated for local enterprises and other business neighbours.

Just as civic crowdfunding has brought citizens, companies and public sector bodies together to improve their neighbourhood, there's clearly a win-win for central government if they can bring major landlords to the table and oil the cogs of community investment.

Some major landlords are setting up innovation hubs or filling empty space with start-ups. Is there a role for property investors to step out of their comfort zone and partner with VCs adding their weight behind potentially successful innovators?
There's a clear role for property companies to get closer to the consumer and find how new technology product development is impacting consumer purchasing decisions. There is a role for shopping centres in creating incubator space for start up businesses, in a way we probably more often associate with the office sector. Property companies cannot bring a lot of expertise in terms of new product development necessarily, Google and Samsung will always trump them in this respect, but perhaps they could, for example, go to a venture fund and offer access to their shopping malls, that can quickly push a bright idea into a fully functioning business.

How does BCSC plan to work with members in coming years to enhance understanding of these technologies?
I think some technologies are more relevant than others. I think 3D printing could be interesting. Imagine the possibility of smaller scale manufacturing servicing town centre businesses, or transforming town centres into micro-manufacturing centres. Increasingly, these parts of industry are converging. As a consequence there needs to be a better understanding of business priorities, motivations, capabilities and the funds available to deliver successful businesses and city centres.

At the moment that knowledge is missing across the sector, but it's an exciting time for retail, property and the wider economy. I think, in the years to come, we're all going to understand one another's businesses and how we relate a lot better than we did when landlords signed a new lease with a retailer, and then gave them a call 10, or more, years later to renew.

Edward.Cooke@bcsc.org.uk
http://www.bcsc.org.uk

Expert View
Hammerson

Hammerson is a FTSE 100 company with a portfolio of retail property in the UK and France valued at around £6.3 billion, including 21 prime shopping centres, 22 retail parks and investments in nine premium designer outlet villages. Hammerson focusses on winning locations that cater to consumer preferences for experience, convenience and luxury.

STEPHEN BROWN
Group Marketing Director, Hammerson

You were hired four years ago having worked for Home Retail Group and Dixons Retail. What's changed since then in terms of Hammerson's digital ambitions?
There's been a long-term recognition that investment in this area would be critical to driving growth and supporting our customers. One of the reasons people like me have joined the business was to bring a direct understanding of retail marketing; challenging the business and help to up the anti. I've been supported by the board 150% and significant investment has gone in to upgrading our web presence and trialing mobile applications with loyalty functionality.

We've been the first major landlord to trial Beacons in a meaningful way, rolling them out in France for the opening of Les Terrasses du Port. We've also looked at upping the focus on the overall shopper experience – not just digital. Digital innovation will enable us to do what we already do, but enhance the experience.

With everyone fighting to own the customer how will you ensure tools – such as iBeacons – don't conflict with things your tenants do?
The aim of our shopper activity is to enhance what retailers provide, for example in terms of wi-fi we have airspace policies: the retailers subscribe to them and we also offer our services. With technology like Beacons our plan, as with everything we do, is to have an open dialogue with retailers around what we are doing and see how we can best support our retail partners. We'll invest and make sure the infrastructure adds value as we share the same goal.

Will other emerging trends change the way retail property is physically laid out?
It already has done and I think it inevitably will continue to do so. Just as my local Sainsbury's has gone from purely till-based to self-serve tills plus a couple of real people in short space of time, store design across the board will similarly evolve depending on how shoppers want to interact, pay and shop. The House of Fraser Click & Collect store in Union Square, Aberdeen is a great example of changing store formats. Many retailers are now using a combination of video content and tools that engage directly with the web (e.g. stock checkers, remote ordering tools, style advice) in their store designs.

People come to our centres for the social aspect of interacting with friends, family, retail staff and the myriad other things on offer. Human interface underpins the thinking around what we do. In a real word, when people are walking round and touching things, that level of service offered by humans is the critical differentiator between a genuinely multichannel shopping experience and one that happens online.

Technology also gives you the opportunity to engage male shoppers who, research says, are less to be as engaged in the latest Topshop sale?
The technology helps us engage in a highly informed way, offering benefits and incentives to all customers groups in order to influence behavior. Data will continue to be a core component of our marketing plans. Bored husbands and boyfriends are a target for us like everyone else, but it's about more than just messaging them. We need to work to amplify and enhance the whole experience: different people need to be able to do different things. Two teenagers going shopping, trying something on may want to check what's happening online or look at a web-enabled clothes hanger to see how many Facebook likes at item has. They might

want to know what the bloggers they rate say, or share photos via social media. A lady shopping with her daughter may want to have lunch somewhere nice or see a movie if she's with her husband. We have to find reasons for people to be there. It would be helpful if these were things you cannot do remotely – like eating – but there are other service areas like, barbers, cash points, dry cleaning – all these things make it a place where you can enjoy yourself or simply get things done conveniently. And of course we need highly programmed malls providing entertainment and a constantly changing environment for all our shoppers. Such thinking is core to how we develop our 'product' now, and in the future

So very much the American principle of 'the individual is king'?
Yes, I think so; we should be able to cater to as broad a church as possible, to create a place that people want to spend a lot of time in, even if they're not the kind of people who want to clothes shop all day.

Presumably enhanced technology makes landlords more able to unequivocally demonstrate what's going on?
The trials we've conducted in Marseille include a bespoke app which interfaces with about 300 beacons. This helps you understand how shoppers use the centre, which brands they interact with and all manner of things, which improves our understanding of what goes on. This data – alongside tracking tools like Path Intelligence will become increasingly important not least to retailers themselves.

