THE POST-ECONOMIC INSTITUTE

The Theory of Post-Economics

Part III – Omnichannel: The Business Imperative for Economics to End

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Thus far, this text has sought to argue that economics has scant relevance to the digital age. The reason that it is being overlaid onto DCT and the web generally, as opposed to digital technology being interpreted as a next logical evolutionary step away from economics, is because it is so deeply embedded in everything we do and is the way that we have nearly always governed ourselves. It permeates every area of our lives – culture, politics, art (consider, for example, Damien Hurst's diamond skull – the thing that everyone knows about is its valuation at £50m rather than any insight on its artistic statement), business – and the legal framework has been constructed around the idea that money is the central element that regulates the access that people have to the services that businesses provide. You need money to live, it's enshrined as common sense. This framework ensures that businesses can operate in such a way as to pursue opportunities and stimulate economic growth, while providing adequate protection for people (or, consumers) against unfair practices in the process – both sides, in their own way, win. As an approach, it gives a feeling of being natural, universal and inevitable.

Yet if we were to imagine a parallel universe, one in which the human race had gotten to the 21st century without economics having been invented, it's difficult to see that they would look at the web and suddenly come up with economics as the logical new system to underpin how everything should work.

Be that as it may, we have arrived in the 21st century with economics well and truly cemented as the governing force for humanity's endeavours – and it certainly won't just disappear without there being significant will to move over to a different system; the disruption would prove too great to risk a complete sea-change. Any genuinely revolutionary fervour soon fades and a slightly adapted version of the status quo is often what passes as change. Consider, for example, how on 31 January 1648 England abolished monarchy as a governing system by executing its king, Charles I. Yet, far from representing the end of monarchy in this country, in 2018 the crown is not just still going, but arguably as popular as it has ever been. Its power might have diminished, but it is still a major factor and influence in the daily lives of the country's citizens.

The end of economics cannot be driven by a few dissenting voices, but would need the support of politicians, think tanks, bodies, associations and business itself. The final entry in that list (business) is probably the one that seems least likely. After all, businesses are arguably the ones with the most to lose should money officially be declared obsolete. Under current definitions of business, they wouldn't really be able to exist. Yet the surprising truth is that businesses may actually come to play a very important role in stimulating the momentum required to get past the logic for money, as it gets in the way of relevance in the experiences that they provide for their customers and ultimately limits the efficiency with which they are able to operate. Money, in the digital age, doesn't make business sense.

The great strength that the web has is to massively increase the relevance of the information to which people are exposed. When it comes to matching an individual up to a product or service, it is possible to whittle down the possible range that may be served up by assessing all the data that is known about that individual at that point in time. To put it in context, let's take the example of someone who is looking for a new hat. In the unconnected, pre-web age (though this is still also possible today, of course, not

uncommon even) that individual probably would have gone to their local high street, visited a shop and walked past all the irrelevant shelves and rails, stocking other product ranges, before getting to the hat section. They would have browsed the hats in stock there, maybe tried a few on, then possibly left if a suitable match could not be found for the style they were after. Then they may have left that shop and gone to multiple others in search of a better match. The ratio of the business-to-individual relationship in this situation is one-on-many – a single business at a time trying to sell stock to an individual about whom they know little or nothing, and consequently have to treat the same as any other individual who walks in. And this is the same for every unique customer on repeat.

With the web, geography and locally-available stock are not an issue – in principle, it can pull in information from anywhere and not just restricted to single businesses either. So, if that same individual were to indicate interest in purchasing a hat (presumably through a term typed into a search engine) it is feasible that matches could be suggested based on a wealth of information such as location, previous search behaviour, past purchases, style preferences (perhaps built up from scanning photos on social media), future events they plan to attend, demographic information (age, gender, sexuality, political leaning) and many, many more. The greater the volume and variety of datasets that are included in the process of understanding the individual's needs, the greater the chance of finding a good match quickly and efficiently – and this information is multi-source, multi-location and multi-purpose.

Datasets tend to be owned by specific businesses, which means that where one business wishes to gain access to a dataset owned by another, they need to obtain permission to do so before implementing the necessary code and plug-ins that can extract information from that dataset. As covered in the previous chapter, this can run contrary to the core capitalist value of competition – as it is giving away information that might otherwise be used to the advantage of the data-owning business.

But, under a system based on information, the most significant advantage that a business can gain is through having ever-greater stores of data upon which to base decisions. The more that is known and understood about an individual, the more relevant and accurate the experiences they can be connected to. In an ideal, digitally-functional sense, this requires businesses to work together to share information in a far more widespread capacity than has been the case previously, or would seem possible under an economic system. And, by its very nature, the exchange is bi-directional – if one business accesses a dataset to source information in support of some kind of experience, they would be expected to provide feedback and insight around the results of that activity, in addition to making it available more generally to other businesses to whom it would help to hone relevancy and accuracy. Because, in the long-run, it is an augmenting process whereby each new layer of information that is added provides further shareable insight and intelligence that will be of benefit to each data-sharing business. Consequently, it is data-sharing that best characterises an optimum system for digital businesses, meaning the whole definition of what a business is and why it exists has to be given significant consideration. If businesses are structured around connectivity with other businesses and co-sharing data, can they even be said to be separate entities? Are they not instead nodes on a network, whose primary goal is to accept and transmit information to the right location at the right time and continually feedback new insight gleaned from it?

This part identifies some of the early indications for why this kind of world could logically structure itself into being as, with information becoming so central to the way that businesses work, even sectors that have been, up until now, incredibly commercial in how they operate increasingly have to compete over the depth of information to which they have access. That is the primary battleground, because those with the greater and most granular information on their customers are the ones who stand the best chance of keeping them satisfied and retaining them. The conversion of prospect into customer is dependent on it too – those who don't put sufficient focus on information will be eclipsed by their smarter competitors. And one sector in which this is most apparent is also amongst the most commercial imaginable – retail – which I will use to illustrate why this shift over to a system based on information also introduces the business imperative for economics to end.

Our modern concept of retail is that it's about selling more products to more people through more channels at all times. Yet that is, of course, to interpret it through an economic lens. Cut back to its most fundamental level, retail isn't about sales, bargains, profits or margins – retail simply refers to the process of getting manufactured things into the hands of people. It's a practical means for making a large selection of things accessible to people on a wide scale and across diverse geographies. There is nothing natural about the central role money currently plays in that process, it is purely an economic requirement.

The reason that retail provides such an appropriate model for a future based on information and relevance is that it has a complete and unwavering focus on the customer – they are absolutely fundamental to everything a retail business does. Those who do not keep up with changing customer demands are quickly supplanted by those that are listening to their customers, so they have to maintain that focus in all they do in order to survive (in fact, so seriously is the customer taken in retail that the job role 'chief customer officer' has become increasingly common and important).