But at the end of the day, your key focus is revenue.
Everything comes back to sales: a retailer knows how valuable a store is and they know which store is most important. The smart ones take a holistic view and develop models in which physical and online sales don't compete with each other. Data derived loyalty schemes or website data fuels increasingly

sophisticated retailer models which support how they allocate stores. One of the reasons they do that is to make sure their staff are channel neutral as well. The last thing you want is a store manager discouraging people from going online because they're focused solely on shop sales, a move which could risk pushing customer to a rival.

If retailers understand the 'true' value of stores across all channels – it's our job to make sure that our destinations drive profitable sales across all channels. This makes our centres valuable commodities, driving revenue for all concerned.

Given how the game is constantly changing, how are you ensuring the myriad legal risks of harvesting and sharing data are covered?
If we are providing wi-fi or looking at shopper data, we ensure we subscribe to the law as it stands when we invest. Offering people clear options to opt out and meeting all other standards set out by the Data Protection Act is black and white to a large extent. There are shades of grey around the usage of shopper data going forward, because its moving quickly, but all of our activity at the moment is permission-based so as to avoid any room for doubt.

What are the key things needed for success in this area?
An obsessive focus on shopper insight and retailer needs. We want to help retailers drive sales – but not get in the way of the relationship between the shopper and the retailer.

A healthy attitude towards trying things is vital as is a supportive, forward-thinking board. It's also about using the correct external partners who live, eat, breathe multi-channel and technology. And about hiring people with new skill sets. The employee base at Hammerson looks very different to a few short years ago – with many people that have had retail side experience, specifically in marketing, product development, digital and e-commerce.

The launch of our PLUS app in Marseille is a great example of trialing new initiatives, Thousands of shoppers have signed up to since the centre opened four months ago. It features geolocation technology powered by the largest installation of iBeacons in Europe and was rated in the Top Ten lifestyle apps in France.

Pragmatically, we had already tried apps in a more low key, low cost way in the UK (at The Oracle and Highcross) to understand how shoppers wanted to interface with us and how we could get retailers to engage with the platform. When we built PLUS we were able to use these insights to invest in a smarter, scalable platform. Shoppers have clearly taken to it and the clever bit is that we're embarking on an innovative, data driven Customer Relationship Management programme with them. This is all designed to drive sales and footfall for our retailers, which is what it's all about at the end of the day.

http://www.hammerson.com

Legal View

BRUCE LIGHTBODY
Real Estate Partner, Addleshaw Goddard

Bruce is a real estate specialist with extensive experience on a wide variety of transactions and development schemes, including large-scale portfolio acquisitions; urban regeneration projects involving retail and mixed use schemes; advising on one of the country's largest regional shopping centres for many years.

He acts for major property funds dealing with investment and property management, and advises large numbers of landlords and tenant clients.

While check-out areas will change to include mobile payments and changing rooms may soon accommodate augmented reality, the evolution of the lease in the digital age will be somewhat muted. New technologies are unlikely to trigger an immediate or substantial change in their structure or content. The fundamentals of indexed or upwards only rents are a comfort for investors, as are other key aspects of the FRI – or Full Repairing and Insuring – agreement.

We saw how difficult the concept of change was when the BPF looked at standardising leases at the start of 2014.

However, we should expect to see certain key lease clauses being more carefully negotiated. Turnover rents are now in a dwindling minority and both landlord and tenant should approach them with caution and some pretty rigorous legal advice going forward. Landlords are becoming increasingly wary of turnover rents: in the complex world of online sales and returns, it's very hard for the landlord to feel confident that it has control over, and access to, all the data needed to get the price right. With no benchmarking or standardised methodology for calculating 'turnover', there's plenty of scope for it to be manipulated.

While footfall data was once the pinnacle of technology, the ability to target and incentivise shoppers is now incredibly advanced. Savvy retailers will begin to demand high quality intelligence from landlords as a matter of course.

Clearly, the approach retailers take to combining – or wholly separating – their online and physical retailing businesses varies enormously. The risk of sleepwalking into a poorly thought-through turnover provision means this type of lease will be consigned to the "too difficult" list and will become less common.

There's also the law of unintended consequences. From a retailer's perspective, while a cleverly drafted turnover rent clause will factor in a high number of returned items, employees bonuses may be linked to store-based sales. What might reduce the rent roll will also inadvertently act as a disincentive to staff.

The other part of the lease impacted by digitalisation is the service charge. This is likely to be more incremental as all parties feel their way around the value of digital infrastructure. The extent to which it should be met by the tenant through the service charge or absorbed by the landlord as an investment in driving higher income will depend on individual landlords. On balance, the emerging technologies highlighted in our report will have more direct benefit for retailers.

While footfall data was once the pinnacle of technology, the ability to target and incentivise shoppers is now incredibly advanced. Savvy retailers will begin to demand high quality intelligence from landlords as a matter of course. However, as we draw away from a lengthy recession, during which service charge was kept as low as possible to accommodate struggling retailers, a new dynamic has emerged. Landlords are beginning to reinvest in good quality infrastructure and emerging technology in order to improve footfall and enhance the attractiveness of a space. Once that yields tangible results, landlords will expect that to be passed on to the tenant through a heftier service charge. Whether the tenant will want to pay for that emerging technology remains to be seen.

bruce.lightbody@addleshawgoddard.com
http://www.addleshawgoddard.com

Retail's Digital Future: Part Three **Reflections**

REFLECTIONS
Security

DAVID EMM
Senior Security Researcher, Kaspersky

According to co-founder and CEO of* Kaspersky Lab*, Eugene Kaspersky, 10 years ago we were only seeing the beginning of cybercrime. However, now, due to our constant connection to the internet and the increasing opportunities to make money from cybercrime, we are exposed to an unprecedented number of hidden threats in our everyday lives.