Retail has long been a highly competitive space – consider how frequently you come across competitor price-match promotions, or retailers dropping the price of popular products even below the point of profitability just to keep up with others (a pint of milk was recently frozen at 49p for a long time across rival UK supermarkets, by way of example, putting pressure on farmers). But serving the customer and keeping them satisfied is the number one goal that trumps all else and, in the information age, that tilts toward ensuring relevancy of experience and removing any points of friction encountered during engagements with the brand. This can only be achieved through sharing of information, between direct competitors, but also using third-party platforms.

It requires quite a leap of faith to believe that keen rivals would willingly follow each other down this path, but there is an aspirational concept making it not only possible, but necessary – that concept is called *omnichannel*[i] and, for some time now, achieving it has been amongst the most important goals for a retailer.

To understand what omnichannel means and why it is important, we need to assess how things used to work for retailers against the situation in which they find themselves now.

Before the web became something available to the public, which provided access to businesses remotely and (in most non-geo-blocked cases, anyway) with few geographic restrictions to that access, a 'retailer' tended to be a physical shop, often located on a high

street or other place that could rely on a steady stream of passers-by, some of whom could hopefully be tempted in to browse stock and leave having purchased something. This wasn't the only form in which retailers existed – some were already 'distance-selling' in proposition, such as Littlewoods in the UK, which had a wide distribution of its postal product catalogue in addition to having a store portfolio. Others were more 'warehouse' in nature, being found in industrial settings and typically stocking DIY product ranges or acting as showrooms for beds, kitchens and other types of product that most people did not possess the means for transporting home easily (the idea is to make a selection in person, then arrange for subsequent delivery of the goods).

Under this physical model, not much data is produced (relatively speaking) but it is also less complex in comparison with the digital equivalent. A customer would enter the store, pay for something (probably using cash, which again produced no meaningful or non-generic data), then take it home themselves. The retailer just sells the item, with little involvement in any other area of the process from the customer perspective. Of course, some were smart about how they used the data they had available anyway, to help get the right levels of stock in the right stores, merchandise the products to best effect (both in terms of marketing and their location in store) and enhance the customer experience. For example, if the weather is hot outside, give prominence to the kind of products that have heightened appeal during such periods – BBQ food, garden equipment, swimming costumes, buckets and spades.

The point to understand about all this is that the prospective customer base was limited (chiefly by geography), the range of marketing activity that could be undertaken was relatively low (advertising had fewer channels available for example, such as TV, radio, billboards) and customer feedback options were a lot more private in nature – calling a customer service number, writing a letter or complaining in-person in-store, but still only overheard by whoever was in that store at the time.

Then came the web, which changed things somewhat – stripping back the restrictions of geography and increasing the number of available channels through which people can engage with businesses, not to mention the times and places they could do so. But this did not just necessitate a shift in operational process on the part of the retailer (or many other types of business for that matter); it elevated information, specifically the kind of insight that can be gleaned from analysing and cross-referencing the streams of data produced by the way the web works, to become amongst the most valuable commodities a business can command.

As purchase journeys (the start-to-finish process someone goes through to complete a purchase) have become more fragmented, possibly taking in multiple devices, locations and networks as part of any single journey, gaining a true picture of who bought what and when is perhaps not always so difficult, but understanding how and why they did so is fraught with complexity – and frustratingly so. *That* is the current gaping hole in a retailer's understanding of interactions with its customers. If that journey was untrackable and therefore impossible to know, it wouldn't be a problem because no-one would be focused on it; but data usually does exist on every stage of that journey, it's just that it is rarely tagged, accessible and cross-referenceable to any single business across its entirety. Often it *can* be known in much greater detail, it's just that there are obstacles, often various and disparate, to knowing it.

In many ways, there's nothing new about needing to have this focus. Retail has always been a customer-centric business – if your customers don't like you, they'll just go somewhere else – but the web and DCT has shifted the required approach from just being customer-focused to being able to *understand* the customer. These people don't only exist in relation to a single retailer, but exhibit behaviour that is trackable and possible to know in detail across multiple areas of their activity with multiple businesses. The eventual goal of understanding, of course, is to do so on an individual, one-on-one basis – being able to do it at a segmented level (ie putting them into groups based on demographic information, so a customer may be identified as being between 41-50, lives in Sussex and is male) is useful to an extent, but it still only enables targeting that is generic in many ways.

As information at the individual level *is* possible, businesses know they can benefit from tracking it at that level (which isn't to say that most systems have been sufficiently developed to support that aspiration yet). Knowing that someone is female, from Dorset, aged 31-40 and likes football is useful to an extent for targeting purposes, as is knowing their 'mosaic' group (which is a jargon term used for segments and refers to groups such as new home owners, retirees etc, outlining detail about the groups' likely circumstances, needs and aspirations) – but no two people are the same. One UK female between 31-40 who likes football may also like fishing, South American history and rice cakes – another vegan food, dance videos and Christmas hymns. Segments indicate propensity for an individual to be interested in a certain topic, but reveal little about their individual character – the web is the exact kind of general purpose technology that extends understanding to that next level, as long as the data to sustain it is available and accessible.

Retail has been moving toward being a data-driven business for a long time. There have always been attempts at better understanding the success of marketing and advertising activity – providing coupons to be redeemed, discount codes specific to a campaign, asking '*where did you hear about us*' etc – but in the modern, mass information sense it really kicked into gear with loyalty cards in the 1990s.

To qualify for a loyalty card, individuals had to fill in a physical form. So far, so unsophisticated. But this enabled the retailer to create an entry for that person in a database and assign them a card, which could then be scanned at the till whenever the individual bought something from that retailer, allowing them to build up loyalty points which could typically be exchanged for discounts on products. It's a good result for that customer – who is able to save money on things they probably usually buy anyway – but it's arguably even better for the retailer as the trade-off for accessing discounts is enabling them to create a record against that customer in the database.

This represented a significant shift in the nature of the relationship between retailer and customer, as sales reports no longer just showed what quantities products had sold in, but to whom exactly they were sold, when, how regularly they buy them and in combination with what other products. It's the move from performing an activity in a fairly straightforward way – shifting stock – to being able to map complex insight on top of what's actually going on and why, which can have a hugely beneficial impact on future planning. Tesco were notable early adopters of loyalty cards and their strong performance to become the UK's biggest supermarket in the 1990s owes a lot to the success of their Club card scheme. They were able to map out, based on customer purchasing patterns,

the stage of life an individual was at (new parent, free and single, student etc) and adapt their marketing for each demographic segment accordingly.

This was a big step, but it's nothing compared to what has happened since, as web technology has continually and rapidly evolved to become integral parts of our everyday existence. There are a few claims for what the first ecommerce transaction (which basically refers to buying something online – products, insurance, gambling etc) was but the consensus is generally that it happened around 1994. It took a little while for ecommerce to become a national pastime for millions of people to get involved in on a regular basis – in the 90s and early 00s web functionality tended to be pretty basic but faster web connections (getting away from dial-up toward broadband was a big enabler) and the perception of being able to get the best deals online helped it to grow fast.

And wherever people go, business follows. As site traffic and order volumes grew, a new challenge emerged in that people could now compare prices across any number of retailers at the click of a button, particularly as comparison sites and other such tools became popular.

It therefore quickly became apparent that price alone could never be a sufficient differentiator for most retailers, who today often speak about the importance of the 'experience' of shopping with them.

It is data that enables these experiences to be crafted and optimised – and it's a constant battle to keep on top of it due to the pace of technological change. If price was the only thing that mattered, omnichannel wouldn't be a major consideration. Retailers would focus 100% on keeping prices low, with no regard for how their site renders on a smartphone, which payment and fulfilment options they need to provide, how products are marketed or how effectively journeys across multiple devices can be continued, rather than begun completely from the start again at each interaction.

In the unconnected world, the primary point of interaction between company and person was a physical store. What the web has done is create a new version of the store that can be accessed anywhere, anytime through computers – plus any other suitable web-connected device. Tablets and smartphones are the obvious ones, which bring additional challenges – different-size screens that mean different versions of the site have to be developed to display and perform properly, plus the fact that they may be used in any location or context. So retailers have become multifaceted in ways and at a pace that many have found difficult to remain on top of – they are not, and cannot be regarded as, singular entities anymore. Neither is access restricted to their sites as such, as social networks and other types of site based around user-generated content (such as Yell and Trustpilot) have opened up channels of communication, where conversations can be conducted in a highly public way, potentially involving retailers (and other businesses) in ways that they cannot sensibly ignore.

In fact, any kind of new technology that people may use or respond to can have a profound impact on the day-to-day operations of a retailer, as it can influence how people behave in certain situations. If they don't go where their customers are, they will find better fits with other more modern retailers. And the better they can understand why they are visiting the sites and locations they are frequenting, the better the opportunity for targeting them with products and content that is relevant to their situation, boosting the efficiency of their operations.

Fortunately, whenever people interact with a retailer through a digital channel they leave a trail of data that provides information on their behavioural patterns (provided they are not actively blocking that provision of information) – which can give clues as to what they don't do and why as much as what they actually do. This is what makes what would otherwise be an impossible situation – a constantly-changing environment, rapidly-evolving technology, intense competition, fickle customers – manageable, as it becomes possible to understand at a very detailed level what changes are happening and why.

People have the option of engaging with retailers through a range of devices and channels and the important thing to understand is that they often don't just use one in isolation – instead they tend to use a number in combination. The average number of devices used per purchase journey is hard to calculate (estimates can vary wildly; achieving a genuine and accurate understanding is probably not possible yet due to the inherent prevalence of data siloes in tracking such things), as the same individual cannot necessarily be identified at each stage of the process on each separate device, but it could in theory at least be highly convoluted.

To illustrate the potential complexity of this process, a typical purchase journey may run as follows: a shopper searches for 'blue trainers' on Google on their desktop, then clicks on a paid-for ad which takes them to a retail site where they carry out a bit of primary research – looking at photos, price comparison, user reviews etc. This retailer also happens to have physical stores, so the shopper heads down to a local branch to try a pair on, taking photos to review later without buying there and then and using their phone to search for other retailers offering similar ranges nearby that could also be tried. The shopper later decides to buy the trainers from the original retailer and completes the transaction on a tablet device at home, selecting click & collect from a different store (perhaps convenient to pick up from on the way home from work). As shopping journeys go, this is obviously toward the more complicated end of the scale (which is far from making it an unrealistic scenario) but it serves to illustrate the point.

The shopper thinks nothing of flitting between the different devices and channels like this, but from the retailer's perspective they are unlikely to be able to interpret many of these interactions as a connected part of a single purchase journey. This is a problem, as each stage of that process played an important role that has to be recognised if they are to have any chance of understanding what actually happened, and how (the jargon for this is understanding 'attribution of sale'). For instance, though the shopper walked into a few stores and left without buying anything, it wouldn't be entirely accurate to say these store visits represented a lost sale – they arguably helped the customer reach their decision by allowing them to touch and feel the product first.

This, in essence, is what omnichannel means. It refers to an aspiration among retailers to provide experiences for their customers that are consistent across all devices, with those customers able to move between the various channels seamlessly, without having to 'start again' at each new touch-point as if it's their first engagement. Omnichannel is closely aligned with understanding. Putting down one device and picking up another represents a continuation rather than a diversion.

From the retailer's perspective, a key part to enabling this is gaining what's known as a 'single customer view' – this means obtaining the ability to identify an individual at each stage of their engagement and is entirely dependent on data. This becomes possible if

that person logs into the retailer's site wherever they interact with it – on their desktop, mobile, tablet, app etc – as they then leave a record in the central customer database that can be easily matched up. Then if they come into a store, the staff may request an email address at checkout or, as seems the obvious way to go, automated checkouts could have a facility for identifying the customer – through getting them to login somehow, possibly through a simple scan, as part of the process.

The omnichannel concept is synonymous with the nature of modern business, irrespective of sector, which involves looking at the customer journey, mapping out what they want based on all the available data and fulfilling it. Needless to say, the more data available that is relevant to that endeavour, the better the journey can be understood and more likely a business is to be able to meet their customers' expectations.

Interestingly, omnichannel information already exists in a format in which it could tie up a lot of these cross-channel experiences and be shared between departments and even completely separate companies – through payment data, which is becoming increasingly digital. According to a Payments UK[ii] forecast, digital forms of payments will overtake physical cash as Britain's most frequently-used method by the end of 2018. This is significant because a digital transaction produces lots of data, covering time, place, payer and payee, whereas a transaction featuring the exchange of a bank note is far more generic and untraceable (from the business perspective at least; bank notes can be traced by the authorities as they have unique numbers, but it's not terribly efficient). There are a huge number of payment companies that process transactions made on cards and mobiles, as well as through bank transfers or other means such as bio-identification (face or fingerprint scanning). Up until now, it has been very tightly regulated and protected by banks to maintain the privacy of transactional information. However, even this is going through a process of evolution now as it is not just money itself, but information pertaining to how that money is used that is becoming the most important element for businesses.

We can see this by comparing how some of the major digital wallet business propositions are structured. While Apple Pay takes a cut from businesses using its service but harvests no data on the customer in the process, Google's Android Pay takes no actual financial cut but instead insists on getting access to the data pertinent to that transaction. For Google, gaining a more comprehensive understanding of individuals is always of the utmost importance to their model – they are even willing to provide a potentially chargeable service for free in order to attain it.

Probably the most significant and disruptive development in the payment space, somewhat surprisingly, actually comes courtesy of the establishment rather than through start-ups or aggressive VC-backed businesses – the EU's Second Payment Services Directive (PSD2)[iii]. In a nutshell, PSD2 forces banks, who have traditionally been the custodians of individuals' financial information, to open up their payments infrastructure and customer data that they hold for external third parties to access. This means that, for example, a service-provider could glean insight from that information on the kind of behaviour that an individual exhibits – whether they frequent the cinema a lot, eat at expensive restaurants or go overdrawn on a regular basis. People will have to give consent (most likely through ticking a box acknowledging they've 'read' some dense terms & conditions), but it demonstrates the direction of travel for modern businesses –

opening up and sharing information that has previously been regarded as private and sacrosanct.