"Intercepting banking transactions and gathering personal data are typical examples of cybercrime," explains David Emm, Senior Security Researcher from Kaspersky Lab. "These criminals focus heavily on people's online activities, which is increasingly possible as people are doing more and more on 'always-on' smartphones and tablets."

In regards to businesses run in big infrastructures like shopping centres, David expresses concerns over their vulnerability amid increasingly digitally connected security systems, saying geographic point of location will no longer be a limitation for intruders. "As long as a system is connected, it can, potentially, be reached from anywhere, so comprehensive digital protection over security is required to ensure safety."

Big shopping centres have nearly everything enabled by the internet, including doors, air-conditioning and CCTV. Anyone connected to the internet can, potentially, breach the system and cause unforeseeable chaos, including shoppers walking around the centre with a connected digital device. Therefore, shopping centres need to do envisage security measures which extend well beyond putting one or two people in front of a bank of CCTV screens.

With the source of an attack being increasingly unpredictable - and maybe undetectable - the potential damage has widened too. For example, one possible scenario could seethe hijacking of the security system in a shopping centre, resulting in shoppers being locked in. As the internet is becoming more

Big shopping centres have nearly everything enabled by the internet, including doors, air-conditioning and CCTV. Anyone connected to the internet can potentially breach the system and cause unforeseeable chaos

inclusive of people and devices, such action may no longer require a criminal mastermind, which is why a tighter, more advanced and constantly updated digital security system is a must for shopping centres today.

Nevertheless, on site security is just part of the story. A perfect example concerns American retail company *Target*. Hackers are thought to have broken into the computers of a heating, ventilation and air-conditioning firm that was a supplier to Target and gained access to login details for the retailer's systems. Once inside, the hackers were able to install malware on Target's point-of-sale system that captured credit- and debit-card details at tills before the data was encrypted, resulting in a scam that affected 40 million customers. Learning from the debacle, Target fixed the flaws in their security system, reinforced security around passwords used by its staff and contractors, strengthened its internal firewall, and also developed "whitelisting" rules for its point-of-sale system, which flag up any attempt to install software that has not been pre-approved.

As many may recall from earlier this year, *eBay* had to request that 145 million users change their passwords as a precaution after cyber-attackers managed to get their hands on some employees' login details and used these to gain access to a database containing encrypted customer passwords and other non-financial data.

These examples pinpoint the importance of controlling how data is managed and accessed as well as highlighting the need for employee education on security risks and enhanced encryption -especially considering that connectivity and the internet means tills can be hacked from a computer located within the same building as well as from the other side of the world.

To prepare themselves for newly emerged risks and threats, retailers need to revise their existing security system, as well as seek assistance from new solutions and technology. For instance, *Darktrace*, developed by the *University of Cambridge*, provides a new category of cyber defence, which addresses challenges of insider threats and advanced cyber-attacks through detecting previously unidentified risks in real-time, building up a so-called *Enterprise Immune System*.

IT security professionals in the retail sector can also learn from the work of so-called 'white hat' or ethical hackers. For example, some years ago, a hacker called Barnaby Jack discovered a way to make an ATM give out free money, yet he chose to release his research to the world, thereby highlighting the need for banks to secure themselves and their customers from potential tremendous financial loss. He once said that, "sometimes, you have to demo a threat to spark a solution". As everything merges into one integral network, ensuring both real world and cyber-security will result in a more pro-active position.

kasperskylab@berkeleypr.co.uk
http://www.kaspersky.co.uk

REFLECTIONS
Big Privacy

DAVID ENGEL
partner Litigation Division and Reputation Protection lead, Addleshaw Goddard

David is an industry leader in defamation and privacy. He believes companies should invest in proper due diligence, keep a hawk eye on their reputations, and ensure they understand the confusing legal categorisations of privacy.

"Many opportunities of modern life come at the expense of our personal data," says David. "It's why Facebook, Twitter and Google are free to use. It's the reason Nectar points exist. But it's also likely to be a source of potential disputes for companies as they dive into the brave, but confusing new digital world."

Everything involving privacy often seems to get bundled under the umbrella of the Data Protection Act, but the law is broader than that, isn't it?
Privacy comes in two legal categories, which causes a fair amount of confusion. The first is data protection, which is ultimately about what you can and can't do with "personal" data. Technically it's not about privacy, but ultimately that's what it's there to protect. Once you've ploughed through all 100 pages of the Data Protection Act, it's fairly black and white, though of course it depends on how the courts interpret it.

Data protection came about from the European Commission's wish to protect people from having personal data provided to one person being sold on to a third party or used in a way that they didn't want.

Just to further complicate matters, there can be quite a lot of overlap between data protection and the law of confidentiality.

So where do laws protecting the right to a private life come in?
Until quite recently, that was all about the law of confidence, i.e. the restrictions on the extent to which confidential information, whether about a business or a person, can be disclosed to a third party.

However, the Human Rights Act , which came into force in 2000, has introduced to English law the novel concept of a free-standing right to privacy.

This relatively new law of privacy derives from Article 8 of the European Convention on Human Rights. It's there to protect your right to a private life, and it has become very important. For example, all the phone hacking cases against the News of the World were based on the Article 8 privacy rights of the victims of voicemail interception.

It's a much wider, very general right, not written down anywhere in a more detailed way than you see it in Article 8 of the convention.

ARTICLE 8 OF THE EUROPEAN CONVENTION ON HUMAN RIGHTS

1. Everyone has the right to respect for his private and family life, his home and his correspondence.

2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.

Isn't this rather vague?
Indeed. Some people want to keep some things private that other people might not be fussed about it, for example,

their salary or their shopping habits. Broadly speaking, the test is whether a person has a "reasonable expectation of privacy" in relation to the information.

There are still many unresolved legal issues and so far most of the cases have been against the media using private information for journalistic purposes, rather than retailers using it for commercial purposes.