And information can be used to bridge the gap between offline and online. Linking them together to understand customer behaviour across the digital and physical domains is the golden egg of retail. Very few have anything like the single view of customer they would like to have. Those who get the closest tend to be selling to traders (plumbers, electricians etc), where customers will present their trade card at every purchase to qualify for the favourable rates they may have negotiated as a regular customer. Use of that card serves to unite the full purchase history together, even if they pay in-store with cash – the card will still be presented. In May 2017, Google announced a service that connects online and offline[iv] – using data it collects from smartphones as well as payment data from third-party partnerships that it claims give it an approximate 70% view of total credit and debit card transactions made in the US – so they can feed back to advertisers whether users went in-store and made a purchase after seeing an ad on their platform. Many people are probably unaware that their behaviour can be connected together and understood to that level, but it is top of the wish-list for retail businesses (and other types) and, as the Google development shows, building that level of understanding requires multiple entities to share information.

So omnichannel may seem like a distant dream that is, in reality, too difficult to achieve in a truly meaningful way, yet the major tech companies are focused on enabling it in a manner that elevates information to become the most valuable commodity. Achieving this idea of a genuine single customer view and omnichannel operations is not straightforward; for many it remains an aspiration as too many data siloes still exist, but it is a key focus for businesses in this space (and many others).

Having access to information in real-time and supported by automation, to ensure the appropriate fields in databases are updated with accurate data quickly, across all business processes and interactions with customers is the only realistic way to efficiently manage the complexity of modern retail (or other customer-facing businesses, indeed). As already established, there are multiple devices (desktop, laptop, smartphone, tablet, e-reader, console) to cater for, as well as multiple channels (social networks, ads on news sites, online review sites, voucher sites). But this does not express the full scale of the complexity.

Consider, for example, the supply chain. If it was a matter of sourcing a product from overall stock, then moving it either to a store, where a customer could come in and purchase to take home themselves, or to a warehouse where it could be transported to a customer's home following a purchase completed online, the processes that underpin it are straightforward enough. But – customer expectation is that they should have access to a range of options for how they receive their order. That might be at home or to an alternative address (such as work office), click & collect from a store of their choice or third-party locker (such as the Amazon ones at some train stations), collection from a convenience store, petrol station or even another retailer's store network (eBay have such an arrangement with Argos). Tesco toyed with the idea of delivering to school carparks to target parents, and Volvo have run trials for fulfilling an order directly to the boot of peoples' cars (the car owner provides the delivery person a code for temporary access).

Lots of locations means lots of data required to run it efficiently. Yet this does not penetrate to the extent of the issue either. The distance-selling regulations in the UK (and by extension EU, for that matter) stipulate that consumers must have a two-week 'cooling-off period' by law – this means that they can return an order if they change their mind within that timeframe, provided the goods are returned unused, in working order, unsoiled etc. When this happens, the product has to be checked and repackaged before it can go back into saleable stock, so during that time it cannot accurately be listed as available to shoppers. Getting it back available quickly is therefore very important, particularly where stock is seasonal and may only have a short lifespan where it appeals to people. So it isn't necessarily optimum to treat every returned item in the same way. While they may all need to come back for processing before being confirmed as ready for sale again, they could then be sent out to any number of possible locations (stores where it appears to be in demand, a warehouse, overseas even). Stock on its way to one destination may be passing a location where demand has risen, so it could be headed off to that place to satisfy it – but this requires in-transit, real-time updates to multiple stock systems, some of which may need to issue new requests for replenishments to make up for those diverted away from them to other destinations. For stock to be optimised for maximum efficiency, information from disparate sources needs to be widely shared, processed and acted upon intelligently – at pace and at scale.

There is a vast network of parcels being moved around the supply chain at any one time. In 2016, IMRG estimated that 1.184 billion parcels were sent by UK retailers through UK carrier networks (excluding 2-person deliveries and groceries, as well as click & collect logistics)[v]. Managing this as an efficient operation, where orders are logically grouped to save making excessive or repeat journeys, is a challenge and a fair portion of it does get returned. To qualify the extent to which returns happen, giving an overall rate is not particularly illustrative of reality as it can vary wildly by sector (however, for completeness, the overall return rate was tracked at 23% in Q2 2017[vi]). Fashion retailers, for example, might have a relatively high return rate – perhaps 25-30% – though again this can vary in accordance with the retailer's competitive band. If they are a fast-fashion brand, the clothing they sell is likely to be cheap, which customers tend to be less inclined to return (from a psychological perspective, the customer may think the effort required isn't worth it). For a brand at the luxury end of the sector, purchases are far more considered due to the greater expenditure involved. Where someone does complete a purchase, again psychology comes into play and a quick check on their bank balance can produce feelings of guilt in shoppers that they perhaps shouldn't have spent so much on a single garment – return rates for retailers in this competitive band can be as high as 50%, particularly around the festive season when people may need a posh frock for the office party which they realise they can't realistically justify keeping.

For other sectors, it depends on the product category. If someone buys an expensive sofa or kitchen online, they are highly unlikely to return it – before making the purchase, they would have carried out significant research, probably including trying it out in a showroom or store beforehand. However, generally speaking, returns are so common that many retailers factor them into their planning and pricing strategies as a matter of course. And it is only going to increase as retailers compete around making the returns process as seamless and convenient as possible on the part of the customer – they are just a necessary part of the experience that has to be catered for.

This section has served to provide a crash-course introduction to omnichannel which, as you can see, is not straightforward to understand in its totality, neither is it simple to achieve without having a highly sophisticated programme of interconnected systems sharing and processing data rapidly and, to a large degree, autonomously. The demands of omnichannel are different from how things have been done in the past. Achieving true omnichannel operations entails garnering a holistic understanding of both customer, in terms of behaviour, preferences, channels and devices used, as well as everything relating to the distribution and supply of the product or service to which they are being connected. Running this system efficiently requires a focus on information; economics is a hangover to the processes here, a former necessary element of doing things that is still deeply ingrained. But, in modern business, sales growth cannot be sustained without more and ever-growing granular information leading to more specific understandings of individuals. And once this reaches a certain level, money just becomes something tacked on to an already fully functional system of total personalisation.

Omnichannel means '*I understand everything about my customers' engagements with my business in an integrated sense*.' Integrated it may be, but even then the current aspiration would only provide experiences based on interactions with a singular business. This is logical enough for businesses operating under a private economic model, but from an efficiency perspective, taking such a blinkered approach makes little business sense.

Efficiency in sight?

Given the focus on gaining this comprehensive understanding of the fragmented customer, are retailers getting close to succeeding in making relevant, accurate connections in a way that might be regarded as expressive of realising the full potential of DCT – of achieving true omnichannel operations?

If the current data-points are anything to go by, then the answer is a fairly resounding no. In fact retail, by any efficiency measure and particularly for a sector that is so focused on the customer, has to be regarded as something of a failure when we dig beneath the surface. To support this assertion, let's look at some of these data-points.

If there is one thing that's important to digital businesses (which is actually all businesses now, whether they realise it or not), it's measurements. And the interesting thing about it is that the more you measure, the more you realise there are things you don't know or understand fully. So, while a business might start by identifying a few metrics that are easy to report on (visitor numbers to site, time spent on site per visit etc) each one is generally shown up as being inadequate when considered in isolation – they require cross-referencing with other metrics to make sense of the context in which the things they are tracking are actually happening.

For example – site traffic at the general level isn't specific to device or place. How much of it is coming through desktop, laptop, tablet, smartphone? How much from the country in which the site is registered, how much from other countries and regions? How much is coming from a smartphone from another country during the afternoon (which might be morning in the country of origin)? Where is that traffic being referred from; a search engine, social network, news publisher? How much of it is millennials being referred from a social network in another country via a smartphone at midnight? And why?

And so on and so forth – though bear in mind that each of those drill-down examples only represents a segment; that is getting nowhere near the level of unique individual behaviour.

Retailers have to work hard to attract visitors to their sites. They have a range of options available to them to do this, from the various traditional forms of advertising (magazines, TV, billboards) to more modern means, such as social networks, search engines, apps and email. Email remains one of, if not *the* most important 'push' marketing tool available to retailers. And it has proved to be a resilient medium, not just enduring in the midst of other more immediate forms of communication, such as instant messaging, but arguably thriving.

The numbers are quite staggering – one estimate has it that, on average, we sent 205 billion emails every day in 2015[vii] and, even though that clearly creates a lot of noise in people's inboxes, they can be effective at converting sales. Email as a method accounted for 13.8% of marketing-generated revenue for retailers in 2015[viii], which had almost doubled to that point since 2010 (the other referring marketing methods tracked as part of that research include natural search, paid search, direct, affiliate, social and other).

Now, let's curb our enthusiasm for how well this medium is performing by analysing the data from another perspective.

Typical rates reported from the current 'blast', unsolicited email marketing (junk mail basically) approach tend to hover around the 10-15% mark for open rates, and as little as 1-2% for the recipient performing the desired action contained in the email (such as clicking through on a link to buy something). Data from Statista shows that the percentage of email traffic that was spam (ie non-direct, marketing emails) in 2015 was 55.3% on average which, if we apply to the 205 billion sent-every-day estimate, tells us that 113.4 billion of them are marketing emails. This would mean that only 11.34–17.01 billion (10-15%) of marketing emails are actually opened, with the remaining 96.39–102.06 billion (85-90%) completely dead communications. *Every* day.

With the volumes (and sources) of emails still growing, thus increasing the noise and recipient apathy, it's not unreasonable to suggest that these already paltry rates could actually decline still further if something doesn't change.

The problem with email is that it's a connected medium approached in an unconnected way, so while the numbers may seem pretty extreme, they are not actually surprising. One of the first tasks facing any new digital business is how to procure an email database, so that they can build a community to target. This makes sense from the perspective of the business, as it's the start of getting the brand known and opens up a channel of communication through which structured and considered campaigns can be executed to turn that community into customers. But from the perspective of the individual it can become very fatiguing.

The reason for this is that each business with whom an individual registers an account or signs up to (either directly or indirectly; there are businesses that sell email addresses for example, or it's possible to receive emails from 'carefully selected third-parties' – ie anyone with sufficient money to pay for the benefit) is operating purely in its own interests and with no visibility or understanding of other email campaigns, run by other businesses, that may be arriving in an individual's inbox at the same time.

Put simply – individuals can quickly find themselves in the eye of an email storm with each trying to capture attention using eye-catching subject lines that may be time-sensitive ('*50% off today only*'), constantly trying to lead the recipient into performing a certain action and having a schedule of follow-up emails that are usually at least weekly although often a lot more regular than that.

Now that businesses have this remote, virtual method of potentially continual access to individuals, it's become highly apparent that we haven't changed our approach to how it should work. Instead of individuals receiving streamlined and coherent communications, formats such as email mean multiple (in theory, numberless) businesses can push information to the same central individual concurrently, without any understanding of – or requirement to understand – what the others are doing.

This isn't to say that much of what turns up in an individual's inbox is irrelevant – on the contrary, they are usually receiving follow-ups to something they willingly signed up to – so the answer isn't simply to unsubscribe from anything that doesn't appear to be of interest on the surface or block the senders every time. Concern over missing out on future communications that may be of interest often provides sufficient doubt to prevent people from doing so. But, of course, this does mean that inboxes get so full so quickly that people lose interest.

So the efficiency measure of effort required, plus volume of output created, versus results achieved is low.

Email is an example of a method for attracting traffic to a retailer's site, but what happens when they arrive there? This is the point at which it gets serious, as they have then progressed into an overt sales environment and the primary purpose of the site is to sell products and perhaps services. One of the most apparent indicators of success is the percentage of traffic that completes a purchase during that visit (known as the 'conversion rate').

The average conversion rate for UK online retailers at the overall industry (ie non-sector specific) level has hovered around the 4-5% mark for years[ix]. In 2015 it was 4.8%, a record high for a year as a whole, but it does mean that 95.2 of every 100 people visiting retail sites – whose primary purpose is to sell products – actually didn't complete a purchase. Obviously aiming for a 100% conversion rate would be daft and there are any number of reasons why someone would visit a site and not buy something – they might have just fancied a browse, as people do every Saturday afternoon in shopping centres and high streets – but it still seems frustratingly low and has shifted up only very slowly (a few points of a percent) over a period of several years.[x]

If we judge it by traditional standards, it may be comparable to the percentage of people who enter a shop and convert to a paying customer during that visit. But the circumstances are different here – the nature of digital is that it can make information available on individuals across every digitally-trackable activity they undertake, so exactly what a site visitor may be looking for can be far better known; for an industry that is digital in nature – and therefore completely underpinned by data and trackable information – this figure does suggest a lot of the connections made between product and individual are fairly untargeted.

It's worth pointing out that the above conversion rate is an overall figure and there is some variance between sectors – broadly speaking, if a product is expensive the time taken to reach a purchase decision is longer (a typical rate for the home and garden sector, which includes kitchens and furniture, is 1-2% for example) while less expensive product ranges might boast higher rates as reaching the decision to complete a purchase is easier. There is also some variance around channel, as the steps that someone has taken to arrive on the site might bring a greater propensity to purchase (if they have come from a voucher site for example, and have a discount code).

With 2015 featuring a record high for overall conversion rates, you might assume that things are improving and on a general upward trajectory – but this is not the case. In 2016, the overall conversion rate fell to 4.6% – a small drop on the 2015 rate perhaps, but significant in that it represents an end to the idea that these would continually go up. Here, omnichannel is playing a role, because of a shift in shopping behaviour. The Apple iPad was introduced in 2010; by 2013, 23% of online purchases were being completed through mobile devices (which here refers to both tablets and smartphones, though tablets would have been accounting for a heavy majority of those sales at that point). By Q4 2016, this had risen to 56% with smartphones accounting for over half of the mobile device sales[xi].