The courts in this country have not yet really considered how data held by a business about an individual may constitute an infringement of his privacy. But that's sure to come. Google of course recently came unstuck in the European Court of Human Rights in relation to the 'right to be forgotten' – the Court decided that Google have to take down old information which people want to keep private.

So if people are doing things they don't want known – in a shopping centre –those watching could receive a legal poke in the eye?

Potentially. Would I want a supermarket to disclose to third party companies that I'm getting through three bottles of whisky a week (that's a hypothetical example, by the way)? Possibly not. So is that private information in an Article 8 sense? There's a very good argument that it is – and it's completely separate from data protection considerations.

Quite often in these businesses,

Google of course recently came unstuck in the European Court of Human Rights in relation to the 'right to be forgotten'

they will have plenty of data protection lawyers who know a lot about data protection, but sometimes they forget about Article 8 privacy, and indeed old-fashioned confidentiality. Corporates who want to use data in new ways will need to make sure that they've done their due diligence and they are not exposed to undue litigation risk.

But, of course, reputational risk could be far more damaging that a single short-term legal challenge. The essence of some new technologies is how they bring different stakeholders together. Digital wallets involve a variety of different companies, for example. And we've seen problems in the past when major credit cards or bank payments go down even for just an hour.

When a reputational crisis blows up, as a result of a commercial partner having fallen short, e.g. because its data security is inadequate, there's always the temptation to point the finger at the other businesses. Legally, this may work as a means of avoiding liability, but it may not help reputationally. Consumers tend to expect the household name to take responsibility for partnering with the right kind of suppliers, i.e. those who aren't going to have some technical problem that will let down the consumer. The reputational buck probably stops with the biggest brand, even if technically, and legally, it is not their fault.

People will look upon these sort of 'anchor stakeholders' to ensure that everything is in place to reduce the risk of data loss or other technical glitches. That anchor may be the shopping centre itself where the landlord wants to exist as a consumer brand. They will want to know that their systems are wholly protected even if it's the financial services guys who bear the brunt of obligations on things like digital wallets. No shopping centre would want to become synonymous with a major digital pickpocket scam.

david.engel@addleshawgoddard.com
http://www.addleshawgoddard.com

REFLECTIONS

Age of Collaboration

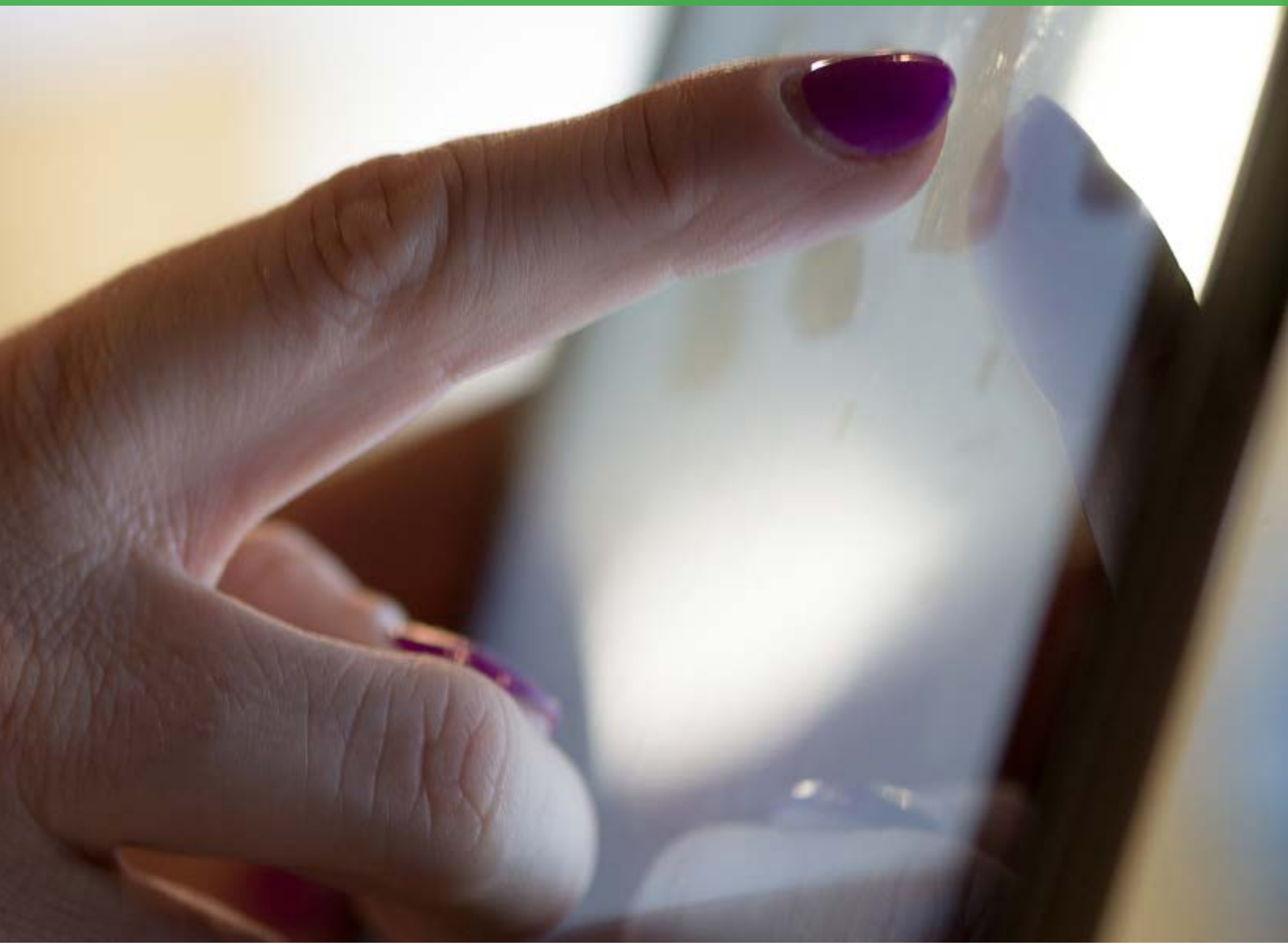
Rodrigo is a civic technologist and researcher who designs, builds and analyses tools to help communities and governments collaborate for social good. He published the first study of the use of crowdfunding for civic projects while at MIT, and is now studying the social impact of crowd-based technologies on organizations as a doctoral researcher at Stanford. Prior to this, Rodrigo was a business journalist for Bloomberg and BBC Radio 4's Today Programme.