So people are making purchases across multiple devices, but the important consequence for conversion rates is that they tend to be lower on mobile devices – 4% in 2016 for tablets and 2.3% for smartphones. As they make up a greater share of the overall sales now, they will inevitably exert some deflationary influence over the overall conversion rate.

Talking about a few percent difference might not sound like much, but subtle improvements in these metrics can yield impressive results. If a retailer has a conversion rate of 3.4% and receives 100,000 unique visitors per month, it's easy to see how even upping the rate by a few points of a percent can lead to significant increases in sales revenues (provided they didn't discount too much to stimulate activity and achieve that conversion rate uplift – metrics seldom mean anything in isolation). Driving out inefficiencies and improving some of these measures even slightly can make all the difference.

There are a few further metrics worthy of mention to illustrate how much of a failure modern retail is, assessed against its potential – basket abandonment (the percentage of people who put something in the shopping basket but leave without purchasing) and checkout abandonment (the percentage of people who get to the checkout page but don't actually complete the purchase).

These metrics can seem quite shocking when you first discover how high the ranges are. Basket abandonment has hovered around the 50-60%[xii] mark for years, checkout abandonment 28-35% (that's an overall, multi-device metric – on smartphones specifically it can be substantially higher). Bounce rates (the percentage of people who land on the site and leave without viewing any other pages) for retailers are typically about 25-30%.

They are frustrating data-points for retailers, but these are so entrenched in 'how things work' that they have been accepted as necessary evils. If we make a comparison with high street retail, some of these seem perfectly explainable. Basket abandonment might be equated with taking something off a shelf or hanger, carrying it around the shop for a while, then putting it back without purchasing it. 50-60% there might not be unreasonable.

The difference, of course, is that the environment is completely different. Items put on shelves and rails are there to be browsed (by consumers, essentially non-connected entities) as it is not possible to personalise the structure, layout and product range of the store for every individual who enters – the idea of it would be absurd. Yet in the digital world, this is exactly the ideal and is not only a possibility, but a growing expectation on the part of both business and customer. Matching individual to thing in a highly accurate and relevant way is the promise of the web, which is in sharp contrast with providing endless choice in all areas as per the values of capitalism. The supporting systems that enable it to work might not be quite there yet, but it's the direction of travel for anyone who wants to succeed in this highly competitive environment.

The limitations of (existing) data

The problem with data is that analysing anything in isolation can only provide limited insight, which can at best be only so useful and at worst outright misleading. Online retailers work hard to identify and remove any points of friction on their site that may be contributing to high rates for metrics such as site bounce (which is when a visitor lands on a page but exits without viewing any others or completing any action, such as a purchase or registering for something), checkout abandonment and basket abandonment.

On their own, these metrics provide little actionable insight (industry jargon for information you can use) as each is just a 'hard' bit of data in essence. It indicates that something happened, but with little information on the chain of events that triggered that event, or indeed what happened afterwards – either immediately or in the longer-term. Clearly it is in the interests of retailers to be able to generate a far more comprehensive understanding of why someone bounced or abandoned at the checkout, otherwise they can't contextualise the data they are tracking or optimise the experience to produce better outcomes.

For example, a quick caveat on conversion rates – the overall rates could be misleading as they refer to 'unique traffic'. If an individual visits a desktop site, tablet site and smartphone site for the same retailer before buying something, is the conversion rate 33% (ie three visits equalled one sale) or technically 100% as that one individual bought one thing? Just because they didn't complete on each device, they still converted overall. Many lack the ability to tie up purchase journeys to that level at the moment, so we have to go with the siloed data available and what it tells us.

This is getting somewhere toward the crux of the problem for data analysts. It is not just that they don't have access to every dataset that is relevant to them – it is that not being able to cross-reference to an appropriate level may even make the data interpretations they can come up with technically inaccurate, without realising it, so any action taken off the back of it, while appearing well-informed, can be counterproductive and inefficient.

Businesses are currently in an 'in-between' phase of evolution – a phase positioned somewhere after an unconnected world but before a truly connected one. On the one hand, information has become far more accessible – both from the perspective of people researching and comparing things, and retailers building up records of their behaviour in the process – but it is not yet comprehensive or consistent enough for the relationship between customer and business to have evolved very far beyond the broadly generic (or, of course, economic).

As already mentioned in this section, every retailer would love to be able to say they have a 100% single view of customer, supported by true omnichannel operations. It remains an aspiration for the overwhelming majority, as systems have traditionally acted independently of each other, with data stored in separate, secure locations that are not straightforward to connect together in a meaningful way. People also rarely login to a site through every device they use, so understanding that it is the same person across all of them is tough. While it may not be straightforward to achieve, it shouldn't be impossible with the right focus (which is easier said than done, perhaps). Many solution providers (businesses that sell services to the retailers) in this industry overtly market their services as enabling omnichannel operations, which is an area they know they need to compete in. It's not too much of a stretch to assume that solutions and processes will be developed over the coming few years that enable omnichannel to be a reality for retailers on a fairly wide and affordable scale. After all, they all know they have to do that to be relevant to their retail clients so the business imperative is there.

Even if that did prove to be the case, it would only be another step forward rather than the attainment of a level of efficiency appropriate to the digital age – it still wouldn't be anything close to total personalisation in its purest sense or allow individual retailers to offer experiences that are relevant enough to realise the potential offered by the web, as it would be restricted to understanding everything that an individual does in relation to a single specific business rather than all engagements with all external entities. It would get them so far, but with plenty of scope for inaccuracy and irrelevance.

If omnichannel means '*I understand everything about my customers' engagements with my business in an integrated sense*', then its successor (trying to avoid using the term 'omni-omnichannel', but here we are) means '*I understand everything about my customers' engagements with all businesses in an integrated sense*'.

Retailers (and other business types) need to develop an understanding of their customers' behaviour across other channels, sites and networks that they do not explicitly own, because the nature of user behaviour on the web is to switch between sites and services as suits their requirements and interests. At present a business can (technically, bearing in mind the issues raised above around achieving omnichannel) have a view of an individual's engagements with them across any media that they either own explicitly, or have deals in place to gain access to data on relevant individuals' activities through third-party platforms. But that's where their view stops, and the view of that individual becomes blinkered. If they land on a retailer's site, then bounce off before returning again without completing a purchase, the data will say that represents an unconverted prospective sale. Yet this is purely because what that person has done in the interim is unknown – they may have drawn inspiration from one retailer and made the purchase elsewhere, in which case the conversion rate from the individual's perspective is 100% – they got what they wanted; it wasn't a failed sale.

This is the view that businesses need to get toward if the experiences they offer to individuals are to make sense in the digital age. It's a poor experience if a site visitor searches for a hammer on one site, buys it on another, then returns to the original site to find hammers still being merchandised to them, which that site-owner would regard as smart personalisation, because they don't know any better. What would make sense, from the user perspective, is for all retail sites to be aware of the purchase activity that user has made, so they can move on, perhaps start to connect them to associated items or

undertake some other logical follow-up activity that helps them move along in a way that is relevant to that specific individual. That user may now need nails, for example. Otherwise each separate retailer remains stuck communicating out-of-date information that is irrelevant to the circumstances of that individual, and is thus a highly inefficient way to manage the relationship of individual to business.