RODRIGO DAVIES
researcher at the Center for Work, Technology and Organizations, Stanford University.

How has digital technology shaped the evolution of retail in recent times?
The evolution of retail in the past five years has seen the radical divergence of online and offline experiences, fuelled by technologies that capitalise on the strengths of the two modes of consumer interaction. As consumers split their activities more strategically between online and offline retail, they are demanding quite different things from each.

Online retail is being pushed towards greater convenience and speed, shown by the emergence of same-day shopping, and Tinder-style browsing applications for products that reduce the selection process to a simple swipe. The rise of the 'maker movement' showcasing grass-roots manufacturing, and the explosion of crowdfunded products, has shown the potential for goods to be designed and brought to market much faster than traditional production cycles, and has given shoppers the opportunity to experience new technologies within months of their invention.

So bricks and mortar retail has to work a lot harder to meet consumer expectations?
Consumers are demanding something quite different from offline retail, seeking more depth and engagement from the in-person experience. This goes far beyond the already well-established idea of destination shopping, such as when retailers serve as a 'hang out' venue for younger shoppers, and requires smart, data-driven management of the customer experience. If a website is capable of modeling a users' past behaviors to offer suggestions of suitable products of interest, a brick-and-mortar shop should be able to identify existing customers and their preferences, and support their in-person retail experience in real time. It is also clear that simply being able to browse



Online retail is being pushed towards greater convenience and speed, shown by the emergence of same-day shopping, and Tinder-style browsing applications for products that reduce the selection process to a simple swipe.

products is not enough of a value-add for the in-person shopper, who might have access to a wealth of high-resolution images online. Instead, an in-person experience should offer meaningful and exploratory interactions, from augmented reality-enhanced browsing to hyper-customisation of products using 3D printing technology.

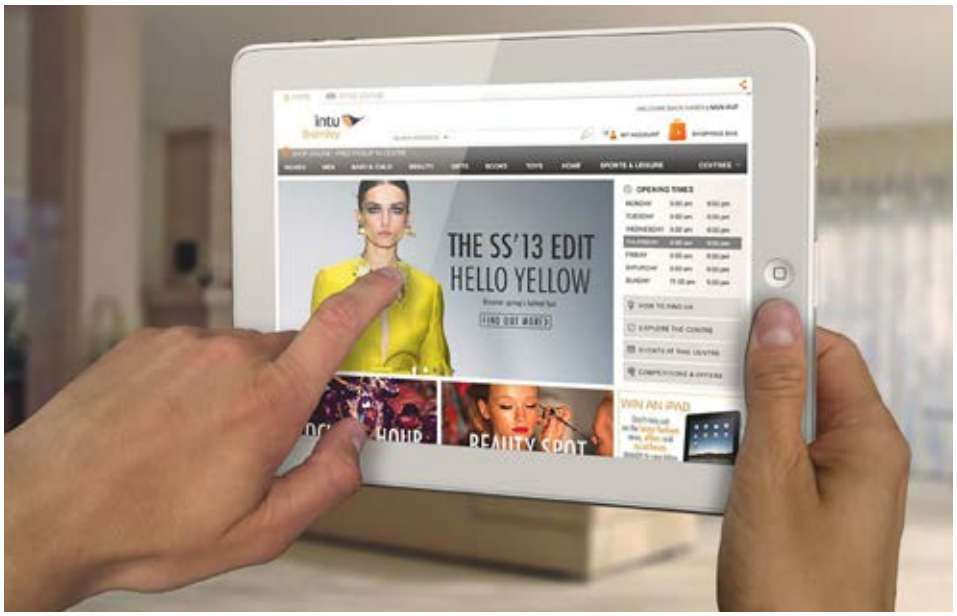
Does all this mean online and offline retail will develop separately?
The contrasting pressures on offline and online experiences are reaching some points of convergence, however. Online retail has pushed the checkout experience to a point of frictionlessness and convenience that consumers are now right to expect from offline retail: shops are fast accepting the full range of payment options, from Bitcoin to PayPal to multi-currency, and are adapting their processes to speed up the process, such as equipping every point-of-sale staff member with a tablet-based checkout. At the same time, web-based retailers, facing stiff competition and tight margins online, are taking inspiration from the some of the latest innovative in-person experiences to differentiate their service, from sophisticated sizing and fitting tools by fashion retailers to interactive personal shopping. As online and offline retail experiences continue to evolve, this cross-pollination of ideas may be a critical way for businesses to surface the most durable strategies going forward.

rodrigod@stanford.edu
http://web.stanford.edu/group/wto/cgi-bin/wp/

Expert View
intu

When Capital Shopping Centres rebranded as intu in mid-2013, one of the key elements of the strategy was a pledge to focus on digitally connecting its centres and customers using the latest technology. The group owns some of the country's best known malls, such as intu Trafford Centre in Manchester, intu Lakeside in Essex plus St David's in Cardiff.