The current approach of private stores of information, unconnected and unshared between competing businesses, who assess their success based on economic factors rather than overall outcomes, doesn't allow for this version of relevance to be considered a viable goal. It would be considered tantamount to willingly pushing custom over to a competitor. Yet each separate strand of information gathered and cross-referenced brings the potential for businesses to get their marketing just a bit more focused and relevant for each individual, which in turn creates a more satisfied customer. The logical upshot of this would be a greater competence in improving some of the fundamental metrics mentioned previously – conversion rates, checkout abandonment etc – or for those metrics to be updated and replaced in accordance with collaborative equivalents that would create a more accurate interpretation of what an individual has done and why, providing the appropriate depth of insight to map out the activity required to support them on an individual level.

Retail has always been about the customer. What the web and DCT has done is make it possible to interpret success in relation to the customer, from *their perspective* – which has to be multi-business because they are likely to visit and use multiple services when they undertake activities (researching, buying, locating, sending, receiving etc). Metrics that reflect the success or otherwise of the role a single business played in an overall journey or activity, that comprised multiple entities, is not particularly useful in measuring it. To be genuinely relevant to the digital age, metrics need to be switched from being specific to an individual's engagements with a business to just being specific to an individual's engagements – the metrics belong to each user in turn, not the business(es) with which they are interacting. It's possible to understand outcomes, on an ongoing basis, rather than singular points of activity. For example, if a retailer sells a shirt to a customer today and generates some margin, that would be interpreted as a success by the business. But what if that individual wears it once, then puts it at the back of the wardrobe never to see the light of day again? This was a waste on a number of levels – in a financial sense on the part of the customer, the craft put in on the part of the manufacturer, the mileage clocked up during the supply and distribution of the required materials and finished product. Judged from any other perspective than that of the retail business that made the sale, the connection of individual to product turned out to be a failed selection – but economics would rank it as a positive outcome regardless. This is the level of limitation that economics imposes on the digital world – if a business is making money, that's the system operating successfully; there is no requirement for the efficacy of the outcomes it is producing to be considered as part of that calculation of success. Fine when that information could not be known, but it cannot be ignored in the digital age.

More meaningful metrics to measure, from the perspective of the individual, might be along these lines:

- Were they connected to something they wanted / found useful / used?

- How quickly were they able to do so?
- How have they used that product / service / information post-purchase?
- How often have they used it, are they likely to do so again soon?
- When they have finished with something, is it either sent onto to someone else to use or sent back into the business infrastructure for repurposing?
- How could this have been done more efficiently by the enabling businesses / with greater impact for that person?

The point is that these metrics are assessing performance, accuracy, relevance and efficiency from multi-perspectives – measuring the contribution of numerous entities rather than single businesses in isolation from any others that may have been involved in some way in connecting the individual to something.

If it is no longer appropriate to define people as consumers – economic entities whose primary role is to feed the economy – then a retail business (and any other type of business to whom they are connected for the purposes of providing experiences) can no longer be said to be there primarily to target consumers. Their purpose has to evolve in line with the nature of their customers, as that is who they focus all their attention upon; it's what retail – and any other business that provides products and services – is fundamentally about.

If we are to instead interpret people as being participants in a connected world, then it is their participation that every business is there to serve, support and enable. The role of businesses in this relationship is to connect the right people to the right things at the right time. A business can no longer operate as a sole trader or independent entity due to the nature of our connectedness to everyone and everything. The information to make this integrated and collaborative approach to understanding performance possible is becoming increasingly available, already is available to a certain extent indeed; to ignore this and carry on as if unconnected thinking is still valid by restricting metrics to separate businesses negatively impacts upon efficiency in ways that seem unnecessary. A retail business (or indeed, any business) can only ever be just another part of the overall AI system and not something that operates on its own, in private, in its own interests, if the potential of digital – and its optimum expression, total personalisation – is to be realised.

This chapter has been chiefly concerned with retail, but it is just one example of a sector where a culture of working apart and in competition with all other businesses is being exposed as inefficient. Already today we can see the limitations of siloed approaches being challenged in relation to healthcare, as evidenced by the continuing pressure that the NHS finds itself under. While in the past the argument over how to relieve that pressure has tended to focus on funding (ie invest more money in the service), today there are growing calls for hospitals to be more strongly aligned with social care services – so instead of just dealing with patients when they arrive, looking at peoples' lives in a more holistic sense to see what interventions can be made to stop them having to visit a hospital in the first place. That doesn't mean preventing people from having accidents, which would be unrealistic of course, but targeting individuals before their mental or physical health deteriorate. In some cases this may be as straightforward as encouraging people to improve the amount and variety of exercise they do, so they don't become obese and suffer associated health problems, or even just ensuring isolated individuals

have access to groups where they can speak to others – a simple enough activity, but one that can reduce the risk of those individuals falling into bad habits (becoming depressed perhaps, with all the potentially negative and even harmful behaviour that can accompany it).

The question here isn't just '*how do we deal with this problem*', but '*how can we view lots of information in collaboration and prevent some of these problems happening in the first place*'. The availability of data on such a scale and to such a depth makes this shift in approach not just possible, but practical.

Total personalisation requires a highly intelligent, interconnected AI system to oversee and manage it. Every single part of our lives and every activity we undertake will leave a trail of data that can be processed by it to build up complete understandings of our lives. Whereas once the lines between people and business were quite pronounced – we knew when we were engaging with a business because we generally had to actively seek them out – in a world of total connectivity (or even the 'always connected' era we are in now) we are potentially interacting with numerous businesses at any given time without even realising it. They are in our mobiles, in our pockets.

This entirely changes the nature of the relationship between individual and business, not to mention what a business actually is or the purpose for which it exists. Almost everything that happens can be measured and assessed in some way and, when everything is defined by its connectedness to everything else, the activities of businesses have to be judged on their contribution to the overall purpose pursued by the AI system.

So the role of a retailer is to get things into the hands of the people to whom they are appropriate, or who would benefit from (and benefit others in the process) having access to that thing at a specific time. *That* is their purpose, neither can they achieve that successfully without the contribution of multiple other businesses, all producing data that helps build an understanding of what is actually, *accurately*, happening.

Among the best ways to move forward is often to try something, make mistakes and then learn from them. Not every connection made will turn out to be a good one, even if AI systems assess them as being logical choices beforehand. It is obviously excessive to expect to be able to get it 100% right every time, which is why being able to track data on activity subsequent to connections being made is important. Even where a match between individual and thing is a good one, they may later change their mind or their circumstances change and they no longer need or want something to which they have been connected.