TREVOR PEREIRA
Commercial and digital director, intu



Trevor joined the company eight years ago after spending 21 years as commercial director for Heathrow Airport and others owned by BAA. He believes planning for future technology is all part of being a good landlord, but admits that the property industry will have to collaborate like never before.

How has understanding of technology evolved in retail over the last few years?
There have been numerous phases of evolution in retail technology over the past years. Some time ago, the debate was about online and e-commerce versus physical stores, later it moved onto the use of multi channels and interaction between those channels. It then evolved into seamless omni-channel technology, ensuring this fits together from a customer perspective by providing the individual with what they want, when they want it. Now this has moved on to greater relevance and personalisation of offers, and how that relates to mobile technology. In each of these phases we have early adopters of technology. On one side, we can see companies such as John Lewis or Next profiting from their understanding and investment in those technologies. On the other side, we have retailers who aren't even using multi-channel platforms yet.

How is this coordinated and overseen within your business?
In our move to a single, national brand, we wanted to clearly identify what we stood for. One of our key attributes is digital connectivity, so we created a digital team, which has now grown to 40 people, who, for example, are running our online transactional marketplace – intu.co.uk – a key requirement to achieving this connectivity. This team is also our incubator looking at a number of other technologies and how we can support retailers in their own deployment of them.

Now that landlords are finding benefit in various data-driven activities , will we see an overhaul of leases and business contracts to recognise that the landscape has changed?
We need to look at what this means for establishing rental values which depend upon supply and demand and, ultimately, what value a retailer sees in a space. As a pure property transaction, I can still see a net rental value driven by supply and demand, and that being used as evidence. However, I can see that there will be an area for value added collaboration between retailers and landlords based around data.

What kind of things have you put in place that add value in this regard?
We have invested in free wi-fi for customers that can triangulate shoppers' positions in the mall, giving us the ability to reach people who opt in with location-based messages. This is an added value a retailer could participate in. By combining location data with information about how individual customers are using our wi-fi, such as use of our website, what they are browsing, and what products they have looked at or bought, gives us a powerful picture we can utilise for the benefit of our retailers and would add another layer of added value. It also means that our customers can be guided to products and offers relevant to them, making their shopping trips more productive and rewarding.

Is there potential to use demographic and footfall data to give greater intelligence to the lettings?
That capability exists, but understanding how to analyse this data and put it to commercial use is still being evaluated. We hope to add a layer of intelligence that can demonstrate performance for the retailer. For example, a rental space might not be at the prime centre of the

mall, but if all the kid's events happen at one end or a crèche is nearby, we could identify that this is the right area for a children's cluster. Demonstrating this performance can be done at a micro level as well as a macro level. Again, if we were running a kid's event at one end of the mall, we know from previous history there are certain impacts, and we can suggest to retailer that they increase staff levels and get offers out. It's common sense that being a good landlord revolves around creating a profitable environment for the retailers. This new data will doubtlessly support us in doing this.

Legally, how are these – very non-property concepts - fitting in with the corporate structure?
The first stage is getting up to speed with legislation and understanding it. We've done this internally and hired consultants and experts to guide us. Wherever we are talking at an individual consumer level, our entire strategy is permissions based. Whatever we do is only with explicit permission of the customer. If you are managing a strategy on that basis, it's important to stay the right side of that legislation. Thirdly, it's important to have the right partners to help you navigate these issues. Fundamentally, we put the customer front and centre; we don't want to bombard them with messages they have no interest in.

What do you see for the next few years of retail technology?
The continued growth of mobile technology means that we need to adapt to communicate with people using their mobile devices, personalise that communication and be timely and relevant. If this isn't achieved there will be a public backlash against being inundated with messages.

In addition, the time for mobile payments is already upon us, alongside the use of other location-based technologies based on the fact that everyone is now mobile. There is a growing trend for iBeacons, and the use of wi-fi for triangulation and indoor positioning. Apple and Google are putting a huge amount of investment into replicating the GPS experience inside public buildings.

Telecommunications companies can now put their data to commercial use. The days when shopping centres could collect and keep consumer data for their own use is now gone, and there is transparency around that data. Due to there being a whole plethora of places from which data can be gleaned, from our perspective, I can see an increasing need to understand this and collaborate with other organisations to put data together and gain exponential value. That will require collaboration in new ways we haven't considered yet.

What does the property industry need to consider in the case of risk management?
Risk management is a discipline that the property industry is used to dealing with. Now there is a whole new plethora of risks that we need to deal with. You can plan for the worst, have mitigating actions in place and understand what you would do if the worst happened. It's a new arena to utilise existing skills.

How else can new technologies benefit the property industry?
The conversation always tends to be around data and transactions, but we don't really talk about how property might use technology to reduce costs for retailers in terms of service charge. We can use new technologies to improve our operational systems. Putting that backbone in means that we can deploy digital CCTV, for example, including facial recognition and map people's movements more easily. Connecting lifts and escalators so that they are feeding back data to a control room can now be done very easily using wireless technology. You can use all of that data and capture usage statistics to improve maintenance regimes. This opportunity is there, and we are using it to drive down costs for retailers.

How can these new technologies help to improve sustainability in poorly performing buildings?
We can use data to feed a central building management system that allows you to develop much more intelligent and focussed building management plans to drive down costs. We have taken 30% out of our electricity over the last three years, creating service charge savings for the retailer.

http://intu.co.uk

Case study Westfield

"Shoppers seek innovations that create convenient and seamless experiences"

The relentless pace of technology is changing the way shoppers shop. What is not so well documented is the manner in which technology creates more demanding customers seeking solutions that deliver convenience, speed and inspiration. As developers, we must be in a position to constantly adapt and evolve to meet their changing needs.

Research from Westfield's '*How We Shop Now*' report focuses on these shopper impulses and looks at how they translate in-store. Broadly, the prime technology needs and popular solutions for shoppers are:

Convenience – click and collect, searching online for availability in-store and an unremitting concentration on price

Speed - quick payment options including self-service tills and 'e-wallets'

Shopper inspiration – virtual mirrors, augmented reality, online third-party reviews and personalised content and offers

With close to 50% of shoppers choosing shops based on wi-fi availability, this should now be a 'hygiene' factor for all developers and retailers – it is close to becoming an everyday part of the shopper matrix. The challenge is that rapid technological advances require the ability to look beyond the next few years. This is vital if long-term future-proofing of assets and adaptability are to be a reality.

PETER MILLER
Chief operating officer for the UK and Europe, Westfield

How is Westfield responding to emerging tech trends?

"Practically, in our London centres, we have invested heavily to establish a digital infrastructure that supports and implements technology and associated services for our shoppers," says Peter Miller, Westfield's chief operating office for the UK and Europe. "We have invested in technology that allows Westfield to add new technologies quickly and efficiently rather than retrofit. We have also created Westfield Labs."

"This has a remit to transform emerging ideas and technologies into viable businesses that move the sector forward," he adds. "New products, partnerships and services are being developed and commercialised. The goal is to use digital technology to provide a seamless shopping experience from web to mall which are focussed on core shopper needs."

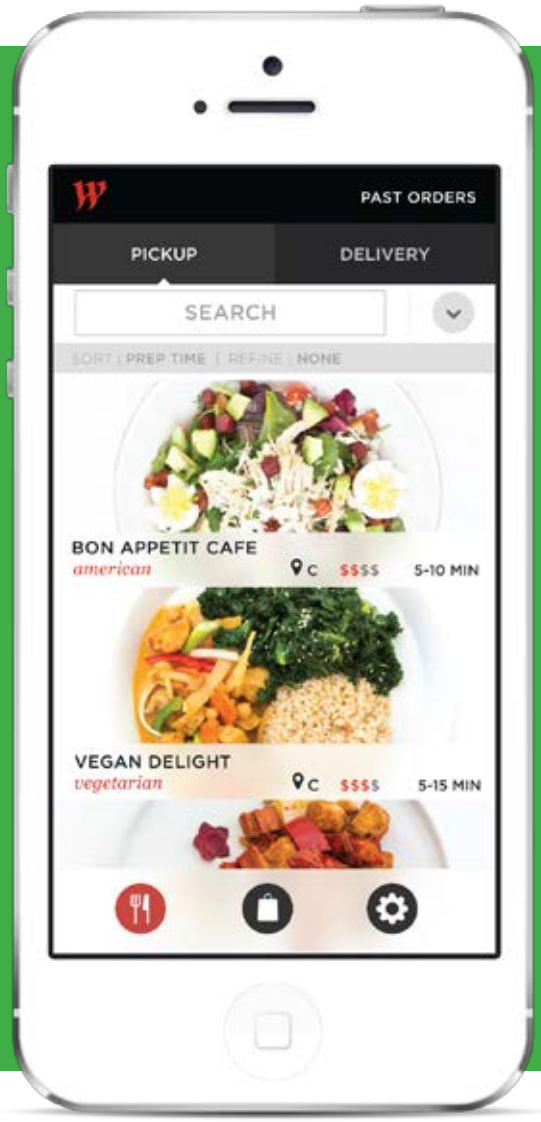
http://uk.westfield.com/london/

Westfield Labs
making digital an integral part of the in-centre experience

Westfield Labs has around 25 ongoing projects at any one time. New innovation technologies currently being piloted by Westfield include:

CONVENIENCE
"Dine on Time"
A solution for our visitors and food retailers that allows shoppers and local workers to "skip-the-line" and pick-up or have food delivered– fulfilling the omni-channel vision.

SPEED
"Express Parking"
Cashless and ticketless app-based parking technology that allows shoppers a seamless parking solution.



INSPIRATION
"Digital Storefronts"
Giant, internet-connected, ultra-high definition touch screens, displaying products enable shoppers to browse, determine product availability and facilitate navigation to stores stocking the relevant products.

INSPIRATION
"iBeacons"
Westfield Labs is developing iBeacon technology for Westfield centres globally.

After successful implementations of pilot programmes, Westfield will extend new technologies to its centres globally.

"Convenience, speed and inspiration, should be the key focus for technological solutions that deliver the ultimate shopping experience for retailers and customers."

Expert View
NewRiver Retail

NewRiver Retail is the UK's leading value-creating retail property investment platform. A specialist AIM-listed REIT focused solely on the food and value sector, NewRiver has quickly become the UK's third largest owner/manager of shopping centres with assets under management of £740 million.

ALLAN LOCKHART
Property Director, NewRiver Retail

Has it been the main driver of recovery in the retail property sector?
Retail is fundamentally about the customer and their experience; and modern change within those parameters is driven by convenience and technology, not the other way round.

A recent report by CACI, a research firm, said that convenience shopping centres were driving the bounce back from the recession. This has been the result of consumer needs, not the benefits of technology. Money spent on food and drink has grown too, and again, this is not a result of technology. Ultimately, technology will never replace the human sense of taste, physically trying a garment on, or selecting a child's first pair of school shoes.

What's your approach to big data?
As shopping centre owners, the most important step is to truly understand what data you need for the benefit of your business. We work extremely closely with our retailers to gain insight from their performance figures. This is assisted by technology but hinged on strong relationships.

Retail success always comes back to the customer and their experience. Success lies in how it enhances customer enjoyment, convenience, choice and price. It means gathering data to better understand the customer journey, from the point they first research goods to the ease of access and cost of parking, and ultimately, their purchase and recommendation to friends and family, often shared using social media.