It is in the interests of both businesses and individuals for any exchange between them to work more efficiently – better matches, quicker conversion, lower chance of needing to return or access post-purchase customer service. Retail, one of the most prominent examples for individuals interacting with businesses regularly, remains a game of afterthoughts – '*we've had a good idea and manufactured something, now who do we sell it to?*' – put simply, the widespread availability of data means that this kind of approach belongs to a bygone era. But an optimum expression of omnichannel is dependent on a cross-referenceable range of data on both people and things, if it is to be genuinely efficient.

People – or consumers, to be more accurate currently – don't need to go to a shop anymore to interact with retailers or businesses of any kind; products and orders can instead just come straight to them, and the whole process produces (indeed, is reliant upon) data at every interaction. What DCT has done is plug people directly into the supply chain in a highly trackable sense in a way that unconnected shops didn't and couldn't. And there is a trend toward even greater tracking in logistics to ensure the supply chain runs as efficiently as possible. At the moment there is a focus on 'in-transit' tracking, which means providing a flow of information to the customer on the progress of their order at every stage of its fulfilment, and shopper surveys consistently show that people want this – the more information they have on the location of their goods at any time, the greater the chance they have of ensuring they are in the right place at the right time to receive that order. It just makes sense for all involved (businesses and people) to have a strong, and eventually total, awareness of exactly where everything relevant to them is at all times.

Some of the proposed metrics listed above, which would be specific to an individual rather than a business (and therefore access to which could be shared between multiple businesses), illustrate why it is important to track information on things as well as the people purchasing them. Having everybody plugged into the supply chain makes it possible for anyone to become involved in the supply of goods and services at any point. In that respect, many elements of how connections are forged between individual and thing have far longer cycles than were the case when tracking to the level enabled by DCT was not possible. In situations where someone is connected to something for which they no longer have a use, clothes that no longer fit (or are unsuited to their new preferred style), food they are not going to eat etc, an ongoing process of follow-up monitoring and feedback can help to identify items that may be returned (potentially months or even years after initial connection), perhaps requiring a degree of modification to meet the needs of another individual.

As can be seen from the rates discussed earlier in this part, returns are seen as a major issue in online retail as it can be expensive process – incurring distribution costs on the part of the retailer while the customer can often send things back for free. Yet this is to view returns through an economic prism; under a system based on information, it would be more accurate to view returns as an essential part of the solution, not the problem.

Today, many people would likely baulk at the idea of all items of clothing being second-hand and potentially worn by others before it's your 'turn'. That isn't the promise or culture we are sold, after all – if someone else had already worn it, it would have become in some way dirty or sullied in the process. As we've seen, the reality is that many clothes that people buy fresh off the rail (virtual or physical) are highly likely to have been worn by someone else already. Consumer law dictates that retailers must offer shoppers a certain period of time (14 days under EU law) in which they can return an item purchased from them provided it has not been damaged or worn down at all. Retailers are also free to offer extended return periods if it suits their proposition – it's one (slightly risky) option for gaining competitive advantage over those with standard return guarantees.

So for online retailers, returns are an unavoidable part of the process and they have to make it as convenient and frictionless from the perspective of the shopper as possible; the logical consequence of this is even higher return rates as people buy multiple sizes of

the same garment safe in the knowledge it will be straightforward to send the unwanted ones back.

What this all means is that buying something new doesn't make it 'new' – it may well be returned stock that has been sent back via a cleaning warehouse where it was checked and fumigated so that it could be quickly made available for resale again. There is no guarantee of newness in an absolute sense, just new to you.

Just as value can no longer be determined at the point of purchase, neither does the item purchased necessarily have to be finished at that point. Total personalisation will enable things to be created that are not generic at all, but designed with a specific individual in mind and taking lots of information about their requirements into consideration in the process. Items could also go back and forth a lot – there is no reason why an item returned could not be modified in some small or large way to adapt it to another individual's specifications, thus negating the need to continually produce more and more products at the kind of scale that means a reasonable percentage of it must become obsolete and be discontinued, continually.

This kind of model is not difficult to imagine – a good precedent is already in common operation through sites such as eBay or Gumtree; all it lacks is a fully automated and tracked supply chain (making full use of technology such as driverless cars, drones etc) and, at present, the outcomes on these sites are based around financial exchange (ie increases and decreases to economic metrics) rather than efficiency and quality of outcome.

The perfect expression of omnichannel (a concept that can be extended to outline the ideal relationship of all businesses to individuals) is a system within which everything is temporal. An individual may have absolute ownership of something for a period while they have use of it, but not necessarily forever. It is to constantly review whether the distribution and use of items is running at an optimum level and, if not, to create new connections by pulling things back into the supply chain for necessary modification and re-use. Use of the affix 'omni' is no accident – by its very definition, it refers to everything being taken into account. Anything less than that would surely need to be renamed (with apologies) 'semi-channel'.

Now, in part IV, we will look at further drivers for this shift from a system based on economics to one based on information – and map out the values that would necessarily underpin such a system.

[i] Omnichannel is a divisive term (not to mention a slightly silly one) but it's a standard online retail industry term and a very revealing one – hence its focus here.
[ii] Payments UK, *UK Payment Markets – 2017*, May 2017, https://www.paymentsuk.org.uk/industry-information/annual-statistical-publications
[iii] European Commission, *Payment services (PSD 2) - Directive (EU) 2015/2366*, https://ec.europa.eu/info/law/payment-services-psd-2-directive-eu-2015-2366_en
[iv] adwords.googleblog.com, *Powering ads and analytics innovations with machine learning*, 23 May 2017, https://adwords.googleblog.com/2017/05/powering-ads-and-analytics-innovations.html
[v] IMRG MetaPack UK Delivery Index, January 2017, https://www.imrg.org/data-and-reports/imrg-metapack-delivery-indexes/february-imrg-metapack-delivery-index-summary-january-2017/
[vi] IMRG Capgemini Quarterly Benchmark, Q2 2017, https://www.imrg.org/data-and-reports/imrg-capgemini-quarterly-benchmarking-reports/quarterly-benchmarking-q2-2017/
[vii] The Radicati Group, *Email Statistics Report, 2015-2019*, March 2015, http://www.radicati.com/wp/wp-content/uploads/2015/02/Email-Statistics-Report-2015-2019-Executive-Summary.pdf
[viii] IMRG Capgemini Quarterly Benchmark, https://www.imrg.org/data-and-reports/imrg-capgemini-quarterly-benchmarking-reports/
[ix] IMRG Capgemini e-Retail Sales Index, https://www.imrg.org/data-and-reports/imrg-capgemini-sales-indexes/
[x] A caveat to these figures – the conversion rates are based upon unique visitors to retail sites, but it doesn't guarantee that all visitors are human. A percentage of that total may be bots scraping information from pages or indexing them for search engines and comparison sites, but it wouldn't be likely to be significant enough to make much of a difference to the general trend.
[xi] IMRG Capgemini Quarterly Benchmark, https://www.imrg.org/data-and-reports/imrg-capgemini-quarterly-benchmarking-reports/quarterly-benchmarking-q4-2016/
[xii] IMRG Capgemini Quarterly Benchmark, https://www.imrg.org/data-and-reports/imrg-capgemini-quarterly-benchmarking-reports/