How should consumers be engaged with?
We need to engage with, and learn from, the consumer at every given opportunity. However, the data-capture needs to be non-intrusive and you need to speak to the consumer when they are content, as well as disgruntled. Using intelligent, real-time loyalty programmes where the vouchers directly link to the point-of-purchase is critical. Sainsbury's and Tesco were once leaders in this field, now it's a big focus for all retailers, especially the food operators.

For instance, Iceland, one of NewRiver's top 10 retailers, does this well. They use real-time insight from sophisticated software to drive their loyalty programme which targets offers at individual shoppers. A considerate Big Brother, as it were. Iceland has reported a 20% increase in customer satisfaction as a result.

How do you see some of the opportunities of big data?
What technology has done to physical retailing is advance the sophistication of the consumer experience and the ability for shopping centre owners and retailers to learn from consumers using real-time data. The exciting part is that this will only become more sophisticated in the future with our learning and ability to optimise the experience in turn, helping to drive sales.

Data success for retailers and shopping centres lies in activating incremental spend using data to predict and drive sales for the long-term, making marketing budgets more efficient and enhancing customer experience.

Do you think the property world has enough awareness of new tech trends?
Excitingly, the property sector is being bombarded with new ideas, many still in their development stages. The first challenge, obviously, is to weed out the good from the bad. Some will genuinely enhance the retail experience, while others will be fads. Then you need to consider the supplier as well. Too many companies are adopting tech and digital trends purely as a box ticking exercise. Good examples of this are creating video content for the sake of it, or jumping on the QR (quick response) code bandwagon, as many have. People didn't truly acknowledge how poor the uptake was because so few people actually have a QR scanner on their phone.

The key for us is identifying viable and scalable trends with robust suppliers and platforms behind them.

How does property, as a whole, compare to other sectors?
Often, property companies are slow ships to turn on tech. The digital age is radically influencing the strategic growth plans for every company. Other sectors such as IT, communications and advertising are leagues ahead. We should have greater collaboration with the property sector, learning from big innovators as well as the FMCG brands who are close to the consumer and whose strategies are informed by that intelligence. It's great that BCSC has taken a clear lead on making this happen.

Fashion brands are also key businesses to learn from because the fashion-forward are generally early-adopters in technology too. As this report makes clear, this is a key reason why Apple chose Paris Fashion Week to showcase its Apple Watch.

How are these issues currently managed in your business? And how important are they?
They are certainly growing in importance around the boardroom table but individual technologies hold varying benefits for different areas of the sector. There is no one-size-fits-all approach. From community shopping malls and discretionary centres to the value retailers, supermarkets and fashion chains - each one will take a personal approach.

At NewRiver, we are uniquely placed to learn from the consumer through our own retail specialisation. Our intensive consumer research, excellent retailer relations and the fact that our £740m retail portfolio includes 27 UK-wide non-discretionary shopping centres, gives us eyes and ears on the ground everywhere.

At each one of our asset management meetings - held on-site every six to eight weeks - we are sponges to the rapidly changing trends on the ground. We then filter our findings, through advisors and partners, and discuss key matters at board level. We may have grown to £740 million in assets under management in only five years but our unique advantage is the pace at which we can move and adapt to such emerging trends, with the crucial ability to deliver without red tape.

How do you capture value from the increasing blurred lines between the roles of landlords and tenants in engaging with end users?
Great human relationships with our retailers. Ultimately, our end goals are the same - to attract customers, help them enjoy the experience, spend money and return time after time. More revenue/ turnover means higher affordability of rent. Ultimately, between the shopping centre owner and retailer, it is people managing the asset and retail portfolio who extract the intelligence from the data generated across increasingly blurred lines.

Do you think leases need to evolve further to keep up with changing consumers and the evolving retail industry?
We are already seeing the evolution of shorter and more flexible terms, but simpler, more efficient leases would help the process. The reality is that, sometimes, the demands from different sides makes this harder. Valuation methods remain a sticking point.

The Landlord and Tenant Act 1954 is a hindrance to the effective management of retail agents. It desperately needs to be reformed. After all retail is a very fast moving and dynamic matter and should not be regulated by a 60 year old act.

Are there legal risks which you believe the industry is under-prepared for (across the wider property world rather than within your business)?
Yes, I think there is, but when it comes to making larger investments, decisions need to be based on a robust and tested technology. Legal issues could emerge from gaining intrusive data about individuals, also leading to security concerns.

How does your business oversee the sorts of things being discussed here?
We have an entrepreneurial approach to property, so we consider and try to keep up to date with emerging technologies, that's part of our responsibility to our shareholders as shopping centre owners.

Do investors currently care about technology?
Yes. Investors care, however, as the value of incorporating technology is constantly evolving, it is not necessarily a solid base upon which to make investment decisions, but investing in companies who are receptive and market leading is.

http://www.nrr.co.uk

Credits

Report commissioned by BCSC and Addleshaw Goddard and produced by Blackstock.

Sincere thanks to all of those who were interviewed and contributed to the production of this report.

ADDLESHAW GODDARD

Bruce Lightbody
Partner
bruce.lightbody@addleshawgoddard.com
@RealEstate_AG

Andrew Rosling
Head of Retail & Consumer Sector
andrew.rosling@addleshawgoddard.com

@AGInsight
http://www.addleshawgoddard.com

BCSC LEADING RETAIL PROPERTY

Edward Cooke
Director of Policy and Public Affairs
Edward.Cooke@bcsc.org.uk

@BCSCRetailProp
http://www.bcsc.org.uk

Blackstock

Blackstock
Andrew Teacher, MD Blackstock
andrew@blackstockpr.com
@andrewjteacher

http://www.blackstockpr.com